



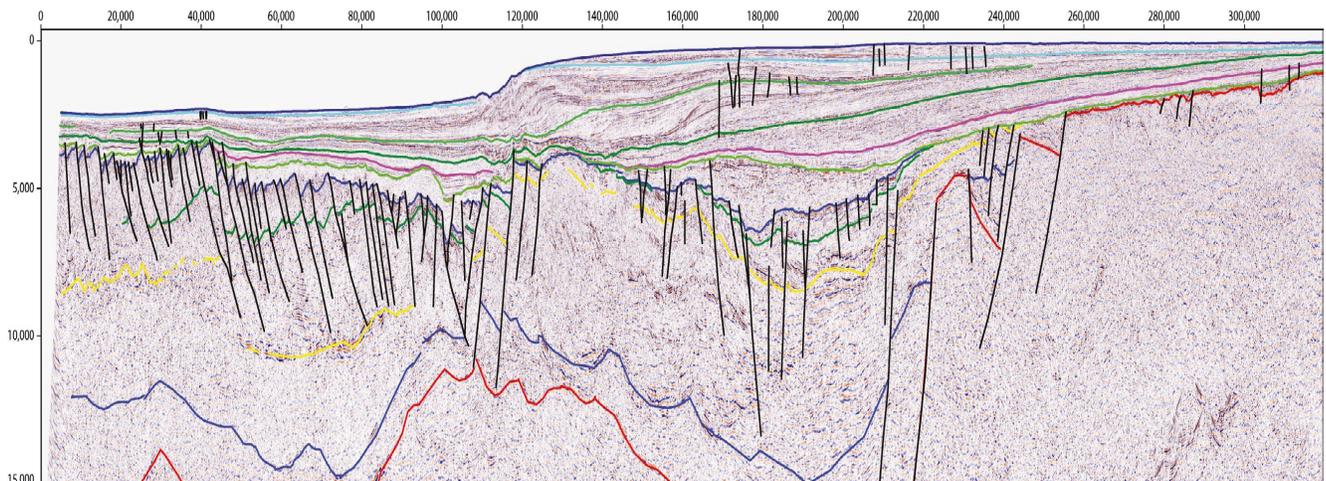
Bibliography of Indonesian Geology

BIBLIOGRAPHY OF THE GEOLOGY OF INDONESIA AND SURROUNDING AREAS

Edition 8.0, February 2026

J.T. VAN GORSEL

IXb. CIRCUM-INDONESIA- SE (SW Pacific, NW and NE Australia margins, NE Indian Ocean)



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IXb. CIRCUM-INDONESIA- SE (SW Pacific, NW and NE Australia)

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This chapter IXb of Bibliography Edition 8.0 contains 186 pages with 1447 references on the geology of areas adjacent to the East and South parts of the Indonesian region, i.e. the SW Pacific, NW and NE Australia and the NE Indian Ocean. It is subdivided into four chapters, IX.12- IX.15..

As stated earlier, the reason for including these titles in this Bibliography of Indonesia geology is that the regional geology of Indonesian regions can be better understood with knowledge of the related geology immediately across its borders. Some areas of Indonesia for which nearby relevant geology is present include:

- | | |
|-----------------------------------|--|
| - SW Pacific | ties to: West Papua (north of Central Range) |
| - Papua New Guinea main island | ties to: Indonesian Papua, West Papua |
| - NW Australian margin- Timor Sea | ties to: Arafura Sea, South Timor, West Papua |
| - NE Australian margin | ties to: Papua New Guinea, W Papua Birds Head. |

IX.12. SW Pacific (incl. Philippine Sea Plate, Caroline Plate, etc.)

This chapter of Bibliography 8.0 contains 37 pages with 302 papers on the SW Pacific region, which, West of the main Pacific Ocean plate, is a complex collage of marginal oceanic basins, separated by active and inactive oceanic subduction zones/ volcanic arcs. (Figure IXb.1). It is dotted with numerous volcanic seamounts, the largest of which is the Cretaceous Ontong Java Plateau.

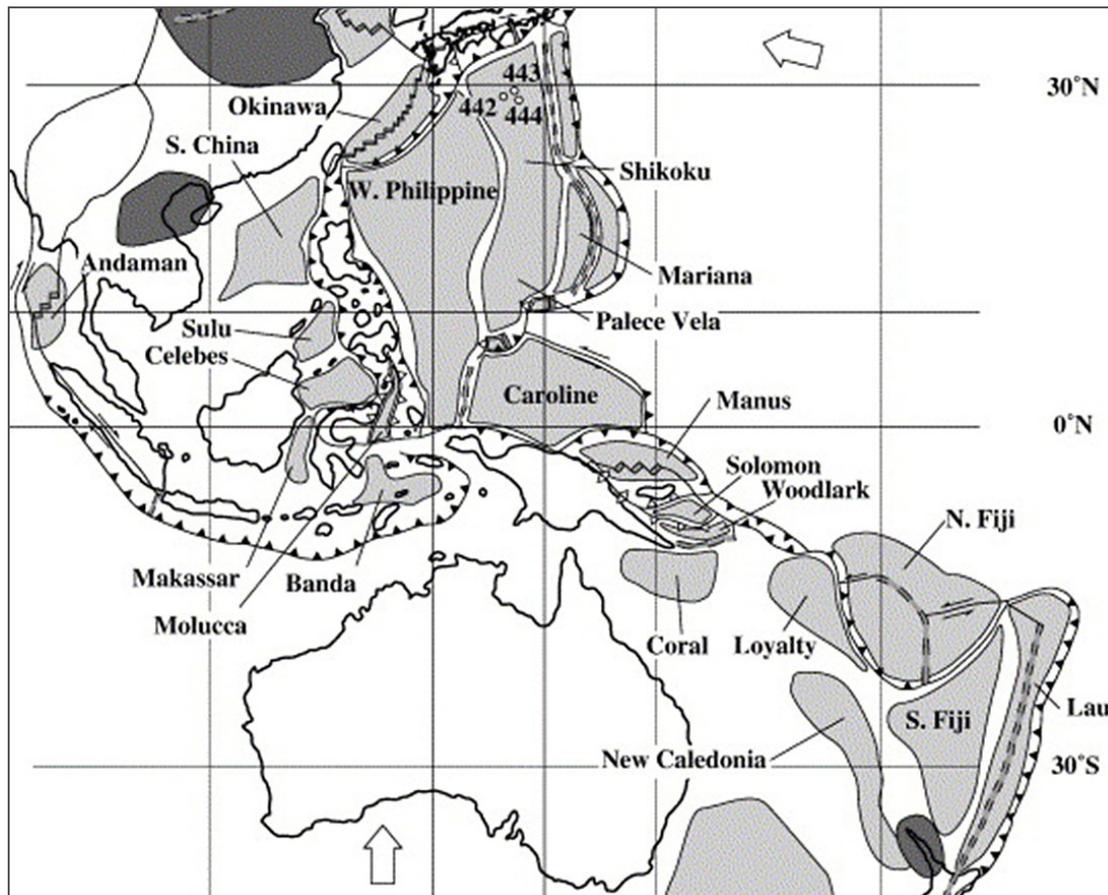


Figure IXb.1. SW Pacific area marginal basins and active subduction zones (Komiya and Maruyama, 2007).

One remarkable feature along the entire West Pacific is the common presence of marginal basins, at both the East Asia and East Australia margins, which formed by extension/ seafloor spreading above a retreating subduction zone. Most authors view this as driven by slab rollback of Pacific Ocean west-dipping subduction system(s).

This chapter includes many papers on New Caledonia, which is a microcontinent that rifted off the NE margin of Australia in Cretaceous time and collided with an intra-oceanic arc system in Eocene time, making it one of the classic, well-studied examples of 'ophiolite obduction'.

It also includes some regional papers from the New Zealand area and the 'Zealandia' region of deepwater submerged continental rises (Lord Howe Rise, Fairway Ridge, Norfolk Ridge) between New Caledonia and New Zealand, that all were once part of the long-lived Paleozoic- Triassic accretionary margin of East Australia/ NE Gondwana

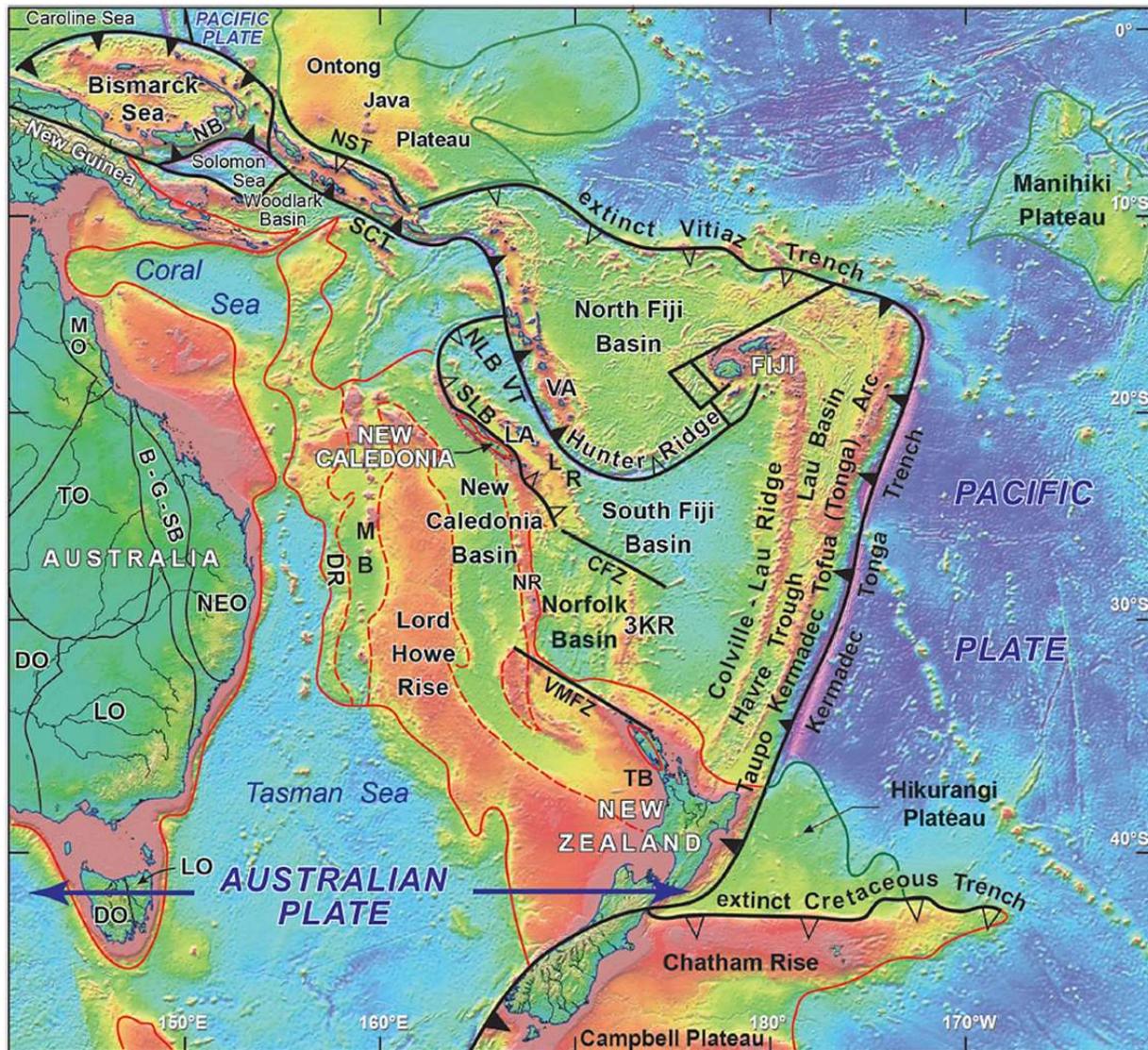


Figure IXb.2. Major elements of the SW Pacific, on satellite gravity map. Continental or thinned continental or mixed crust= orange; oceans and marginal basins= blue and green. (from Glen et al. 2016). The composite terrane that combines the Lord Howe Rise, Norfolk Ridge, New Caledonia and New Zealand is often called Zealandia, which was part of the Paleozoic- Early Mesozoic East Australian Gondwana accretionary margin, until Late Cretaceous opening of the Tasman Sea

IX.13. NE Indian Ocean

This chapter of the bibliography 8.0 contains 9 pages with 57 references on the NW Indian region, which borders Indonesia South and SW of Java and Sumatra. It is an entirely oceanic domain, with ages of oceanic crust varying from latest Jurassic (~ 150 Ma) south of Java to Middle Eocene (~43 Ma) off west Sumatra (Figure IXb.3).

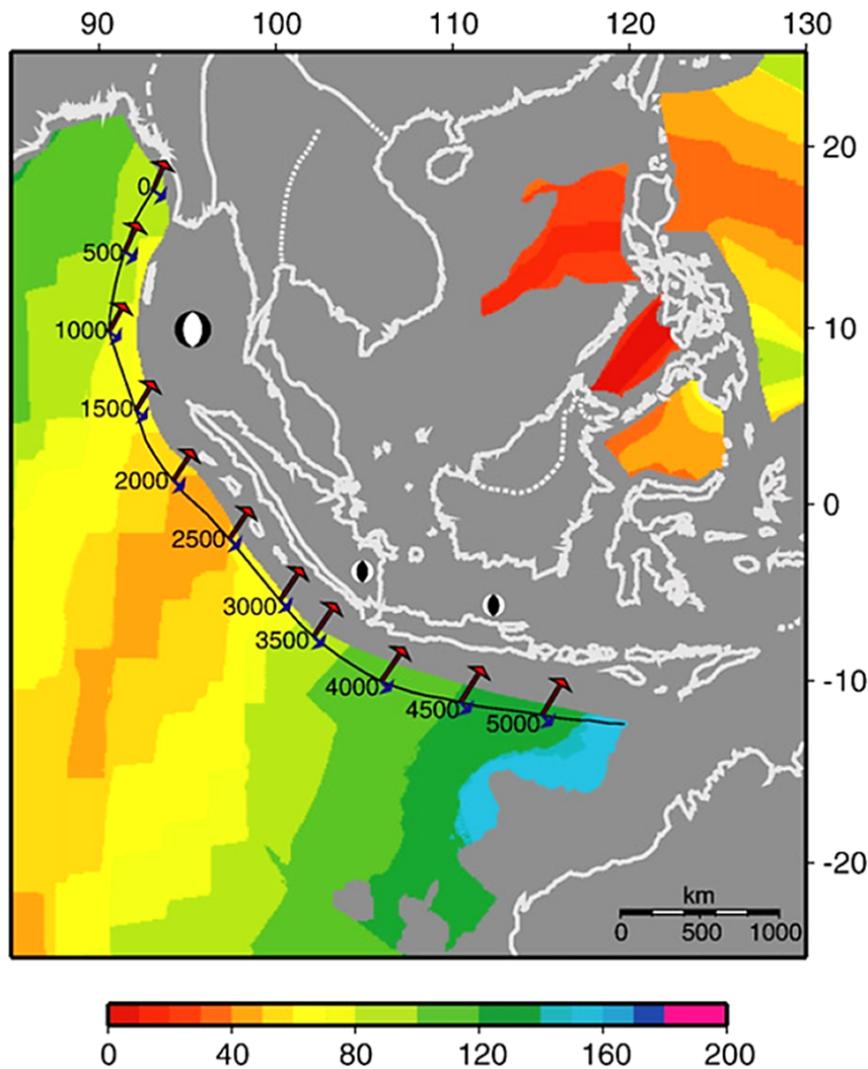


Figure IXb.3. Ages of NE Indian Ocean oceanic crust along the Sunda- Java Trench, varying from latest Jurassic (~150 Ma) in East, SW of Sumba, to Middle Eocene (<43 Ma) at the extinct spreading center of the Wharton Ridge off NW Sumatra (Whittaker et al. 2007). Red arrows: 5 Myr motions direction and distance.

A major feature of this part of the Indian Ocean crust is the Wharton Ridge, an extinct spreading center that was active from Late Jurassic to ~43 Ma (e.g. Heine et al. 2004). Most of this ridge has been subducting under Java- Sumatra since ~70 Ma (Whittaker et al. 2007), but remnants remain as a bathymetric ridge off NW Sumatra today.

The Indian Ocean Plate is currently subducting under Java and Sumatra along the 3200km long Sunda-Java trench. The oceanic plate has already completely been consumed East of Sumba, in the Banda Arc- NW Australian continental margin collision zone.

The differences in ages of subducting Indian Ocean crust and position of major transform faults may help explain some of the observed variations in subduction rates, arc volcanism, dip of subducting plate and lateral changes in depths of earthquake activity.

The effect of subduction of the Wharton Ridge under Sumatra between 15-0 Ma was discussed by Whittaker et al. (2007).

Seamounts/ volcanic ridges

Numerous volcanic seamounts have been identified on NE Indian Ocean floor (Taneja and O'Neill 2014), One of the larger seamounts formed an island, Christmas Island ~350km south of westernmost Java. The Roo Rise Plateau South of East Java is a large, submarine volcanic seamount complex with an area of ~100,000 km², crustal thickness 12-18km, and it rises ~2.0-2.5 km above the surrounding Indian Ocean floor (Figure IXb.4).

The Roo Rise, is now colliding with the subduction trench South of Java. It is probably resisting subduction, as evidenced by the indentation of ~50 km of the trench/ accretionary prism deformation front. It is associated with extensive slumping of slope sediments near the collision zone and is causing uplift of the entire forearc region (Masson et al. 1990, Kopp et al. 2006, Shulgin et al. 2011).

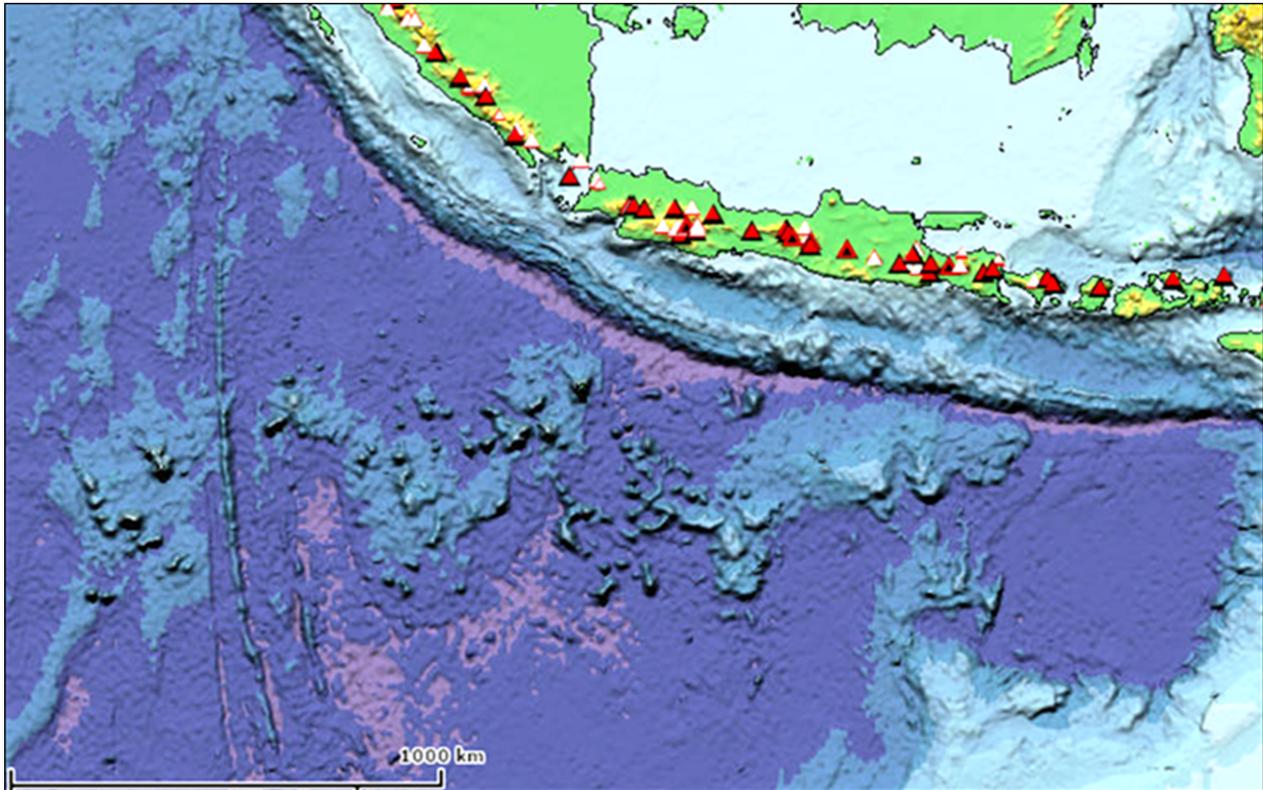


Figure IXb.4. NE Indian Ocean bathymetry, showing large seamounts (Christmas Island, Roo Rise, etc.) and N-S trending fracture zones.

Late Eocene and Pliocene volcanic episodes were identified (Taneja et al. 2015)

Oceanography

Many of the papers in this Indian Ocean chapter deal with oceanographic and paleoclimate changes in young ocean floor sediments.

IX.14. NW Australian margin

This chapter of Bibliography 8.0 contains 91 pages with 795 references on the NW Australian continental margin, which is a rifted, passive continental margin, created by a Middle-Late Jurassic rift-breakup event.

The geology spans a very wide range of ages from Proterozoic to Recent, mostly in intra-continental rift and (since Late Jurassic) passive margin extensional settings. Its unusually thick sediment cover that exceed 20km. This geologic province continues into the Indonesian region in the Arafura Sea and West Papua (South of the Central Range).

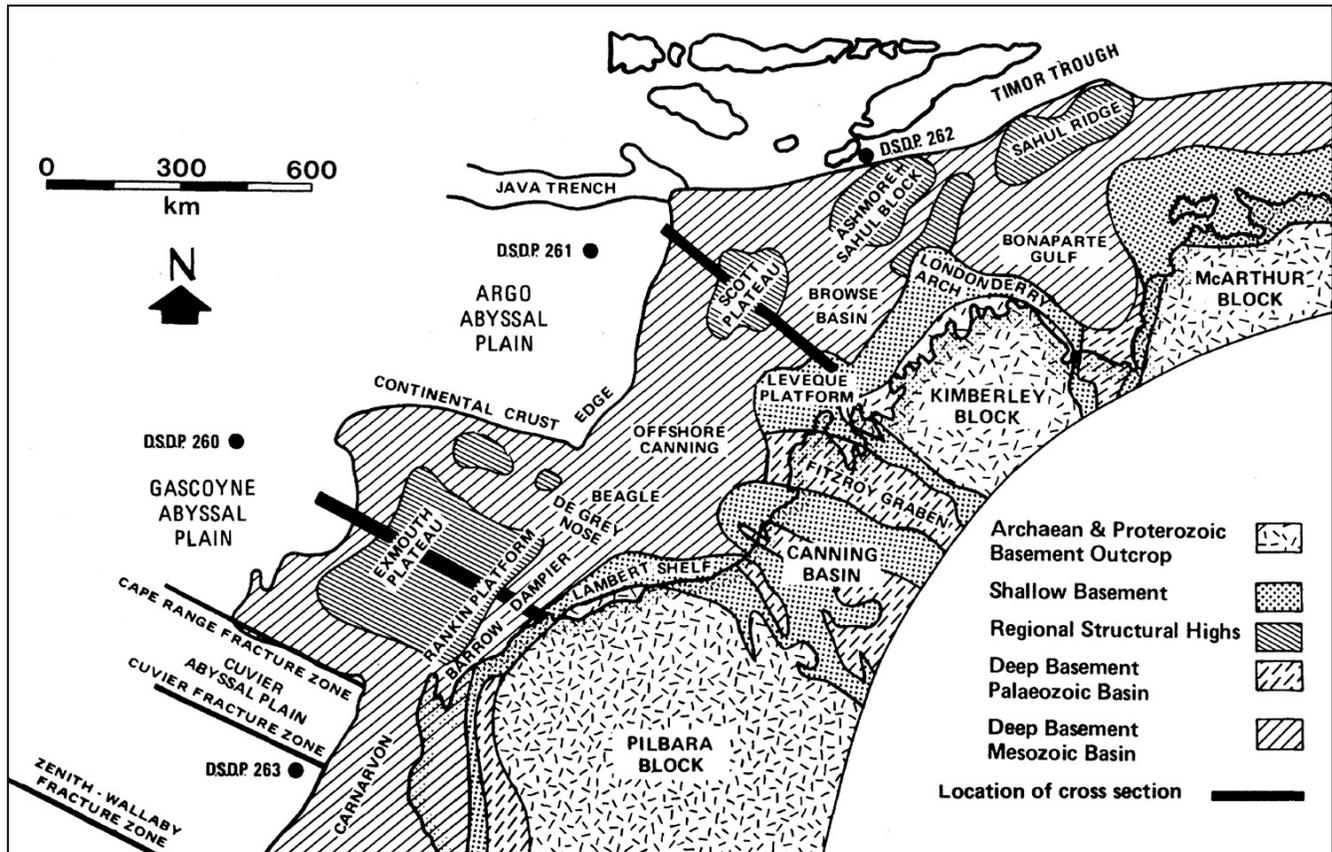


Figure IXb.5. Tectonic elements of the Australia NW margin (Powell 1982).

The NW Australian margin is now in different stages of collision with the Banda Arc.

- pre-collisional western part of NW Australia margin (Carnarvon- Browse basins): passive margin facing Indian Ocean (Argo Abyssal Plain), with oceanic crust of latest Jurassic- Cretaceous age;
- syn-collisional: Timor Sea region, where continental crust of the NW margin (Bonaparte- Arafura basins area) is currently bending down into the Timor Trench (Timor- Tanimbar Trough- Barakan Basin) as it is subducting under the forearc south of the Sumba- Timor- Tanimbar sector of the Banda Arc;
- post collisional: West Papua sector, rimmed by Central Range foli belt, with obducted ophiolite belt.

An important aspect of the NW Australia margin is its relatively thin Precambrian crust (<20km) and unusually thick sediment cover (up to >20km). This appears to be the result of unusually widespread early extensional event in Late Carboniferous- Early Permian time, that included excessive lower crustal ductile thinning (Etheridge 1992, O'Brien 1993, AGS 1994). (Figure IXb.6).

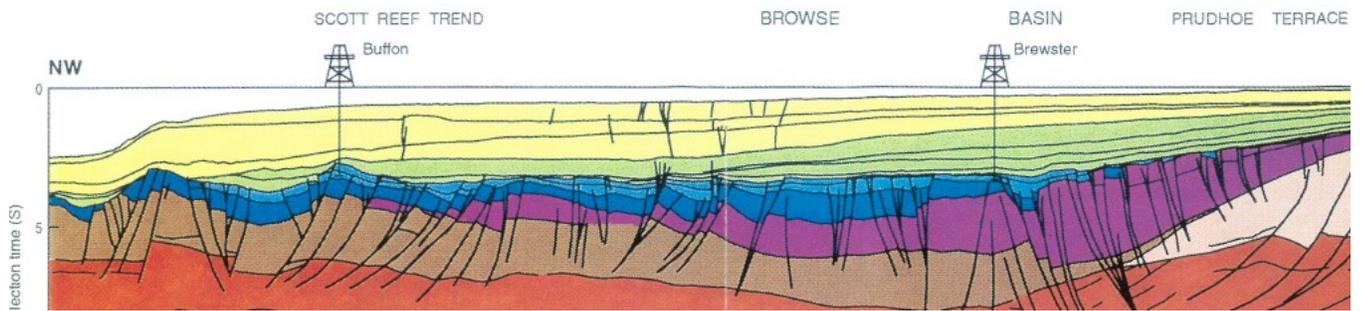


Figure IXb.6 Regional cross-section of Australia NW margin at the Browse basin- Kimberley Block. The Moho (top mantle; base red) shallows from ~35 km under the Kimberley Block in SE to ~23 km under the Browse Basin, which is underlain by ~10km thick thinned Precambrian crust (red) and thick 'Westralian' Carboniferous- Permian- Triassic interior rift- sag section (up to 8km?; light brown- purple- dark blue). A less dramatic Middle Late Jurassic extensional event (light blue sediments) led to the Indian ocean breakup. Post-breakup passive margin section is in light green (Cretaceous) and yellow (Cenozoic) (AGSO 1994).

The NW Shelf has been subdivided in different geological sectors/ basins, that originated as different segments of Devonian and Permo-Carboniferous intra-continental rifting systems, separated by transform faults.

An interesting model is Figure IXb.7, showing the different domains of Jurassic asymmetric rifting after the Late Jurassic breakup. It also shows the predicted rift styles at the conjugate margin of the plate that rifted off in Late Jurassic time (~155 Ma; the elusive 'Argoland').

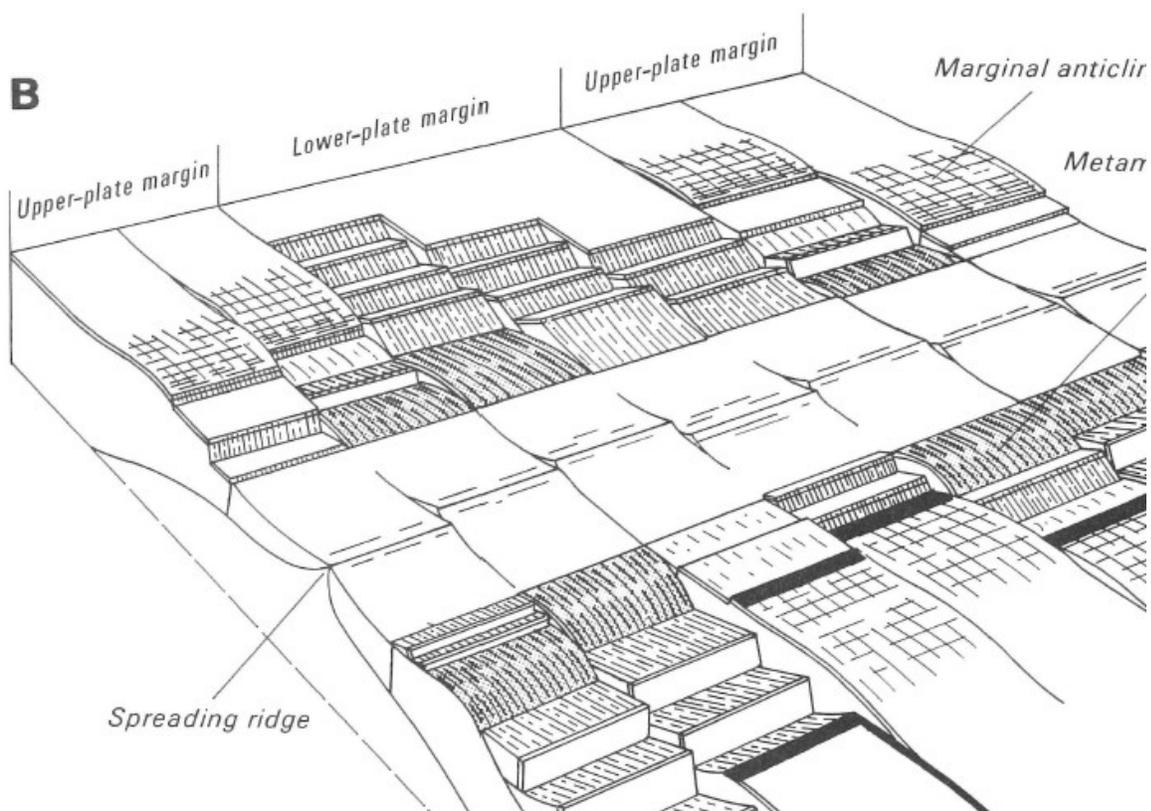


Figure IXb.7. Schematic model of the structural configuration of the NW Shelf/Timor Sea region after continental break-up in Late Jurassic time. This cartoon shows an rift system segmented by transform faults that separate sectors of different asymmetric rift polarity. It also shows the predicted pre-Cretaceous rift configuration of the elusive 'Argoland' terrane, shown here at the top in the early phase of separation (O'Brien 1993).

The Australia NW Shelf area is a significant oil and gas province. Most of the oil and gas occurrences are in Jurassic and Triassic clastic reservoirs in rotated fault blocks below the Lower Cretaceous regional seal. The area is mostly a gas province, which for a long time was not a commercially viable commodity, but is now home to several LNG export projects.

The NW Australian oil-gas province continues eastward into the Joint Development zone South of Timor Leste (with Bayu Undan and Sunrise-Troubadour gas fields) and further East into Indonesian waters, where the Abadi gas field was discovered.

IX.15. NE Australian margin ('Tasmanides' Paleozoic-Triassic active margin)

This chapter of Bibliography 8.0 contains 38 pages with 294 references on the geology of the NE and East margins of Australia. This has been part of the polyphase, accretionary orogenic margin of Eastern Gondwana in Paleozoic- Triassic time, and its geology is very different from the NW Australia margin with its long history of intra-cratonic and and passive margin rifting (Figure IXb.8).

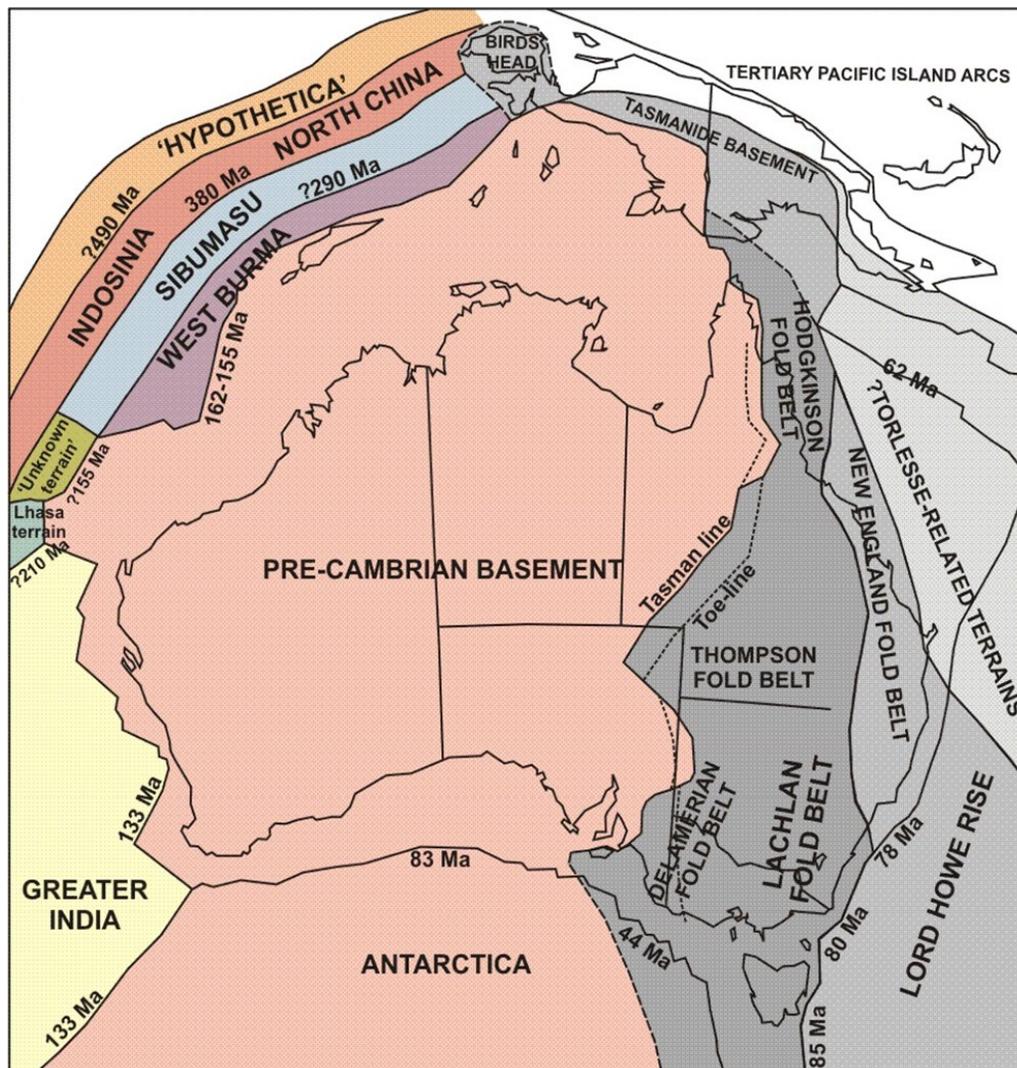


Figure IXb.8. Restored basement terranes of the Australian region. In NW showing hypothetical positions of terranes that rifted off the NW margin in Devonian, Permian and Jurassic times and which are now in SE Asia. In the NE and East are Paleozoic- Triassic accreted terranes along the active margin of NE Gondwana with its long-lived Paleo-Pacific subduction (from Martin Norvick 2002; after Veevers 2000).

The reason for including this in the Indonesia bibliography is because this accretionary belt continues under Papua New Guinea, South of the main foldbelt. Terranes in Eastern Indonesia, like the Birds Head of West Papua and the Banggai-Sula islands, were likely derived from the PNG margin, and show basement with characteristics of this Paleozoic- Triassic active margin. These East Indonesia microcontinental plates were dispersed from somewhere along this NE PNG margin in Cretaceous- Early Paleogene time (Pigram and Panggabean 1984, Struckmeyer et al. 1993, etc.).

The wide system of accretionary terranes is collectively referred to as the 'Tasmanides' (eg. Glen 2005). They form a complicated system of successive foldbelts with multiple accretionary systems with ophiolites, volcanic arc terranes, etc.

The easternmost, youngest part of Tasmanides system is the New England Orogen, which formed as a result of long-lived Late Devonian- Triassic west-dipping subduction of the Panthalassan Ocean (Paleo-Pacific) (e.g. Korsch 2004).

The margin is characterized by:

1. Active margin tectonostratigraphic assemblage involving Late Silurian- Permian age sediments (e.g. Henderson et al. 1993);
2. Late Permian- Triassic granites (mainly Middle-Late Triassic; 260-220 Ma?), signifying a continental margin magmatic arc above a west-dipping subduction zone (Figure IX.16.3). ;
3. Late Permian- Middle Triassic west-directed thin-skinned folding-thrusting creating imbricated Devonian- Permian marine sediments at east margin of Bowen foreland basin margin ('Hunter- Bowen orogeny'; Fergusson 1991);
4. Followed by relative quiescence, except in areas affected by Late Cretaceous- Early Paleogene Tasman Sea- Coral Sea rifting/ breakup.

This 'Tasmanide' orogenic belt extends northward as basement of autochthonous Papua New Guinea. and is also remarkably similar to basement characteristics of detached terranes now in northern PNG (Kubor, etc.) and in Eastern Indonesia (Birds Head of West Papua, Banggai-Sula, etc.; e.g. Pigram and Panggabean 1984, Struckmeyer et al. 1993, Amiruddin 2009). Radiometric ages and detrital zircons from these terranes cluster around 240 Ma (Ladinian) (Decker et al. 2017, etc.)

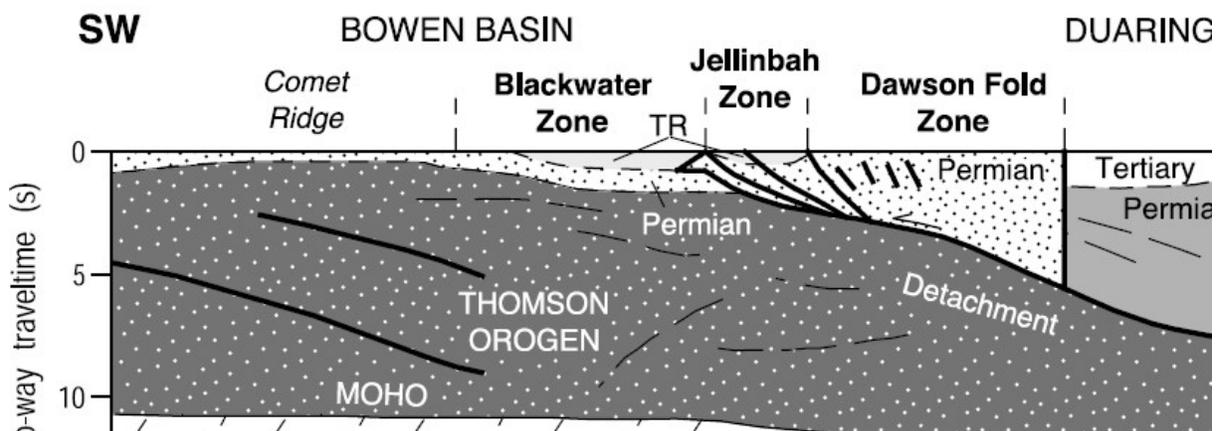


Figure IXb.9. Cross-section of the Permian- Triassic Bowen basin and New England foldbelt (Korsch 2004).

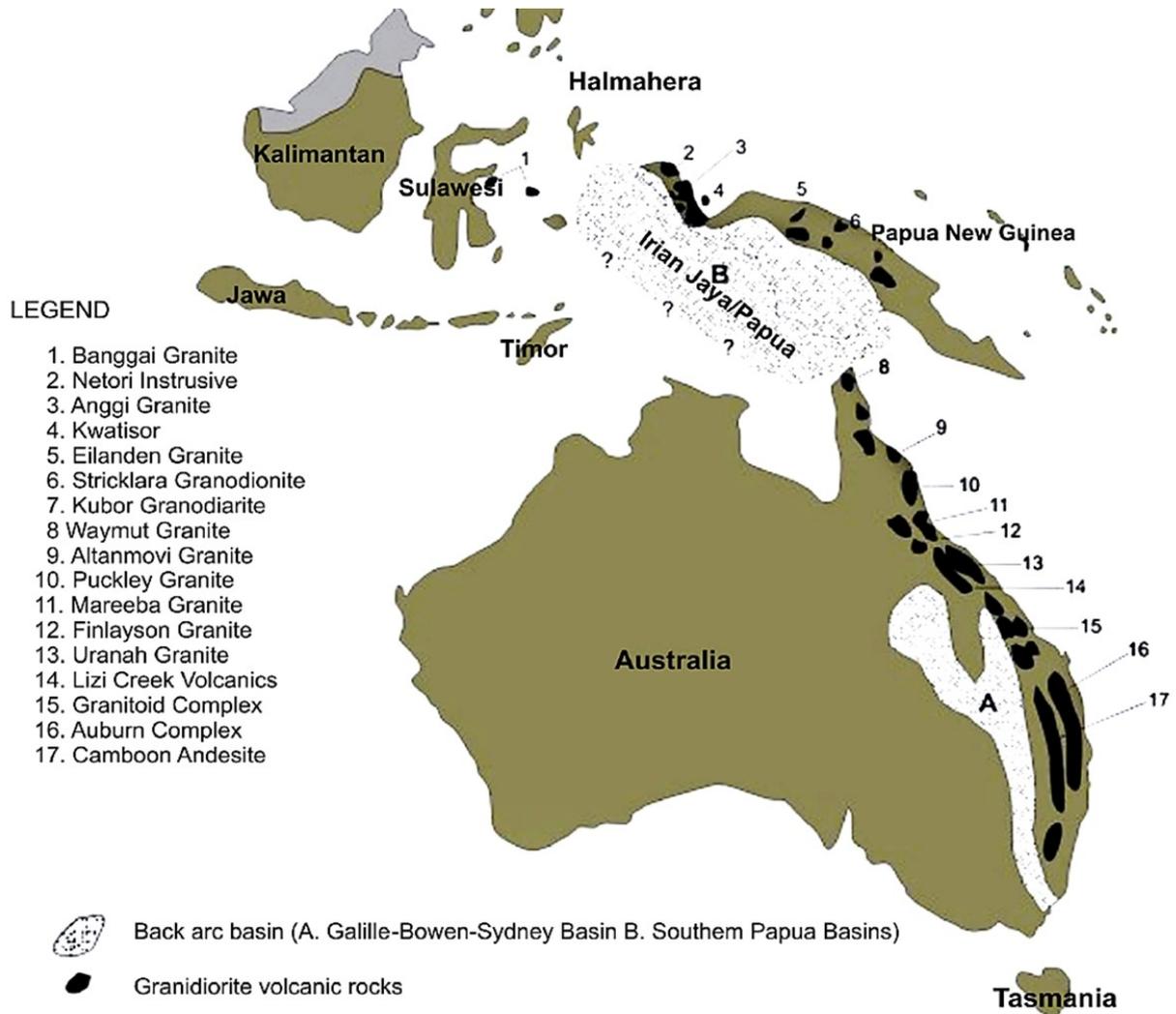


Figure IXb.10. Permo- Triassic granitic plutons along East Australian margin and in dispersed terranes of northern New Guinea (PNG, Birds Head) and Banggai-Sula, marking remnants of mainly Late Permian- Middle Triassic magmatic arc/ subduction along the active East Gondwanan margin (Amiruddin 2009).

Latest Cretaceous- Early Paleogene extension

The eastern part of the Tasmanides collapsed in Late Cretaceous- EarlyPaleogene time, leading to opening of oceanic marginal basins, the Tasman Sea and the Coral Sea. This caused the separation of large sections of the former accretionary margin from the East Australian margin, which are now the vast, mostly submerged 'Zealandia' terranes (Lord Howe Rise, Fairway Ridge, Norfolk Ridge, Torlesse Terrane, etc.) all the way NE to New Caledonia (see also SW Pacific chapter).

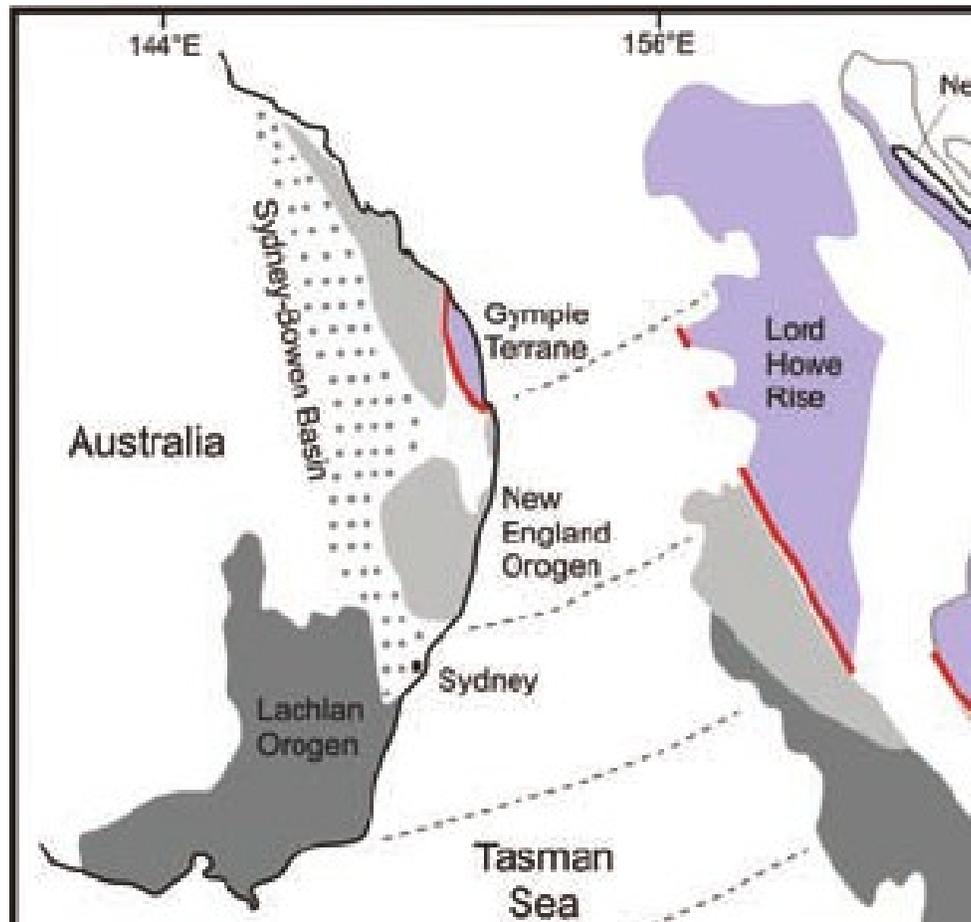


Figure IXb.11. Correlation of Paleozoic- Early Mesozoic orogens ('Tasmanides') between the East Australia margin and the 'Zealandia' rifted terranes, that separated from East Gondwana/ Australia after Cretaceous- Early Paleogene opening of the Tasman Sea (Li et al. 2012).

Expressions of this Late Cretaceous- Early Paleogene rift event can be expected in the terranes that rifted off this part of the NE Australian margin and ended up in northern New Guinea and Eastern Indonesia (although probably not in the same non-marine facies as East Queensland). One likely candidate in the Indonesian region is in the eastern Birds Head- Bintuni Basin, where there is a well-documented thickening and deepening facies of the latest Cretaceous (Maastrichtian-) earliest Eocene interval. This sand-bearing section is usually called Waripi Formation, is up to ~3000' thick (thickest in NNW, and thought to be sourced from there), mainly composed of deep marine clastics and contains gas reservoirs in Paleocene turbidite sandstones in the Wiriagar Deep gas field (e.g. Mardani and Butterworth 2016).

IXb. REFERENCES CIRCUM-INDONESIA (SW Pacific, NW and NE Australia)

IX.12. SW Pacific Ocean (incl. Philippine Sea Plate, Caroline Plate, etc.)

Relevance for Indonesia:

- SW Pacific Ocean geology ties to Eocene-Miocene island arcs/marginal basins/ophiolite terranes in northern New Guinea
(Arfak/Tamrau/Tosem Block of N Birds Head, Gauttier, Rouffaer, Cyclops etc. terranes North of the Central Range in New Guinea), islands north of New Guinea (Kofiau, Batanta, Biak, Yapen, Waigeo) Etc.
- intra-oceanic tectonic processes analogs (island arcs, seamounts, collisional ophiolite belts, etc.)

Acharya, H.K. (1979)- Seismicity of the Southern Philippine Sea. *Marine Geology* 29, p. 25-32.
(*Philippine Sea Plate almost completely surrounded by island arcs. Earthquake activity in S Philippine Sea at low-to-moderate levels at Palau-Kyushu Ridge, Central Basin Fault and W Philippine Basin*)

Adachi, Y., H. Inokuchi, Y. Otofujii, N. Isezaki & K. Yaskawa (1987)- Rotation of the Philippine Sea Plate inferred from paleomagnetism of the Palau and Yap islands. *Rock magnetism and paleogeophysics, Japan*, 14, p. 72-74.
(online at: <http://peach.center.ous.ac.jp/rprep/Rock%20Magnetism%20and%20Paleogeophysics%20vol14%201987.pdf>)
(*Paleomag work on 16 sites in Palau Islands on S end of Kyushu-Palau Ridge suggest ~60°CW rotation, similar to results from other parts of W Philippine Sea*)

Auzende, J.M., G. Beneton, G. Dickens, N. Exon, C. Francois, D. Hodway, F. Juffroy, Y. Lafoy, A. Leroy, S. van de Beuque & O. Voutay (2000)- Mise en evidence de diapirs mesozoïques sur la bordure orientale de la ride de Lord Howe (Sud-Ouest Pacifique): campagne ZoNeCo 5. *Comptes Rendus Academie Sciences, Paris, Ser. 2*, 330, 3, p. 209-215.
(*Evidence of Mesozoic salt or mud diapirs on the eastern side of the Lord Howe Rise*)

Auzende, J.M., G.R. Dickens, S. Van de Beuque, N.F. Exon, C. Francois, Y. Lafoy & O. Voutay (2000)- Thinned crust in southwest Pacific may harbor gas hydrate. *EOS Transactions (AGU)*, 81, 17, p. 182-185.
(online at: <http://onlinelibrary.wiley.com/doi/10.1029/00EO00127/pdf>)
(*Lord Howe Rise large, complex, and poorly studied fragment of thinned continental crust submerged 750-3000m beneath C Tasman Sea. Deep seismic profiles revealed extensive bottom simulating reflector at E slope of LHR, likely representing base of gas hydrate*)

Baker, P.E., M. Coltorti, L. Briquieu, T. Hasenaka, E. Condliffe & A.J. Crawford (1994)- Petrology and composition of the volcanic basement of Bougainville Guyot, Site 831. In: J.Y. Collot et al. (eds.) *Proc. Ocean Drilling Program (ODP), Initial Reports 134*, College Station, p. 363-373.
(online at: www-odp.tamu.edu/publications/134_sr/volume/chapters/sr134_18.pdf)
(*Basement of Bougainville Guyot andesitic hyalobreccias derived from submarine arc volcano. Dated by K/Ar at ~37Ma. Formation attributed to reaction of andesitic magma and seawater. More mafic andesites at base, to overlying more acid andesites. Andesites have affinities with low-K arc tholeiite series. Bougainville Guyot may form part of Eocene proto-island arc along S side of d'Entrecasteaux Zone, above S-dipping subduction zone*)

Ballance, P.F. (1999)- Simplification of the Southwest Pacific Neogene arcs: inherited complexity and control by a retreating pole of rotation. In: C. MacNicaill (ed.) *Continental tectonics*, Geological Society, London, Special Publ. 164, p. 7-19.
(*Neogene arc activity in SW Pacific began simultaneously at 25 Ma on three differently oriented sectors, Norfolk-Three Kings, Colville, Northland-Reinga. Inception of arc magmatism at 25 Ma triggered by 20° increase in convergence angle between N- moving Australia and NW-moving Pacific plate, and increase in convergence rate from ~20 to 30-40 mm/yr. Between 25-15 Ma three subduction zones required*)

Ballance, P.F., D.W. Scholl, T.L. Vallier, A.J. Stevenson, H. Ryan & R.H. Herzer (1989)- Subduction of a Late Cretaceous seamount of the Louisville chain at the Tonga Trench: a model of normal and accelerated tectonic erosion. *Tectonics* 8, p. 953-962.

(Louisville Ridge is 4000 km long, NNW-trending chain of seamounts (2-2.5 km high, 10-40 km diameter), with underlying crustal swell (1.5 km high and 100+ km wide) in SW Pacific. NW end of Ridge collides with deep Tonga Trench (>10 km), which lacks accretionary complex. Effects of hotspot-ridge collision with sediment-starved trench: (1) impacting seamounts are subducted rather than accreted; (2) inner trench wall is tectonically eroded arc-ward, possibly at 50 km/My. Arc substrate rocks uplifted by impacting seamounts)

Barclay, W., J.A. Rodd, J.C. Pflueger, K.R. Havard & S.P. Helu (1993)- Oil plays in the kingdom of Tonga, Southwest Pacific. *Petroleum Exploration Society Australia (PESA) Journal* 21, p. 79-92.

(Tonga area in SW Pacific in E part of long Tertiary island-arc chain extending from PNG to New Zealand. Within chain basins with Tertiary reef developments, some with commercial oil and gas accumulations. On Tongatapu Island five wells drilled near oil seeps, but none reached Eocene reef limestone target)

Barker, S.J., C.J.N. Wilson, J.A. Baker, M.A. Millet, M.D. Rotella, I.C. Wright & R.J. Wysoczanski (2013)- Geochemistry and petrogenesis of silicic magmas in the intra-oceanic Kermadec Arc. *Journal of Petrology* 54, 2, p. 351-391.

Barretto, J., R. Wood & J. Milsom (2020). Benham Rise unveiled: morphology and structure of an Eocene large igneous province in the West Philippine Basin. *Marine Geology* 419, 106052, p.

(Benham Rise oceanic large igneous province at W margin of Philippine Sea has ocean island basalt geochemistry. Volcanism most active in early stages of formation in Lutetian (~48- 41 Ma), although volcanic activity extended to ~26 Ma)

Baubron, J.C., J.H. Guillon & J. Recy (1976)- Geochronologie par la methode K-Ar du substrat volcanique de l'île Mare, Archipel des Loyaute (Sud-Ouest Pacifique). *Bull. Bureau Recherches Geologiques et Minieres (BRGM)* (2), section 4, 3, p. 165-175.

('Geochronology by the K-Ar method of the substrate of the volcanic island of Mare, Loyalty Islands archipelago (Southwest Pacific)'. Basalt outcrops in center of uplifted atoll of Mare Island, Loyalty Islands, show final of volcanic edifice were oceanic basalts of 9-11 Ma)

Beavan, J., P. Tregoning, M. Bevis, T. Kato & C. Meertens (2002)- Motion and rigidity of the Pacific Plate and implications for plate boundary deformation. *J. of Geophysical Research* 107, B10, 2261, p. 19/1- 19/15.

Beckmann, J.P. (1976)- Shallow water foraminifers and associated microfossils from Sites 315, 316 and 318, DSDP Leg 33. In: S.O. Schlanger et al. (eds.) *Initial Reports Deep Sea Drilling Project (DSDP) 33*, p. 467-489.

*(online at: www.deepseadrilling.org/33/volume/dsdp33_13.pdf)
(Shallow-water fossils at C Pacific DSDP Sites 315-316 include Late Cretaceous larger foraminifera Pseudorbitoides, Asterorbis and Sulcoperculina, partly reworked into Tertiary. At Site 318 it ranges from Eocene to Plio-Pleistocene)*

Belasky, P. & B.N. Runnegar (1993)- Biogeographic constraints for tectonic reconstructions of the Pacific region. *Geology (GSA)* 21, p. 979-983.

(Suspect terranes in W North America contain Permian and Triassic genera endemic to Tethyan region)

Bell, T.H. & R.N. Brothers (1985)- Development of P-T prograde and P-retrograde, T-prograde isogradic surfaces during blueschist to eclogite regional deformation/metamorphism in New Caledonia, as indicated by progressively developed porphyroblast microstructures. *J. Metamorphic Geology* 3, p. 59-78.

(N New Caledonian Eocene schist belt four phases of metamorphism: D1-D2 increasing P and T from lawsonite-albite chlorite assemblages through lawsonite-glaucophane-Mn garnet rocks (blueschists) to deeper lawsonite omphacite-almandine jadeite gneisses (lawsonite eclogites), followed by D3-D4 phase of recrystallization, under P retrograde but T prograde conditions, generating coarse deeper gneisses as pressure-retrogressed eclogites)

Bergen, J.A. (2004)- Calcareous nannofossils from ODP Leg 192, Ontong Java Plateau. In: J.G. Fitton, et al. (eds.) Origin and evolution of the Ontong Java Plateau, Geological Society, London, Special Publ. 229, p. 113-132.

(M Miocene- Aptian nannofossils from ODP Leg 192 sites 1183-1187, Ontong Java Plateau, SW Pacific)

Bloomer, S.H., B. Taylor, C.J. MacLeod, R.J. Stern, P. Fryer, J.W. Hawkins & L. Johnson (1995)- Early arc volcanism and the ophiolite problem: a perspective from drilling in the Western Pacific. In: B. Taylor & J. Natland (eds.) Active margins and marginal basins of the Western Pacific, American Geophysical Union (AGU) Geophysical Monograph 88, p. 1-30.

(Initial phases of volcanism in intra-oceanic Izu-Bonin-Mariana forearcs developed nearly synchronously in M-L Eocene over zone 1000s of km long and up to 300km wide)

Brocher, T.M. (ed.) (1985)- Investigations of the Northern Melanesian Borderland. Circum-Pacific Council Energy Mineral Resources, Houston, Earth Science Ser. 3, p. 1-199.

Buys, J., C. Spandler, R.J. Holm & S.W. Richards (2014)- Remnants of ancient Australia in Vanuatu: implications for crustal evolution in island arcs and tectonic development of the southwest Pacific. *Geology (GSA)* 42, p. 939-942.

(W belt of Vanuatu intra-oceanic arc with Late Eocene- Miocene Ar-Ar ages. Island arc chemistry, but inherited zircon grains with age populations at ~2.8-2.5 Ga, 2.0-1.8 Ga, 1.75-1.5 Ga, 850-700 Ma, 530-430 Ma and 330-220 Ma, generally matching ages of crustal blocks of Australian continent. Part of Vanuatu arc basement probably comprises NE Australian continental material, that was rifted prior to Cenozoic)

Burns, R.E. & J.E. Andrews (1973)- Regional aspects of deep sea drilling in the Southwest Pacific. Initial Reports Deep Sea Drilling Project (DSDP) 21, p. 897-906.

Calmant, S., B. Pelletier, P. Lebellegard, M. Bevis, F.W. Taylor & D.A. Phillips (2003)- New insights on the tectonics along the New Hebrides subduction zone based on GPS results. *J. of Geophysical Research* 108, B6, 2319, 17, p. 1-22.

Chablais, J., T. Onoue & R. Martini (2010)- Upper Triassic reef-limestone blocks of southwestern Japan: new data from a Panthalassan seamount. *Palaeogeogr. Palaeoclim. Palaeoecology* 293, p. 206-222.

(Norian-Rhaetian reef-limestone in Sambosan Accretionary Complex, S Japan formed in atoll-type system on mid-oceanic seamount surrounded by deep-water radiolarian cherts in Panthalassic Ocean. Reef-boundstone facies framebuilders are abundant coralline sponges and microbial crusts. Rare corals and algae. Similarities with coeval Upper Triassic reefs of S Peri-Tethys area, especially with Omani seamounts, suggest more S Hemisphere origin for U Triassic Japanese reefs than predicted by previous reef studies)

Chaisson, W.P. & R.M. Leckie (1993)- High resolution Neogene planktonic foraminifer biostratigraphy of Site 806, Ontong Java Plateau (Western Equatorial Pacific). In: W.H. Berger et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results, 130, College Station, Texas, p. 137-178.

(online at: www-odp.tamu.edu/publications/130_SR/VOLUME/CHAPTERS/sr130_10.pdf)

*(E Miocene- Pliocene planktonic foram biostratigraphy of Site 806. Dominance of surface dwellers (*P. kugleri*, *P. mayeri*, *D. altispira*, *Globigerinoides* spp.) in E-M Miocene replaced by more equitable distribution of surface, intermediate (*G. menardii*), and deep (*Streptochilus* spp.) dwellers in Late Miocene, reflecting shoaling of thermocline along Equator following closing of Indo-Pacific Seaway (Late Miocene, ~8-10 Ma) and initiation of large-scale glaciation in Antarctic (latest Miocene; ~5-6 Ma))*

Chandler, M.T., P. Wessel, B. Taylor, M. Seton, S.S. Kim & K. Hyeong (2012)- Reconstructing Ontong Java Nui: implications for Pacific absolute plate motion, hotspot drift and true polar wander. *Earth Planetary Science Letters* 331, p. 140-151.

(Ontong Java-Manihiki-Hikurangi super-plateau model)

Chandler, M.T., P. Wessel & W.W. Sager (2013)- Analysis of Ontong Java Plateau palaeolatitudes: evidence for large-scale rotation since 123 Ma? *Geophysical Journal International* 194, 1, p. 18-29.

(Ontong Java Plateau paleolatitudes suggest ~40° of CW rotation since formation at ~123 Ma. Mean paleolatitude value of Ontong Java remains largely unchanged)

Chaproniere, G.C.H. (1994)- Middle and Late Eocene larger foraminifers from Site 841 (Tongan Platform). In: J. Hawkins et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results*, 135, p. 231-243.

(online at: www-odp.tamu.edu/publications/135_SR/VOLUME/CHAPTERS/sr135_15.pdf)

(Eocene (Lutetian) larger foraminifera Nummulites, Discocyclina, Asterocyclina, Halkyardia in ODP Hole 841B, NE of New Zealand. Lack of Pellatispira- Spiroclypeus suggests zone Ta. Reworked Eocene Pellatispira in conglomeratic bed in Upper Miocene)

Chaproniere, G.C.H. (1994)- Middle and Late Eocene, Neogene and Quaternary foraminiferal faunas from Eua and Vavau islands, Tonga Group. In: A.J. Stevenson et al. (eds.) *Geology and submarine resources of the Tonga-Lau-Fiji region. SOPAC Technical Bulletin* 8, p. 21-44.

(Two larger foram assemblages in Eocene limestones on Eua Island, Tonga: (1) late M Eocene zones Ta3/ P14 without Pellatispira and (2) latest Eocene/Tb/P17 with Pellatispira). M Miocene/N14 deep-water volcanoclastics with evidence for reworking from Zones N9 -N10. Pliocene-Pleistocene reefal limestones often contain larger forams from Eocene. All samples from Vavau with Plio-Pleistocene shallow water forams)

Chaproniere, G.C.H. & C. Betzler (1993)- Larger foraminiferal biostratigraphy of Sites 815, 816, and 826, Leg 133, northeastern Australia. In: J.A. McKenzie et al. (eds.) *Proc. Ocean Drilling Project (ODP), Scientific Results* 133, p. 39-49.

(Marion Plateau large carbonate platform off NE Queensland. Shallow water carbonates of early M Miocene (N9-N12) age (lower Tf stage). Coralline algae and Halimeda main bioclasts)

Chun, Y.Y. & L.W. Kroenke (1993)- A plate tectonic reconstruction of the Southwest Pacific, 0-100 Ma. *Proc. Ocean Drilling Project (ODP), Leg 130, Scientific Results*, p. 697-709.

(online at: www-odp.tamu.edu/publications/130_SR/VOLUME/CHAPTERS/sr130_43.pdf)

(Reconstructions of SW Pacific paleogeography back to 100 Ma. Successive periods of convergence along five paleo-subduction zones that formed concomitantly with changes in Indo-Australia and Pacific plate motions from Eocene to Late Miocene. Episodes of basin formation along W and SW margins of Pacific Plate and along E and NE margins of Indo-Australian Plate since Late Cretaceous include Tasman (85-55 Ma), New Caledonia (74-65 Ma), Coral Sea (63-53 Ma), Loyalty (52-40 Ma), d'Entrecasteaux (34-28 Ma), Caroline (34-27 Ma), Solomon Sea (34-28 Ma), S Fiji (34-27 Ma), N Fiji (10-0 Ma), and Lau, Woodlark, and Manus (5.5-0 Ma) basins. Seamount chains developed over Tasmantid, Lord Howe, Louisville and Samoa hotspots)

Cisowski, S.M., M. Fuller, R.B. Haston & M. Koyama (1990)- Paleomagnetic evidence from land-based and ODP cores for clockwise rotation and northward translation of the Philippine Sea plate. In: *Fifth Circum-Pacific Energy and Mineral Resources Conference, Honolulu, Hawaii, AAPG Search and Discovery Article 90097, 1p. (Abstract only)*

(online at: https://www.searchanddiscovery.com/abstracts/html/1990/circum_pacific/abstracts/0965a.htm)

(Onland and deep-sea core paleomagnetic data from around Philippine Sea plate. Data from Palau islands suggest 70°CW rotation and N-ward translation since M Oligocene. Data from Guam, Saipan, ODP Leg 126, all support 70-110° CW rotation and ~15° N-ward translation of W Philippine Sea plate since M Oligocene of the Philippine Sea plate since the mid-Oligocene. N-ward translation and CW rotation of Philippine Sea plate established oblique subduction along proto-Philippine margin, which could account for 600 km of subducted slab beneath E Celebes Sea. Molucca Sea plate probably trapped piece of old Philippine Sea plate, isolated by seaward jump of subduction)

Cloos, M. (1992)- Origin of the Caroline block and plate: Tectonic response to change in Pacific plate motion at ~43 and 4 Ma. *Geological Society of America, Abstracts with Programs*, 24, 7, A 185, p.

Cloud, P.E., R.G.Schmidt & H.W. Burke (1956)- Geology of Saipan, Mariana Islands; Part 1, General geology. U.S. Geological Survey (USGS) Professional Paper, 280-A, p. 1-123.

(online at: <http://pubs.usgs.gov/pp/0280a/report.pdf>)

(Saipan is one of more southerly of Mariana Islands at E side of Philippine Sea. Consists of Eocene volcanic core enveloped by Late Eocene- Early Miocene limestones. See also papers on smaller and larger foraminifera (Todd 1957, Cole 1957, calcareous algae (Johnson 1957) etc.))

Colley, H. (1984)- An ophiolite suite in Fiji? In: Ophiolites and oceanic lithosphere, Geological Society, London, Special Publ. 13, p. 333-340.

(In SW Viti Levu rocks formerly described as part of island-arc succession may be upper part of ophiolite suite. Foraminiferal oozes, cherts, red clays, Fe-Mn metalliferous sediments, fine-grained volcanic turbidites and reworked polymict lapillistones can be equated with Layer 1 of oceanic lithosphere)

Colley, H. & W.H. Hindle (1984)- Volcano-tectonic evolution of Fiji and adjoining marginal basins. In: B.P. Kokelaar & M.F. Howells (eds.) Marginal basin geology: volcanic and associated sedimentary and tectonic processes in modern and ancient marginal basins, Geological Society, London, Special Publ. 16, p. 151-162.

(From Eocene- M Miocene, Fiji was part of N-facing Outer Melanesia arc system, stretching from PNG to Tonga. Oligocene back-arc spreading S of Fiji led to formation of Minerva Plain (S Fiji Basin). M Miocene polarity reversal in arc segments W of Fiji. Fiji compressive event followed by progressive isolation from subduction regime as arc segments rotated away. Change in Fiji volcanism from arc andesites and tholeiites to alkalic ocean island basalts. Most recent arc rotation resulted in opening of Lau Basin between Fiji and Tonga, and divorce of Fiji from subduction influence with start of ocean island basalt volcanism in M Pliocene)

Collot, J.Y. & M.A. Fischer (1989)- Formation of forearc basins by collision between seamounts and accretionary wedges: an example from the New Hebrides subduction zone. Geology (GSA) 17, p. 930-933.

(Seamounts that collide with accretionary wedges can cause deep, sub-circular reentrants at ~4km depth in lower forearc slope of New Hebrides Arc that eventually fill to become forearc basins. Reentrants result from tectonic erosion as wedge rocks are oversteepened and jostled aside by the subducting seamount)

Collot, J.Y. & M.A. Fischer (1991)- The collision zone between the North d'Entrecasteaux Ridge and the New Hebrides Island Arc: 1. Sea Beam morphology and shallow structure. J. of Geophysical Research 96, B3, p. 4459-4478.

Collot, J.Y. & M.A. Fischer (1994)- The D'Entrecasteaux zone- New Hebrides island arc collision zone: an overview. In: J.Y. Collot et al. (eds.) Proc. Ocean Drilling Program (ODP), Initial Reports 134, p. 19-31.

(online at: www-odp.tamu.edu/Publications/134_IR/VOLUME/CHAPTERS/ir134_02.pdf)

(On colliding d'Entrecasteaux Zone (with N d'Entrecasteaux Ridge with Paleogene MORB basement and Bougainville Guyot M Eocene volcano) and C New Hebrides Island Arc. N d'Entrecasteaux Ridge collision deforming island-arc basement. Bougainville Guyot clogged trench and indented arc slope by 10km. Landward of Bougainville Guyot, 500m-thick wedge, including imbricated U Oligocene- Lw Miocene reefal limestones with U Eocene reefal debris and M Eocene pelagic sediments, possibly formed by tectonic accretion of guyot material)

Collot, J.Y., H.G. Greene, M.A. Fisher, and E. Geist (1994)- Tectonic accretion and deformation of the accretionary wedge in the North d'Entrecasteaux Ridge- New Hebrides island arc collision zone: evidence from multichannel seismic reflection profiles and Leg 134 Results. In: J.Y. Collot et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results, 134, p. 363-373.

Collot, J.Y., S. Lallemand, B. Pelletier, J.P. Eissen, G. Glaçon, M.A. Fisher, H.G. Greene et al. (1992)- Geology of the d'Entrecasteaux-New Hebrides arc collision zone: results from a deep submersible survey. Tectonophysics 212, 3-4, p. 213-241.

(Seven submersible dives in water depths 900- 5350m over New Hebrides island arc- d'Entrecasteaux Zone collision zone. Bougainville guyot is M Eocene island arc volcano, capped with Late Oligocene and younger reef limestones, and in early stage of subduction. Guyot possibly emerged above sea level in M-L Miocene)

Collot, J., M. Vende-Leclerc, P. Rouillard, Y. Lafoy & L. Geli (2012)- Map helps unravel complexities of the southwestern Pacific Ocean, EOS Transactions AGU, 93, 1, p. 1-2.

Covellone, B.M., B. Savage & Y. Shen (2015)- Seismic wave speed structure of the Ontong Java Plateau. Earth Planetary Science Letters 420, p. 140-150.

(Ontong Java Plateau formed around 120 Ma. Region of fast shear wave speeds (>4.75 km/s) down to >100km beneath plateau. Wave speeds similar to cratonic environments and consistent with compositional anomaly that resulted from residuum of eclogite entrainment during plateau formation. Surfacing plume head entrained eclogite from deep mantle and accounts for anomalous buoyancy of plateau and fast wave speeds)

Crawford, A.J., L. Beccaluva & G. Serri (1981)- Tectono-magmatic evolution of the West Philippine-Mariana region and the origin of boninites. Earth Planetary Science Letters 54, 2, p. 346-356.

(In W Philippine-Mariana region Tertiary arc magmatism and back-arc extensional pulses not synchronous. Arc volcanism ceases within few Myrs of development of back-arc basin and recommences oceanward on new arc during final stages in development of back-arc basin. Boninites appear to be erupted after arc magmatism and immediately before eruption of MORB-type lavas)

Crook, K.A.W. & L. Belbin (1978)- The Southwest Pacific area during the last 90 million years. J. Geological Society of Australia 25, 1, p. 23-40.

(Maps of SW Pacific area at 90, 60, 53, 83, 29, 21 and 10 Ma. Four stages in regional paleogeographic development: I (80-60 Ma): Tasman Basin and New Caledonia Trough formed; II (60-53 Ma): Coral Sea Basin formed; III (53-21 Ma): Great Melanesian marginal sea formed, bounded by Cenozoic island arcs IV (21 Ma-present): Much of N part of Melanesian marginal sea consumed during retrograde motion of island arcs)

D'Antonio, M., I. Savov, P. Spadea, R. Hickey-Vargas & J. Lockwood (2006)- Petrogenesis of Eocene oceanic basalts from the West Philippine Basin and Oligocene arc volcanics from the Palau-Kyushu Ridge drilled at 20°N, 135°E (Western Pacific Ocean). Ofioliti 31, 2, p. 157-171.

(W Philippine Basin back-arc basin opened within Philippine Sea Plate (PSP) between current position of Palau-Kyushu Ridge (PKR) and margin of E Asia. Spreading at Central Basin Fault from 54-30 Ma. PKR active since ~48-35 Ma constituting single volcanic arc with Izu-Bonin-Mariana (IBM) Arc. At ~42 Ma spreading direction changed from NE-SW to N-S, stopping at ~30 Ma. Late phase of spreading and volcanism between 30-26 Ma (M Oligocene). ODP Leg 195 Site 1201 is in WPB, ~100 km W of PKR, on 49 Ma crust. From ~35 to 30 Ma, pelagic sedimentation at Site 1201 was followed by turbidite sedimentation, fed mostly by arc-derived volcanics. PKR volcanics are porphyritic basalts and andesites. New isotope data point to Indian Ocean MORB-like character of Site 1201 basement basalts, suggesting WPB volcanism tapped upper mantle domain distinct from Pacific Plate)

Dekov, V.M., O., Rouxel, K. Kouzmanov, L. Bindi, D. Asael, Y. Fouquet et al. (2016)- Enargite-luzonite hydrothermal vents in Manus back-arc basin: submarine analogues of high-sulfidation epithermal mineralization. Chemical Geology 438, p. 36-57.

(manuscript online at: <https://archimer.ifremer.fr/doc/00337/44844/44432.pdf>)

(Hydrothermal chimneys composed almost entirely of enargite and luzonite, rare minerals in seafloor hydrothermal deposits, at summits of North Su and Kaia Natai submarine volcanoes in Manus Back-arc basin. May be considered as submarine analogues of subaerial high-sulfidation epithermal deposits with potential for concealed porphyry Cu-Au mineralization at depth)

Deng, J., L. Zhang, H. Liu, H. Liu, R. Liao, A.S. Mastoi, X. Yang & W. Sun (2021)- Geochemistry of subducted metabasites exhumed from the Mariana forearc: Implications for Pacific seamount subduction. Geoscience Frontiers 12, 3, 101117, p. 1-12.

(online at: <https://www.sciencedirect.com/science/article/pii/S1674987120302577>)

(Hundreds of seamounts subducted beneath Philippine Sea Plate following W-ward subduction of Pacific Plate since Eocene (~52 Ma). Subducted oceanic crust and seamount materials can be exhumed from mantle depth to seafloor in Mariana forearc region by serpentinite mud volcanoes. IODP 366 recovered metamorphosed exhumed mafic clasts, with OIB-like geochemical signatures and low-grade metamorphism of alkali basalts-

dolerites, suggesting they came from subducted seamounts, originally formed in intraplate setting on E Cretaceous or earlier age Pacific Plate.)

Deschamps, A. & S. Lallemand (2002)- The West Philippine Basin: an Eocene to Early Oligocene back arc basin opened between two opposed subduction zones. *J. of Geophysical Research: Solid Earth* 107, B12, p. 1-24.

(online at: https://www.academia.edu/13682116/The_West_Philippine_Basin_An_Eocene_to_early_Oligocene_back_arc_basin_opened_between_two_opposed_subduction_zones)

(W Philippine Basin back arc basin developed between two opposed subduction zones. Rifting started at 55 Ma, spreading ended at 33/30 Ma. Initial spreading axis parallel to paleo-Philippine Arc, new spreading ridge propagated from E part of basin. Spreading mainly from second axis with CCW rotation of spreading direction. Gagua and Palau-Kyushu ridges transform margins accommodating opening. Arc volcanism along Palau-Kyushu Ridge (E margin) during opening, paleo-Philippine Arc decreased activity between 43-36 Ma. W margin compressive event in Late Eocene- E Oligocene. In W of basin, spreading system disorganized due to presence of mantle plume. After end of spreading, amagmatic extension between 30-26 Ma in central basin)

Deschamps, A. & S. Lallemand (2003)- Geodynamic setting of Izu-Bonin-Mariana boninites. In: R.D. Larter & P.T. Leat (eds.) *Intra-oceanic subduction systems; tectonic and magmatic processes*, Geological Society, London, Special Publ. 219, p. 163-185.

(online at: www.gm.univ-montp2.fr/IMG/pdf/Deschamps_Lallemand_2003_GeolSocLondon.pdf)

(Izu-Bonin-Mariana forearc characterized by occurrence of boninite-like lavas (mainly M-L Eocene age). Three tectonic settings that favor formation of boninites in back-arc basins. Boninites in Bonin Islands probably formed near termination of volcanic arc, at transition between subduction zone and transform fault)

Deschamps, A., S. Lallemand & S. Dominguez (1999)- The last spreading episode of the West Philippine Basin revisited. *Geophysical Research Letters* 26, 14, p. 2073-2076.

(Bathymetric data and backscatter imagery reveal fine structures of fossil spreading axis, from which we infer episodes of oblique deformation and diminished magmatic supply resulting from cessation of spreading. NE-SW seafloor fabric NE of Benham volcanic plateau, oblique to more common E-W and NW-SE fabrics known in WPB. Cross-cut during final, amagmatic, extensional phase to produce a N130° -trending deep rift valley)

Deschamps, A., P. Monie, S. Lallemand, K. Hsu & K.Y. Yeh (2000)- Evidence for Early Cretaceous oceanic crust trapped in the Philippine Sea Plate. *Earth Planetary Science Letters* 179, p. 503-516.

(online at: www.gm.univ-montp2.fr/IMG/pdf/Deschamps.pdf)

(N Huatung Basin small oceanic basin E of Taiwan. New Early Cretaceous Ar/Ar ages of gabbros dredged on oceanic basement highs. Old ages consistent with E Cretaceous ages of Lanyu Island (Luzon Arc) radiolarian assemblages. Best fit of magnetic anomalies is opening of Huatung Basin in E Cretaceous (131-119 Ma). Basin may be fragment of 'proto-South China Sea' or possibly 'New Guinea Basin' trapped by Philippine Sea Plate)

Deschamps, A., K. Okino & K. Fujioka (2002)- Late amagmatic extension along the central and eastern segments of the West Philippine Basin fossil spreading axis. *Earth Planetary Science Letters* 203, p. 277-293.

(Tectono-magmatic processes along spreading axis of W Philippine Basin during conclusion of last spreading phase at 33/30 Ma. Opening from E-W-trending spreading system followed by late phase of NE-SW extension in C and E parts of basin. Late event probably associated with onset of E-W opening of Parece-Vela Basin along E border of WPB at 30 Ma)

Deschamps, A., R. Shinjo, T. Matsumoto, C.S. Lee, S.E. Lallemand & S. Wu (2008)- Propagators and ridge jumps in a back-arc basin, the West Philippine Basin. *Terra Nova* 20, 4, p. 327-332.

(New bathymetric data from western W Philippine Basin suggests 5 sequences of propagating rifts, probably triggered by mantle flow away from thermal anomaly responsible for origin of Benham and Urdenata plateaus. NE of Benham plateau, a left-lateral fracture zone turned into NE-SW-trending spreading axis)

Dickinson W.R. (2008)- Tectonic lessons from the configuration and internal anatomy of the Circum-Pacific orogenic belt. In: J.E. Spencer & S.R. Titley (eds.) Ores and orogenesis: Circum-Pacific tectonics, geologic evolution and ore deposits, Arizona Geological Society Digest 22, p. 5-18.

Dimalanta, C., A. Taira, G.P. Yumul, H. Tokuyama & K. Mochizuki (2002)- New rates of western Pacific island arc magmatism from seismic and gravity data. *Earth Planetary Science Letters* 202, p. 105-115.
(*Oceanic island arcs in SW Pacific study area with crustal thickness of 20-30 km. Arc magmatic addition rates of 30-95 km³/km/Myr, nearly twice as high as previous estimates of arc magmatic addition rates*)

Dyriw, N.J., S.E. Bryan, S.W. Richards, J.M. Parianos, R.J. Arculus & D.A. Gust (2021)- Morphotectonic analysis of the East Manus Basin, Papua New Guinea. *Frontiers in Earth Science* 8, 596727, p. 1-23.
(online at: <https://public-pages-files-2025.frontiersin.org/journals/earth-science/articles/10.3389/feart.2020.596727/pdf>)

(*Manus basin in Bismarck Sea is young (<1 Ma) rapidly rifting backarc basin behind New Britain Trench/ Arc, in complex tectonic setting at oblique convergence of Australian and Pacific plates. Morphotectonic analysis (mainly from multibeam seafloor bathymetry) suggests incipient extension of existing arc crust with intermediate-silicic volcanism; followed by crustal rifting with flat top volcanoes with fissures, followed by organized half-graben system with axial volcanism and seafloor spreading*)

Eade, J.V. (1988)- The Norfolk Ridge system and its margins. In: A.E.M. Nairn, F.G. Stehli & S. Uyeda (eds.) *The ocean basins and margins 7, The Pacific Ocean*, Plenum Press, New York, p. 303-324.

Emery, K.O., J.I. Tracey & H.S. Ladd (1954)- *Geology of Bikini and nearby atolls, Marshall Islands*. U.S. Geological Survey (USGS) Professional Paper 260-A, p. 1-264.

(online at: <http://pubs.usgs.gov/pp/0260a/report.pdf>)

(*Drilling on Bikini island to depth of 2556', encountered Oligocene (?) - Recent limestone: 0-850', Recent and Plio-Pleistocene- Recent; 850-2070' Miocene; 2070-2556' Oligocene(?). Entire section accumulated in shallow water, lagoonal environment, indicating continuing or periodic submergence*)

Falloon, T.J., L.V. Danyushevsky, A.J. Crawford, S. Meffre, J.D. Woodhead & S.H. Bloomer (2008)- Boninites and adakites from the northern termination of the Tonga Trench: implications for adakite petrogenesis. *Journal of Petrology* 49, 4, p. 697-715.

(online at: <https://academic.oup.com/petrology/article/49/4/697/1467522/Boninites-and-Adakites-from-the-Northern>)

(*Adakitic rocks dredged from N termination of Tonga Trench. Zircon ages 2.5 Ma, contemporaneous with boninite magmatism in area. High-SiO₂ adakites in area where transition from steep Pacific subduction to transform fault plate boundary created slab window/ slab edge. Adakites result from direct melting of slab edge as result of juxtaposition of subducting slab against hot mantle derived from Samoan plume*)

Fang, Y., J. Li, M. Li, W. Ding & J. Zhang (2011)- The formation and tectonic evolution of Philippine Sea Plate and KPR. *Acta Oceanologica Sinica* 30, 4, p. 75-88.

(*Philippine Sea Plate oceanic plate almost entirely surrounded by subduction zones. Kyushu-Palau Ridge believed to be remnant arc on oceanic plate, formed during opening of Parece Vela and Shikoku Basins*)

Fisher, M.A., J.Y. Collot & E.L. Geist (1991)- Structure of the collision zone between Bougainville Guyot and the accretionary wedge of the New Hebrides island arc, Southwest Pacific. *Tectonics* 10, 5, p. 887-903.

(*Bougainville guyot fills New Hebrides trench, stands ~3 km above abyssal ocean plain, and is capped by broad carbonate platform. Seismic data showing structure in island arc-guyot collision zone. Contact zone marked by discontinuous antiforms*)

Fisher, M.A., J.Y. Collot & E.L. Geist (1991)- The collision zone between the North d'Entrecasteaux Ridge and the New Hebrides Island Arc. Part 2: Structure from multichannel seismic data. *J. of Geophysical Research* 96, B3, p. 4479-4495.

(D'Entrecasteaux zone (DEZ) collides with C New Hebrides island arc and consists of two subparallel ridges that strike east-west, stand 1-2 km above the surrounding oceanic plate, and subduct obliquely (15°)N-ward beneath arc. Rocks dredged from N ridge indicates volcanic origin. Mass wasting deposits locally make up most of accretionary wedge)

Fitton, J.G. & M. Godard (2004)- Origin and evolution of magmas on the Ontong Java Plateau. In: J.G. Fitton, et al. (eds.) Origin and evolution of the Ontong Java Plateau. Geological Society, London, Special Publ. 229, p. 151-178.

(E Cretaceous basalts of oceanic Ontong Java Plateau homogeneous composition, mainly low-K tholeiite. Formed in short time (<10 My) around 122 Ma. Most or all of volcanics erupted well below sea level)

Fitton, J.G., J.J. Mahoney, P. Wallace et al. (eds.) (2004)- Origin and evolution of the Ontong Java Plateau. Geological Society, London, Special Publ. 229, p. 1-374.

(Collection of papers on Ontong Java Plateau in W Pacific, world's largest igneous province in oceanic environment. Mainly formed around 120- 90 Ma, mid-Cretaceous)

Fitton, J.G., J.J. Mahoney, P.J. Wallace & A.D. Saunders (2004)- Leg 192 synthesis: origin and evolution of the Ontong Java Plateau. In: J.G. Fitton et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results, 192, p. 1-18.

(online at: www-odp.tamu.edu/publications/192_SR/VOLUME/SYNTH/SYNTH.PDF)

(Mid-Cretaceous Ontong Java Plateau is most voluminous of world's large igneous provinces and represents by far largest known magmatic event on Earth (comparable in size to W Europe). Formed rapidly around 120 Ma (122- >112 Ma). Collision with old Solomon arc resulted in uplift of OJP S margin to create onland exposures of basaltic basement in Solomon Islands (Malaita, Santa Isabel, San Cristobal). Biostratigraphic dating of pelagic sediment intercalated with lava flows suggests magmatism on high plateau extended from ~122-112 Ma, but ReOs isotopic data on basalts from same sites single isochron age of 121.5 ± 1.7 Ma)

Fryer, P.B. & M.H. Salisbury (2006)- Leg 195 synthesis: Site 1200- Serpentinite seamounts of the Izu-Bonin/Mariana convergent plate margin (ODP Leg 125 and 195 drilling results). In: M. Shinohara et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 195, p. 1-30.

(online at: www-odp.tamu.edu/publications/195_SR/VOLUME/SYNTH/SYNTH1.PDF)

(Izu-Bonin/Mariana convergent plate margin characterized by non-accretionary forearc with numerous serpentinite seamounts distributed over 90 km wide zone in Mariana system. Seamounts formed primarily by mud volcanism. Mud flows with altered mafic rocks of oceanic plate and island arc origin and slab-derived fragments of high P- low T metabasites (incl. glaucophane schist) that reflect conditions of subduction zone.)

Gill, J.B. (1987)- Geodynamic and geochemical evolution of the Fiji region. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, p. 125-128.

Gill, J.B. & I. McDougall (1973)- Biostratigraphic and geological significance of Miocene- Pliocene volcanism in Fiji. Nature 241, p. 176-180.

*(Dating of Fijian volcanic rocks enables estimate of 4.9 ± 0.4 Ma for age of Miocene-Pliocene boundary, as defined by first appearance of *Sphaeroidinella dehiscens*. Change in composition of volcanism in Fiji between ~5-6 Ma may result from migration of site of subduction)*

Gladchenko, T.P., M.F. Coffin & O. Eldholm (1997)- Crustal structure of the Ontong Java Plateau: modeling of new gravity and existing seismic data. J. of Geophysical Research 102, B10, p. 22711-22729.

(Seismic refraction and gravity data of large (>18,000 km²), basaltic Early Cretaceous Ontong Java Plateau, NE of Papua New Guinea, has crustal thickness of ~30km)

Glasby, G.P. (1988)- Manganese in the SW Pacific; a brief review. Ore Geology Reviews 4, p. 125-133.

(Terrestrial manganese occurs as relatively small-scale deposits in SW Pacific area and was mined in Vanuatu, Fiji, New Caledonia, New Zealand and PNG (E-M Eocene Rigo deposits SE of Port Moresby, associated with E-M Eocene cherts. Manganese nodule widespread on seafloor of equatorial SW Pacific (not elaborated here))

Glasby, G.P. (1988)- Manganese deposition through geological time: dominance of the post-Eocene deep-sea environment. *Ore Geology Reviews* 4, p. 135-143.

(Development of widespread Cenozoic deep-sea manganese nodules is reflection of global cooling and development of post-Eocene ocean with cold, well-oxygenated bottom currents. Giant shallow-water manganese deposits of Lower Jurassic to Oligocene associated with anoxia and high sea-level stands. Formation of Cretaceous manganese nodules in Timor may be related to cold bottom waters. Scale of present-day deep-sea manganese nodule formation suggests we live in manganese era)

Glickson, M. (1988)- Miocene reef-derived deposits in Vanuatu- possible petroleum source rocks. In: H.G. Greene & F.L. Wong (eds.) *Geology and offshore resources of Pacific island arcs- Vanuatu Region, Circum-Pacific Council Energy Min Res.*, Houston, Earth-Sci. Ser. 8, p. 267-274.

Gorbatov, A. & B.L.N. Kennett (2003)- Joint bulk-sound and shear tomography for Western Pacific subduction zones. *Earth Planetary Science Letters* 210, p. 527-543.

(Tomographic inversion reveals penetration of subducted slab below 660 km discontinuity at Kurile-Kamchatka trench. Flattening of slabs above this depth observed in Japan and Izu-Bonin subduction zones. Penetration of subducted slab down to 1200 km below S Bonin trench, Mariana, Philippine, and Java subduction zones)

Greene, H.G. & F.L. Wong (eds.) (1988)- *Geology and offshore resources of Pacific island arcs- Vanuatu region. Circum-Pacific Council Energy Min Res.*, Houston, Earth Science Ser. 8, p. 1-442.

Griffiths, J.R. (1971)- Reconstruction of the South-West Pacific margin of Gondwanaland. *Nature* 234, p. 203-207.

Grotsch, J. & E. Flugel (1992)- Facies of sunken Early Cretaceous atoll reefs and their capping Late Albian drowning succession (Northwestern Pacific). *Facies* 27, p. 153-174.

Hamburger, M.W. & B.L. Isacks (1988)- Diffuse backarc deformation in the Southwestern Pacific. *Nature* 332, p. 599-604.

(Earthquake distribution and focal mechanisms from Lau and N Fiji back-arc basins indicate diffuse and shear-dominated deformation. Back-arc region between Tonga and New Hebrides arcs more realistically modelled as giant pull-apart basin, along left step in transform boundary between Pacific Indo-Australian plates)

Hanzawa, S. (1947)- Eocene foraminifera from Haha-Jima (Hillsborough Island). *Journal of Paleontology* 21, 3, p. 254-259.

(Haha-jima (Bonin Islands) entirely formed of Eocene rocks. Uppermost horizon Priabonian limestone with Biplanispira. Underlying Lutetian friable rock with Nummulites boninensis n.sp. in lower half, Aktinocyclus predominant in upper half, Alveolina javanus var. and Eorupertia boninensis persist throughout Lutetian (see also Ujie & Matsumaru, 1977))

Hanzawa, S. (1957)- Cenozoic foraminifera from Micronesia. *Geological Society of America (GSA), Memoir* 66, p. 1-163.

Hanzawa, S. (1961)- Facies and micro-organisms of the Paleozoic, Mesozoic and Cenozoic sediments of Japan and her adjacent islands. Brill, Leiden, p. 1-420.

Hanzawa, S. (1967)- Three new Tertiary foraminiferal genera from Florida, Saipan and Guam. *Trans. Proc. Paleontological Society Japan, N.S.*, 65, p. 19-25.

(online at: https://www.jstage.jst.go.jp/article/prpsj1951/1967/65/1967_65_19/_pdf)

(Incl. new genus Tayamaia from Aquitanian of Saipan and Quasirotalia from Pliocene of Guam)

Haston, R.B. & M. Fuller (1991)- Paleomagnetic data from the Philippine Sea Plate and their tectonic significance. *J. of Geophysical Research: Solid Earth* 96, B4, p. 6073-6098.

(Paleomagnetic data from Guam and Saipan can be interpreted as (1) small scale local rotation of blocks along plate margin, or (2) rotation of Philippine Sea plate as a whole. Reconstruction model suggests Philippine Sea plate rotated up to 80° CW and moved N ~20° since Eocene. Data cannot distinguish between backarc origin or trapped crust origin for W Philippine Sea province)

Haston, R., M. Fuller & E. Schmidtke (1988)- Paleomagnetic results from Palau, West Caroline islands: a constraint on Philippine Sea plate motion. *Geology (GSA)* 16, p. 654-657.

(Paleomagnetic results from the Palau Islands indicate 60°-70° CW rotation since M Oligocene time. Rotation interpreted to represent motion of Philippine Sea plate and not local rotation (ubiquitous CW rotations in paleomagnetic data from around Philippine Sea plate. This strong clockwise rotation of the Philippine Sea plate provides a mechanism for oblique subduction and related transcurrent motion along the margin of the Philippine archipelago)

Hegarty, K.A. & J.K. Weissel (1988)- Complexities in the development of the Caroline plate region, western Equatorial Pacific. In: A.E.M. Nairn & F.G. Stehli (eds.) *The Ocean Basins and Margins 7B, The Pacific Ocean*, Plenum, New York, p. 277-301.

Hermelin, J.O.R. (1989)- Pliocene benthic foraminifera from the Ontong-Java plateau (Western Equatorial Pacific Ocean): faunal response to changing paleoenvironments. *Cushman Foundation Foraminiferal Research, Special Publ.* 26, p. 1-143.

(online at: www.cushmanfoundation.org/specpubs/sp26.pdf)

(Pliocene benthic foraminifera from DSDP Hole 586A on Ontong Java Plateau, NE of New Guinea. Benthic fauna 262 taxa. Three assemblages: (1) Nuttallides umbonifera-dominated assemblage, reflecting well-oxygenated water, undersaturated with respect to calcite, (2) Cibicidoides wuellerstorfi, Epistominella exigua, Globocassidulina subglobosa, Oridorsalis umbonatus and Pullenia bulloides, similar to present fauna on Ontong Java Plateau, associated with deep oxygen minimum layer of Pacific Intermediate Water, reflecting reduced O2 content associated with episodes of upwelling; (3) Uvigerina peregrina-dominated assemblage reflects episodes of further depletion in O2 due to intensified upwelling or changes in thermohaline circulation)

Hickey-Vargas, R. (1991)- Isotope characteristics of submarine lavas from the Philippine Sea: implications for the origin of arc and basin magmas of the Philippine tectonic plate. *Tectonophysics* 107, p. 290-304.

(Igneous rocks from Philippine Sea tectonic plate from DSDP Legs 31, 58 and 59 analyzed for Sr, Nd and Pb isotope ratios. Four geochemically distinct magma sources required for Philippine plate magmas).

Hickey-Vargas, R. (1998)- Origin of the Indian Ocean-type isotopic signature in basalts from Philippine Sea plate spreading centers: an assessment of local versus large-scale processes. *J. of Geophysical Research* 103, B9, p. 20963-20979.

(online at: <http://onlinelibrary.wiley.com/doi/10.1029/98JB02052/epdf>)

(Basalts erupted from spreading centers on Philippine Sea plate between 50 Ma- present have the distinctive isotopic characteristics of Indian Ocean mid-ocean ridge basalt, such as high 208Pb/204Pb and low 143Nd/144Nd. This may indicate that upper mantle of Philippine Sea plate originated as part of existing Indian Ocean domain, or, less likely, that local processes duplicated these isotopic characteristics in sub-Philippine Sea plate upper mantle. Philippine Sea plate MORB likely originated over rapidly growing Indian Ocean upper mantle domain that had spread into area between Australia/New Guinea and SE Asia before 50 Ma)

Hickey-Vargas, R. (2005)- Basalt and tonalite from the Amami Plateau, northern West Philippine Basin: new Early Cretaceous ages and geochemical results, and their petrologic and tectonic implications. *Island Arc* 14, p. 653-665.

(Basalts and tonalites dredged from Amami Plateau in N West Philippine Basin geochemical characteristics of intra-oceanic island arc rocks. Hornblende 40Ar/39Ar isochron ages of ~115-118 Ma. W Philippine Basin

opened within complex of Jurassic- Paleocene island arc terranes, now scattered in northern West Philippine Basin, the Philippine Islands and Halmahera)

Hickey-Vargas, R., M. Bizimis & A. Deschamps (2008)- Onset of the Indian Ocean isotopic signature in the Philippine Sea Plate: Hf and Pb isotope evidence from Early Cretaceous terranes. *Earth Planetary Science Letters* 268, 3, p. 255-267.

(Basalts from Paleocene-Recent Philippine Sea Plate back arc basins have Pb/ Hf-Nd isotopic characteristics of Indian Ocean mid-ocean ridge basalts. Isotopic composition of E Cretaceous terranes in Philippine Sea Plate (Huatung Basin) have Indian MORB Hf-Nd isotopic signature, but Pb isotope ratios intermediate between Indian and Pacific MORB. W Philippine Basin basalts stronger Indian Pb isotope signature than Huatung Basin rocks. Indian MORB characteristics of E Cretaceous Huatung Basin support idea that mantle sources with signature existed prior to opening of present day Indian Ocean and that Tethyan oceanic basalts, now found throughout S Eurasia, shared them)

Hickey-Vargas, R., J.M. Hergt & P.Spadea (1995)- The Indian Ocean-type isotopic signature in western Pacific marginal basins; origin and significance. In: B. Taylor & N. James (eds.) *Active margins and marginal basins of the western Pacific*, American Geophysical Union (AGU), Geophysical Monograph 88, p. 175-197.

(W Pacific marginal basins floored by basalts with Indian Ocean Sr-Nd-Pb isotopic characteristics, suggesting their spreading ridges tap into Indian Ocean upper mantle domain, which must extend to E side of Philippine Sea and Indo-Australian plates and extends below W Philippine and Celebes Sea basins at time of opening. Basalts from Celebes Sea (ODP sites 767, 770) N-MORB character, with Sr, Nd and Pb isotope ratios close to Indian Ocean MORB)

Hickey-Vargas, R., I.P. Savov, M. Bizimis, T. Ishii & K. Fujioka (2006)- Origin of diverse geochemical signatures in igneous rocks from the West Philippine Basin: implications for tectonic models. In: D.M. Christie et al. (eds.) *Back-arc spreading systems: geological, biological, chemical and physical interactions*, American Geophysical Union (AGU), Geophysical Monograph 166, p. 287-303.

(online at: https://www.academia.edu/17631331/Origin_of_diverse_geochemical_signatures_in_igneous_rocks_from_the_West_Philippine_Basin_implications_for_tectonic_models)

Hilde, T.W.C. (1983)- Sediment subduction versus accretion around the Pacific. *Tectonophysics* 99, p. 381-397.
(Sediment subduction common around Circum-Pacific. Bending-induced graben structures of subducting plates major factor for sediment subduction and tectonic erosion)

Hilde, T.W.C. & C.S. Lee (1984)- Origin and evolution of the West Philippine Basin: a new interpretation. *Tectonophysics* 102, p. 85-104.

(online at: www.academia.edu/113125440/Origin_and_evolution_of_the_West_Philippine_Basin_A_new_interpretation)
(W Philippine Basin two distinct spreading phases. From 60-45 Ma spreading NE-SW, relative to present orientation. At ~45 Ma spreading direction changed to more N-S direction with reconfiguration of C Basin Spreading Center into short E-W segments offset by closely spaced N-S transform faults. Spreading slowed and ceased at 35 Ma B.P. Thus, W Philippine Basin originated at 45 Ma by trapping of normal ocean crust W of initial subduction along Palau-Kyushu trend. 45-35 Ma period represents dying phase of spreading on C Basin Spreading Center following isolation of W Philippine Basin from plate driving forces of Pacific)

Hilde, T.W.C. & S. Uyeda (1983)- Trench depth: variation and significance. In: T.W.C. Hilde & S. Uyeda (eds.) *Geodynamics of the Western Pacific-Indonesian region*, American Geophysical Union (AGU) and Geological Society of America (GSA) Geodynamics Series 11, p. 75-89.

(Circum-Pacific trench depths ~5-11km and increase with age. Subduction rates also greater with greater trench depth, suggesting negative buoyancy is significant driving force for plate motion. Backarc region trenches deeper than Pacific basin perimeter trenches, partly due to increased depth of backarc basins, which results from compensation of non-equilibrated portions of subducted lithosphere in asthenosphere under backarc regions. Indonesian trenches unusually shallow for age of subducting oceanic crust)

- Hilde, T.W.C., S. Uyeda & L. Kroenke (1976)- Tectonic history of the Western Pacific. In: C.L. Drake (ed.) *Geodynamics: progress and prospects*, American Geophysical Union (AGU), Special Publ. 5, p. 1-15.
(*Plate reconstructions of W Pacific region since Jurassic. Showing Borneo as part of Indochina margin in Jurassic-Cretaceous, until Late Cretaceous rifting-opening of South China Sea*)
- Hilde, T.W.C., S. Uyeda & L. Kroenke (1977)- Evolution of the Western Pacific and its margins. *Tectonophysics* 38, p. 145-165.
(*Evolution of W Pacific since M Mesozoic. Subduction along Asian plate margin throughout this time has resulted in general N-ward movement of plates surrounding Asia. An E-W spreading ridge system extended from Pacific into Tethys Sea and migrated N as oceanic plates subducted along Asia. As plates S of these ridge segments started to subduct at Asian margin, new spreading ridges formed far to S, rifting India from Antarctica at ~100 Ma and Australia from Antarctica at ~52 Ma. Subduction of Pacific ridge system in N and SW Pacific resulted in change of direction in Pacific plate motion from NNW to WNW at ~45 Ma. Etc.*)
- Hodell, D.A. & A.Vayavananda (1993)- Middle Miocene paleoceanography of the western Equatorial Pacific (DSDP Site 289) and the evolution of *Globorotalia (Fohsella)*. *Marine Micropaleontology* 22, 4, p. 279-310.
(*Evolution of planktonic foram lineage Globorotalia (Fohsella) Miocene between 23.7-11.8 Ma, which forms basis for subdivision of early M Miocene zones N10-N12. Most rapid changes in morphology of Fohsella between 13- 12.7 Ma, coinciding with increase in $\delta^{18}O$ ratios. O values suggest change in depth stratification associated with expansion of thermocline in W Equatorial Pacific. After adapting to deeper water habitat at 13.0 Ma, Fohsella lineage became extinct at 11.8 Ma during period of shoaling of thermocline*)
- Hoernle, K., F. Hauff, P. van den Bogaard, R. Werner, N. Mortimer, J. Geldmacher, D. Garbe-Schonberg & B. Davy (2010)- Age and geochemistry of volcanic rocks from the Hikurangi and Manihiki oceanic plateaus. *Geochimica Cosmochimica Acta* 74, 24, p. 7196-7219.
(*Ar/Ar age and geochemical data show Hikurangi Plateau basement lavas (118-96 Ma) similar to Ontong Java Plateau (~120 and 90 Ma; primarily Kwaimbaita-type composition). Manihiki Plateau Site 317 lavas (117 Ma) similar to Singgalo lavas on Ontong Java Plateau. Alkalic seamount lavas (99-87 Ma and 67 Ma) on Hikurangi Plateau and adjacent Kiore Seamount derived from different mantle source (see also Timm et al. 2011)*)
- Hoffmeister, J.E. (1932)- Geology of Eua, Tonga. *Bernice P. Bishop Museum Bull.* 96, p. 1-93.
(*online at: <http://hbs.bishopmuseum.org/pubs-online/pdf/bull96.pdf>*)
(*Report of 1926 and 1928 surveys of Eua at S end of Tongan archipelago. Nucleus of volcanics, with coating of limestone, of Late Eocene and Late Tertiary ages. Six terraces, up to 760' altitude. Includes chapter by G.L. Whipple (p. 79-86) on Late Eocene larger forams from Eua, incl. Nummulites, Asterocyclina, Pellatispira ruteni and new species Pellatispira fulgeria (=Biplanispira) (see also Cole 1970)*)
- Holt, A.F., L.H. Royden, T.W. Becker & C. Facenna (2018)- Slab interactions in 3-D subduction settings: The Philippine Sea Plate region. *Earth Planetary Science Letters* 489, p. 72-83.
(*online at: <https://www-udc.ig.utexas.edu/external/becker/preprints/hrbf18.pdf>*)
(*Slab-slab interactions, kinematics and geometry of Philippine Sea Plate and western Pacific subduction zones. Philippine Sea Plate sandwiched between Pacific and Eurasia. Bounded to W and E by W-dipping subduction zones. To south, Philippine Sea Plate juxtaposed against Sunda, Caroline and Indo-Australian plates. Etc.*)
- Honza, E. (1991)- The Tertiary Arc Chain in the Western Pacific. *Tectonophysics* 187, p. 285-303.
(*Reconstruction of Tertiary Arc Chain of W and SW Pacific rim since initiation in Eocene-Oligocene. From W Pacific to E margin of Australia: Bonin, Mariana, Yap, Palau, Halmahera, N New Guinea- W Melanesia, Solomon, Vanuatu, and Tonga-Kermadec Arcs. Associated with formation and consumption of backarc basins. Four stages in evolution: (1) arc chain from M Eocene- earliest Oligocene; (2) Oligocene formation of backarc basins; (3) occurrence of double arcs on inner side of arc chain in E-M Miocene and (4) reversal of arc polarities due to collisions since late Miocene. Backarc basins open 15 My after initiation of volcanic arc. Several to 10 Myrs after opening, backarc spreading terminates. In case of arc collision, reversal of arc polarity occurs if there is oceanic crust on backarc side*)

- Horibe, Y., K.R. Kim & H. Craig (1987)- Hydrothermal methane plumes in the Mariana back-arc spreading center. *Nature* 324, p. 131-133.
(*Large plumes of methane-enriched water in Mariana Trough back-arc basin and also in summit crater of Loihi Seamount (present site of Hawaiian hotspot). Mariana vents enriched in methane without corresponding enrichment in ³He*)
- Hottinger, L. (1975)- Late Oligocene larger foraminifera from Koko Guyot, Site 309. Initial Reports Deep Sea Drilling Project (DSDP) 32, p. 825-826.
(*online at: www.deepseadrilling.org/32/volume/dsdp32_32.pdf*)
(*Occ. Late Oligocene Spirochypus tidoenganensis and Heterostegina assilinoidea on top of Koko Guyot seamount between Japan and Hawaii*)
- Howell, D.G., E.R. Schermer, D.L. Jones, Z. Ben-Avraham & E. Scheibner (1985)- Preliminary tectonostratigraphic terrane map of the Circum-Pacific Region. Circum-Pacific Council for Energy and Mineral Resources, American Assoc. Petroleum Geol. (AAPG), Tulsa.
(*Map at 1:17M scale and explanatory notes by US Geological Survey personnel*)
- Huang, C.Y., Y. Yen, P.M. Liew, D.J. He, W.R. Chi & M.S. Wu (2013)- Significance of indigenous Eocene larger foraminifera *Discocyclina dispansa* in Western Foothills, Central Taiwan: a Paleogene marine rift basin in Chinese continental margin. *J. Asian Earth Sciences* 62, p. 425-437.
(*Early M Eocene larger foram Discocyclina dispansa in inner shelf sediments of C Taiwan. Calcareous nannoplankton of zones NP14-15 in overlying clastics. Part of M Eocene syn-rift sequence, unconformably covered by latest Oligocene-Miocene post-rift sequence*)
- Hutchison C.S. (1987)- Displaced terranes of the Southwest Pacific. In: Z. Ben Avraham (ed.) *The evolution of the Pacific Ocean margins*, Oxford Monographs Geology Geophysics 8, p. 161-175.
- Iaffaldano, G. (2012)- The strength of large-scale plate boundaries: constraints from the dynamics of the Philippine Sea plate since ~5Ma. *Earth Planetary Science Letters* 357-358, p. 21-30.
(*On convergence of fast-moving Philippine Sea plate towards Eurasia since subduction initiation at ~5 Ma. Because Philippine slab reaches depths shallower than 410km transition zone in upper mantle, its weight unlikely to provide sufficient driving force to shear trailing plate over viscous mantle at observed rates*)
- Iba, Y. & S. Sano (2007)- Mid-Cretaceous step-wise demise of the carbonate platform biota in the Northwest Pacific and establishment of the North Pacific biotic province. *Palaeogeogr. Palaeoclim. Palaeoecology* 245, p. 262-282.
(*Cretaceous carbonate platform biota flourished from Berriasian- E Albian interval in Japan, Sakhalin, indicating Tethyan biotic realm. Step-wise disappearance in latest Aptian- M Albian of rudists, dasycladacean and red algae, hermatypic corals, stromatoporoids, nerineacean gastropods, orbitolinid foraminifera, etc.*)
- Ishizuka, O., K. Tani, R.N. Taylor, S. Umino, I. Sakamoto, Y. Yokoyama, I. Ogitsu, G. Shimoda, Y. Harigane et al. (2024)- Origin of Philippine Sea Basins during subduction initiation in the Western Pacific. *Geochem. Geophysics Geosystems* 25, 5, e2023GC011291, p. 1-23.
(*online at: <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2023GC011291>*)
(*Igneous rocks from oldest ocean basins of Philippine Sea Plate (West Philippine and Palau Basins). Ages of basalts from N-most West Philippine Basin and Palau Basin 43.5-50.5 Ma, similar to oldest samples associated with Oki-Daito mantle plume (48-50 Ma). Etc.*)
- Ishizuka, O., R.N. Taylor, M. Yuasa & Y. Ohara (2011)- Making and breaking an island arc: a new perspective from the Oligocene Kyushu-Palau arc, Philippine Sea. *Geochem. Geophysics Geosystems* 12, 5, p. 1-40.
(*online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2010GC003440>*)
(*Kyushu-Palau Ridge is 2600 km-long remnant island arc, separated from active Izu-Bonin-Mariana arc by Shikoku and Parece Vela spreading-rift basins at ~25 Ma. KPR active between 25-48 Ma, but majority of exposed volcanism between 25-28 Ma*)

Ito, G. & P.D. Clift (1998)- Subsidence and growth of Pacific Cretaceous plateaus. *Earth Planetary Science Letters* 161, p. 85-100.

(On creation and subsidence of mid-Cretaceous Ontong Java, Manihiki, and Shatsky oceanic plateaus)

Johnson, H. (1991)- Petroleum geology of Fiji. *Marine Geology* 98, p. 313-352.

(Most petroleum exploration in Fiji in shallow-water basins around Viti Levu, Bligh Water and Bau Waters Basins. Five deep wells drilled offshore and on Viti Levu in 1980-1982, all dry, with minor shows of gas and oil fluorescence. Wells with >2500m of mainly Miocene and younger sediments, but some Oligocene or older volcanogenic rocks also intersected. mainly volcanoclastics. E-M Miocene shallow-water limestone targets not encountered. No source rocks identified in wells or outcrops, but anomalous amounts of pentane in seabed sediments off N Viti Levu suggest that thermogenic hydrocarbons generated)

Johnson, H. & J. Pflueger (1991)- Potential Mio-Pliocene reef traps in the Iron Bottom Basin, Solomon Islands. In: K.A.W. Crook (ed.) *The geology, geophysics and mineral resources of the South Pacific*, *Marine Geology* 98, p. 177-186.

(Iron Bottom Basin N of Honiara, Guadalcanal, C Solomons Trough, with up to 4.5 km of Late Oligocene-Quaternary sediments with potential for hydrocarbons. Seismic profiles with mound-like anomalies, possibly Mio-Pliocene and Pliocene shelf-edge reefs, forming potential traps for hydrocarbons)

Johnson, J.H. (1954)- Fossil calcareous algae from Bikini atoll. U.S. Geological Survey (USGS) Professional Paper, 260-M, p. 537-543.

(online at: <http://pubs.usgs.gov/pp/0260m/report.pdf>)

Johnson, J.H. (1957)- Geology of Saipan, Mariana Islands, Part 3. Paleontology, E. Calcareous algae. U.S. Geological Survey (USGS) Professional Paper, 280-E, p. 209-243.

(online at: <http://pubs.usgs.gov/pp/0280e-j/report.pdf>)

(Eocene- Recent algae from Saipan are mainly red algae, some are green. 18 genera and 88 species described. Calcareous algae can be rock builders. Main use is in paleoecology; of limited use in stratigraphy)

Johnson, J.H. & B.J. Ferris (1950)- Tertiary and Pleistocene coralline algae from Lau, Fiji. *Bernice P. Bishop Museum Bulletin* 201, Honolulu, p. 1-27.

(read online at: <https://catalog.hathitrust.org/Record/001646291>)

(Lau Islands in eastern Fiji composed of volcanics and Miocene- Quaternary limestones 27 species of calcareous algae, all from Futuna Limestone, of likely Miocene age)

Johnston, S.T. (2004)- The New Caledonia- D'Entrecasteaux orocline and its role in clockwise rotation of the Vanuatu- New Hebrides Arc and formation of the N Fiji Basin. In: A.J. Sussman & A.B. Weil (eds.) *Orogenic curvature: integrating paleomagnetic and structural analyses*, Geological Society of America (GSA), Special Paper 383, p. 225-236.

(Bend of N end of ribbon continent extending N from Northland Peninsula, New Zealand, through New Caledonia and Loyalty Islands and into submarine d'Entrecasteaux ridge (the NNNCd'E ribbon continent) formed as result of oroclinal orogeny))

Jolivet, L., P. Huchon & C. Rangin (1989)- Tectonic setting of Western Pacific marginal basins. *Tectonophysics* 160, p. 23-47.

(Reconstructions of W Pacific marginal basins between 56 Ma- Present, accounting for rapid motion of 'exotic terranes' along W Pacific convergent zone. Marginal basins may open in variety of tectonic settings).

Kamp, P.J.J. (1986)- Late Cretaceous-Cenozoic tectonic development of the Southwest Pacific region. *Tectonophysics* 121, p. 225-251.

(new model of the plate tectonic development of the southwest Pacific integrates the continental geology of New Zealand with the age structure of the surrounding oceanic crust)

Karig, D.E. (1971)- Origin and development of marginal basins in the western Pacific. *J. of Geophysical Research* 76, 11, p. 2542-2561.

(One of first models to propose origin of W Pacific/ Indonesian marginal oceanic basins by back-arc extension due to retreat of subduction trench and volcanic arc. Marginal basins in Indonesia now inactive; no new crust oceanic-type is generated)

Karig, D.E. (1974)- Evolution of arc systems in the Western Pacific. *Annual Review Earth Planetary Sciences* 2, p. 51-75.

Karig, D.E. (1975)- Basin genesis in the Philippine Sea. Initial Reports Deep Sea Drilling Project (DSDP) 31, Paper 42, p. 857-879.

(online at: http://deepseadrilling.org/31/volume/dsdp31_42.pdf)

(Philippine Sea basins Cenozoic back-arc marginal basin(s))

Karig, D., J.C. Ingle, A.H. Bouma, H. Ellis, N. Haile, I. Koizumi, I.D. MacGregor, J.C. Moore, H. Ujiie et al. (1973)- Origin of the West Philippine Basin. *Nature* 246, 5434, p. 458-461

(online at: https://www.researchgate.net/publication/242860967_Origin_of_the_West_Philippine_Basin)

(Brief paper with results of DSDP Leg 31)

Kelley, K.A., T. Plank, T.L. Grove, E.M. Stolper, S. Newman & E. Hauri (2006)- Mantle melting as a function of water content beneath back-arc basins. *J. of Geophysical Research* 111, B09208, p. 1-27.

(Mainly based on data from Pacific marginal basins. Subduction zone magmas are characterized by high concentrations of water, more than Mid-Ocean Ridge Basalts. In magmatic arc systems magma genesis is caused by flux of water from dehydrating, subducting slab, lowering mantle solidus, which drives melting of mantle wedge. In back-arc basins H₂O % decreases with distance from volcanic arc)

Kleinpell, R.M. (1954)- Neogene smaller Foraminifera from Lau, Fiji. *Bernice P. Bishop Museum Bull.* 211, p. 1-96.

*(Descriptions of M Miocene- Pleistocene smaller foraminifera from Lau Islands, E of Fiji. Shallow marine faunas, associated with Miocene larger foraminifera *Lepidocyclina*, *Miogypsina*, etc.)*

Knesel, K.M., B.E. Cohen, P.M. Vasconcelos & D.S. Thiede (2008)- Rapid change in drift of the Australian plate records collision with Ontong Java plateau. *Nature* 454, p. 754-757.

(Short-lived slowdown in N-ward motion and W-ward deflection of Australian plate between 26-23 Ma, tied to arrival of Greenland-sized volcanic Ontong Java Plateau at Melanesian (N Solomon/ Vitiaz) Trench)

Knight, C.L., R.B. Fraser & A. Baumer (1973)- Geology of the Bougainville copper orebody, New Guinea. In: N.H. Fisher (ed.) *Metallic provinces and mineral deposits in the Southwest Pacific*, Bureau Mineral Resources Geology Geophysics, Bull. 141, p. 59-67.

(online at: https://d28rz98at9flks.cloudfront.net/108/Bull_141.pdf)

(Cu-Au-Mo 'porphyry copper' orebody near E coast of Bougainville Island, at S side of complex intrusive into Miocene andesitic volcanic suite)

Kodama, K., B.H. Keating & C.E. Helsley (1983)- Paleomagnetism of the Bonin Islands and its tectonic significance. *Tectonophysics* 95, p. 25-42.

*(Bonin Islands on NE margin (27°N) of Philippine Sea. Composed of Eocene arc volcanics, with interbedded limestones classic M and Late Eocene larger foram assemblages, incl. *Pellatispira*. Islands have undergone N-ward migration of at least 30° from equatorial region, together with (possibly clockwise) rotation of 30°->90°)*

Komiya, T. & S. Maruyama (2007)- A very hydrous mantle under the western Pacific region: implications for formation of marginal basins and style of Archean plate tectonics. *Gondwana Research* 11, p. 132-147.

Konter, J.G. (2007)- The origin and geologic evolution of seamounts in the Pacific Ocean. Ph.D. Thesis University of California, San Diego, p. 1-207.

Korenaga, J. (2005)- Why did not the Ontong Java Plateau form subaerially? *Earth Planetary Science Letters* 234p. 385-399.

(Bulk of gigantic Ontong Java oceanic plateau formed at ~120 Ma in submarine environment. Rapid construction of massive igneous body below sea level impossible to explain with proposed plume head or bolide impact hypotheses. Entrainment of dense fertile mantle by rapid seafloor spreading proposed to account for voluminous magmatism in submarine environment. Dense source mantle may explain anomalous subsidence history as well as minor magmatism at ~90 Ma)

Koyama, M., S.M. Cisowski & P. Pezard (1992)- Paleomagnetic evidence for northward drift and clockwise rotation of the Izu-Bonin forearc since the Early Oligocene. In: B. Taylor et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results 126*, p. 353-370.

(online at: www-odp.tamu.edu/publications/126_SR/VOLUME/CHAPTERS/sr126_24.pdf)

(Paleomagnetic study of deep-marine sediments and volcanic rocks drilled by ODP Leg 126 in Izu-Bonin forearc suggest 10°-14° N-ward drift since Oligocene- E Miocene and up to ~80° clockwise rotation since E Oligocene time, possibly reflecting large CW rotation of entire Philippine Sea Plate over past 40 My)

Krebs, W. (1975)- Formation of Southwest Pacific island arc-trench and mountain systems: plate or global-vertical tectonics? *American Assoc. Petroleum Geol. (AAPG) Bull.* 59, 9, p. 1639-1666.

(Origin of SW Pacific island arc-trench systems explained in terms of 'global vertical tectonics')

Kronke, L.W. (1972)- Geology of the Ontong Java Plateau. Hawaii Institute of Geophysics, Technical Report HIG 72-5, p. 1-118.

Kronke, L.W. (1984)- Cenozoic tectonic development of the Southwest Pacific. U.N. Economic Social Commission Asia Pacific (CCOP/SOPAC), Fiji, Technical Bull. 6, p. 1-112.

(online at: <http://ict.sopac.org/VirLib/TB0006.pdf>)

(Rel. thorough review of SW Pacific geology. Including chapter 3: Papua New Guinea: a montage of island arcs, incl. Late Eocene (Bewani- Torricelli), Oligocene (Finisterre-New Britain), Miocene (New Guinea Mobile Belt), Pliocene- Holocene (Schouten- New Britain))

Kronke, L.W., J.M. Resig & R.M. Leckie (1993)- Hiatus and tephrochronology of the Ontong Java Plateau: correlation with regional tectono-volcanic events. In: W.H. Berger et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results 130*, p. 423-444.

(online at: www-odp.tamu.edu/publications/130_SR/VOLUME/CHAPTERS/sr130_25.pdf)

(Hiatus in sedimentary section and ash occurrences in SW Pacific correlate well with changes in plate motion of Indo-Australian and Pacific plates, seafloor-spreading history, initiation and cessation of SW Pacific subduction events, related periods of explosive arc volcanism and proximal intraplate volcanism)

Kronke, L.W., P. Wessel & A. Sterling (2004)- Motion of the Ontong Java Plateau in the hot-spot frame of reference: 122 Ma- present. In: J.G. Fitton et al. (eds.) *Origin and evolution of the Ontong Java Plateau*, Geological Society, London, Special Publ. 229, p. 9-20.

(New model of Pacific absolute plate motion between 140- 0 Ma used to track paleogeographic positions of Ontong Java Plateau (OJP) from the time (~122 Ma) and location (~43°S) of formation to present location N of Solomon Islands)

Lallemant, S. (2016)- Philippine Sea Plate inception, evolution, and consumption with special emphasis on the early stages of Izu-Bonin-Mariana subduction. *Progress in Earth and Planetary Science* 3, 15, p. 1-26.

(online at: <http://progearthplanetsci.springeropen.com/articles/10.1186/s40645-016-0085-6>)

(Izanagi slab detachment beneath E Asia margin at ~60-55 Ma likely triggered splitting of proto-PSP under plume influence at ~54-48 Ma, leading to formation of long-lived W Philippine Basin and short-lived oceanic basins. Shortening across paleo-transform boundary evolved into thrusting within Pacific Plate at ~52-50 Ma,

allowing it to subduct beneath newly formed PSP, which was composed thick Mesozoic terranes and thin oceanic lithosphere. First magmas from subducting Pacific crust beneath young oceanic crust near upper plate spreading centers at ~49 Ma were boninites. As Pacific crust reached greater depths at ~45 Ma composition of lavas evolved into high-Mg andesites, then arc tholeiites and andesites. Serpentinite mud volcanoes in Mariana fore-arc may have formed above remnants of paleo-transform boundary between proto-PSP and Pacific Plate)

Langmuir, C.H., A. Bezos, S. Escrig & S.W. Parman (2006)- Chemical systematics and hydrous melting of the mantle in back-arc basins. In: Back-arc spreading systems: Geological, biological, chemical, and physical interactions, American Geophysical Union (AGU), Geophysical Monograph 166, p. 87-146.

(Chemical systematics of Scotia, Mariana, Lau, and Manus back-arc basins. In back-arc basins, on the arc side of spreading center, where water is added, shallow hydrous melting is important. On back side, dry melting under relatively anhydrous conditions occurs, similar to open ocean ridges. Mixing between melts from dry and wet sides leads to characteristic spectra of parental BABB compositions)

Larson, R.L. & C.G. Chase (1972)- Late Mesozoic evolution of the western Pacific Ocean. Geological Society of America (GSA), Bull. 83, p. 3627-3644.

(Three sets of Late Mesozoic magnetic anomalies in Pacific Ocean suggests five spreading centers, joined at two triple points. Oldest part of Pacific Ocean just E of Mariana Trench and E Jurassic in age)

Larson, R.L. (1991)- Latest pulse of Earth: evidence for a mid-Cretaceous superplume. Geology (GSA) 19, p. 547-550.

(Between 120-80 Ma 50-75% increase in Earth's oceanic crust formation, with spreading rate increases (especially in Pacific Ocean). Pulse decreased from 100-80 Ma, dropped significantly at 80 Ma, and continued decrease from 80-30 Ma. Mid-Cretaceous pulse interpreted as response to superplume that originated at ~125 Ma and erupted beneath mid-Cretaceous Pacific basin)

Larson, R.L. (1997)- Superplumes and ridge interactions between Ontong Java and Manihiki Plateaus and the Nova-Canton Trough. Geology (GSA) 25, 9, p. 779-782.

(Initial pulse of volcanism on Ontong Java and Manihiki Plateaus before 123-124 Ma and largely ceased by ~122 Ma, while intervening Pacific-Phoenix spreading ridge probably disrupted between 120-115 Ma by formation of Nova-Canton Trough rift system)

Lee, C.S. (1983)- Origin and evolution of the West Philippine Basin (tectonics, magnetics). Ph.D. Thesis Texas A&M University, College Station, p. 1-120.

(West Philippine Basin formed by seafloor spreading from Central Basin Spreading Center in two different spreading phases: NE-SW symmetric spreading at 60-45 Ma and N-S oriented spreading from 45-35 Ma. See also Hilde & Lee, 1984)

Leitch, E.C. (1984)- Marginal basins of the SW Pacific and the preservation and recognition of their ancient analogues: a review. In: B.P. Kokelaar & M.F. Howells (eds.) Marginal basin geology, Geological Society, London, Special Publ. 16, p. 97-108.

(SW Pacific marginal basins floored by oceanic lithosphere formed by (1) sea-floor spreading behind active magmatic arcs (back-arc basins) and (2) rifting of continental crust without obvious connection to arc (small ocean basins). Basins opened rapidly. Thick sediment piles adjacent to emergent continental margins or active arcs, with thin pelagic sediments, ash, and fine grained turbidites on basin floors. Ancient back-arc basins identifiable on basis of temporal relations to magmatic arcs and volcanic influence in sedimentary sequence, but distinguishing between small and major ocean basins often difficult. Most basins close by subduction)

Lewis, S.D., D.E. Hayes & C.L. Mrozowski (1982)- The origin of the West Philippine basin by inter-arc spreading In: G.R. Balce & F. Zanoria (eds.) Geology and tectonics of Luzon and Marianas region, Proc. CCOP-IOC-SEATAR Workshop, Manila, Special Publ., 1, p. 31-51.

Li, Q. S. Li, Wei Gong, Lei Xing, Hongwei Liu, C. Xu & X. Jiang (2025)- Subduction of the Ontong Java Plateau: Insights from seismic reflection imaging of the forearc along the West Melanesian Trench. *J. Structural Geology* 196, 105425, p.

Li, R.Q. & K. Sashida (2011)- Additional note on Earliest Cretaceous Entactinarians (Radiolaria) from the Mariana Trench. *Paleontological Research (Palaeontological Society of Japan)* 16, 1, p. 26-36.
(Well-preserved earliest Cretaceous radiolarians from tuffaceous claystone sample collected from seamount flank of Mariana Trench slope. Several new genera)

Li, R.Q. & K. Sashida (2013)- Morphological variability and phylogeny of the Upper Tithonian?-Berriasian Vallupinae (Radiolaria) from the Mariana Trench. *Journal of Paleontology*, 87, 6, p. 1186-1194.
(Common U Tithonian- Berriasian Vallupinae radiolaria in tuffaceous claystone from Mariana Trench. 17 radiolarian species, including three new)

Li, R.Q. & K. Sashida & Y. Ogawa (2011)- Earliest Cretaceous initial spicule-bearing spherical radiolarians from the Mariana Trench. *Journal of Paleontology*, 85, p. 92-101.
(Well-preserved earliest Cretaceous radiolarians from tuffaceous claystone from seamount flank of Mariana Trench. Families Centrocubidae and probably Entactiniidae identified)

Li, Y.B., J.I. Kimura, S. Machida, T. Ishii, A. Ishiwatari, S. Maruyama, H.N. Qiu, T. Ishikawa et al. (2013)- High-Mg adakite and low-Ca boninite from a Bonin fore-arc seamount: Implications for the reaction between slab melts and depleted mantle. *Journal of Petrology* 54, 6, p. 1149-1175.
(online at: <https://academic.oup.com/petrology/article/54/6/1149/1409047>)
(In Izu-Bonin-Mariana initial subduction-related boninitic magmatism between 48-44 Ma. High-Mg adakites and low-Ca boninites dredged from Bonin Ridge fore-arc seamount, with overlapping ages or adakite magmatism occurred slightly later than boninite magmatism. Both magma types could be generated by partial melting of depleted mantle source fluxed by water-rich slab-derived melts in subduction environment)

Lister, G.S., L.T. White, S Hart & M.A Forster (2012)- Ripping and tearing the rolling-back New Hebrides slab. *Australian J. Earth Sciences* 59, 6, p. 899-911.
(Modeling of evolution of New Hebrides slab suggests Australian lithosphere tore as it began to subduct, and is still ripping today. S-ward motion of N-dipping flap enabled by W-ward propagation of active rip, accompanied by S-ward foundering of new transform segments. Subduction transform foundering reflected by steps in height of subducted slab)

Liu; W., Q. Liu, J. Hu, T. Yang, C. Gai, Y. Zhou & W. Zhang (2025)- Complexity of the Oligocene meridional motion of the Philippine Sea Plate. *Geology (GSA)* 53, 2, p. 140-144.
(Oligocene magnetostratigraphic and paleomagnetic research from DSDP Site 445 indicate S-ward-moving trend during 29-25 Ma, followed by N- motion after 25 Ma. Attributed to rollback of the subducted slab S of PSP prior to 25 Ma and collision between Australian Plate and PSP after that. Tectonic reorganization around 25 Ma can also be identified in Pacific Plate and convergence between Indian and Asian Plates)

Loocke, M., J.E. Snow & Y. Ohara (2013)- Melt stagnation in peridotites from the Godzilla Megamullion Oceanic Core Complex, Parece Vela Basin, Philippine Sea. *Lithos* 182-183, p. 1-10.
(Godzilla Megamullion in Parece Vela backarc basin of Izu-Bonin-Mariana system largest known example of Oceanic Core Complex (OCC) (55x155km) in extinct Miocene backarc spreading ridge. Peridotites recovered include fertile (Iherzolites), depleted (harzburgites) and plagioclase-bearing groups. Melt stagnation studied via incidence of plagioclase-bearing peridotites and chemistry of Cr-spinels in plag-bearing samples)

Lytle, M.L. (2013)- Geochemical constraints on mantle sources and melting conditions in Pacific back-arc basins. Ph.D. Thesis, University of Rhode Island, p. 1-406.

Macpherson, C.G. & R. Hall (2001)- Tectonic setting of Eocene boninite magmatism in the Izu-Bonin-Mariana forearc. *Earth Planetary Science Letters* 186, p. 215-230.

(manuscript online at: https://www.researchgate.net/publication/222526090_Tectonic_setting_of_Eocene_boninite_magmatism_in_the_Izu-Bonin-Mariana_forearc)

(*M Eocene boninites generated over large region during early history of Izu-Bonin Mariana (IBM) arc, but boninites not recognised in younger subduction zones. Thermal anomaly or mantle plume influenced magmatic and tectonic development of W Pacific from M Eocene until present day*)

Madrigal, P., E. Gazel, K.E. Flores, M. Bizimis & B. Jicha (2016)- Record of massive upwellings from the Pacific large low shear velocity province. *Nature Communications* 7, 13309, p. 1-12.

(online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5105175/pdf/ncomms13309.pdf>)

Mahoney, J., D.M. Storey, K. Spencer & M. Pringle (1993)- Geochemistry and age of the Ontong Java Plateau. In: M.S. Pringle et al. (eds.) *The Mesozoic Pacific: geology, tectonics and volcanism*, American Geophysical Union (AGU) Geophysical Monograph 77, p. 233-261.

(online at: www.mantleplumes.org/WebDocuments/Mahoney93_GeoMon77.pdf)

(*Basement rocks of Ontong Java Plateau tholeiitic basalts that appear to record very high degree of partial melting, like those found in Iceland. Mean Ar/Ar ages of ODP Site 807 lavas and basement from Malaita island 122.4 ± 0.8 Ma (Aptian). Pb-Nd-Sr isotopes indicate hotspot-like source*)

Maillet, P., E. Ruellan, M. Gerard, A. Person, H. Bellon, J. Cotten, J.L. Joron, S. Nakada & R.C. Price (1995)- Tectonics, magmatism, and evolution of the New Hebrides backarc troughs (Southwest Pacific). In: B. Taylor (ed.) *Backarc Basins*, Springer, Boston, p 177-235.

(*Review of structural, geophysical, geochronological, and petrological data of New Hebrides backarc troughs*)

Mallick, D.L.J. (1973)- Review of the mineral deposits of the New Hebrides. In: N.H. Fisher (ed.) *Metallogenic provinces and mineral deposits in the Southwestern Pacific*, Bureau Mineral Resources Geology Geophysics, Bull. 141, p. 13-31.

(online at: https://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=108)

Matsubara, Y. & T. Seno (1980)- Paleogeographic reconstruction of the Philippine Sea plate at 5 m.y. *Earth Planetary Science Letters* 51, 5, p. 406-414.

(*Philippine Sea at 5 Ma reconstructed by rigid rotation of 6.0° for past 5 m.y., incorporation evolution and deformation along plate boundaries. W-ward motion of Philippine Sea plate and subduction beneath eastern Eurasian margin resulted in the opening of Marian Trough. Etc.*)

Matsuoka, A. (1991)- Middle Jurassic radiolarians from the Western Pacific. In: T. Kotaka, J.M. Dickins et al. (eds.) *Proc. Int. Symposium in Shallow Tethys 3*, Sendai 1990, Saito Ho-on Kai, Special Publ. 3, p. 697-707.

(*First record of Jurassic sediments in W Pacific at ODP Site 801, C Pigafetta basin. Oldest faunas of Tricolocapsa conexa Zone, Bathonian-Callovian age. Faunas compare well with Tethyan and Japanese faunas*)

Matsuoka, A. (1992)- Jurassic and Early Cretaceous radiolarians from Leg 129, Sites 800 and 801, Western Pacific Ocean. In: R.L. Larson et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results 129*, p. 203-220.

(online at: www-odp.tamu.edu/publications/129_SR/VOLUME/CHAPTERS/sr129_10.pdf)

(*Seven M Jurassic - Lower Cretaceous radiolarian zones from Sites 800 and 801, ODP Leg 129 in W Pacific: Dibalochras tythopora (Hauterivian), Cecrops septemporatus, (U. Valanginian), Pseudodictyomitra carpatica (Berriasian- E Valanginian), P. primitiva, (Kimmeridgean-Tithonian), Cinguloturris carpatica Oxfordian), Stylocapsa spiralis (~U Callovian) and Tricolocapsa conexa (Bathonian- E Callovian). (Most Tan Sin Hok (1927) species of Archaeodictyomitra (A. brouweri= Eucyrtidium brouweri, A. excellens= Lithomitra excellence, A. pseudoscalaris= Stichomitra pseudoscalaris), Eucyrtis (E. hanni= Lithocampe hanni) and Pseudodictyomitra (P. lilyae= Dictyomitra lilyae) range up into D. tythopora/Hauterivian and down through P. carpatica/ Berriasian; P. lilyae only in U Valanginian-Hauterivian; JTvG)*

Matsuoka, A. (1995)- Late Jurassic tropical Radiolaria: *Vallupus* and its related forms. *Palaeogeogr. Palaeoclim. Palaeoecology* 119, p. 359-369.

(Vallupus Territory is tropical radiolarian realm of Panthalassa and Tethys in Latest Jurassic- early Cretaceous. Vallupinae radiolarian subfamily restricted to Late Jurassic in low- and middle-latitudes of W Pacific, E Asia, Mediterranean regions, etc. Probably accumulated within 25° of Jurassic paleoequator)

Matthews, K.J., M. Seton, N. Flament & R.D. Muller (2012)- Late Cretaceous to present-day opening of the Southwest Pacific constrained by numerical models and seismic tomography. In: Eastern Australasian Basins Symposium IV, Brisbane 2012, p. 1-15.

Matthews, K.J., S.E. Williams, J.M. Whittaker, D. Muller, M. Seton & G.L. Clarke (2015)- Geologic and kinematic constraints on Late Cretaceous to mid Eocene plate boundaries in the Southwest Pacific. *Earth-Science Reviews* 140, p. 72-107.

(New plate tectonic reconstruction for Late Cretaceous- M Eocene (~85-45 Ma) of SW Pacific. Subduction has been active E of Lord Howe Rise and N of New Zealand since at least 85 Ma. From >85 Ma, and possibly 100 Ma, until 55 Ma S Loyalty Basin opened to E of New Caledonia associated with W-directed slab roll-back. At ~55 Ma NE dipping subduction initiated in S Loyalty Basin and consumed basin between ~55-45 Ma)

McCarthy, A., L. Magri, I. Sauermilch, J. Fox, M. Seton, G. Mohn, J. Tugend, S. Feig et al. (2022)- The Louisiade ophiolite: A missing link in the western Pacific. *Terra Nova*, 34, 2, p. 146-154.

(100 km long ridge along N-most part of Louisiade Plateau with serpentized peridotites, mid-ocean-ridge basalt and volcanoclastic breccias, suggestive of supra-subduction zone ocean lithosphere formed above nascent subduction zone. Extensive E-W oriented ophiolite obducted onto LP between 53 and 80 Ma. Represents E-ward continuation of Papuan Ultramafic Belt and forms link with ophiolites in New Caledonia)

Meijer, A. (1980)- Primitive arc volcanism and a boninite series; example from western Pacific Island arcs. In: The tectonic and geologic evolution of Southeast Asian seas and islands, American Geophysical Union (AGU), Geophysical Monograph Series 23, p. 269-282.

(Several W Pacific islands of Mariana-Bonin arcs with olivine-bronzite andesites, known as boninites. Production of boninite may require high geothermal gradients in mantle overlying subduction zone, as in subduction under young, hot Philippine Sea plate)

Meijer, A., M. Reagan, H. Ellis, M. Shafiqullah, J. Sutter, P. Damon & S. Kling (1983)- Chronology of volcanic events in the Eastern Philippine Sea. In: The tectonic and geologic evolution of Southeast Asian seas and islands: Part 2, American Geophysical Union (AGU), Geophysical Monograph Series 27, p. 349-359.

(Radiometric and paleontologic ages of samples from chiefly volcanic sections on Guam, Saipan, and Palau Islands: Facpi Fm on Guam dated at ~43.8 Ma (late M Eocene); Palau Islands volcanic units of late Eocene(?), E Oligocene and E Miocene age; Mariana active arc minimum age of 1.3 Ma)

Miller, M.S., B.L.N. Kennett & V.G. Toy (2006)- Spatial and temporal evolution of the subducting Pacific plate structure along the western Pacific margin. *J. of Geophysical Research: Solid Earth* 111, 2, B02401, p. 1-14.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2005JB003705>)

(Tomographic images of subducting Pacific plate beneath Izu-Bonin-Mariana arc show progression along arc from shallow dipping in N to vertical in S)

Mitchell, A.H.G. (1970)- Facies of an Early Miocene volcanic arc, Malekula Island, New Hebrides. *Sedimentology* 14, p. 201-243.

(On Malekula Island pre-Miocene pelagic red mudstones in tectonic contact with thick marine E Miocene island arc succession of volcanoclastic rocks (intruded by basaltic and andesitic dykes and sills), detrital limestones, pelagic sediments and rare lava flows. Carbonate detritus from reefs bordering volcanic islands)

Mohiuddin, M.M., Y. Ogawa & K. Matsumaru (2000)- Late Oligocene larger foraminifera from the Komahashi-Daini Seamount, Kyushu-Palau Ridge and their tectonic significance. *Paleontological Research (Palaeontological Society of Japan)* 4, 3, p. 191-204.

(Typical low-latitude Late Oligocene larger foram assemblage with Miogypsinoides, Spiroclypeus, Eulepidina, etc., from dredge samples in ~2500m of water on flank of seamount on Kyushu-Palau Ridge)

- Mosher, D.C. (1993)- Seismic stratigraphy of the Ontong Java Plateau, western equatorial Pacific: its paleoceanographic significance. Ph.D. Thesis Dalhousie University, Halifax, p. 1-191.
(*Seismic stratigraphy study of flank of large deep water carbonate Ontong Java Plateau. Sediment column >1000m thick at top of plateau, consisting of mainly pelagic sediments*)
- Mrozowski, C.L. & D.E. Hayes (1979)- The evolution of the Parece Vela Basin, Eastern Philippines. Earth Planetary Science Letters 46, p. 49-67.
(*Parece Vela Basin is oceanic back-arc basin in E Philippine Sea, with series of discrete deeps and troughs with depths commonly of 6 km and locally >7 km. (~32- 17 Ma spreading?)*)
- Mrozowski, C.L., S.D. Lewis & D.E. Hayes (1982)- Complexities in the tectonic evolution of the West Philippine Basin. Tectonophysics 82, p. 1-24.
(*Oceanic W Philippine Basin three sub-basins with different tectonic histories. Magnetic anomalies 21(?) -17 in main basin and do not extend into S or NW sub-basin. S sub-basin may have formed immediately before ridge jump to main basin spreading axis or may be younger than main basin. NW sub-basin originated as part of main basin, but has undergone deformation which did not affect main basin, possibly related to subduction along E Luzon margin in mid-Tertiary. Gagua Ridge is uplifted sliver of oceanic crust*)
- Nairn, A.E.M., F.G. Stehli & S. Uyeda (eds.) (1985)- The ocean basins and margins 7A, The Pacific Ocean-part 1. Plenum Press, New York, p. 1-748.
- Nairn, A.E.M., F.G. Stehli & S. Uyeda (eds.) (1988)- The ocean basins and margins 7B, The Pacific Ocean-part 2. Plenum Press, New York, p. 1-642.
- Neal, C.R., J.J. Mahoney, L.W. Kroenke, R.A. Duncan & M.G. Petterson (1997)- The Ontong Java Plateau. In: J. Mahoney & F. Coffin (eds.) Large Igneous Provinces: continental, oceanic, and planetary flood volcanism, American Geophysical Union (AGU), Geophysical Monograph 100, p. 183-216.
(*Alaska-size Ontong Java Plateau basalt province in SW Pacific two principal ages: ~122 and ~90 Ma, probably from single mantle plume*)
- Neall, V.E. & S.A. Trewick (2008)- The age and origin of the Pacific islands: a geological overview. Philosophical Transactions Royal Society, London, B 363, p. 3293-3308.
(*online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2607379/pdf/rstb20080119.pdf>*)
(*Pacific Ocean evolved from Panthalassic Ocean that first formed at ~750 Ma with breakup of Rodinia. First ocean floor ascribed to current Pacific plate formed by 160 Ma, W of spreading center in C Pacific. Islands of Pacific originated as: linear chains of volcanic islands (mantle plume or propagating fracture origin), atolls, uplifted coralline reefs, fragments of continental crust (New Zealand, Chatham Islands, New Caledoni), obducted portions of adjoining lithospheric plates and islands resulting from subduction along convergent plate margins. 11 linear volcanic chains identified*)
- Nicora, A., I. Premoli Silva & A. Arnaud Vanneau (1995)- Paleogene larger foraminifer biostratigraphy from Limalok Guyot, Site 871. In: J.A. Haggerty et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 144, p. 127-139.
(*online at: www-odp.tamu.edu/publications/144_sr/VOLUME/CHAPTERS/sr144_06.pdf*)
(*E-M Eocene platform limestone with Discocyclina, Asterocyclina, Nummulites, Alveolina, overlying Cretaceous volcanics and limestones on guyot in Marshall Islands*)
- Nishimura, A. (1992)- Carbonate bioclasts of shallow-water origin at Site 793. In: B. Taylor, K. Fujioka et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 126, p. 231-234.
(*online at: www-odp.tamu.edu/publications/126_SR/VOLUME/CHAPTERS/sr126_15.pdf*)
(*Occurrence of Late Eocene limestone clasts with larger foraminifera Pellatispira, Biplanispira and Asterocyclina found reworked as gravity flows in deeper water Oligocene sediments at W Pacific Site 793 on Izu-Bonin Arc at 31°N*)

Norton, I.O. (1995)- Plate motions in the North Pacific: the 43 Ma nonevent. *Tectonics* 14, 5, p. 1080-1094.
(Hawaiian-Emperor seamount chain in N Pacific Ocean commonly considered produced by motion of Pacific plate over hotspot. If hotspot remained fixed, 60° change in trend between Hawaiian and Emperor portions of chain results from change in direction of Pacific plate relative to mantle at 43 Ma (M Eocene). However, no significant plate reorganizations in Pacific and surrounding plates after this, so Emperor portion of seamount chain probably formed by non-stationary hotspot)

Oakley, A.J., B. Taylor & G.F. Moore (2008)- Pacific Plate subduction beneath the central Mariana and Izu-Bonin fore arcs: new insights from an old margin. *Geochem. Geophysics Geosystems* 9, 6, Q06003, p. 1-28.
(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2007GC001820>)
(Seismic profiles from C Mariana and Izu-Bonin subduction systems image subducting Pacific Plate from outer trench slope to beneath serpentinite seamounts on outer fore arc. Subducting oceanic crust along Mariana margin 5.3- 7 km thick and is covered by 0.5-2 km thick sediments and seamounts. Faulting resulting from flexure of incoming Pacific Plate begins up to 100 km E of the trench axis, near 6 km depth contour. Etc.)

Obayashi, M., J. Yoshimitsu, D. Suetsugu, H. Shiobara, H. Sugioka, A. Ito, T. Isse, Y. Ishihara et al. (2021)- Interrelation of the stagnant slab, Ontong Java Plateau, and intraplate volcanism as inferred from seismic tomography. *Nature Scientific Reports* 11, 20966, p. 1-10.
(online at: <https://www.nature.com/articles/s41598-021-99833-5>)
(P-wave tomography data around Ontong Java Plateau)

Ohara, Y. (2006)- Mantle process beneath Philippine Sea back-arc spreading ridges: a synthesis of peridotite petrology and tectonics. *Island Arc* 15, p. 119-129.

Ohara, Y. (2016)- The Godzilla Megamullion, the largest oceanic core complex on the earth: a historical review. *Island Arc* 25, 3, p. 193-208.
(Godzilla Megamullion in Parece Vela Basin in Philippine Sea is largest known oceanic core complex on Earth. Philippine Sea evolved with E-ward progression of backarc spreading and arc migration. Presence of abundant plagioclase-bearing peridotite and systematic temporal changes in deformation microstructures and composition of plagioclase and amphibole in gabbroic mylonites and ultramylonites. Zircon U-Pb ages of gabbroic and leucocratic rocks indicate terminal phase of Parece Vela Basin spreading was with significant decline in spreading rate and asymmetry accompanying formation of Godzilla Megamullion)

Ohara, Y., K. Fujioka, T. Ishii & H. Yurimoto (2003)- Peridotites and gabbros from the Parece Vela backarc basin: unique tectonic window in an extinct backarc spreading ridge. *Geochem. Geophysics Geosystems* 4, 7, p. 1-22.
(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2002GC000469/epdf>)
(Serpentinized peridotite and gabbro from extinct Parece Vela Basin spreading ridge in Philippine Sea. Small degree of mantle melting, including presence of huge mullion structure (Godzilla Mullion))

Ohara, Y., K. Fujioka, O. Ishizuka & T. Ishii (2002)- Peridotites and volcanics from the Yap arc system: implications for tectonics of the southern Philippine Sea Plate. *Chemical Geology* 189, p. 35-53.
(Metamorphosed rocks and gabbros of Parece Vela Basin origin predominate on Yap Islands and for upper part of forearc remnant arc volcanics of ~25 Ma age exist. Also arc volcanics of 11-7 Ma age in forearc. Depleted arc-type mantle peridotites exposed along faults in lower part of forearc landward slope. Yap arc- N Yap Escarpment system may form as incipient arc at propagating tip of Parece Vela Rift at ~25 Ma)

Ohara, Y., S. Kasuga & T. Ishii (1996)- Peridotites from the Parece Vela Rift in the Philippine Sea: upper mantle material exposed in an extinct backarc basin. *Proc. of the Japan Academy, Ser. B*, 72, p. 118-123.
(online at: https://www.jstage.jst.go.jp/article/pjab1977/72/6/72_6_118/_pdf)
(First? report of serpentinized peridotites and gabbros dredged from axial zone of Parece Vela Basin in eastern Philippine Sea in 1995. Central zone of Parece Vela Basin characterized by N-S trending chain of

depressions forming right-step en-echelon alignment. Peridotites residues of partial melting of primitive mantle peridotites)

Ohara, Y., K. Okino & J.E. Snow (2011)- Tectonics of unusual crustal accretion in the Parece Vela Basin. In: Y. Ogawa et al. (eds.) *Accretionary prisms and convergent margin tectonics in the Northwest Pacific Basin, Modern Approaches in Solid Earth Sciences 8*, Springer, p. 149-168.

Ohara, Y., T. Yoshida, Y. Kato & S. Kasuga (2001)- Giant megamullion in the Parece Vela backarc basin. *Marine Geophysical Research* 22, 1, p. 47-61.

(High-resolution bathymetric studies of extinct intermediate-spreading Parece Vela Basin identified large mullion structure, here termed a giant megamullion, order of magnitude larger than similar structures in slow-spreading Mid-Atlantic Ridge. Giant megamullion slightly elevated mantle Bouguer anomaly, and yields serpentized peridotites and gabbros, suggesting exposed oceanic crust and upper mantle. Also off-axis rugged 'chaotic terrain' of isolated and elevated blocks capped by corrugated lineations)

Ohde, S. & H. Elderfield (1992)- Strontium isotope stratigraphy of Kita-daito-jima Atoll, North Philippine Sea: implications for Neogene sea-level change and tectonic history. *Earth Planetary Science Letters* 113, 4, p. 473-486.

(Chronology of 432 m Late Oligocene- Recent core from Kita-daito-jima atoll on Philippine Sea plate. Atoll growth continuous between 18.8-24.3 Ma. Hiatuses and ages of dolomitization indicate sea-level falls of ~80m at ~17-16 Ma, ~30m at ~16-15 Ma, ~125m at ~11 Ma, and ~90m at ~5 Ma and at ~2 Ma)

Okino, K. & K. Fujioka (2003)- The Central Basin spreading center in the Philippine Sea: structure of an extinct spreading center and implications for marginal basin formation. *J. of Geophysical Research* 108, B1, 2040, p. 1-18.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2001JB001095>)

(Central Basin Spreading Center is extinct spreading axis of West Philippine Basin (WPB), with along-axis variations of spreading style: in E slow-spreading (deep rift valleys and nodal basins, rough abyssal hills on ridge flanks, and mantle Bouguer anomaly lows beneath segment centers); in W fast-spreading (overlapping spreading centers, volcanic axial ridges, and smooth abyssal hill fabric, with higher melt supply)

Okino, K., Y. Ohara, T. Fujiwara, S.M. Lee, K. Koizumi, Y. Nakamura & S. Wu (2009)- Tectonics of the southern tip of the Parece Vela Basin, Philippine Sea Plate. *Tectonophysics* 466, p. 213-228.

(online at: https://earthjay.com/earthquakes/20171208_micronesia/okino_etal_2009_tectonics_southern_tip_philippine_sea_plate.pdf)

(Parece Vela Basin formed as backarc basin behind proto Mariana arc from late Oligocene- M Miocene)

Okino, K., Y. Ohara, S. Kasuga & Y. Kato (1999)- The Philippine Sea: new survey results reveal the structure and the history of the marginal basins. *Geophysical Research Letters* 26, 15, p. 2287-2290.

(New bathymetric and magnetic maps of Philippine Sea seafloor suggest more complicated history than proposed before)

Onoue, T., J. Chablais & R. Martini (2009)- Upper Triassic reefal limestone from the Sambosan accretionary complex in Japan and its geological implication. *J. Geological Society Japan*, 115, 6, p. 292-295.

(online at: <https://archive-ouverte.unige.ch/unige:3944>)

*(U Triassic massive reefal limestone in latest Jurassic- earliest Cretaceous Sambosan accretionary complex in Japan accumulated on mid-oceanic seamount in Panthalassa Ocean. Smaller foraminifera include *Alpinophagmium perforatum*, *Agathammina austroalpina*, *Aulatortus sinuosus*, etc. Corals dominated by *Retiophyllia*)*

Onoue, T. & H. Sano (2007)- Triassic mid-oceanic sedimentation in Panthalassa Ocean: Sambosan accretionary complex, Japan. *Island Arc* 16, 1, p. 173-190.

(Sambosan accretionary complex of SW Japan formed in latest Jurassic earliest Cretaceous time. Four stratigraphic successions: (1) M-U Triassic (Carnian) basalts (oceanic island basalt); (2) U Triassic shallow-

water limestone and (3) limestone breccia (seamount-top and upper seamount-flank); and (4) middle M Triassic- lower U Jurassic siliceous rocks and pelagic carbonates (ocean floor))

Onoue, T. & G.D. Stanley (2008)- Sedimentary facies from Upper Triassic reefal limestone in the Sambosan accretionary complex in Japan. *Facies* 54, p. 529-547.

(Microfacies of E- M Norian reefal limestone of Sambosan Accretionary Complex, SW Japan. Seven major facies types, recording patch reef development on mid-oceanic seamount in Panthalassa Ocean. Strong Tethyan affinities of corals (dominated by Retiophyllia, also Distichophyllia norica = 'Montlivaltia norica Frech' also known from Timor, Austria) and foraminifera (incl. Agathammina austroalpina))

Otsuki, K. (1990)- Westward migration of the Izu-Bonin Trench, northward motion of the Philippine Sea Plate, and their relationships to the Cenozoic tectonics of Japanese island arcs. *Tectonophysics* 180, p. 351-367.

(Izu-Bonin Trench wandered ~400 km E froms present position during Paleogene and migrated W thereafter)

Ozawa, T. & K. Kanmera (1984)- Tectonic terranes of Late Paleozoic rocks and their accretionary history in the Circum-Pacific region viewed from fusulinacean paleobiogeography. *Proc. Circum-Pacific Terrane Conference 1983, Stanford University Publ., Geol. Sciences* 28, p. 158-160. *(Abstract only?)*

Pabst, S., T. Zack, I.P. Savov, T. Ludwig, D. Rost, S. Tonarini & E.P. Vicenzi (2012)- The fate of subducted oceanic slabs in the shallow mantle: insights from boron isotopes and light element composition of metasomatized blueschists from the Mariana forearc. *Lithos* 132-133, p. 162-179.

(Serpentine muds from South Chamorro Seamount contain metamafic clasts that experienced blueschist-facies metamorphism. Schists represent fragments from slab-mantle interface at ~27 km depth)

Packham, G.H. (1973)- A speculative Phanerozoic history of the South-west Pacific. In: P.J. Coleman (ed.) *The Western Pacific, island arcs, marginal seas, geochemistry*, University of Western Australia Press, Perth, p. 369-388.

Park, C.H., K. Tamaki & K. Kobayashi (1990)- Age-depth correlation of the Philippine Sea back-arc basins and other marginal basins in the world. *Tectonophysics* 181, p. 351-371.

(Basement depths of Philippine Sea range from 3200-6000m, with ages from 0-60 Ma. Depth of Philippine Sea ~800m deeper than that of major ocean floors of same age. Young back-arc basins (<10 Ma) both shallower and deeper than major oceans, depending on dip angles of corresponding subducting slabs: shallower back-arc basins above gently dipping slabs, deeper basins over steeply dipping slabs. Back-arc basins older than 15 Ma, always deeper than major oceans and follow age-depth curve of Philippine Sea back-arc basins)

Park, J.H. & S.J. Chang (2024)- Bilateral asthenospheric flow fed by the Caroline plume (western Pacific Ocean). *Geology (GSA)* 53, 3, p. 259-263.

(online at: <https://pubs.geoscienceworld.org/gsa/geology/article/53/3/259/650897/Bilateral-asthenospheric-flow-fed-by-the-Caroline>)

(Caroline seamount chain in W Pacific Ocean not typical hotspot seamount chain. Waveform tomography suggests elongated low-velocity anomaly in asthenosphere beneath Caroline seamount chain, with vertical low-velocity anomaly near middle of chain, suggesting bilateral asthenospheric flow fed by Caroline plume)

Pearce, J.A., P.D. Kempton & J.B. Gill (2007)- Hf-Nd evidence for the origin and distribution of mantle domains in the SW Pacific. *Earth Planetary Science Letters* 260, p. 98-114.

(Pb and Hf-Nd isotopes can be used to distinguish lavas of SW Pacific as derived from two mantle domains: (1) Pacific-like character and (2) Indian-like character (present today under Lau Basin, Fiji and N Fiji Basin))

Pearson, P.N. (1995)- Planktonic foraminifer biostratigraphy and the development of pelagic caps on guyots in the Marshall Islands Group. In: J. Haggerty et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results* 144, p. 21-59.

(online at: www-odp.tamu.edu/publications/144_sr/VOLUME/CHAPTERS/sr144_02.pdf)

(Five Marshall Islands group seamounts drilled on ODP Leg 144, three with thick caps of unconsolidated latest Oligocene- Holocene pelagic sediment (Limalok/ Site 871, Lo-En/ Site 872, Wodejebato/ Site 873). Significant hiatus between drowning of M Eocene carbonate platform/ Cretaceous volcanics and onset of pelagic sediment accumulation)

Pelletier, B., M. Meschede, T. Chabernaud, P. Roperch & X. Zhao (1994)- Tectonics of the Central New Hebrides Arc, North Aoba Basin. In: H.G. Greene et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 134, p. 431-444.

(online at: www-odp.tamu.edu/publications/134_sr/volume/chapters/sr134_24.pdf)

(Late Miocene- Pleistocene tectonic history recorded in N Aoba Basin and relation to onshore geology of New Hebrides Island Arc-d'Entrecasteaux Zone collision)

Pillet R., D. Rouland, G. Roult & D.A. Wiens (1999)- Crust and upper mantle heterogeneities in the Southwest Pacific from surface wave phase velocity analysis. *Physics Earth Planetary Interiors* 110, p. 211-234.

(New tomographic imaging shows large velocities contrasts along Solomon, New Hebrides and Fiji-Tonga trenches. Lowest anomalies under N and S Fiji basins and Lau Basin, highest values beneath Pacific plate and E part of Indian plate downgoing under N Fiji Basin. Continental regions (E Australia, New Guinea, Fiji Islands, New Zealand) low velocities, due to thick continental crust, whereas Tasmanian, D'Entrecasteaux and N and Fiji basins suggestive of thinner oceanic crust)

Pownall, J.M., G.S. Lister & W. Spakman (2017)- Reconstructing subducted oceanic lithosphere by 'reverse-engineering' slab geometries: The northern Philippine Sea Plate. *Tectonics* 36, 9, p. 1814-1834.

(On restoring pre-subduction configuration of Ryukyu and Shikoku slabs, NW Philippine Sea)

Premoli Silva, I. (1986)- A new biostratigraphic interpretation of the sedimentary record recovered at Site 462, Leg 61, Nauru Basin, Western Equatorial Pacific. Initial Reports Deep Sea Drilling Project (DSDP) 89, p. 311-319.

(online at: www.deepseadrilling.org/89/volume/dsdp89_07.pdf)

(Upper Cretaceous- Pleistocene section above basaltic complex in Hole 462 in Nauru Basin, S of Marshall Islands. Campanian- Maastrichtian with larger foraminifera Pseudorbitoides, Vaughanina, Lepidorbitoides(?), Orbitocyclina, Asterorbis and Sulcoperculina. Late Oligocene with Miogypsina ubaghsi and reworked Eocene)

Premoli Silva, I. & C. Brusa (1981)- Shallow-water skeletal debris and larger foraminifers from Deep Sea Drilling Project Site 462, Nauru Basin, Western Equatorial Pacific. Initial Reports Deep Sea Drilling Project (DSDP) 61, p. 439-473.

(online at: http://deepseadrilling.org/61/volume/dsdp61_05.pdf)

(U Cretaceous- Pleistocene section above basaltic complex in Hole 462 in Nauru Basin, S of Marshall Islands)

Premoli Silva, I., A. Nicora & A. Arnaud Vanneau (1995)- Upper Cretaceous larger foraminifer biostratigraphy from Wodejebato Guyot, Sites 873 through 877. In: J.A. Haggerty et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 144, p. 171-197.

(online at: www-odp.tamu.edu/publications/144_sr/VOLUME/CHAPTERS/sr144_09.pdf)

(occ. Pseudorbitoides, Omphalocyclus, Orbitoides, Asterorbis, Sulcoperculina off N Marshall Islands)

Premoli Silva, I., A. Nicora, A. Arnaud Vanneau, A.F. Bud, G.F. Caiman & J.P. Masse (1995)- Paleobiogeographic evolution of shallow-water organisms from the Aptian to the Eocene in the western Pacific. In: J.A. Haggerty, I. Premoli Silva et al. (eds.) Proc. ODP, Scientific Results 144, p. 887-893.

(Shallow-water organisms from four guyots in W Pacific show changes in bioprovinces through time. Tethyan low-latitude bioprovince characterizes Early Aptian worldwide. Late Albian mainly cosmopolitan forms, with elements restricted to Caribbean- Central America region or Mediterranean, suggest two bioprovinces differentiated at low latitude. Late Campanian-Maastrichtian under influence of Caribbean, but foram assemblages also include Mediterranean elements, suggesting colonization occurred both W-ward and E-ward. In latest Paleocene-early M Eocene prevalent migration from Mediterranean to Pacific)

Qian, S., J.J. Wu & J. Wu (2024)- Philippine Sea plate and surrounding magmatism reveal the Antarctic-Zealandia, Pacific, and Indian mantle domain boundaries. *Nature Communications Earth and Environment* 5, 183, p. 1-13.

(online at: <https://www.nature.com/articles/s43247-024-01326-6>)

(Previous studies identified possible long-lived (>60 My) mantle isotopic domains (i.e. Antarctic-Zealandia, Pacific and Indian) near Philippine Sea and W Pacific. Philippine Sea basalts show both Indian and Zealandia-Antarctic Pb isotopic signatures. Restoration of basalt locations shows far-travelled Philippine Sea traversed these mantle domains. Indian mantle domain E boundary at ~120°E under SE Asia and Indian Ocean. Antarctic-Zealandia mantle domain lies S of ~10°N within SW Pacific and remained in oceanic realms since ~400 Ma with only limited continental material input)

Qian, S.P., X. Zhang, J. Wu, S. Lallemand, A.R.L. Nichols, C. Huang, D.P. Miggins & H. Zhou (2021)- First identification of a Cathaysian continental fragment beneath the Gagua Ridge, Philippine Sea, and its tectonic implications. *Geology (GSA)* 49, 11, p. 1332-1336.

(online at: https://www.researchgate.net/publication/353373879_First_identification_of_a_Cathaysian_continental_fragment_beneath_the_Gagua_Ridge_Philippine_Sea_and_its_tectonic_implications)

(Lavas from Gagua Ridge in W Philippine Sea E of Taiwan, typical of subduction-related arc magmatism. Ar-Ar ages of ~124 Ma suggest formation in Early Cretaceous arc, during subduction of ocean plate along E Asia. Trapped zircon xenocrysts in lavas ages cluster at 250 Ma, 0.75 Ga, and 2.45 Ga, matching Cathaysian block, SE China, implying underlying continental basement material that rifted off Eurasian margin during opening of Huatung Basin. Depleted mantle wedge-derived magmas picked up continental zircons during ascent. Huatung Basin is remnant of Mesozoic ocean basin that dispersed from S China in Cretaceous)

Quinn, T.M., F.W. Taylor & A.N. Halliday (1994)- Strontium-isotopic dating of neritic carbonates at Bougainville Guyot (Site 831), New Hebrides Island Arc. In: J.Y. Collot et al. (eds.) *Proc. Ocean Drilling Program (ODP), Initial Reports 134*, p. 89-95.

(online at: www-odp.tamu.edu/publications/134_sr/VOLUME/CHAPTERS/sr134_06.pdf)

(ODP Site 831 penetrated 727.5 m of carbonate over andesite basement, 707.5 m of neritic carbonates overlain by 20m of pelagic carbonate. Basal 497m of neritic limestone totally calcitized. Sr isotopes stratigraphic conclusions: (1) Pleistocene (102.4-391.1 mbsf); (2) Miocene (410.3- 669.5 mbsf); and (3) Oligocene (678.8-727.50 mbsf. Several samples near bottom show reversed age vs. depth trend, probably product of post-depositional rock-water interaction)

Rangin, C., E.A. Silver & K. Tamaki (1995)- Closure of Western Pacific marginal basins: rupture of the oceanic crust and the emplacement of ophiolites. In: B. Taylor & J. Natland (eds.) *Active margins and marginal basins of the Western Pacific*, American Geophysical Union (AGU), Geophysical Monograph 88, p. 405-417.

(Most marginal basins of W Pacific region opened in Cenozoic time and many presently closing (Celebes Sea, Sulu Sea, Japan Sea). Oceanic floors of marginal basins deformed locally before consumed along young subduction zones, with parts of sedimentary section and crust incorporated into accretionary wedges. Initial flexural stage affecting crust before rupture local process)

Ranken, B., R.K. Cardwell & D.E. Karig (1984)- Kinematics of the Philippine Sea Plate. *Tectonics* 3, 5, p. 555-575.

(Philippine Sea Plate of SW Pacific. New set of Eurasia-Philippine, Pacific-Philippine and Caroline-Pacific plate rotation vectors)

Resig, J.M., V. Buyannanonth & K.J. Roy (1976)- Foraminiferal stratigraphy and depositional history in the area of the Ontong Java Plateau. *Deep Sea Research* 23, 5, p. 441-456.

(Foraminifera from 54 cores from Ontong Java Plateau identified outcrops as old as Late Eocene. Relationship between radiolarian concentrations and bathymetry suggest slopes accumulated in deeper water than synchronous deposits on plateau surface, indicating topographic high existed at least since Early Tertiary)

- Richter, C. & J.R. Ali (2015)- Philippine Sea Plate motion history: Eocene-Recent record from ODP Site 1201, central West Philippine Basin. *Earth Planetary Science Letters* 410, p. 165-173.
(*Sediments at ODP Site 1201 lower sequence of volcanoclastic turbidites sourced from Palau-Kyushu Ridge and upper succession of Late Oligocene- E Pliocene red deep-sea clays. Paleolatitudes derived from sediments support N-ward movement of plate since Eocene. Basaltic basement indicates paleoposition of ~7.1° S in M Eocene*)
- Riedel, W.R. (1952)- Tertiary Radiolaria in western Pacific sediments. *Goteborgs Kungliga Vetenskaps Vitterhets-Samhallets Handlingar*, B, 6, 3, p. 1-18.
(*First author to suggest that 'Late Neogene' radiolarian assemblages described by Tan Sin Hok (1927) from Roti island are of Cretaceous age*)
- Riedel, W.R. (1957)- Geology of Saipan, Mariana Islands, Part 3, Paleontology, Eocene Radiolaria. U.S. Geological Survey (USGS) Professional Paper, 280-G, p. 257-263.
(*online at: <http://pubs.usgs.gov/pp/0280e-j/report.pdf>*
(*Sixteen species of Radiolaria representing single faunal zone from two Eocene formations*)
- Rodd, J.A. (1993)- New reef targets for oil and gas exploration in Fiji, Southwest Pacific. In: G.H. Teh (ed.) *Proc. Symposium on the Tectonic framework and energy resources of the western margin of the Pacific Basin*, Kuala Lumpur 1992, *Bull. Geological Society Malaysia* 33, p. 313-330.
(*online at: <https://gsm publ.wordpress.com/wp-content/uploads/2014/09/bgsm1993022.pdf>*
(*Fiji Oligocene- Pliocene basins on and adjacent to Eocene- M Miocene Outer Melanesian volcanic island arc. One oil seep and oil-gas shows in wells demonstrate hydrocarbon generation. Potential reservoirs in Late Miocene and Pliocene carbonates. Seven wells drilled in 1980-1982, none reached target*)
- Rodd, J.A. (1994)- New reef targets for oil and gas exploration in Fiji, Southwest Pacific. *Oil and Gas Journal* 92, 10, p. 86-93.
(*Condensed version of Rodd (1993)*)
- Ruellan, E. & Y. Lagabriele (2005)- Subductions et ouvertures océaniques dans le Sud-Ouest Pacifique. *Geomorphologie: relief, processus, environnement* 11, 2, p. 121-142.
(*online at: <https://journals.openedition.org/geomorphologie/307>*
(*'Subductions and oceanic spreading in the Southwest Pacific'. Review of SW Pacific subduction and spreading zones. Links between subduction and back-arc oceanic spreading obvious everywhere in SW Pacific*)
- Ryan, H.F. & P.J. Coleman (1992)- Composite transform-convergent plate boundaries: description and discussion. *Marine and Petroleum Geology* 9, p. 89-97.
(*Includes discussions of oblique convergence in SW Pacific and Philippines*)
- Sasaki, T., T. Yamazaki & O. Ishizuka (2014)- A revised spreading model of the West Philippine Basin. *Earth Planets and Space* 66, 83, p. 1-9.
(*online at: <https://earth-planets-space.springeropen.com/articles/10.1186/1880-5981-66-83>*
(*In West Philippine Basin S of CBF rift seafloor magnetic anomalies Chron C16r- C21n (~36-46 Ma). Age of spreading cessation of ~36 Ma several Myrs older than previous estimates. Palau Basin magnetic lineations from C18n.1n- C15r (~38.5- 35 Ma)*)
- Schaaf, A. (1981)- Late Early Cretaceous radiolaria from Deep Sea Drilling. Project Leg 62. In: J. Thiede et al. (eds.) *Initial Reports Deep Sea Drilling Project (DSDP) 62*, p. 419-470.
(*online at: www.deepseadrilling.org/62/volume/dsdp62_12.pdf*
(*Well-preserved radiolarian faunas in Albian pelagic sediments above basalt from four DSDP Leg 62 sites in W Pacific. 21 new species, but also with many 'Tan Sin Hok 1927 species', incl. *Conosphaera tuberosa*, *Archaeodictyomitra pseudoscalaris*, *Cyrtocapsa asseni*, *C. grutterinki*, *C. houwi*, *C. molengraaffi*, *Eucyrtidium thiensis*, *Eucyrtis molengraaffi*, *Lithocampe pseudochrysalis*, *Pseudodictyomitra lilyae* + ~10 others*)

Scheibner, E., T. Sato, H.F. Douch, W.O. Addicott, M.J. Terman & G.W. Moore (1991)- Explanatory notes for the Tectonic map of the Circum-Pacific region, Southwest Quadrant, 1: 10,000,000. U.S. Geological Survey (USGS)/ Circum-Pacific Council Energy and Mineral Resources, p. 1-59.
(online at: <http://pubs.usgs.gov/cp/37/report.pdf>)

Schellart, W.P., G.S. Lister & V.G. Toy (2006)- A Late Cretaceous and Cenozoic reconstruction of the Southwest Pacific region: tectonics controlled by subduction and slab rollback processes. *Earth-Science Reviews* 76, p. 191-233.

(Reconstructions of SW Pacific, E of Australia. SW Pacific plate boundary W-dipping subduction boundary not only since M Eocene, but established since Late Cretaceous- E Paleogene. From ~82-52Ma, subduction primarily accomplished by >1200km of E and NE-directed rollback of Pacific slab, accommodating opening of New Caledonia, S Loyalty, Coral Sea and Pocklington backarc basins and partly accommodating spreading in Tasman Sea. S Loyalty and Pocklington backarc basins subducted in Eocene- E Miocene along newly formed New Caledonia and Pocklington subduction zones, culminating in SW/ S-ward obduction of ophiolites in New Caledonia, Northland and New Guinea in latest Eocene- earliest Miocene. Formation of these new subduction zones triggered by change in Pacific-Australia relative motion at ~50Ma. Two additional phases of E-ward rollback of Pacific slab in Oligocene- E Miocene and latest Miocene- Present (up to ~400km). Two new subduction zones in Miocene (Trobriand, New Britain- New Hebrides))

Schellart, W.P. & W. Spakman (2012)- Mantle constraints on the plate tectonic evolution of the Tonga-Kermadec- Hikurangi subduction zone and the South Fiji Basin region. *Australian J. Earth Sciences* 59, 6, p. 933-952.

(Tonga-Kermadec-Hikurangi subduction zone is major plate boundary in SW Pacific, where Pacific plate subducts W-ward under Australian plate. Analysis of three tectonic reconstruction models of SW Pacific from 45 Ma- Present. Good agreement between tomography slab images and model with two oppositely dipping subduction zones)

Schlanger, S.O. & I. Premoli Silva (1981)- Tectonic, volcanic and paleogeographic implications of redeposited reef faunas of Late Cretaceous and Tertiary age from the Nauru Basin and the Line Islands. *Initial Reports Deep Sea Drilling Project (DSDP) 61*, p. 817-827.

(online at: https://deepseadrilling.org/61/volume/dsdp61_36.pdf)

Selater, J.G., D.E. Karig, L.A. Lawver & K.E. Loudon (1976)- Heat flow, depth and crustal thickness of the marginal basins of the South Philippine Sea. *J. of Geophysical Research: Solid Earth and Planets*, 81, p. 309-318.

(Heat flow measurements and geophysical profiles across W Philippine and Parece Vela basins show variable heat flow, but not necessarily higher than deep ocean floor of same age. Mean depth of both basins greater and oceanic crust thinner than ocean floor of same age, possibly due to thinner crust in two basins)

Scott, R.B. (1983)- Magmatic evolution of island arcs in the Philippine Sea. In: T.W.C. Hilde & S. Uyeda (eds.) *Geodynamics of the Western Pacific-Indonesian region*, American Geophysical Union (AGU) and Geological Society Australia (GSA), *Geodynamic Series* 11, p. 173-188.

(Magmatic arc evolution of remnant and modern arcs in S Philippine Sea does not follow generally accepted spatial petrologic patterns. Arc-tholeiitic basalts from 42- 32-Ma Palau-Kyushu arc and calc-alkalic basalts from 20- 10-Ma West Mariana record evolution from arc tholeiitic to calc-alkalic affinities with time)

Scott, R.B. & L. Kroenke (1980)- Evolution of back-arc spreading and arc volcanism in the Philippine Sea: interpretation of Leg 59 DSDP results. In: D.E. Hayes (ed.) *The tectonic and geologic evolution of Southeast Asian seas and islands*, American Geophysical Union (AGU), *Geophysical Monograph Series* 23, p. 283-291.

(Philippine Sea back arc spreading and arc volcanism episodic. Probable back arc spreading in W Philippine Basin between~52-37 Ma. Tholeiitic volcanism on Palau-Kyushu arc possibly from ~42- 29 Ma. Cessation of this volcanism coincided with initiating of new Parece Vela Basin back arc spreading. W half of sundered arc left behind as remnant arc (Palau-Kyushu Ridge). Parece Vela back arc spreading continued from 30 Ma to ~18-14 Ma. No significant arc volcanism in Philippine Sea from ~30- 20 Ma. Etc.)

Scott, R.B. & L. Kroenke (1981)- Periodicity of remnant arcs and back-arc basins of the South Philippine Sea. Proc. 26th International Geological Congress, Geology of continental margins symposium, Oceanologica Acta 1981, Special Volume, p. 193-202.

(online at: <http://archimer.ifremer.fr/doc/00245/35654/34163.pdf>)

(In S Philippine Sea remnant arc precursors of modern Mariana arc and intervening back-arc basins progressively developed from W to E in Eocene- Recent time, to form Palau-Kyushu Ridge, Parece Vela Basin, W Mariana Ridge and modern Mariana Trough- Mariana arc. New data suggest initial periods of back-arc spreading coincident with minimal arc volcanism)

Scott, R.B., L. Kroenke, G. Zakariadze & A. Sharaskin (1981)- Chapter 38. Evolution of the South Philippine Sea: Initial Reports Deep Sea Drilling Project (DSDP) Leg 59 Results. In: L. Kroenke et al. (eds.) Initial Reports Deep Sea Drilling Project (DSDP) 59, p. 803-815.

(online at: www.deepseadrilling.org/59/volume/dsdp59_38.pdf)

Sdrolias, M., W.R. Roest & R.D. Muller (2004)- An expression of Philippine Sea plate rotation: the Parece Vela and Shikoku Basins. Tectonophysics 394, p. 69-86.

(Philippine Sea plate is world's largest marginal basin plate. Almost entirely surrounded by subduction zones. Parece Vela and Shikoku Oligocene-Miocene back-arc basins behind Izu-Bonin-Mariana arc. Change in spreading rate and direction from E-W to NE-SW at ~20 Ma is expression of Philippine Sea plate rotation. Philippine Sea plate rotated CW by about 4° between 20- 15 Ma; majority of 34° CW rotation probably between 25-5 Ma, may be confined to 15-5 Ma)

Seno, T. (2000)- Why the Philippine Sea Plate moves as it does. J. Geological Society of the Philippines 55, 1-2, p. 105-117.

Seno, T. & S. Maruyama (1984)- Paleogeographic reconstruction of the Philippine Sea. Tectonophysics 102, p. 53-84.

(online at: https://www.researchgate.net/publication/222917947_Paleogeographic_recontraction_and_origin_of_the_Philippine_Sea)

(Philippine Sea formed by two episodes of back-arc spreading, each resulting from seaward retreat of trench: (1) proto-Izu-Bonin Trench retreated N-ward and W Philippine Basin formed behind the N half of Palau-Kyushu Ridge; (2) Izu-Mariana Trench retreated E-ward and Shikoku and Parece Vela Basins formed behind it. 48 Ma ages of N part of Palau-Kyushu Ridge and of Bonin Islands indicate subduction beneath N half of ridge beginning at least in M Eocene. With plate reconstructins at 4, 17, 30, 40, 42, 48, 50 Ma)

Seno, T. & S. Maruyama (1985)- Tectonics of the Philippine Sea. J. of Geography (Chigaku Zasshi) 94, 3, p. 141-155. (in Japanese)

(online at: https://www.jstage.jst.go.jp/article/jgeography1889/94/3/94_3_141/_article)

Seno, T., S.A. Stein & A.E. Gripp (1993)- A model for the motion of the Philippine Sea Plate consistent with NUVEL 1 and geological data. J. of Geophysical Research: Solid Earth 98, 10, p. 941-948.

(online at: https://www.researchgate.net/publication/291781617_A_model_for_the_motion_of_the_Philippine_Sea_Plate_consistent_with_NUVEL-1_and_geologic_data)

(On velocity vectors of Philippine Sea plate relative to adjacent Eurasia, Pacific and Caroline plates)

Shatwell, D. (1987)- Epithermal gold mineralization and late Cenozoic magmatism in the Melanesian Outer Arc. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, p. 393-398.

Sidorov, A.A., A.V. Volkov, V.I. Starostin & V.Yu. Alekseev (2014)- Pacific volcanogenic belts and intra-oceanic volcanism. J. Volcanology and Seismology 8, 6, p. 340-360.

Smith, I.E.M. & R.C. Price (2006)- The Tonga–Kermadec arc and Havre–Lau back-arc system: Their role in the development of tectonic and magmatic models for the western Pacific. *J. Volcanology Geothermal Research* 156, Issues 3–4, p. 315-331.

Smith, I.E.M., T.J. Worthington, R.C. Price & J.A. Gamble (1997)- Primitive magmas in arc-type volcanic associations: examples from the Southwest Pacific. *The Canadian Mineralogist* 35, p. 257-273.

(Samples from three SW Pacific volcanic arcs (Kermadec, New Zealand and Papuan arcs) shows contrasting geochemical patterns that correlate with different tectonic settings. Magmas with primitive chemical characteristics comparatively rare, and appear to occur where extensional tectonic setting allowed paths of relatively rapid ascent. In typical arc settings, magma ponds above its source and is modified by fractionation, eruption, assimilation and recharge processes)

Smith, I.E.M., T.J. Worthington, R.B. Stewart, R.C. Price & J.A. Gamble (2003)- Felsic volcanism in the Kermadec Arc, SW Pacific; crustal recycling in an oceanic setting. In: R.D. Larter & P.T. Leat (eds.) *Intra-oceanic subduction systems; tectonic and magmatic processes*, Geol. Soc, London, Special Publ. 219, p. 99-118.

(Silicic caldera-forming eruptions can be significant component of oceanic subduction systems. Kermadec arc in SW Pacific is in intra-oceanic convergent system, with mainly submarine volcanoes. Despite simple oceanic tectonic setting, felsic magmatism widespread. Probably result of crustal anatexis)

Smith, I.E.M., T.J. Worthington, R.C. Price, R.B. Stewart & R. Maas (2006)- Petrogenesis of dacite in an oceanic subduction environment: Raoul Island, Kermadec arc. *J. Volcanology Geothermal Research* 156, 3-4, p. 252-265.

Smit Sibinga, G.L. (1943)- On the petrological and structural character of the Pacific. *Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie* 13, p. 335-354.

(Old review of Pacific islands, structure and petrology of Pacific Ocean area)

Spandler, C., J. Buys, R.J. Holm & S.W. Richards (2015)- Remnants of ancient Australia in Vanuatu-implications for South-west Pacific tectonics and mineralisation potential. *Proc. PACRIM 2015 Congress, Hongkong, Australasian Institute of Mining and Metallurgy (AusIMM), Melbourne, Publ. Series* 2/2015, p. 183-188. *(Extended Abstract)*

(Intra-oceanic arc rocks of W Belt of Vanuatu dated as late Eocene- Miocene, contain inherited zircon grains with significant age populations at ~2.8-2.5 Ga, 2.0-1.8 Ga, 1.75-1.5 Ga, 850-700 Ma, 530-430 Ma and 330-220 Ma. Inheritance signature matches ages of major crustal blocks of Australian continent, except ~20% of zircons of Rodinia breakup age (~800 Ma), not known in E Australia or SW Pacific. Vanuatu arc basement may comprise ribbon of continental material rifted from N Australia in or before Cretaceous)

Spencer, J.E. & Y. Ohara (2008)- Magmatic and tectonic continuous casting in the Circum-Pacific region. In: J.E. Spencer & S.R. Tittley (eds.) *Ores and orogenesis: Circum-Pacific tectonics, geologic evolution and ore deposits*, Arizona Geological Society Digest 22, p. 31-54.

Srinivasan, M.S. & J.P. Kennett (1983)- The Oligocene- Miocene boundary in the South Pacific. *Geological Society of America (GSA) Bull.* 94, 6, p. 798-812.

(On planktonic foraminifera datum levels around Oligocene- Miocene boundary. Base Globobulimina dehiscens most useful for boundary recognition. Occurs with range of Globobulimina kugleri, and also above Base Globobulimina primordius)

Stern, R.J., M. Reagan, O. Ishizuka, Y. Ohara & S. Whattam (2012)- To understand subduction initiation, study forearc crust: To understand forearc crust, study ophiolites. *Lithosphere* 4, 6, p. 469-483.

(On process of subduction initiation, largely based on studies of Izu-Bonin-Mariana convergent margin. Many ophiolites have chemical features indicating formation above convergent plate margin, in forearcs, where it is relatively easy to be tectonically emplaced on land when buoyant crust jammed associated subduction zone)

Stock, J. & P. Molnar (1987)- Revised history of early Tertiary plate motion in the southwest Pacific. *Nature* 325, p. 495-500.

(Re-analysis of E Tertiary magnetic anomalies on the Pacific plate S of the Campbell Plateau indicates E Tertiary time triple junction of Pacific, Antarctic, and third plate now beneath Bellingshausen Sea. Suggest change in direction of Pacific plate over hotspots of same sense and timing as Hawaiian-Emperor bend)

Stratford, J.M.C. & P. Rodda (2000)- Late Miocene to Pliocene palaeogeography of Viti Levu, Fiji Islands. *Palaeogeogr. Palaeoclim. Palaeoecology* 162, p. 137-153.

Taira, A., P. Mann & R. Rahardiawan (2004)- Incipient subduction of the Ontong Java Plateau along the North Solomon trench. *Tectonophysics* 389, p. 247-266.

Tamaki, S. & E. Honza (1991)- Global tectonics and formation of marginal basins: role of the western Pacific. *Episodes* 14, 3, p. 224-230.

(online at: www.episodes.co.in/www/backissues/143/Articles--224.pdf)

(W Pacific produced >75% of marginal basins on Earth. Discussion of models of formation of numerous Eocene-Recent back arc marginal basins (in Indonesia: Sulu Sea, Celebes Sea, Banda Sea, Moluccas Sea, Makassar Straits, Andaman Sea))

Tani, K., D.J. Dunkley & Y. Ohara (2011)- Termination of backarc spreading; zircon dating of a giant oceanic core complex. *Geology (GSA)* 39, 1, p. 47-50.

(Godzilla megamullion largest known oceanic core complex, adjacent to extinct backarc spreading center of Parece Vela Basin in Philippine Sea. Zircon U-Pb dating of gabbroic and leucocratic rocks suggest fault-induced spreading over ~125 km lasted for ~4 Myrs, with continuous magmatic accretion at spreading axis. Latest magmatism constrains cessation of spreading to ~7.9 Ma or later)

Tarduno, J.A., W.V. Sliter, L. Kroenke, M. Leckie, H. Mayer, J.J. Mahoney et al. (1991)- Rapid formation of Ontong Java Plateau by Aptian mantle plume volcanism. *Science* 254, 5030, p. 399-403.

(Timing of flood basalt volcanism of Ontong Java Plateau estimated from paleomagnetic and paleontologic data. Much of plateau formed rapidly in <3 Myrs in E Aptian. Origin tied to impingement at base of oceanic lithosphere by head of large mantle plume. Formation of OJP may have led to rise in sea level that induced global oceanic anoxia. Carbon dioxide emissions likely contributed to mid-Cretaceous greenhouse climate, but did not provoke major biologic extinctions)

Taylor, B. (2006)- The single largest oceanic plateau: Ontong Java-Manihiki-Hikurangi. *Earth Planetary Science Letters* 241, p. 372-380.

(Ontong Java Plateau is largest oceanic mafic igneous province. Emplaced at ~120 Ma, with smaller magmatic pulse of ~90 Ma. Manihiki and Hikurangi Plateaus now separated from OJP by ocean basins, but originally formed as one plateau with Ontong Java)

Taylor, B. & A.M. Goodliffe (2004)- The West Philippine Basin and the initiation of subduction, revisited. *Geophysical Research Letters* 31, 12, L12602, p. 1-4.

(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2004GL020136/epdf>)

(New bathymetry and existing geophysical data suggest direction of W Philippine Basin seafloor spreading rotated 100° CCW between 49 and 33 Ma. Mindanao Fracture Zone separates WPB from Palau Basin to S. WPB opening was contemporaneous with early Izu-Bonin-Mariana subduction, whose arc volcanism began by 50 Ma, producing >1000 km of arc-parallel spreading in Mariana segment of Eocene IBM arc/forearc. Initial IBM subduction cut across pre-existing structures (remnant arcs, fracture zones and spreading fabric))

Taylor, B. & F. Martinez (2003)- Back-arc basin basalt systematics. *Earth Planetary Science Letters* 210, p. 481-497.

((see also corrigendum, vol. 214, p. 679) Mariana, E Scotia, Lau and Manus back-arc basins spreading rates from slow (<50 mm/yr) to fast (>100 mm/yr) and extension axes located from 10-400 km behind their island arcs. Composition of lavas from active backarc basin spreading centers include arc-like components and MORB-like end-members. Axial lava compositions from these basins indicate melting of mid-ocean ridge basalt-like sources, but with added previously depleted, water-rich arc-like components)

Timm, C., B. Davy, K. Haase, K.A. Hoernle, I.J. Graham, C.E.J. de Ronde, J. Woodhead, D. Bassett et al. (2014)- Subduction of the oceanic Hikurangi Plateau and its impact on the Kermadec arc. *Nature Communications* 5, 4923, p. 1-9.

(online at: www.nature.com/articles/ncomms5923)

(Large igneous province subduction at oceanic Hikurangi Plateau beneath S Kermadec arc, off N New Zealand. Large portion of Hikurangi Plateau (missing Ontong Java Nui piece) already subducted)

Timm, C., K. Hoernle, R. Werner, F. Hauff, P. van den Bogaard, P. Michael, M.F. Coffin & A. Koppers (2011)- Age and geochemistry of the oceanic Manihiki Plateau, SW Pacific: new evidence for a plume origin. *Earth Planetary Science Letters* 304, p. 135-146.

(Basement samples from Manihiki Plateau mainly tholeiites with minor basaltic andesites and hawaiites, with mean age of 124.6 ± 1.6 Ma. Geochemistry of Manihiki Plateau best explained by plume with three components, including recycled oceanic crustal-type component. Similarity in age and geochemical composition of Manihiki, Hikurangi and Ontong Java basement lavas)

Todd, E. (2011)- The youngest rocks from an old arc and the oldest rocks from a juvenile one: the memoirs of a SW Pacific subduction zone. Ph.D. Thesis University of California, Santa Cruz, p. 1-275.

(History of Fiji-Tonga-Kermadec volcanic arc system, active for at least 50 My, resulting from W-ward subduction of Pacific Plate beneath Australian Plate)

Todd, R. (1957)- Geology of Saipan, Mariana Islands, Part 3. Paleontology, Smaller foraminifera. U.S. Geological Survey (USGS) Professional Papers, 280-H, p. 265-320.

(online at: <http://pubs.usgs.gov/pp/0280e-j/report.pdf>)

(Descriptions of planktonic and smaller benthic foraminifera from Late Eocene (172 species), Late Oligocene (61 species) E-M Miocene (161 species) sediments. Recent foram faunas dominated by Indo-Pacific reef genera Calcarina, Baculogypsina and also Marginopora)

Todd, R. (1966)- Smaller foraminifera from Guam. U.S. Geological Survey (USGS) Professional Paper 403-I, p. 113-141.

(online at: <http://pubs.usgs.gov/pp/0403i/report.pdf>)

(Eocene- Recent smaller foraminifera from Guam; see also Cole 1966)

Todd, R. (1970)- Smaller foraminifera of Late Eocene age from Eua, Tonga. U.S. Geological Survey (USGS) Professional Paper 640-A, p. 1-21.

(online at: <http://pubs.usgs.gov/pp/0640a/report.pdf>)

(Rich foram fauna, 95% planktonics, 16 species, incl. Hantkenina, Pseudohastigerina, Globorotalia cerroazulensis, Globigerina ampliapertura, G. gortanii, etc., Probably latest Eocene G. gortanii zone. Also diverse smaller benthic foram fauna, dominated by Lenticulina, also nodosarids, buliminids, Oridorsalis, Asterigerina, Gyroidina, etc. Depth of deposition probably 200m or more)

Todd, R. & R. Post (1954)- Smaller foraminifera from Bikini drill holes. U.S. Geological Survey (USGS) Professional Paper, 260-N, p. 547-568.

(online at: <http://pubs.usgs.gov/pp/0260m/report.pdf>)

(Miocene- Recent smaller foram faunas from Bikini Atoll dominated by miliolids and peneroplids. Upper 95' of wells dominated by Calcarina spengleri (reef deposition). Deeper also C. hispida, Baculogypsina sphaerulata (reef; 115-136', Rotalia calcar and Calcarina delicata n. sp. (below 179'). Austrotrillina striata n.sp.)

Tommasi, A. & A. Ishikawa (2014)- Microstructures, composition, and seismic properties of the Ontong Java Plateau mantle root. *Geochem. Geophysics Geosystems* 15, p. 4547-4569.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2014GC005452>)

(Study of peridotites and pyroxenite mantle xenoliths on Malaita, Ontong Java Plateau in W Pacific. Most of plateau thought to have formed in single massive E Cretaceous volcanism episode at ~122 Ma)

Tregoning, P. (2002)- Plate kinematics in the western Pacific derived from geodetic observations. *J. of Geophysical Research* 107, B1, 2020, p. 7/1- 7/8.

Ueda, Y. (2004)- Paleomagnetism of seamounts in the West Philippine Sea as inferred from correlation analysis of magnetic anomalies. *Earth Planets and Space* 56, p. 967-977.

(online at: www.terrapub.co.jp/journals/EPS/pdf/2004/5610/56100967.pdf)

Ujie, H. & K. Matsumaru (1977)- Stratigraphic outline of Haha-Jima (Hillsborough Island). Bonin Islands. *Memoirs National Science Museum, Tokyo*, 10, p. 5-18. (in Japanese)

(online at: <http://ci.nii.ac.jp/naid/110004312860>)

(Haha-Jima Island in S Japan Izu-Bonin arc, Philippine Sea, with 21 species of Eocene larger foraminifera in limestones associated with Eocene arc volcanics. M Eocene (Lutetian- Biarritzian) assemblages with large *Nummulites boninensis*, *N. perforatus*, *Asterocyclina*, etc. Late Eocene oolitic calcarenite rich in *Pellatispira*, *Fasciolites javana boninensis*, *Fabiania*, etc.)

Uyeda, S. & Z. Ben-Avraham (1972)- Origin and development of the Philippine Sea. *Nature* 240, p. 176-178.

Uyeda, S. & R. McCabe (1983)- A possible mechanism of episodic spreading of the Philippine Sea. In: M. Hashimoto & S. Uyeda (eds.) *Accretion tectonics in the Circum-Pacific Regions*, Terrapub, Tokyo, p. 291-306.

Van de Lagemaat, S.H.A., D. Pastor-Galan, B.B.G. Zanderink, M.J.Z. Villareal, J.W. Jenson, M.J. Dekkers & D.J.J. van Hinsbergen (2023)- A critical reappraisal of paleomagnetic evidence for Philippine Sea Plate rotation. *Tectonophysics* 863, 230010, p. 1-15.

(online at: <https://www.sciencedirect.com/science/article/pii/S0040195123003086>)

(Philippine Sea Plate kinematic history difficult because plate surrounded by subduction zones for most of its history and no marine magnetic anomalies. Previous paleomagnetic studies interpreted CW rotations of up to 90° since Eocene, but may reflect local block rotations. Rotations of PSP may be permitted, but not required; plate motion currently better reconstructed from geological constraints in Circum-PSP orogenic belts)

Von Stackelberg, U. & U. von Rad (1990)- Geological evolution and hydrothermal activity in the Lau and North Fiji Basins, Southwest Pacific Ocean. *Geologisches Jahrbuch D92*, p. 1-660.

Weissel, J.K. (1981)- Magnetic lineations in marginal basins of the Western Pacific. *Philosophical Transactions Royal Society London, A*, 300, 1454, p. 223-247.

(Small basins of W Pacific Ocean classified into (1) probable marginal basins formed through back-arc extension (Bismarck, Fiji, Lau, Japan Sea, etc.), (2) possible back-arc basins (Andaman, Sulu, Celebes, W Philippine, Banda, Caroline, S Fiji, New Hebrides) and (3) not back-arc (Woodlark, S China Sea, Coral Sea, Solomon, Tasman). Magnetic lineations in back-arc basins, resembling mid-oceanic spreading systems)

Weissel, J.K. & R.N. Anderson (1978)- Is there a Caroline plate? *Earth Planetary Science Letters* 41, p. 143-159.

(online at: https://www.researchgate.net/publication/223020730_Is_there_Caroline_Plate)

(Marine geophysical data from Caroline Sea region suggest separate Caroline plate currently exists. Interaction with Philippine Plate along S Yap Trench, Palau Trench and rift system in Ayu Trough)

Wessel, P. & L.W. Kroenke (1998)- The geometric relationship between hot spots and seamounts: implications for Pacific hot spots. *Earth Planetary Science Letters* 158, 1-2, p. 1-18.

(Hot spots and seamounts produced by them provide geometric and temporal evidence for changes in absolute plate motion. Main limitation in using hot-spot-produced seamounts in plate tectonic reconstructions arises from sources of error and ambiguity of radiometric age estimates. Hotspot-produced seamounts have seafloor crustal flow lines that intersect at hot spot location. Hawaii, Louisville, Caroline, Cobb and Bowie hot spots have clear representations in Cumulative Volcano Amplitude images)

- Wessel, P. & L.W. Kroenke (2000)- Ontong Java Plateau and late Neogene changes in Pacific plate motion. *J. of Geophysical Research: Solid Earth* 105, B12, p. 28255-28277.
(Late Neogene collision between Ontong Java Plateau and N margin of Australia plate, starting at 6 Ma, intensifying at 4-2 Ma, still continuing causing CCW rotation of Pacific plate, as inferred from hotspot volcanism, inducing right-lateral shear stress along Pacific plate divergent boundary (San Andreas, Alpine faults). Also triggered circum-Pacific tectonism, with trench migration and back arc rifting. Slab pull dominant plate tectonic driving force)
- Wessel, P. & L.W. Kroenke (2007)- Reconciling late Neogene Pacific absolute and relative plate motion changes. *Geochem. Geophysics Geosystems* 8, 8, p. Q08001, p. 1-12.
(New models of Pacific absolute plate motion relative to hot spots, etc., suggest significant change in late Neogene (5.9 Ma; Chron 3A), reflecting more northerly absolute motion than previously determined)
- Wessel, P. & S. Lyons (1997)- Distribution of large Pacific seamounts from Geosat/ERS-1: implications for the history of intraplate volcanism, *J. of Geophysical Research* 102, B10, p. 22459-22476.
(8882 individual seamounts identified on Pacific Ocean Plate. Seamount density greatest in C Pacific. Majority of large seamounts in W region of Pacific Plate, on older crust. Seamount density, peaks at 100-130 Ma crust, suggesting highest magmatism in Cretaceous. Seamount heights tend to increase with increasing age of lithosphere at time of seamount formation. Seamount intraplate volcanism at maximum level in M-Late Cretaceous (~70-120 Ma))
- Whattam, S.A. (2009)- Arc-continent collisional orogenesis in the SW Pacific and the nature, source and correlation of emplaced ophiolitic nappe components. *Lithos* 113, p. 88-114.
(SW Pacific ophiolitic nappes of Papua-New Guinea, New Caledonia and Northland (New Zealand), emplaced on former margin of E Australia, provide record of Paleogene cyclical episodes of arc-continent collisional orogenesis)
- Whattam, S.A., J. Malpas, J.R. Ali & I.E.M. Smith (2008)- New SW Pacific tectonic model: cyclical intraoceanic magmatic arc construction and near-coeval emplacement along the Australia-Pacific margin in the Cenozoic. *Geochem. Geophysics Geosystems* 9, 3, Q03021, p. 1-34.
*(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2007GC001710/epdf>)
(Reconstructions for NE margin of Australia- E-most PNG, where Papua Ultramafic Belt, New Caledonia and Northland ophiolites formed and emplaced in cyclical fashion above extensive NE dipping Cenozoic intra-oceanic arc system which diachronously propagated (N-S) along E margin of Australian Plate. These 'infant arc' ophiolites are fragments of supra-subduction zone lithosphere, generated in earliest stages of magmatic arc formation that were emplaced shortly after (<20 Ma) as result of forearc-Australian Plate collision)*
- Wheat, C.G., P. Fryer, K. Takai & S. Hulme (2010)- South Chamorro Seamount, 13°7.00'N, 146°00.00'E. *Oceanography* 23, 1, p. 174-175.
*(online at: www.tos.org/oceanography/archive/23-1_wheat.pdf)
(Sixteen large, active serpentinite mud volcanoes in Mariana forearc, between Mariana Trench and volcanic island arc (Fryer et al., 2006). Up to 50 km in diameter and rising up to 2.4km above seafloor)*
- White, N.C., M.J. Leake, S.N. McCaughey & B.W. Parris (1995)- Epithermal gold deposits of the Southwest Pacific. *J. Geochemical Exploration* 54, 2, p. 87-136.
(BHP data tabulation for 137 epithermal gold deposits and prospects in Australia (30), Fiji (2), Indonesia (43), New Zealand (22), Palau and Yap (2), Papua New Guinea (18), Philippines (19) and Solomon Islands (1). Epithermal deposits in SW Pacific similar to other regions, but low-sulfidation style deposits formed at deeper levels than typical elsewhere; high-sulfidation deposits more common than along NE Pacific margin. Differences can be partly understood in terms of tectonic setting and evolution of volcanic arcs of SW Pacific))
- Winterer, E.L. (1991)- The Tethyan Pacific during Late Jurassic and Cretaceous times. *Palaeogeogr. Palaeoclim. Palaeoecology* 87, p. 253-265.

Wright, N.M., R.D. Muller, M. Seton & S.E. Williams (2015)- Revision of Paleogene plate motions in the Pacific and implications for the Hawaiian-Emperor bend. *Geology (GSA)* 43, 5, p. 455-458.

(Modeling of Farallon/Vancouver-Pacific-Antarctic seafloor spreading history from 67 to 33 Ma based on magnetic anomalies and fracture identifications. Increase from 75 to 182 mm/yr in Pacific-Farallon spreading rates between 57-40 Ma, not accompanied by changes in spreading direction)

Wright, N.M., M. Seton, S.E. Williams & R.D. Muller (2016)- The Late Cretaceous to recent tectonic history of the Pacific Ocean basin. *Earth-Science Reviews* 154, p. 138-173.

Yamazaki, T., S. Chiyonobu, O. Ishizuka, F. Tajima, N. Uto & S. Takagawa (2021)- Rotation of the Philippine Sea plate inferred from paleomagnetism of oriented cores taken with an ROV-based coring apparatus. *Earth Planets and Space* 73, 161, p. 1-10.

(online at: <https://earth-planets-space.springeropen.com/articles/10.1186/s40623-021-01490-5>)

(Paleomagnetic study of M-L Oligocene limestone in oriented seafloor cores from Hyuga Seamount on N Kyushu-Palau Ridge (remnant arc in stable interior of Philippine Sea Plate) suggest ~50° CW rotation and ~5° latitudinal change since Oligocene. Kyushu-Palau Ridge was located SW of present position in M-L Oligocene)

Yamazaki, T., M. Takahashi, Y. Iryu, T. Sato, M. Oda, H. Takayanagi et al. (2010)- Philippine Sea Plate motion since the Eocene estimated from paleomagnetism of seafloor drill cores and gravity cores. *Earth Planets and Space* 62, p. 495-502.

(online at: www.terrapub.co.jp/journals/EPS/pdf/2010/6206/62060495.pdf)

(Paleomag data suggest N part of Philippine Sea Plate was near equator at 50 Ma, majority of N-ward shift between ~50-25 Ma and very little N-ward movement after 15 Ma. Clockwise rotation of ~90° since Eocene)

Yan, C.Y. & L.W. Kroenke (1993)- A plate tectonic reconstruction of the SW Pacific 0-100 Ma. In: E.M. Maddox (ed.) *Proc. Ocean Drilling Program (ODP), Scientific Results*, 130, p. 697-709.

(online at: www-odp.tamu.edu/publications/130_SR/VOLUME/CHAPTERS/sr130_43.pdf)

(Reconstruction of SW Pacific paleogeography back to 100 Ma. Eocene- Late Miocene phases of convergence along five different paleo-subduction zones that formed with changes in Indo-Australian and Pacific plate motions: Papuan-Rennell-New Caledonia-Norfolk (55-40 Ma), Manus-N Solomon-Vitiaz (43-25 Ma), New Guinea- proto-Tonga-Kermadec (27-10 Ma), New Britain-San Cristobal-New Hebrides (12-0 Ma), and Tonga-Kermadec (10-0 Ma) trenches. Episodes of basin formation since Late Cretaceous: Tasman (85-55 Ma), New Caledonia (74-65 Ma), Coral Sea (63-53 Ma), Loyalty (52-40 Ma), d'Entrecasteaux (34-28 Ma), Caroline (34-27 Ma), Solomon Sea (34-28 Ma), S Fiji (34-27 Ma), N Fiji (10-0 Ma), and Lau, Woodlark, and Manus (5.5-0 Ma) basins. Seamount chains developed over Tasmantid, Lord Howe, Louisville and Samoa hotspots)

Yan, Q., X. Shi, L. Yuan, S. Yan & Z. Liu (2022)- Tectono-magmatic evolution of the Philippine Sea Plate: A review. *Geosystems and Geoenvironment* 1, 2, 100018, p. 1-10.

(online at: www.sciencedirect.com/science/article/pii/S2772883821000182?via%3Dihub)

Yen, H.Y., Y.S. Lo, Y.L. Yeh, H.H. Hsieh, W.Y. Chang, C.H. Chen, C.R. Chen & M.H. Shih (2015)- The crustal thickness of the Philippine Sea Plate derived from gravity data. *Terrestrial Atmospheric Oceanic Sciences (TAO)* 26, 3, p. 253-259.

(online at: <http://tao.cgu.org.tw/index.php/articles/archive/geophysics/item/1317-2014111701t>)

(Gravity modeling indicates crustal thickness in Spart of W Philippine Basin nearly homogeneous at ~5km. Average crustal thickness of Palau Kyushu Ridge >10 km. In E PSP crustal thickness increases to E. Also relatively thin and low density mantle under Parece Vela Basin as consequence of back-arc spreading and serpentinized upwells of thin crustal thickness)

Zang, S.X., Q.Y. Chen, J.Y. Ning, Z.K. Shen & Y.G. Liu (2002)- Motion of the Philippine Sea plate consistent with the NUVEL-1A model. *Geophysical J. International* 150, 3, p. 809-819

(online at: <https://academic.oup.com/gji/article/150/3/809/614689>)

Zhang, G.L. & C. Li (2016)- Interactions of the Greater Ontong Java mantle plume component with the Osbourn Trough. *Nature Scientific Reports* 6, 37561, p. 1-8.

(online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5116616/pdf/srep37561.pdf>)

(Ontong Java-Manihiki-Hikurangi plateau originated from Cretaceous mantle plume, and rifted apart by two spreading ridges. Manihiki-Hikurangi plateaus rifted apart by Osbourn Trough, with basaltic crust of 103.7 ± 2.3 Ma. Osbourn Trough is abandoned segment of early Pacific spreading ridge)

Zhang, Y., S.Z. Li, Y.H.Suo, L.L. Guo, S. Yu, S. J. Zhao, I D.Somerville, R.H. Guo, Y.B. Zang, Q.L. Zheng & D.L. Mu (2016)- Origin of transform faults in back-arc basins: examples from Western Pacific marginal seas. *Geological Journal* 51, Suppl. 1, p. 490-512.

(Study of transform faults in 4 marginal basins in W Pacific, i.e. S China Sea, Okinawa Trough, W Philippine Basin and Shikoku-Parece Vela Basin. Transform faults in all basins generally NNE-trending)

Zhang, Z., D. Dong, W. Sun & G. Zhang (2022)- Oligocene magmatic accretion and transtensional tectonics in the Central Basin Fault rift of the West Philippine back-arc basin: new insights from high-resolution multichannel seismic data. *Marine and Petroleum Geology* 141, 105703, p. 1-18.

Zhang, Z., D. Xu. & L. Zhao (2025)- A slab window in the south rim of the Parece-Vela Basin. *Nature Scientific Reports* 15, 2387, p.

(online at: <https://www.nature.com/articles/s41598-025-86913-z>)

(Parece-Vela basin 'classic' backarc basin in eastern Philippine Sea Plate, where Pacific Plate and Caroline Plate subduct beneath Philippine Sea Plate along Mariana Trench. Southern margin of basin with rocks associated with slab window)

Zhong, S., M. Ritzwoller, N. Shapiro, W. Landuyt, J. Huang & P. Wessel (2007)- Bathymetry of the Pacific plate and its implications for thermal evolution of lithosphere and mantle dynamics. *J. of Geophysical Research: Solid Earth* 112, B6, B06412, p. 1-18.

(After removing effects of sediments, seamounts, and large igneous provinces, ocean depths increase uniformly with age from ~2700-3100m at mid-ocean ridges to >5000m after ~70 Ma. Increasing more slowly after that)

Zonenshayn, L.P. & V.V. Khain (1990)- Eocene-Miocene plate tectonic history of Melanesia. *International Geology Review* 32, 6, p. 565-577.

(Late Cretaceous-Eocene Melanesian island arc with subduction zone dipping NE beneath Pacific Ocean been reconstructed from distribution of island-arc complexes in N New Guinea, New Caledonia and North Island of New Zealand. Marked change in movement of Pacific plate with respect to Australia and Eurasia at 43 Ma. E Miocene collision between Melanesian arc and passive margin of Australia. At same time, spreading axis was at rear of Melanesian arc, from which Caroline basin was formed)

IX.13. NE Indian Ocean

Relevance for Indonesia:

- Oceanic plate now subducting under Sumatra- Java- Lesser Sunda- Banda Arc subduction zone
- subduction zone modified by (1) variation in age of subducting oceanic plate, (2) subducted seamounts creating slab windows, affecting arc volcanism, (3) variations in clastic detritus reaching the trench, etc.

Adisaputra, Mimin K. (1995)- Quaternary plankton foraminifera biozonation in Indian Ocean, South of Jawa. Bull. Marine Geological Institute 10, 1, p.

Adisaputra, Mimin K. & Hartono (2004)- Late Miocene- Holocene biostratigraphy of single core in Roo Rise, Indian Ocean South of East Jawa. Bull. Marine Geological Institute 19, 1, p. 27-48.

Adisaputra, Mimin K. & M. Hendrizan (2008)- Hiatus pada kala Eosen-Miosen Tengah di tinggian Roo, Samudera Hindia, Selatan Jawa Timur, berdasarkan biostratigrafi nannoplankton. J. Geologi Kelautan 6, 3, p. 154-166.

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/159/149>)

'Hiatus between Eocene and Upper Miocene on the Roo Rise, Indian Ocean S of East Java, based on nannoplankton biostratigraphy')

Adisaputra, Mimin K. & H. Yuniarto (2013)- Biostratigrafi foraminifera Kuartar pada Bor inti MD 982152 da 982155 dari Samudra Hindia. Bulletin of the Marine Geology, Bandung, 11, 2, p. 55-66

(online at: <http://ejournal.mgi.esdm.go.id/index.php/jgk/article/view/231/221>)

'Biostratigraphy of Quaternary foraminifera in cores MD 982152 and 982155 from the Indian Ocean'. Two 32 and 43m long IMAGES Expedition piston cores from SW and S of Java with Quaternary Globorotalia truncatulinoides Zone, subdivided into three subzones:., Globorotalia crassaformis hessi, Globigerinella calida calida, Beella digitata)

Ali, J.R., J.C. Aitchison & S. Meiri (2020)- Redrawing Wallace's Line based on the fauna of Christmas Island, eastern Indian Ocean. Biological J. Linnean Society, London, 130, 1, p. 225-237.

(online at: <https://academic.oup.com/biolinnean/article/130/1/225/5802023>)

(Several land-mammal and land-squamate species on Christmas Island, Indian Ocean S of Java, whose ancestors appear to have originated on islands E of Wallace's Line)

Ali, J.R. & J.C. Aitchison (2020)- Time of re-emergence of Christmas Island and its biogeographical significance. Palaeogeogr. Palaeoclim. Palaeoecology 537, 109396, p.

(Christmas Island in the eastern Indian Ocean forms the pinnacle of a once-drowned, coral atoll, deposited on top of sub-aerially erupted basaltic volcanics that accumulated on a karstified Neogene land-surface. Radiometric ages of basalt samples average ~4.4 Ma (E Pliocene). Seamount's uplifted as it ascended outer-trench high on its way to S Java subduction zone; estimated to have become sub-aerial around 5.0 Ma. Latest Miocene-Early Pliocene emergence concordant with island's reptile and mammal species. Etc.)

Banerjee, B., S.M. Ahmad, W. Raza & T. Raza (2017)- Paleooceanographic changes in the Northeast Indian Ocean during middle Miocene inferred from carbon and oxygen isotopes of foraminiferal fossil shells. Palaeogeogr. Palaeoclim. Palaeoecology 466, p. 166-173.

(C and O isotope records of foraminifera from ODP site 758 in NE Indian Ocean on Ninetyeast Ridge. Climatic events recorded: 1. M Miocene Climate Optimum (17-15 Ma), (2) Monterey Excursion (17-14 Ma), (3) Antarctica Ice sheet formation (13.8 Ma), (4) Initiation of Indian summer monsoon with waning of Antarctica Ice sheet (12.3-10.4 Ma), and (5) cooling event (10.2-9.6 Ma).)

Baumgartner, P. O. (1992)- Lower Cretaceous radiolarian biostratigraphy and biogeography off northwestern Australia (ODP Sites 765 and 766 and DSDP Site 261), Argo abyssal plain and Lower Exmouth Plateau. In: F.M. Gradstein et al. (eds.), Proc. Ocean Drilling Program (ODP), Scientific Results 123, College Station, TX, p. 299-342.

(online at: http://www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_15.pdf)

Baumgartner, P.O. (1993)- Early Cretaceous radiolarians of the Northern Indian Ocean (Leg 123: sites 765, 766 and DSDP Site 261): the Antarctic Tethys connection. In: D. Lazarus & P. De Wever (eds.) Proc. Interrad VI, Marine Micropaleontology 21, p. 329-352.

(Neocomian radiolarians from Sites 765 (Argo Abyssal Plain) and 766 (lower Exmouth Plateau) dominated by non-Tethyan, Circum-Antarctic forms, with weak Tethyan influence (Holocryptocanium, Cryptamphorella, Archeodictyomitra brouweri, Parvicingula, etc.). Radiolaria at Argo Basin Sites 765 and 261 reflect restricted oceanic conditions in latest Jurassic-Barremian. Argo Basin was paleoceanographically separated from Tethys during Late Jurassic- E Cretaceous by position at higher paleolatitudes and/or by enclosing land masses. Absence of most Tethyan radiolarian species in Valanginian-Hauterivian interpreted as time of strong influx of Circum-Antarctic cold water following spreading between SE India and W Australia. Reappearance and gradual increase of Tethyan taxa, still with dominant Circum-Antarctic species result of more equitable climatic conditions in Barremian- E Aptian and establishment of connection with Tethys Ocean in E Aptian)

Baumgartner, P.O., P. Bown, J. Marcoux, J. Mutterlose, M. Kaminski, D. Haig & A. McMinn (1992)- Early Cretaceous biogeographic and oceanographic synthesis of Leg 123 (Off Northwestern Australia). Proc. Ocean Drilling Program (ODP), Scientific Results 123, College Station, TX, p. 739-758.

(online at: http://www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_39.pdf)

(Neocomian fossil record off NW Australia important southern high-latitude affinities and weak Tethyan influence. Pelagic radiolarian chert and nannofossil limestone dominant in Tethyan Lower Cretaceous, but only minor lithologies in Exmouth-Argo sites, suggesting Argo Basin not part of Tethys Realm. After Barremian increasing Tethyan influence, although southern high-latitude taxa still present. Paleolatitudes of ~50°S suggested for Exmouth-Argo area. If paleolatitudes of ~35°S are accepted, these biogeographic limits were displaced N at least 15° along Australia in comparison to S Atlantic. Late Aptian- E Albian time mixing of Tethyan and southern faunal elements)

Curray, J., F.J. Emmel, D.G. Moore & R.W. Raitt (1982)- Structure, tectonics and geological history of the northeastern Indian Ocean. In: A.E. Nairn & F.G. Stehli (eds.) The ocean basins and margins 6, The Indian Ocean, Plenum Press, New York, p. 399-450.

(Study of areas around Bay of Bengal, Andaman Sea, Sunda Arc off Sumatra and W Java)

Davies, T.A., R.B. Kidd & A.T.S. Ramsay (1995)- A time-slice approach to the history of Cenozoic sedimentation in the Indian Ocean. Sedimentary Geology 96, 1-2, p. 157-179.

(Study of changing patterns of sediment accumulation in Indian Ocean through Cenozoic. Paleogene sedimentation rates generally low, suggesting weak ocean circulation and stable, well-stratified conditions. Vigorous thermohaline circulation of Neogene resulted in substantial widespread sedimentation)

Dehn, J., J.W. Farrell & H.U. Schminke (1991)- Neogene tephrochronology from Site 758 on Ninety East Ridge: Indonesian arc volcanism of the past 5 Ma. In: J. Weissel et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 121, p. 273-295.

(online at: www-odp.tamu.edu/publications/121_SR/VOLUME/CHAPTERS/sr121_14.pdf)

(Pliocene-Recent pelagic sediments in ODP Leg 121- Site 758 on N Ninetyeast Ridge, N Indian Ocean W of N tip of Sumatra, with several 100 rhyolitic tuff layers, ranging in thickness from few mm to 34cm. Ashes believed to be from Sumatra sector of Sunda Arc. Four youngest ash layers correlate to last four eruptions of Toba caldera between 0.075 and 1.2 Ma. Thickest tuffs <2 My old. Ash Layer D just below paleomagnetic boundary separating Brunhes and Matuyama Chrons and between oxygen isotope stages 19.2 and 20.23 does not correlate to any previously described eruption from Toba caldera. Layer E occurs middle of stage 21, dated at 0.775 Ma, tentatively correlated with 'Old Toba Tuff' although that was dated at 0.84 Ma (Diehl et al. 1987) (NB: O-isotope stratigraphy ages recalibrated since then; Layer D biotite Ar-Ar age of 800 ±20ka by Hall and Farrell 1995; Old Toba Tuff dated as 789 ±12 ka by Izett and Obradovich 1994; see also Mark et al. 2017))

Deplus, C., M. Diament, H. Hebert, G. Bertrand, S. Dominguez, J. Dubois, J. Malod et al. (1998)- Direct evidence of active deformation in the eastern Indian oceanic plate. Geology (GSA) 26, 2, p. 131-134.

(online at: http://www.ipgp.fr/~sibilla/pdf/Deplus_1998_Geology.pdf)
(*Geophysical and bathymetric evidence of active left-lateral strike-slip deformation in NE Indian Ocean plate, east of Ninetyeast Ridge, at long N-S strike faults (transforms of former Wharton Ridge spreading center?)*)

Falloon, T.J., K. Hoernle, B.F. Schaefer, I.N. Bindeman, S.R. Hart, D. Garbe-Schonberg & R.A. Duncan (2022)- Petrogenesis of lava from Christmas Island, Northeast Indian Ocean: implications for the nature of recycled components in non-plume intraplate settings. *Geosciences (MDPI)* 12, 3. p. 1-36.

(online at: <https://www.mdpi.com/2076-3263/12/3/118>)

(*Lavas from Christmas Island Seamount Province record extreme range in enriched mantle type Sr-Nd-Pb-Hf isotope signatures. Two main episodes: (1) Pliocene Upper Volcanic Series (~4.4 Ma) consistent with melting of shallow Indian mid-ocean ridge basalt mantle, enriched with lower continental crust and subcontinental lithospheric mantle; (2) Eocene Lower Volcanic Series (~40 Ma) consistent with recycling of SCLM components related to Gondwana break-up*)

Fullerton, L.G., W.W. Sager & D.W. Handschumacher (1989)- Late Jurassic- Early Cretaceous evolution of the Eastern Indian Ocean adjacent to Northwest Australia. *J. of Geophysical Research: Solid Earth* 94, B3, p. 2937-2953.

(*New aeromagnetic data off NW Australia constrains tectonic model of seafloor evolution in Argo, Cuvier, and Gascoyne abyssal plains. Complete set of anomalies from M26- M16 in Argo Abyssal Plain shows spreading started at or prior to M26 (E Kimmeridgean) and propagated outward until at least M24 time. Anomalies M10 (late Tithonian) - M0 (basal Aptian), record separation of Australia and India in Cuvier and Gascoyne abyssal plains. At M4-M5 time (~Barremian-Hauterivian boundary) 10° clockwise change in spreading direction on Cuvier-Gascoyne spreading system*)

Geersen, J., J.M. Bull, L.C. McNeill, T.J. Henstock, C. Gaedicke, N. Chamot-Rooke & M. Delescluse (2015)- Pervasive deformation of an oceanic plate and relationship to large >Mw 8 intraplate earthquakes: the northern Wharton Basin, Indian Ocean. *Geology (GSA)* 43, 4, p. 359-362.

(*Earthquakes in N Wharton Basin demonstrate pervasive brittle deformation between Ninetyeast Ridge and Sunda subduction zone. Evidence of recent strike-slip deformation along N-S fossil fracture zones and Miocene conjugate Riedel shears in sediment section and oblique to N-S fracture zones*)

Glass, B.P., D.R. Chapman & M.S. Prasad (1996)- Ablated tektite from the central Indian Ocean. *Meteoritics Planetary Science* 31, 3, p. 365-369.

(online at: <http://adsabs.harvard.edu/full/1996M%26PS...31..365G>)

(*Ablated button-shaped tektite, 12mm in diameter from Central Indian Ocean seafloor at 5300m water depth. Compositionally similar to high-Mg australites and microtektites in deep-sea sediment from Indian Ocean, suggesting Australian tektite field also covers most of Indian Ocean*)

Gopala Rao, D., K.S. Krishna, A.I. Pillipenko, V. Subrahmanyam, V.I. Dracheva & N.F. Exon (1994)- Tectonic and sedimentary history of the Argo Abyssal Plain, eastern Indian Ocean, AGSO *J. Australian Geology Geophysics* 15, p. 165-176.

(online at: https://d28rz98at9flks.cloudfront.net/81389/Jou1994_v15_n1_p165.pdf)

(*Argo Abyssal plain represents early emplacement of oceanic crust and volcanic edifices in Late Jurassic and E Cretaceous, followed by cooling and marked subsidence until Miocene*)

Grevemeyer, I., E.R. Flueh, C. Reichert, J. Bialas, D. Klaschen & C. Kopp (2001)- Crustal architecture and deep structure of the Ninetyeast Ridge hotspot trail from active-source ocean bottom seismology. *Geophysical J. International* 144, p. 414-431.

(*550km long seismic reflection and refraction transect across Ninetyeast Ridge, Indian Ocean, which was created between ~90- 38 Ma above Kerguelen mantle plume. Normal oceanic crust W and E of ridge/ edifice, with crustal thickness average 6.5- 7 km. Crust under ridge bent downward by loading, and hotspot volcanism underplated pre-existing crust, leading to crustal thickness up to ~24km. Underplating continued to E under Wharton Basin*)

Hall, C.M. & J.W. Farrell (1995)- Laser $^{40}\text{Ar}/^{39}\text{Ar}$ ages of tephra from Indian Ocean deep-sea sediments: Tie points for the astronomical and geomagnetic polarity time scales. *Earth Planetary Science Letters* 133, 3/4, p. 327-338.

(Two Neogene ash layers from ODP Site 758 (Ninetyeast Ridge) dated by laser $^{40}\text{Ar}/^{39}\text{Ar}$. Ash-D (= possible 'Old Toba Tuff') age of 800 ± 20 ka, consistent with 780 ka age of overlying Brunhes-Matuyama transition and age for oxygen isotope stage 19.1. Ash-I, near top of Nunivak subchron possible eruption age of 4.43 ± 03 Ma)

Hoernle, K., F. Hauff, R. Werner, P. van den Bogaard, A.D. Gibbons, S. Conrad & R.D. Muller (2011)- Origin of Indian Ocean Seamount Province by shallow recycling of continental lithosphere. *Nature Geoscience* 4, p. 883-887.

(Seamounts in Christmas Island Seamount Province in NE Indian Ocean not linear trail of volcanoes and unlikely formed above mantle plume or fracture zone. Ages of seamounts 47-136 Ma, decreasing from E to W and 0-25 Myr younger than underlying oceanic crust, consistent with formation near mid-ocean ridge. Enriched geochemical signal indicates recycled continental lithosphere in source. Seamount province formed where W Burma began separating from Australia-India in Late Jurassic, forming new mid-ocean ridge. Seamounts formed through shallow recycling of delaminated continental lithosphere in mantle that was passively upwelling beneath mid-ocean ridge)

Holbourn, A.E.L. & M.A. Kaminski (1995)- Lower Cretaceous benthic foraminifera from DSDP Site 263: micropalaeontological constraints for the early evolution of the Indian Ocean. *Marine Micropaleontology* 26, p. 425-460.

*(NW Australian margin DSDP Site 263 E Cretaceous with 66 agglutinated and 31 calcareous taxa: Three assemblages: (1) high-diversity Valanginian-Barremian *Bulbobaculites-Recurvoides*; (2) moderately diverse Aptian-Albian *Rhizammina-Ammodiscus-Glomospira*; (3) low diversity Albian-younger of sparse agglutinants, nodosariids and rotaliids. Shelf- lower slope assemblages, deepening after initial breakup of E Gondwana margin in Valanginian. Absence of many cosmopolitan forms suggests faunal differentiation in Austral realm)*

Jacob, J., J. Dymant & V. Yatheesh (2014)- Revisiting the structure, age, and evolution of the Wharton Basin to better understand subduction under Indonesia. *J. of Geophysical Research: Solid Earth* 119, 1, p. 169-190.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/10.1002/2013JB010285>)

(Large part of Wharton Basin of N Indian Ocean presently missing, subducted under Indonesia. Gravity and magnetic anomalies show basin characterized by fossil spreading ridge (which became inactive in Late Eocene; ~36.5 Ma), offset by N-S fracture zones. Magnetic anomalies 18-34 (38-84 Ma) identified on both flanks)

Krishna, K.S., D.G. Rao, M.V. Ramana, V. Subrahmanyam, K.V.L.N.S. Sarma, A.I. Pilipenko, V.S. Sheherbakov & I.V.R. Murthy (1995)- Tectonic model for the evolution of oceanic crust in the northeastern Indian Ocean from the Late Cretaceous to the Early Tertiary. *J. of Geophysical Research: Solid Earth* 100, B10, p. 20011-20024.

Kuznetsova, K.I. (1974)- Distribution of benthonic foraminifera in Upper Jurassic and Lower Cretaceous deposits at Site 261, DSDP Leg 27, in the Eastern Indian Ocean. In: J.J. Veevers et al. (eds.) *Initial Reports Deep Sea Drilling Project (DSDP) 27*, p. 673-681.

(Latest Jurassic(?)- E Cretaceous foraminifera from Argo abyssal plain DSDP site 261 suggest gradual basin deepening with time and increase in agglutinated forms)

Lubbers, J., W. Kuhnt, A.E. Holbourn, C.T. Bolton, E. Gray, Y. Usui, K.G.D. Kochhann, S. Beil & N. Andersen (2019)- The Middle to Late Miocene "Carbonate crash" in the Equatorial Indian Ocean. *Paleoceanography and Paleoclimatology (AGU)* 34, 5, p. 813-832.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2018PA003482>)

(IODP Site U1443 on Ninetyeast Ridge in Indian Ocean shows declining carbonate accumulation after ~13.2 Ma, which lasted until ~8.7 Ma. Coincides with M-L Miocene carbonate crash. Intense carbonate impoverishment at Site U1443 (~11.5- 10 Ma) coincides with episodes of reduced carbonate deposition in all major tropical ocean basins. Global changes in intensity of chemical weathering and riverine input of calcium and carbonate ions into ocean reservoir instrumental in driving carbonate crash)

Ludden, J.N. & B. Dionne (1992)- The geochemistry of oceanic crust at the onset of rifting in the Indian Ocean. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 123, p. 791-799.

(online at: www-odp.tamu.edu/Publications/123_SR/VOLUME/CHAPTERS/sr123_42.pdf)

(Basalts of ODP Sites 765 and 766 erupted on NW Australian continental margin at onset of rifting of Indian Ocean at 155Ma. Geochemically distinct from those erupting at present Mid-Indian Ocean Ridge. Isotope characteristics of Site 765 basalts similar to present-day Mid-Indian Ocean Ridge basalts. Indian Ocean mantle domain distinct from Pacific Ocean since Jurassic. (Stagg et al. 1999: K-Ar age of basaltic hyaloclastite directly above basaltic basement at SE Argo Abyssal Plain Site 765 gave 155.3 ± 3.4 Ma age (~Kimmeridgean), older than Valanginian/E Cretaceous age suggested by oldest overlying sediment))

Mahoney, J.J., R. Frei, M.L.G. Tejada, X.X. Mo, P.T. Leat & T.F. Nagler (1998)- Tracing the Indian Ocean mantle domain through time: isotopic results from old West Indian, East Tethyan, and South Pacific seafloor. *Journal of Petrology* 39, p. 1285-1306.

(online at: <http://petrology.oxfordjournals.org/content/39/7/1285.full.pdf+html>)

(Isotopic difference between modern Indian Ocean and Pacific or N Atlantic Ocean ridge mantle (e.g. lower $^{206}\text{Pb}/^{204}\text{Pb}$ for a given ϵNd and $^{208}\text{Pb}/^{204}\text{Pb}$) could reflect processes that occurred before initial breakup of Gondwana. Alternatively, Indian Ocean isotopic signature could be more ancient upper mantle feature inherited from asthenosphere of E Tethyan Ocean, which formerly occupied much of present Indian Ocean region)

Matthews, K.J., R.D. Muller & D.T. Sandwell (2016)- Oceanic microplate formation records the onset of India-Eurasia collision. *Earth Planetary Science Letters* 43, p. 204-214.

(Seafloor tectonic fabric in Indian Ocean from satellite gravity gradient data reveals extinct Pacific-style oceanic microplate ('Mammerickx Microplate') W of 90E Ridge. Formed at Indian- Antarctic ridge, during chron 21n(o) (~47.3Ma; around E-M Eocene boundary). With rotated abyssal hill fabric. Probably plate reorganization linked to India-Eurasia collision (initial 'soft' collision))

Mutterlose, J. (1992)- Early Cretaceous belemnites from the East Indian Ocean and their paleobiogeographic implications In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results, 123, p. 443-450.

(online at: www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_22.pdf)

(ODP Holes 761B-766A (Legs 122-123) off NW Australia Exmouth Plateau yielded Lower Cretaceous (Berriasian-Hauterivian) belemnites, including Belemnopsis cf. jonkeri, Belemnopsis ex gr. moluccana s.l., Hibolithes and Duvalia. Assemblages close affinities to Belemnopsis moluccana group from Indonesia and included in Neocomian Indo-Pacific Subprovince of Tethyan Realm)

Norton, I.O. & J.G. Sclater (1979)- A model for the evolution of the Indian Ocean and the breakup of Gondwanaland. *J. of Geophysical Research* 84, p. 6803-6830.

(Magnetic anomaly and fracture zone information used to develop tectonic history of Indian and S Atlantic oceans and positions of Gondwana continents back to 115 Ma. Incl. Eocene separation between Australia and Antarctica with Australia joining Indian plate)

Olierook, H.K.H., R.E. Merle, F. Jourdan, K. Sircombe, G. Fraser, N.E. Timms, G. Nelson, K.A. Dadd, L. Kellerson & Borissova (2015)- Age and geochemistry of magmatism on the oceanic Wallaby Plateau and implications for the opening of the Indian Ocean. *Geology (GSA)* 43, 11, p. 971-974.

(Plagioclase and zircon dating indicate that portion of the Wallaby Plateau off W Australia formed at ~124 Ma (E Aptian), i.e. >6 My younger than oldest oceanic crust in adjacent abyssal plains. Eruption made possible at 124 Ma via opening of Indian Ocean during breakup of Greater India and Australia along Wallaby-Zenith FZ)

Pattan, J.N., N.J.G. Pearce, G. Parthiban, V.C. Smith, A.V. Mudholkar & N.R. Rao (2013)- The origin of ferro-manganese oxide coated pumice from the Central Indian Ocean Basin. *Quaternary International* 313-314, p. 230-239.

(Pumice clasts coated with ferro-manganese oxide from pumice field on C Indian Ocean floor with ~95% glassy matrix, rhyolitic. Glass and mineral (orthopyroxene) chemistry differs from tuffs of Toba Caldera)

Complex. Fe-Mn oxide coating suggests pumice probably predates activity from Toba caldera. Similarities to rhyolitic eruptives from Sumatra and possibly of Late Miocene- Late Pleistocene age)

Pattan, J.N., M.S. Prasad & E.V.S.S.K. Babu (2010)- Correlation of the oldest Toba Tuff to sediments in the central Indian Ocean Basin. *J. Earth System Science* 119, 4, p. 531-539.

(online at: www.ias.ac.in/article/fulltext/jess/119/04/0531-0539)

(Ash layer in association with Australasian microtektites of ~0.77 Ma old in two sediment cores ~450 km apart in C Indian Ocean, ~3100 km SW of Toba caldera. Chemically identical to Ash layer-D in ODP site 758 from Ninetyeast Ridge and ash in S China Sea, previously correlated to oldest(?) Toba Tuff eruptions of Toba caldera, Sumatra)

Pattan, J.N., P. Shane & V.K. Banakar (1999)- New occurrence of Youngest Toba Tuff in abyssal sediments of the Central Indian Basin. *Marine Geology* 155, 243-248.

Pattan, J.N., P. Shane, N.J.G. Pearce, V.K. Banakar & G. Parthiban (2001)- An occurrence of ~74 ka Youngest Toba tephra from the western continental margin of India. *Current Science* 80, 10, p. 1322-1326.

(online at: http://drs.nio.org/drs/bitstream/2264/267/1/Curr_Sci_80_1322.pdf)

(Dispersed volcanic ash layer in core from 2300m water depth on W continental margin of India. Composition of glass shards indistinguishable from of Youngest Toba ash of ~74 ka, N Sumatra)

Powell, T.S. & B.P. Luyendyk (1982)- The sea-floor spreading history of the eastern Indian Ocean. *J. Marine Geophysical Research* 5, 3, p. 225-247.

(E Indian Ocean between NW Australia and Java Trench two rifting/ sea-floor spreading events: Late Jurassic in Argo Abyssal Plain, followed by Early Cretaceous spreading in Cuvier and Perth Abyssal Plains)

Prasad, M.S. (1994)- New occurrences of Australasian microtektites in the Central Indian Basin. *Meteoritics Planetary Science* 29, 1, p. 66-69.

Prasad, M.S., S.M. Gupta & V.N. Kodagali (2003)- Two layers of Australasian impact ejecta in the Indian Ocean? *Meteoritics Planetary Science* 38, 9, 1373-1381.

(Flanged button tektite on Indian Ocean floor, at shallower level than ~750 ka microtektite horizon at 60-125mm below ocean floor)

Prasad M.S., V.P. Mahale & V.N. Kodagali (2007)- New sites of Australasian microtektites in the Central Indian Ocean: implications for the location and size of source crater. *J. of Geophysical Research: Planets* 102, E6, E06007, p. 1-11.

(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2006JE002857/epdf>)

(Fifteen new Australasian microtektite sites in C Indian Ocean. Nowup to 61 microtektite sites in oceans. Contours joining highest values of square of correlation coefficient of all known data sites define source area in NE Thailand- C Laos (18° N and 104 °E. Calculated crater diameter 33-120 km)

Prasad, M.S. & M. Sudakhar (1999)- Australasian minitektites discovered in the Indian Ocean. *Meteoritics Planetary Science* 34, p. 179-184.

(online at: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1945-5100.1999.tb01744.x>)

(Box core samples in Indian Ocean South of India yield minitektites between 1- 3.7 mm in diameter, associated with microtektites of 0.77 Ma Pleistocene Australasian tektite strewn field)

Qin, Y. & S.C. Singh (2015)- Seismic evidence of a two-layer lithospheric deformation in the Indian Ocean. *Nature Communications* 6, 8298, p. 1-12.

(online at: www.nature.com/articles/ncomms9298)

(Wharton Basin in Indian Ocean with active intra-plate deformation, with earthquakes rupturing entire lithosphere. In Wharton Basin direction of maximum stress is NW-SE, and deformation is accommodated along N5°E-trending re-activated fracture zones with left-lateral strike-slip movements. Seismic reflection profiles show

faults down to 45 km depth. Lithospheric mantle deformation divided into two layers: upper fractured fluid-filled serpentinized layer and lower pristine brittle lithospheric mantle where great earthquakes initiate)

Robinson, P.T. & D.J. Whitford (1974)- Basalt from the Eastern Indian Ocean, DSDP Leg 27. In: J.J. Veevers et al. (eds.) Initial Reports Deep Sea Drilling Project (DSDP) 27, p. 551-559.

(online at: www.deepseadrilling.org/27/volume/dsdp27_26.pdf)

(Basalt recovered from Perth, Argo, and Gascoyne abyssal plains. Late Jurassic-E Cretaceous age basalts at Sites 259 and 261 quartz-normative tholeiites and olivine tholeiites, chemically similar to ocean ridge basalts, representing ancient oceanic crust formed during early rifting off W Australia. Basalt sills at Site 260, 261 postdate E-M Albian sediments and represent younger intraplate activity)

Sager, W.W., L.G. Fullerton, R.T. Buffler & D.W. Handschuhmacher (1992)- Argo Abyssal Plain lineations revisited: implications for the onset of seafloor spreading and tectonic evolution of the eastern Indian Ocean. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 123, p. 659-669.

(online at: www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_36.pdf)

(Oldest magnetic anomalies of oldest oceanic crust of Argo Abyssal Plain variously interpreted as Late Jurassic or earliest Cretaceous (20 My difference). Preferred model is Late Jurassic age, oldest lineament M26 (163 Ma, ~Callovian))

Sandiford, M., D. Coblenz & W.P. Schellart (2005)- Evaluating slab-plate coupling in the Indo-Australian plate. *Geology (GSA)* 33, 2, p. 113-116.

(Seismicity in C Indian Ocean used to evaluate extent of slab-plate coupling in Indo-Australian plate. Effective slab pull <~10% of total negative buoyancy operating on subducting slab)

Scheibnerova, V. (1974)- Aptian-Albian benthonic foraminifera from DSDP Leg 27, Sites 259, 260 and 263, Eastern Indian Ocean. In: J.J. Veevers & J.R. Heirtzler (eds.) Initial Reports Deep Sea Drilling Project (DSDP) 27, p. 697-741.

(online at: www.deepseadrilling.org/27/volume/dsdp27_36.pdf)

(Lower Cretaceous benthic foraminifera from Leg 27 (Sites 259, 260, 263) off Exmouth Plateau, NW Australia, all in same paleogeographic province as coeval sediments on adjacent continents Australia, India and S Africa, i.e. non-tropical Austral bioprovince)

Scheibnerova, V. (1977)- Synthesis of the Cretaceous benthic foraminifera recovered by the Deep Sea Drilling Project in the Indian Ocean. In: J.R. Heirtzler et al. (eds.) Indian Ocean geology and biostratigraphy; studies following Deep-Sea Drilling legs 22-29, American Geophysical Union (AGU), Special Publ. 9, p. 585-597.

(online at: www.agu.org/books/sp/v009/SP009p0585/SP009p0585.pdf)

Scheibnerova, V. (1978)- Some Cretaceous foraminifera from Leg 26 of the DSDP in the Indian Ocean. *BMR Bull. Australian Geology Geophysics* 192 (Crespin volume), p. 137-163.

(online at: https://d28rz98at9flks.cloudfront.net/68/Bull_192.pdf)

(64 species of planktonic and benthic foraminifera mainly from Site 258, Naturaliste Plateau. Mostly Albian, with some species of Late Cretaceous (Cenomanian-Campanian) ages. Almost all species also known from other parts of Austral biogeoprovince)

Simmons, N.A., S.C. Myers, G. Johannesson, E. Matzel & S.P. Grand (2015)- Evidence for long-lived subduction of an ancient tectonic plate beneath the southern Indian Ocean. *Geophysical Research Letters* 42, 10.1002/2015GL066237, p. 1-9.

(New global tomographic image shows slab-like structure under S Indian Ocean, interpreted as ancient tectonic plate that sank into mantle along extensive intra-oceanic subduction zone that retreated SW across Tethys Ocean in Mesozoic. Jurassic-E Cretaceous oceanic volcanic arc system of Woyla terranes of W Sumatra may represent exposed remnant of this intra-oceanic system)

Singh, S.C., H. Carton, A.S. Chauhan, S. Androvandi, A. Davaille, J. Dymant, M. Cannat & N.D. Hananto (2011)- Extremely thin crust in the Indian Ocean possibly resulting from plume-ridge interaction. *Geophysical J. International* 184, 1, 2942, p. 29-42.

(online at: <https://academic.oup.com/gji/article/184/1/29/606196>)

(Thickness of crust created at ocean spreading centers depends on spreading rate and melt production in mantle. It is ~5-8 km for crust formed at slow and fast spreading centers and 2-4 km at ultra-slow spreading centers away from hotspots and mantle anomalies. Crust is generally thin at fracture zones and thick beneath hotspots and large igneous provinces. Crust generated at fast Wharton spreading center at 55-58 Ma only 3.5-4.5 km thick over 200km segment of Wharton Basin as suggested by interpreted Moho on seismic reflection and refraction data. This is thinnest crust ever observed in fast spreading environment, and likely formed by interaction between Kerguelen mantle plume and Wharton spreading center at ~55 Ma)

Stein, C.A., S. Cloetingh & R. Wortel (1989)- Seasat-derived gravity constraints on stress and deformation in the northeastern Indian Ocean. *Geophysical Research Letters* 16, p. 823-826.

Suo, Y., S. Liab, X. Caoa, H. Dong, X. Li & X. Wang (2020)- Two-stage eastward diachronous model of India-Eurasia collision: Constraints from the intraplate tectonic records in Northeast Indian Ocean. *Gondwana Research* 102, p. 372-384.

(Magma production rates in two aseismic ridges in NE Indian Ocean (Laccadives-Maldives-Chagos (LMCR) and Ninetyeast Ridge) likely indicators of onset of India-Eurasia collision Increasing magma production along LMCR and SW jump of Central Indian Ridge constrain “soft” (India- island arc; 50–52 Ma) and “hard” (India-Eurasia; ~41 Ma) collisions between W India and Eurasia. Soft collision between E India and Eurasia 47-49 Ma, Extinction of Wharton Ridge constrained hard collision between E India and Eurasia to 38 Ma (M-L Eocene))

Taneja, R. & C. O’Neill (2014)- Constraining the age and origin of the seamount province in the Northeast Indian Ocean using geophysical techniques. *Marine Geophysical Research* 35, 4, p. 395-417.

(Christmas Island Seamount Province S of Java-Sunda Trench with numerous submerged volcanic seamounts, and Cocos (Keeling) and Christmas Islands. Regional gravity model of crustal structure under Cocos (Keeling) Island constrain thickness of limestone to 900-2100m. Pliocene episode of volcanism at Christmas Island from flexure-induced cracks in subduction fore-bulge, Eocene phase associated with low velocity seismic zone rising from lower mantle. Modelling also supports existence of older, undated volcanic core to Christmas Island)

Taneja, R., C. O’Neill, M. Lackie, T. Rushmer, P. Schmidt & F. Jourdan (2015)- ⁴⁰Ar/³⁹Ar geochronology and the paleoposition of Christmas Island (Australia), Northeast Indian Ocean. *Gondwana Research* 28, 1, p. 391-406.

(Christmas Island episodes of volcanism: (1) Eocene (43-37 Ma), (2) Pliocene (4.3 Ma), (3) possible unexposed Late Cretaceous event. Late Eocene (38-39 Ma) paleomagnetic data suggest paleolatitude of 43.5°± 10° S, further S (~30° S) than existing plate reconstruction models. Pliocene (~4 Ma) paleolatitude of ~13° S. Late Eocene ages at Christmas Island correlate with cessation of spreading of Wharton Ridge (~43 Ma))

Trueman, N.A. (1965)- The phosphate, volcanic and carbonate rocks of Christmas Island (Indian Ocean). *J. Geological Society of Australia* 12, 2, p. 261-283.

(Christmas Island consists of interbedded volcanic and carbonate rocks, mainly of Eocene and Miocene age. Volcanic rocks successively more basic, varying from andesite to limburgite. Phosphate deposits three main mineral groups: apatite, barrandite and crandallite-millisite)

IX.14. NW Australia passive Paleozoic- Cenozoic Gondwana margin

Relevance of Australia NW Shelf data for Indonesia:

- NW Australia geology, stratigraphy and paleontology continue into in Arafura Sea, Timor Trough, 'Gondwana Sequence of Timor' and New Guinea;
- Terranes rifted off this Australia-Gondwana-origin margin now form the bulk of continental and island SE Asia

The NW Shelf of Australia today is a passive continental margin that extends for over 2000 km and up to 600 km wide. It initially developed during widespread Late Carboniferous- Permian continental rifting (lower parts with glacio-marine signatures), characterized by significant crustal thinning and subsequent development of massive 'post-rift' Triassic sediment deposition. Subsequent Late Triassic to Early Cretaceous rifting was in more localized extensional systems with thick syn-rift deposits.

Abbassi, S., S.C. George, D.S. Edwards, R. di Primio, B. Horsfield & H. Volk (2014)- Generation characteristics of Mesozoic syn- and post-rift source rocks, Bonaparte Basin, Australia: new insights from compositional kinetic modelling. *Marine and Petroleum Geology* 50, p. 148-165.

Abbassi, S., B. Horsfield, S.C. George, D.S. Edwards, H. Volk & R. di Primio (2014)- Geochemical characterisation and predicted bulk chemical properties of petroleum generated from Jurassic and Cretaceous source rocks in the Vulcan Sub-basin, Bonaparte Basin, North West Shelf of Australia. *Organic Geochemistry* 76, p. 82-103.

(Mesozoic source rocks in Vulcan Sub-basin of Bonaparte Basin contain Types II, II/III and III kerogen. In Vulcan Sub-basin, marine Lw Cretaceous Echuca Shoals Fm and U Jurassic-Lower Cretaceous U Vulcan Fm fair- moderate quality organic matter and marginally mature. Marine M-U Jurassic lower Vulcan and fluvio-deltaic Lw-M Jurassic Plover Fms good quality organic matter and mature for hydrocarbon generation)

Abbassi, S., R. di Primio, B. Horsfield, D.S. Edwards, H. Volk, Z. Anka & S C. George (2015)- On the filling and leakage of petroleum from traps in the Laminaria High region of the northern Bonaparte Basin, Australia. *Marine and Petroleum Geology* 59, p. 91-113.

(3D petroleum systems model of N Bonaparte Basin indicates potential Nancar Trough source kitchen could be expelling hydrocarbons from numerous Jurassic source rocks into traps on Laminaria High. Lower Cretaceous Echuca Shoals Fm immature for hydrocarbon generation in this region. Hydrocarbon generation in Nancar Trough started in Early Cretaceous, in response to elevated heat flow during syn-rift phase. Second and main phase of generation started in M Eocene and is ongoing)

Abbott, S.T., D. Caust, N. Rollet, M.E. Lech, R. Romeyn, K. Romine, K. Khider & J. Blevin (2016)- Seven Cretaceous low-order depositional sequences from the Browse Basin, North West Shelf, Australia: a framework for CO₂ storage studies. In: AAPG International Conference Exhib., Melbourne 2015, Search and Discovery Article 51224, p. 1-26.

(online at: www.searchanddiscovery.com/documents/2016/51224abbott/ndx_abbott.pdf)

(Seismic stratigraphy of Browse Basin Cretaceous. Seven main depositional sequences, controlled by tectonic events associated with separation of Greater India and Antarctica from Australia. Main direction of progradation from WNW in E Cretaceous and from N in Late Cretaceous. Sequence K10 (late Tithonian- E Valanginian) sand-rich, deltaic package that includes distinctive lowstand wedge)

Abbott, S.T., E. Grosjean, D. Edwards, N. Rollet, T. Palu & M.E. Lech (2025)- Cretaceous sequence stratigraphy and gross depositional environments, Browse Basin, Australia: Implications for the extent of petroleum systems and plays. *AAPG Bull.* 109, 3, p. 383-413.

(Comprehensive review of Cretaceous sequence stratigraphy of Browse Basin, NW Shelf)

Abbott, S.T., K. Khider, A. Kelman & K. Romine (2016)- Facies architecture of the K10 supersequence in the Browse Basin: when sequence stratigraphy meets lithostratigraphy. APPEA 56th Conference Exhib., Brisbane, The APPEA Journal 56, 2, p. 568-.

(Sequence stratigraphic mapping of K10 supersequence (Berriasian-Valanginian; Brewster Mb). Deposition of K10 started at onset of rifting between Greater India and N Carnarvon Basin. Sediment sourced from uplifted areas resulted in deposition of Barrow Delta in Exmouth and Barrow sub-basins and smaller K10 sand-rich progradational sequence in Caswell subbasin. Gas reservoir in Ichthys-Prelude and Burnside fields)

Abbott, S., C. Orlov, G. Bernardel, C. Nicholson, N. Rollet, D. Nguyen & M.E. Gunning (2019)- Stratigraphic and structural architecture across the central North West Shelf- implications for Triassic petroleum systems. The APPEA Journal 59, 2, p. 832-839.

Adamson, K.R., S.G. Lang, N.G. Marshall, R.J. Seggie, N.J. Adamson & K.L. Bann (2013)- Understanding the Late Triassic Mungaroo and Brigadier deltas of the Northern Carnarvon Basin, North West Shelf, Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, 29 p.

AGSO NW Shelf Study Group (1994)- Deep reflections on the North West Shelf: changing perceptions of basin formation. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1994, p. 63-76.

(Australian NW shelf main basin forming events: (1) Late Devonian- E Carboniferous extension, creating NE trending Fitzroy Trough and Petrel Basin; (2) M-Carboniferous- E Permian major extension, creating Westralian superbasin with thick Permo-Triassic 'sag-phase' deposits; (3) Late Triassic- E Jurassic transpressional reactivation creating M-L Jurassic source rock depocenters and uplifting adjacent blocks)

Al-Hinaai, J. & J. Redfern (2014)- The late Carboniferous basal Grant Group unconformity, Canning Basin, Australia: a complex surface recording glacial tectonic and halotectonic processes. Australian J. Earth Sciences 61, 5, p. 703-717.

(Relief on basal Permian Base Grant Group angular unconformity in Canning Basin, with steep-sided, often U-shaped NE-SW trending paleovalleys, up to 525m deep, 12 km wide. Surface modified during Triassic-Jurassic Fitzroy Movement, resulting in fault reactivation and en-echelon wrench-related anticlines. 'Sombbrero structures': Silurian fill of depressions, turned into mounds after withdrawal of Late Ordovician salt)

Al-Hinaai, J. & J. Redfern (2015)- Tectonic and climatic controls on the deposition of the Permo-Carboniferous Grant Group and Reeves Formation in the Fitzroy Trough, Canning Basin, Western Australia. Marine and Petroleum Geology 59, p. 217-231.

(Angular unconformity at base Reeves Fm, recording M Carboniferous Meda Transpressional Movement, separates two extensional phases in Canning Basin. Extensional faulting ceased before deposition of Permian Grant Group. Sakmarian Grant Gp subdivision partly climate-controlled: glacially eroded Base Grant Group unconformity overlain by glacial facies. Deglaciation and relative rise in base level gave rise to middle mudstone unit of Calytrix Fm. Absence of glacial signature in upper Cliathus Fm reflects waning ice sheet)

Ambrose, G.J. (2004)- Jurassic sedimentation in the Bonaparte and northern Browse basins: new models for reservoir- source rock development, hydrocarbon charge and entrapment. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 125-142.

Ambrose, G. (2006)- Untested hydrocarbon column in Thornton-1 in the Timor Sea encourages a Plover 'deep' oil play. PESA News 80, p. 31-

(Plover Unit C lower delta plain coaly probably good source facies; Possible thin oil-bearing sands in Plover Unit B in Thornton 1 (= below Toarcian mfs))

Amir, V., R. Hall & C.F. Elders (2010)- Structural evolution of the Northern Bonaparte Basin, Northwest Shelf Australia. Proc. 34th Annual Conv. Indonesian Petroleum Association, IPA10-G-210, p. 1-17.

(Structural interpretation of N Bonaparte Sahul Platform-Laminaria High from 3D seismic. Three main stages: (1) M Triassic? extension (NNE-SSW trending normal faults); (2) Late Jurassic-Early Cretaceous rifting (breakup event; E-W to ENE-WSW trending normal faults; and (3) Neogene Australia-Banda Arc continental collision in Timor (NE-SW trending faults). Late Jurassic extension was about half that of Triassic rift phase)

Anderson, A.D., M.S. Durham & A.J. Sutherland (1993)- The integration of geology and geophysics to post-well evaluations- example from Beluga 1, offshore N Australia. Australian Petroleum Exploration Assoc. (APEA) Journal 33, 1, p. 15-21.

Anell, I. & M.W. Wallace (2019)- A fine balance: accommodation dominated control of contemporaneous cool-carbonate shelf-edge clinoforms and tropical reef-margin trajectories, North Carnarvon Basin, NW Australia. *Sedimentology* 67, 1, p. 96-117.

Apthorpe, M. (1988)- Cainozoic depositional history of the North West Shelf. In: P.G. & R.R. Purcell (eds.) *The Northwest Shelf of Australia*, Proc. Petroleum Exploration Society Australia (PESA), NW Shelf Symposium, Perth 1988.

Apthorpe, M.C. (1979)- Depositional history of the Upper Cretaceous of the Northwest Shelf based upon foraminifera. Australian Petroleum Exploration Assoc. (APEA) Journal 19, 1, p. 74-89.

Apthorpe, M. (1994)- Towards an Early to Middle Jurassic palaeogeography for the North West Shelf: A marine perspective. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 201-210.
(Summary of E-M Jurassic (Hettangian- Bathonian) marine sequences in 19 petroleum exploration wells across NW Shelf. Six marine pulses recognised, and their distribution indicated. Deposited at no greater than shelf water depths, but faunal similarities with Europe, etc., suggest contact with waters of Neo-Tethys Ocean)

Apthorpe, M. (2003)- Early to lowermost Middle Triassic Foraminifera from the Locker Shale of Hampton-1 well, Western Australia. *J. Micropalaeontology* 22, 1, p. 1-27.
(online at: <https://www.j-micropalaeontol.net/22/1/2003/jm-22-1-2003.pdf>)
(Marine smaller foraminifera from 350m shale section from upper Lower Triassic to lowermost M Triassic (Spathian-Lower Anisian) in Hampton 1 well, Carnarvon Basin. Differs from coeval fauna from same area (Heath & Apthorpe, 1986). New fauna contains some 'Tethyan' genera, previously recorded from S China and Alps, including Duostomina, Krikoumbilica, Gsollbergella, Trocholina, Endothyra and Endothyranella)

Archbold, N.W. (1983)- Studies on Western Australian Permian brachiopods 3. The Family Linoproductidae Stehli 1954. *Proc. Royal Society of Victoria* 95, 4: p. 237-254.
(Incl. Productus spp., Globiella foordi, Globiella flexuosa, etc.)

Archbold, N.W. (1988)- Permian brachiopoda and bivalvia from Sahul Shoals No. 1, Ashmore Block, Northwestern Australia. *Proc. Royal Society of Victoria* 100, p. 33-38.
(Brachiopod- bivalve fauna of Late Permian fine, light-grey, biomicrite limestone in Sahul Shoals 1 well, off NW Australia: Streptorhynchid fragments, Waagenoconcha, Neospirifer, Elival sp., Gjelispinifera sp., Etheripecten and Cyrtorostra. Fauna interpreted to indicate paleogeographic proximity of Late Permian Sahul Shoals limestone and Maubisse Fm of Timor (but Permian brachiopod provinciality rel. poorly defined?; JTvG))

Archbold N.W. (1998)- Correlations of the Western Australian Permian and Permian Ocean circulation patterns. *Proc. Royal Society of Victoria*. 110, 1-2, p. 85-106.
(18 brachiopod zones in Permian, but only 4 in Bonaparte Basin; speculations on Permian paleo-circulation)

Archbold N.W. (1998)- Marine biostratigraphy and correlation of the West Australian Permian basins. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia 2*, Proc. Petroleum Exploration Society Australia (PESA) Symposium 2, p. 141-151.
(Marine Permian strata of onshore Perth, Carnarvon, Canning and Bonaparte basins traditionally correlated by means of marine invertebrate faunas. Brachiopods in particular evolved rapidly and were abundant in W Australian marine Permian. An integrated sequence of 17 brachiopod zones ranging in age from E Permian (Asselian) to Late Permian (Dzhulfian) occurs in W Australia)

Archbold, N.W. (2000)- Palaeobiogeography of the Australasian Permian. Memoir Assoc. Australasian Palaeontologists (AAP) 23, p. 287-310.

(In Permian present Australian continent was part of E Gondwana which itself was S region of Pangaea. Australia was surrounded by elements of New Zealand to the E and SE, New Caledonia to the SE, Irian Jaya to the N, Timor and the Cimmerian continental fragments to the NW, S Tibet, the Himalaya and Peninsular India to the W and SW and Antarctica to the S.)

Archbold, N.W. & J.M. Dickins (1991)- Australian Phanerozoic time scales, 6. Permian. Bureau Mineral Resources Geology Geophysics, Record 1989/36, p. 1-18.

*(online at: www.ga.gov.au/corporate_data/14384/Rec1989_036.pdf)
(Australian and Tethyan time scales and biozonations for Permian))*

Archbold, N.W. & J.M. Dickins (1996)- Permian. In: G.C. Young & J.R. Laurie (eds.) An Australian Phanerozoic time scale, Chapter 6, Oxford University Press, p. 127-135.

Archbold, N.W., J.M. Dickins & G.A. Thomas (1993)- Correlation and age of Permian marine faunas in Western Australia. In: S.K. Skwarko (ed.) The palaeontology of the Permian of Western Australia, Geological Survey of Western Australia, Perth, Bull. 136, p. 11-18.

(online at: <http://dmpbookshop.eruditetechnologies.com.au/product/palaeontology-of-the-permian-of-western-australia.do>)

Archbold, N.W. & T. Hogeboom (2000)- Subsurface brachiopoda from borehole cores through the Early Permian sequence of the Carnarvon Basin, Western Australia: correlations with palynological biostratigraphy. Proc. Royal Society of Victoria 112, 1, p. 93-109.

(Early Permian brachiopods from five wells in onshore Carnarvon Basin, tied to spore-pollen zonation. Four earliest Permian brachiopod zones of W Australia (Lyonia lyoni, Trigonotreta occidentalis, Strophalosia irwinensis and Strophalosia jimbaensis zones, in ascending order) correlated with palynological zones (Granulatisporites confluens, Pseudoreticulatispora pseudoreticulata, Striatopodocarpites fusus, Didecitriletes byroensis and Microbaculispora trisina zones, in ascending order))

Arditto, P.A. (1996)- A sequence stratigraphic study of the Callovian fluvio-deltaic to marine succession within the ZOCA region. Australian Petroleum Production Exploration Association (APPEA) J. 36, p. 269-283.

(Callovian marine succession (Elang Fm) across area 'A' of Zone of Cooperation (ZOCA) in Timor Sea coastal plain- nearshore marine section with three 3rd-order sequences: (1) base of oldest sequence in Plover Fm, and corresponds to Wanaea digitata/W. indotata zone boundary. Callovian Unconformity is 3rd-order sequence boundary or disconformity)

Arevalo-Lopez, H.S. & J.P. Dvorkin (2017)- Rock-physics diagnostics of a turbidite oil reservoir offshore northwest Australia. Geophysics (SEG) 82, 1, p. MR1-MR13.

(Rock physics data from 4 wells in offshore Stybarrow field oil reservoir, Exmouth Basin, 65 km offshore NW Australia. Reservoir composed of turbiditic sandstones interbedded with claystones of E Cretaceous (Valanginian- Berriasian) age)

Backhouse, J. (1988)- Late Jurassic and Early Cretaceous palynology of the Perth Basin, Western Australia. Bull. Geological Survey of Western Australia 135, p. 1-233.

Backhouse, J. (1990)- Permian palynostratigraphic correlations in south-western Australia and their geological implications. Review Palaeobotany Palynology 65, p. 229-237.

(In Collie basin, SW Australia, Stockton Fm tillitic unit, overlain by Collie Coal Measures. Palynoflora at transition Stockton-Collie in Granulatisporites confluens Oppel zone, which also contains Protohaploxyypinus limpidus. It is overlain by Pseudoreticulatispora pseudoreticulata zone, etc. In Perth Basin at least 1620m of Permian coal measures, overlain by 243m of sandstone without coals)

Backhouse J. (1991)- Permian palynostratigraphy of the Collie Basin, Western Australia. *Review Palaeobotany Palynology* 67, p. 237-314.

Backhouse, J. (1998)- Palynological correlation of the Western Australian Permian. In: G.R. Shi, N.W. Archbold & M. Grover (eds.) *Strzelecki Int. Symposium Permian of eastern Tethys: biostratigraphy, palaeogeography and resources*. Proc. Royal Society of Victoria. 110, p. 107-114.
(10 palynozones in Permian Canning, Carnarvon, Perth, Bonaparte Basins)

Backhouse, J. & B.E. Balme (2002)- Late Triassic palynology of the Northern Carnarvon Basin. *Minerals and Energy Research Inst. Western Australia, Report 226*, p. 1-168.
(Revised regional palynological zonal scheme for Late Triassic. With formal subzones for N Carnarvon Basin, and high-resolution correlation for wells on Rankin Trend)

Backhouse, J., B.E. Balme, R. Helby, N.G. Marshall & R. Morgan (2002)- Palynological zonation and correlation of the latest Triassic, Northern Carnarvon Basin. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia 3*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 179-201.
(Revised Norian-Rhaetian palynological zonation for NW Shelf (spores-pollen and dinocysts). Five significant palynofloral bioevents)

Backhouse, J. & A.J. Mory (2002)- Mid-Carboniferous- Lower Permian palynology and stratigraphy, Canning Basin, Western Australia. Geological Survey of Western Australia (GSWA), Perth, Report 207, p. 1-146.
(online at: https://www.researchgate.net/publication/347964738_Mid-Carboniferous_-_Lower_Permian_palynology_and_stratigraphy_Canning_Basin_Western_Australia)
(Major revision of palynology of M Carboniferous- lowermost Permian Reeves Fm and overlying Grant Group of the Canning Basin. With well correlation panels, etc.)

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(Pyrenees-Macedon fields in Exmouth subbasin of N Carnarvon Basine currently underfilled relative to available closure despite being regional focal point for Cretaceous- Recent charge. Vertical leakage may have controlled column heights, possibly via dynamic failure along pre-existing faults and conductive fractures, and lateral leakage across reservoir against thief zone fault juxtapositions)

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Baillie, P.W., C.M. Powell, Z.X. Li & A.M. Ryall (1994)- Tectonic framework of Western Australia's Neoproterozoic to Recent sedimentary basins. In P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 45-62.
(From end of Mesoproterozoic until ~700 Ma, Wn Australia lay in intracontinental position within the supercontinent Rodinia. At ~700 Ma, Rodinia broke up and Laurentia began to separate from Australia-Antarctica, giving birth to Paleo-Pacific Ocean. Neoproterozoic Marinoan glaciation preceded interval of intracontinental dextral shear. Extension at beginning of Ordovician led to inception of Canning Basin. Late Carboniferous- earliest Permian sheet of glacial continental clastics draining towards shelf edge in N India and NW Australia. Late Permian pre-breakup rifting followed by Late Jurassic Pangea breakup along NW Australian margin and led to formation of Argo Abyssal Plain, the oldest of Australia's current continental margins. Etc.)

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(Source-rock richness, timing of hydrocarbon generation, and thicknesses of potential source shales of Upper Jurassic/Lower Cretaceous section of NW Shelf used for predictions hydrocarbon potential in Browse Basin, Malita Graben/NW Bonaparte Gulf Basin, Rowley Sub-basin, and Vulcan Sub-basin/Sahul Syncline)
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(11 wells on Exmouth Plateau discovered only non-commercial dry gas (incl. Scarborough gas field. Lack of liquid hydrocarbons related to position as platform area adjacent to Barrow-Dampier Jurassic rift system. Jurassic syn- and post-rift sequences extremely condensed, and post-breakup decrease in geothermal gradient has frozen peak hydrocarbon generation window in pre-breakup Triassic (expulsion before deposition of Late Jurassic- Cretaceous cap rocks. Gas accumulations mostly trapped by fault seal in thin sands, and originated from overmature source sequence, possibly Permian or Lower Triassic shale)
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(Dampier Sub-basin with at least 12 depositional sequences in U Jurassic- Lower Cretaceous succession. At least 8 lowstand events in Oxfordian-Tithonian, associated with syn-rift crustal extension and fluctuations in global-eustatic sea level. During lowstand episodes, huge volumes of coarse clastics transported by mass-flow into Lewis Trough. Oxfordian basin-floor sand cycles with channel-fill and submarine-fan lobe moundforms. Kimmeridgian- Tithonian more widespread, massive, detached, non-channelised basin floor lobes. Lower

Cretaceous succession heralds change from syn-rift lowstand to post-rift highstand depositional cycles. Sequence boundaries remarkable synchronicity with worldwide global-eustatic curve)

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(*Exploration in offshore Browse Basin began in 1963. Basin originated in Late Triassic - E Jurassic in response to rifting of Scott Plateau Arch. Second episode of faulting towards end of M Jurassic ('break-up unconformity'). E-M Jurassic fluvio-deltaic and nearshore marine sandstones main reservoir target in basin. 19 wildcat wells resulted in 4 gas-condensate discoveries: Scott Reef, N Scott Reef, Brewster, Brecknock*)

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(*In Browse Basin oldest carbonate build-ups interpreted as Oligocene giant bryozoan build-up complex (34- 27.8 Ma). In late Burdigalian start of tropical reef growth and reef-rimmed carbonate platforms progressively coalesced into extensive barrier reef. M Langhian- E Tortonian Browse Basin barrier-reef system >500 km long, possibly extending into N Carnarvon Basin. After E Tortonian reefs smaller and less connected, likely resulting from cooling following M Miocene Climate Optimum. Final phase of reef decline at ~6 Ma*)

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(*BHP interpretation of WestraliaSpan long-offset regional seismic allowed mapping of Basement and Moho surfaces and Late Permian and Jurassic- E Cretaceous rift zones. Westralian Superbasin formed as marginal basin in during Late Permian rifting of Sibumasu terrane. Mechanically-strong cratons (Pilbara, Kimberley) remained intact, resulting in necking and hyper-extension at their edges. Late Permian hyper-extended areas (e.g. Exmouth Plateau) behaved as mechanically-strong blocks during Jurassic- E Cretaceous continental break-up. Late Permian necking zones reactivated as failed-rift basins and localised deposition of Jurassic oil-prone source*)

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Bilal, A., K. McClay & N. Scarselli (2020)- Fault-scarp degradation in the central Exmouth Plateau, North West Shelf, Australia. In: K.R. McClay & J.A. Hammerstein (eds.) Passive margins: tectonics, sedimentation and magmatism, Geological Society, London, Special Publ. 476, p. 231-257,
(online at: https://www.researchgate.net/profile/Awad-Bilal-2/publication/326210835_Fault-scarp_degradation_in_the_central_Exmouth_Plateau_North_West_Shelf_Australia)
(*Latest Triassic- earliest Late Jurassic extensional faulting in C Exmouth Plateau, exhibits footwall degradation scarps with up to 1.8 km of scarp retreat. Extensional faulting, rotation and uplift produced gravitationally driven scarp collapse of incompetent and U Triassic Mungaroo Fm*)

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- Bishop, M.G. (1999)- Total petroleum systems of the Northwest Shelf, Australia: the Dingo- Mungaroo/ Barrow and the Locker- Mungaroo/Barrow. U.S. Geological Survey (USGS) Open File Report 99-50-E, p. 1-15.
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- Black, M., K.D. McCormack, C. Elders & D. Roberston (2017)- Extensional fault evolution within the Exmouth sub-basin, North West Shelf, Australia. Marine and Petroleum Geology 85, p. 301-315.
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- Bodorkos, S., P.A. Cawood, N.H.S. Oliver & A.A. Nemchin (2000)- Rapidity of orogenesis in the Paleoproterozoic Halls Creek Orogen, Northern Australia: evidence from SHRIMP zircon data, CL zircon images, and mixture modeling studies. American Journal of Science 300, p. 60-82.
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- Bodorkos, S., N.H.S. Oliver & P.A. Cawood (1999)- Thermal evolution of the central Halls Creek Orogen, northern Australia. Australian J. Earth Sciences 46, 3, p. 453-465.

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(online at: www-odp.tamu.edu/publications/122_sr/volume/chapters/sr122_03.pdf)

(Permian/Carboniferous- Neocomian rifting along NE Gondwanaland transformed intracratonic basin along E Tethyan continental margin to new passive margin along NW Australia, fronting new Indian Ocean. Subsequent sedimentation thin (starved passive margin). Eight seismic stratigraphic packages of three clastic depositional wedges and carbonate blanket deposit. Evolution: (1) intracratonic sedimentation (Norian-Rhaetian), (2) rift onset and initial breakup (Hettangian-Calloviaian), (3) second rift to final breakup (Calloviaian-Hauterivian), (4) postbreakup and rift to drift transition (Hauterivian-Cenomanian), and (5) mature ocean phase to incipient collision (Turonian-Holocene). Hauterivian age of breakup on S Exmouth Plateau corresponds with uplift of Tithonian-Valanginian sediments and progradation of Hauterivian sediment wedge N from Cape Range Fracture Zone. At Cenomanian-Turonian boundary sediment supply on S Exmouth Plateau shifted from N-prograding clastic source to carbonate-dominated blanket. Folding related to collision farther N increased slopes on S Exmouth Plateau starting in Eocene, producing submarine erosion and resedimentation in Cenozoic oozes)

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(Paleogeographic maps of NW Shelf for 16 Permian-Tertiary time slices. Key events in petroleum systems: (1) reservoir facies in Late Triassic large fluvial-deltaic systems; (2) source rocks in restricted marine troughs in Late Jurassic; (3) regional seal of Cretaceous marine transgression; (4) growth of carbonate shelf in Tertiary, provided thick overburden to initiate hydrocarbon generation. Campanian structuring inverted Exmouth Plateau after main phase of liquids expulsion)

Bradshaw, M.T., J. Bradshaw, A.P. Murray, J.D. Needham, L. Spencer et al. (1994)- Petroleum systems in West Australian basins. In P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1994, p. 95-119.

(Five petroleum supersystems in W Australia. Most productive is Westralian (basins of NW Shelf and New Guinea, with source rocks in marine anoxic environments controlled by Jurassic rifts). Other productive systems: Late Carboniferous- Triassic Gondwanan and E Palaeozoic Larapintine supersystems. Thick U Mesozoic terrestrial rift fill sediments in Perth Basin extension of Austral Supersystem of southern margin basins)

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(Upper Triassic (Carnian-Rhaetian) calcareous nannofossils from Sites 759, 760, 761, 764 on Wombat Plateau during ODP Leg 122. Assemblages dominated by *Prinsiosphaera triassica* Jafar. Similar to those from European Alps)

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(online at: www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_25.pdf)

(Upper Triassic calcareous nannofossils from Wombat Plateau, Australia NW Shelf. U Triassic nannofossil assemblages dominated by *Prinsiosphaera triassica*. Evolutionary lineage for earliest known coccoliths proposed, with *Crucirhabdus primulus* as ancestor. U Triassic divided based on first occurrences of *C. primulus* and *Eoconusphaera zlabachensis* in U Norian. Upper Triassic assemblages from Wombat Plateau similar to those from Alps)

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(Late Triassic palynostratigraphic framework of Leg 122 sites, Wombat Plateau. Australian spore-pollen zones recognized: Carnian *Samaropollenites speciosus*, Norian *Minutosaccus crenulatus* and Rhaetian *Ashmoripollis reducta* zones)

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(online at: www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_29.pdf)

(Correlation of Upper Triassic sediments at four Wombat Plateau sites of ODP Sites 759, 760, 761 and 764). Late Carnian- Norian clastics overlain by Rhaetian section dominated by carbonates. Carnian characterized by

Samaropollenites speciosus pollen zone, Norian by Minutosaccus crenulatus palynozone, Suessia listeri and H. balmei dinozones and foram Triasina oberhauseri; Rhaetian age by Ashmoripollis reducta palynozone, Rhaetogonyaulax rhaetica dinozone and forams Triasina hantkeni and Involutina liassica. Nannofossil Prinsiospharea triassica occurs through (Late?) Norian- Rhaetian)

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(Outcrops of marine Jurassic in Canning Desert and Upper Triassic rocks in Fitzroy Valley of NW Australia. In Fitzroy Basin Late Triassic in lagoonal-estuarine facies. Blina Shale with abundant Isaura (= Estheria) and Lingula and Erskine Sst unconformable over Late Permian, suggesting main phase of folding in Fitzroy Basin is latest Permian-E Triassic. Erskine sandstone with rich flora (incl. Pleuromeia). Previously described fusulinids from Fitzroy Basin are vertebrate and fish bone fragments)

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(Oldest rocks exposed on Dampier Peninsula N of Broome are Late Jurassic marine shale, limestone and glauconitic siltstone, conformably overlain by E Cretaceous marine sandstones and siltstone. On islands of Buccaneer Archipelago NE of tip of Peninsula, Aptian quartzites overlap steeply folded Precambrian rocks. To SE, along Fitzroy River, late Jurassic beds overlap U Triassic and Permian formations. Triassic Blina Shale with Lingula and 'Estheria' (=conchostracans Isaura ipsviciensis). Jurassic with Tethyan Tithonian Calpionella aff. C. alpina, Belemnopsis alfurica-gerardi group, Kossmatia, Buchia malayomaorica, etc.)

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(Dampier Land between Derby and Broome. Late Jurassic Langey Beds with Buchia malayomaorica, Belemnopsis gerardi group, two species of Calpionella in Tithonian, etc., all similar to East Indonesia Late Jurassic assemblages. Early Neocomian Jowlaenga Fm with Hibolites and bivalves. Neocomian Broome sst with plants only. Neocomian Leveque sst with Inoceramus spp., Aptian Melligo quartzite with bivalves)

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(First detailed stratigraphic distributions and descriptions of M-U Cretaceous foraminifera and calcareous nannofossils from Bathurst Island Gp of N Bonaparte Basin and Darwin Shelf. During M-L Cretaceous this area occupied paleolatitudes between 35°S- 45°S. Planktonic assemblages combine elements of low-latitude Tethyan Province to N and high-latitude Austral Province to S. Tethyan zonations most applicable for uppermost Albian-M Campanian because global climate was warm and equable. Most UC nannofossil zones and European-Mediterranean planktonic foraminiferal zones recognised. Albian and late M Campanian-Maastrichtian greater bioprovinciality and paleotemperature gradient, with application of Tethyan zonations more difficult)

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(Australia NW Shelf composite calcareous microfossil (KCCM) zonation commonly used to correlate M-U Cretaceous strata. This combines calcareous nannofossil and foraminiferal biostratigraphic events to provide high-resolution biostratigraphic subdivisions and correlation)

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(Presence of 100-140m thick M Triassic (Ladinian) carbonates in Phoenix 1, 2 and Cossigny 1 wells. Cossigny Mb oolitic-peloid grainstones represent brief marine transgression)

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(online at: www.ga.gov.au/corporate_data/80877/Jou1976_v1_n2_p171.pdf)

(Latest Oligocene limestone at Cape Range, W Australia, with Tertiary Lower Te stage larger foraminiferal fauna (Eulepidina, Heterostegina borneensis) and Zone N3 planktonic foram fauna (Globorotalia (T.) kugleri without Globigerinoides primordius. Also presence of Lacazinella sp. cf. L. wichmanni, presumably reworked from Eocene)

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(online at: https://d28rz98at9flks.cloudfront.net/229/Bull_040.pdf)
(NW Australian Permian with 34 species of productid brachiopods from Carnarvon, Canning and Irwin basins, mainly of Artinskian age. Absence of 'bizarre productids', like Lyttonidae and Richthofenidae. Closest affinities to Permian of Timor (Basleo; 4 species), then Indian Salt Range. Dissimilar to brachiopods of Eastern Australia)

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(Exposed, uplifted Oligo- Miocene (N9) carbonate sequences of Cape Range. Late Oligocene-E Miocene Mandu Lst unconformably over Late Eocene Giralia calcarenite, and unconformably overlain by earliest M Miocene Trealla Lst)

Colwell, J.B., T.L. Graham et al. (1990)- Stratigraphy of Australia's NW continental margin (Project 121-26), Post-cruise report for BMR Survey 96. Bureau Mineral Resources (BMR), Record 1990/86, Canberra, p. 1-126.
(online at: www.ga.gov.au/corporate_data/14371/Rec1990_085.pdf)

Colwell, J.B. & J.M. Kennard (1996)- Petrel Sub-basin study, 1995-1996, summary report. AGSO Record 1996/40, p. 1-122.

Colwell, J.B., U. Rohl, U. von Rad & E. Kristan-Tollmann (1994)- Mesozoic sedimentary and volcanoclastic rocks dredged from the northern Exmouth Plateau and Rowley Terrace, offshore northwest Australia. *AGSO J. Australian Geology Geophysics* 15, 1, p. 11-42.
(online at: www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf)

(Dredging on N Exmouth Plateau and Rowley Terrace margin shows Late Triassic (Norian-Rhaetian; with Aulaturus, Triasina, etc.) reef and peri-reefal carbonates and E Jurassic shelfal limestone (with Involutina liassica), with facies and foram- ostracod microfaunas similar to those of other S Tethyan margins, including N Calcareous Alps. Also volcanics emplaced along margin in Late Triassic-M Jurassic, probably start of rifting between Australia- Greater India. (N.B.: Involutina liassica may also be found in Rhaetian-age limestones, so E Jurassic age not proven?; JTvG))

Colwell, J.B. & U. von Stackelberg (1981)- Sedimentological studies of Cainozoic sediments from the Exmouth and Wallaby Plateaus, off Northwest Australia. BMR J. Australian Geology Geophysics 6, p. 43-50.

(online at: www.ga.gov.au/corporate_data/81059/Jou1981_v6_n1_p043.pdf)

(Cores of Quaternary/Tertiary sediments in Exmouth and Wallaby Plateau areas off NE Australia. Quaternary sediments show variations in composition with water depth, reflecting change in biogenic components and aragonite (~800m) and carbonate (~4100-4800m) compensation depths. Four major facies, from relatively coarse carbonate sands on continental shelf to planktonic foram oozes on slope to siliceous clays on abyssal plains. Tertiary cores mainly consist of Oligocene or Miocene foraminiferal nanno oozes/ chalks. Volcaniclastic sandstone with phosphatic nodules on E margin of the Wallaby Plateau)

Courgeon, S., J. Bourget & S.J. Jorry (2016)- A Pliocene-Quaternary analogue for ancient epeiric carbonate settings: The Malita intrashelf basin (Bonaparte Basin, northwest Australia). American Assoc. Petroleum Geol. (AAPG) Bull. 100, 4, p. 565-595.

(Pliocene-Quaternary of Bonaparte Basin very wide shelf with >600km wide carbonate platform and 200km-wide Malita intrashelf basin. Late Pliocene transgression over irregular topography due to flexural reactivation of Malita graben. Late Quaternary renewed flexural deformation initiated second transgressive cycle, resulting in progressive demise and burial of carbonate platforms in ISB center)

Crawford, A.J. & U. von Rad (1994)- The petrology, geochemistry and implications of basalts dredged from the Rowley Terrace- Scott Plateau and Exmouth Plateau margins, northwestern Australia. AGSO J. Australian Geology Geophysics 15, 1, p. 43-54.

(online at: www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf)

(Extensive Callovian-Oxfordian? (~155 Ma) basalts along margin of Scott Plateau and Rowley Terrace, reflecting onset of 'breakup' of 'Argoland' from this segment of NW Australian passive margin))

Crespin, I. (1936)- The larger foraminifera of the Lower Miocene of Victoria. Bureau Mineral Resources (BMR), Canberra, Palaeontological Bull. 2, p. 3-15.

(occ. Lepidocyclina (incl. stellate forms), Cycloclypeus, Austrotrillina howchini. No Miogypsina; no thin sections)

Crespin, I. (1941)- The genus *Cycloclypeus* in Victoria. Proc. Royal Society of Victoria 53, 2, p. 301-314.

Crespin, I. (1943)- The genus *Lepidocyclina* in Victoria. Proc. Royal Society of Victoria 55, 2, p. 157-194.

(online at: <https://ia601507.us.archive.org/8/items/biostor-258993/biostor-258993.pdf>)

(Lepidocyclina in three areas in Victoria, southern Australia: (1) W Victoria at Clifton Bank, (2) S-C Victoria in Port Philip Basin; (3) East Gippsland). Most are Trybliollepidina types and include stellate forms, suggesting likely Middle Miocene age (basal Tf2), not E Miocene as previously suggested (= southern expansion during M Miocene warm peak?; JTvG)).

Crespin, I. (1948)- Indo-Pacific influences in Australian Tertiary foraminiferal assemblages. Trans. Royal Society South Australia 72, p. 133-142.

(online at: <https://www.biodiversitylibrary.org/item/129116>)

(Early review of occurrences of 'Indo-Pacific' larger foraminifera in Tertiary of Australia))

Crespin, I. (1950)- Australian Tertiary microfaunas and their relationships to assemblages elsewhere in the Pacific Region. Journal of Paleontology 24, p. 421-429.

(Two two major sedimentary provinces in Australia: Austral-Indo-Pacific province and Bass Strait province)

Crespin, I. (1952)- Two species of *Lepidocyclina* from Cape Range, NW Australia. Contr. Cushman Foundation Foraminiferal Research 3, 1, p. 28-32.

(online at: https://cushmanfoundation.allenpress.com/portals/_default/files/pubarchive/CCFFR/03ccffr1.pdf)
(Description of large Early Miocene *Lepidocyclina* (*Eulepidina*) *badjirraensis* and *L. (E.) manduensis* from *Mandu calcarenite*, Cape Range, Carnarvon Basin, NW Australia)

Crespin, I. (1956)- Migration of foraminifera in Tertiary times in Australia. In: Papers on Tertiary micropalaeontology, Bureau Mineral Resources (BMR) Geology Geophysics, Report 25, p. 1-16.

(online at: https://d28rz98at9flks.cloudfront.net/14939/Rep_025.pdf)
(Paleo-Eocene larger forams *Discocyclina* and *Asterocyclina* world-wide in distribution, but *Pellatispira* and *Alveolina* more closely related to Indo-Pacific. Late Eocene planktonic forams in SW Victoria. Indo-Pacific climate conditions throughout Australia at several times in Mio-Pliocene, etc.)

Crespin, I. (1963)- Lower Cretaceous arenaceous foraminifera of Australia. Bureau Mineral Resources (BMR) Geology Geophysics, Bull. 66, p. 1-105.

(online at: https://d28rz98at9flks.cloudfront.net/176/Bull_066.pdf)
(Mainly descriptions of small arenaceous benthic foraminifera from Great Artesian Basin, roughly of Aptian-Albian age)

Crostella, A. & C.J. Boreham (2000)- Origin, distribution and migration patterns of gas in the Northern Carnarvon Basin. Petroleum Exploration Society Australia (PESA) Journal 28, p. 7-20.

(Widespread gas in Cretaceous in Onslow Terrace, Peedamullah Shelf and inner Exmouth subbasin dry and considered to have biogenic input. Indications of biodegraded residual oil in y area (Roller, Skate oilfields in innermost Barrow subbasin) probably biodegraded by same bacterial processes that produced dry gas. Age of hydrocarbon charge Late Tertiary.)

Crostella, A., R.P. Iasky, K.A. Blundell, A.R. Yasin & K.A.R. Ghori (2000)- Petroleum geology of the Peedamullah Shelf and Onslow Terrace, Northern Carnarvon Basin, Western Australia. Western Australia Geological Survey, Report 73, p. 1-119.

(online at: [www.dmp.wa.gov.au/documents/REPORT_73_CDWEB\(4\).pdf](http://www.dmp.wa.gov.au/documents/REPORT_73_CDWEB(4).pdf))
(Peedamullah Shelf and Onslow Terrace formed during Carboniferous- Jurassic rifting episodes. Shelf remained elevated area during Jurassic, whereas thick Jurassic succession was deposited in deep-water rift to NW. Oil was sourced from pre-Jurassic section. E Permian Lyons Group marine sedimentation including glacial erratics, until Sakmarian when carbonate and mud (Callytharra Formation) were deposited)

Crowell, J.C. & L.A. Frakes (1971)- Late Paleozoic glaciation, IV. Australia. Geological Society of America (GSA) Bull. 82, p. 2515-2540.

Crowell, J.C. & L.A. Frakes (1971)- Late Palaeozoic glaciation of Australia. J. Geological Society of Australia 17, p. 115-155.

(Carboniferous- E Permian glaciation covered large part of Australia continent. In W Australia E Permian ice centres located on Yilgarn Block, Pilbara Block (SW of Canning Basin) and on Kimberley Block. Evidence for glaciation mainly ice-rafted debris and fluvial-glacial and glacial-marine strata that reached as far N as Bonaparte Gulf Basin. Rapid growth of continental glaciers near end of Carboniferous corresponds with rapid shift of paleolatitude when Gondwanaland moved to near-polar position and Paleo-Pacific lay nearby to provide source of moisture)

Curry, J.S., J.M. Lorenzo & G.W. O'Brien (2000)- Polarity of continent-island arc collision since late Miocene: Timor Sea, N.W. Shelf, Australia. AAPG 2000 Annual Meeting Abstracts, p. 35.

(Late Miocene-to-Recent collision of NW Australian shelf with Outer Banda Island Arc results in downward flexing of Australian lithosphere toward arc. Normal faulting on Australian Shelf occurs as flexural stresses exceed plate strength. Collision began in Late Miocene W of Timor, progressed eastward during the Pliocene, and continues E. Normal faults W of 124.5°E terminate vertically in the Miocene section. Normal faults from

124.5°E to 125.5°E terminate at the Miocene-Pliocene boundary. From 125.5- ~128°E, faults terminate in E Pliocene section. Normal faults from ~128- 131°E terminate at or near sea floor E of 131° E, motion of Australian lithosphere is subparallel to plate boundary and no faulting is evident)

Daim, F.L. & P.G. Lennox (1998)- A new tectonic model for the evolution of the Northern Carnarvon Basin, Western Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 435-445.

(Creation of N Carnarvon Basin was by multi-stage ductile movement of lower crust, in general northerly direction, from Exmouth Plateau, towards assumed decompression zones S bounding fault of Canning Basin)

Dawson, G.C., B. Krapez, I.R. Fletcher et al. (2002)- Did Late Palaeoproterozoic assembly of proto-Australia involve collision between the Pilbara, Yilgarn and Gawler Cratons? Geochronological evidence from the Mount Barren Group in the Albany-Fraser Orogen of Western Australia. *Precambrian Research* 118, p. 195-220.

De Boer, R.A. (2003)- The Puffin sandstone, Timor Sea, Australia: anatomy of a submarine fan. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 373-390.

(Upper Campanian-Maastrichtian submarine fan system in Browse, Vulcan, with minor oil in Puffin 1; up to 900m thick; 6 depositional lobes)

De Carlo, E.H. & N.F. Exon (1992)- Ferromanganese deposits from the Wombat plateau, Northwest Australia. In: U. von Rad et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results, 122, p. 335-345.

(online at: www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_18.pdf)

(Ferromanganese crusts, nodules and Fe-Mn-rich sediments dredged from water depths of 2000-4600m, on Wombat Plateau adjacent to Argo Abyssal Plain. Ferromanganese deposits from ODP sites up to 40 cm thick and formed on long-exposed deep sea floor, probably in Late Cretaceous-Eocene times)

De Deckker, P. & Y. Yokoyama (2009)- Micropalaeontological evidence for Late Quaternary sealevel changes in Bonaparte Gulf, Australia. *Global and Planetary Change* 66, p. 85-92.

(Micropaleo of 5m core from 116m water depth in Bonaparte basin records sealevel trends from ~40-12 ka. Supports ~120m relative sea level drop at Last Glacial Maximum before ~19 ka, followed by rapid marine transgression)

De Lurio, J.L. & L.A. Frakes (1999)- Glendonites as a palaeoenvironment tool: implications for Early Cretaceous high latitude climate in Australia. *Geochimica Cosmochimica Acta* 63, 7, p. 1039-1048.

(Glendonites (calcite pseudomorphs after metastable ikaite) in Late Aptian interval of Eromanga Basin, Australia and in other E Cretaceous basins at high paleolatitudes. Ikaite precipitation in marine environment requires cold temperatures (<4°C), high alkalinity, etc.)

Deng, H. & K. McClay (2020)- Tectono-stratigraphy of the Dampier Sub-basin, North West Shelf of Australia. In: K.R. McClay & J.A. Hammerstein (eds.) Passive margins: tectonics, sedimentation and magmatism, Geological Society, London, Special Publ. 476, p. 259-285.

(Dampier Sub-basin inboard rift system of N Carnarvon Basin with two phases of continental rifting: Late Paleozoic and latest Triassic- Late Jurassic. Six tectono-stratigraphic megasequences)

Deng, H., K. McClay & C. Belgarde (2022)- Low-angle normal faults on the NW Shelf of Australia: Implications for Late Paleozoic rifting. *Tectonics* 41, 6. e2021TC007088, p. 1-29.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2021TC007088>)

(Late Paleozoic rifting with low-angle normal faults (dip < 30°) on NW Shelf of Australia formed wide basin that fundamentally controlled subsequent Mesozoic continental rifting and passive margin development. A warm to hot footwall enabled middle-lower crustal flow during Late Paleozoic (mainly Permian?) continental rifting, likely induced by S-ward subduction of Paleo-Tethys Ocean)

Deng, H., K. McClay, H. Chen, E. Finch, D. Jablonski & S. Jitmahantakul (2024)- Structural inheritance controls crustal-scale extensional fault-related folding in the Exmouth and Dampier Sub-basins, North West Shelf, Australia. *American Assoc. Petroleum Geol. (AAPG) Bull.* 108, 7, p. 1291-1326

(Exmouth and Dampier Sub-basins primarily controlled by crustal-scale faults that separate different crustal entities of Pilbara craton/Capricorn orogen and Exmouth Plateau. Faults first formed during late Paleozoic rifting and were reactivated during Late Triassic- Late Jurassic rifting. Etc.)

De Ruig, M.J., M. Trupp, D.J. Bishop, D. Kuek, D.A. Castillo (2000)- Fault architecture and the mechanics of fault reactivation in the Nancarrow Trough/Laminaria area of the Timor Sea, northern Australia. *Australian Petroleum Production Exploration Association (APPEA) J.* 40, 1, p. 174-193.

Dettmann, M.E & G. Playford (1969)- Palynology of the Australian Cretaceous: a review. In: K.S.W. Campbell (ed.) *Stratigraphy and Palaeontology, Essays in honour of Dorothy Hill*, Australian National University Press, Canberra, p. 174-210.

DiCaprio, L., M. Gurnis & D. Muller (2009)- Long-wavelength tilting of the Australian continent since the Late Cretaceous. *Earth Planetary Science Letters* 278, p. 175-185.

(Global sea level and pattern of marine inundation on Australian continent are inconsistent, partly due to anomalous downward tilting of continent to NE by 300m since Eocene. Tilting occurred as Australia approached subduction systems in SE Asia and is recorded by progressive inundation of N margin. Mantle convection induced topography may be of same magnitude as global sea level change)

Dickins, J.M. (1978)- Climate of the Permian in Australia: the invertebrate faunas. *Palaeogeogr. Palaeoclim. Palaeoecology* 23, p. 33-46.

*(Permian climate stages in Australia: A (Sakmarian) cold water from present latitude 20° S-wards. Faunas associated with glacial deposits low diversity with *Deltapecten*, *Eurydesma*, *Keeneia* and *Trigonotreta*. Ends with eustatic rise in sea level; B (Sakmarian- E Artinskian) cool, with entry of Tethyan forms (*Spiriferella*, etc.). *Eurydesma* and *Keeneia* persist in E Australia; C- D (Artinskian-Kungurian) slow warming in W Australia; Stage F (latest Permian) Tethyan faunas, incl. *Leptodus* in N, indicating tropical temperatures)*

Dickins, J.M., J. Roberts & J.J. Veevers (1969)- Permian and Mesozoic Geology of the Northeastern Part of the Bonaparte Gulf Basin. *Geological Papers 1969*, Bureau Mineral Resources Geology Geophysics (BMR), Bull. 125, p. 75-93.

(online at: www.ga.gov.au/corporate_data/125/Bull_125.pdf)

Direen, N.G., H.M.J. Stagg, P.A Symonds & J.B. Colwell (2008)- Architecture of volcanic rifted margins: new insights from the Exmouth- Gascoyne margin, Western Australia. *Australian J. Earth Sciences* 55, p. 341-363.

(Outer continental margin of Exmouth Plateau, adjacent to Gascoyne Abyssal Plain, developed in E Cretaceous as volcanic-rifted margin during breakup between W Australia and India. New broad, dense and magnetised volcanic-margin transitional crust zone with seaward-dipping reflectors developed between outer rifted continental crust of Exmouth Plateau and true oceanic crust (see also Rey et al. (2008))

Di Toro, G.A.E. (1995)- Angel Formation turbidites in the Wanaea field area, Dampier Sub-basin, North-West Shelf, Australia. In: K.T. Pickering et al. (eds.) *Atlas of deep water environments*, Springer, Dordrecht, p. 260-266.

(Angel Fm sand-dominated submarine fan sequence deposited through most of Dampier subbasin. U Jurassic (Tithonian) age and in Wanaea area structureless sandstones interbedded with argillaceous siltstones)

Dixon, M. & D.W. Haig (2004)- Foraminifera and their habitats within a cool-water carbonate succession following glaciation, Early Permian (Sakmarian), Western Australia. *J. Foraminiferal Research* 34, 4, p. 308-324.

Dixon, T.E. (2013)- Palynofacies and palynological analysis of Late Triassic sediments from the Kentish Knock-1 well (Northern Carnarvon Basin): reconstruction of vegetation history, interpretation of climate and sea level changes and placement in regional zonation. M.Sc. Thesis, University of Oslo, p. 1-54.

(online at: <https://www.duo.uio.no/bitstream/handle/10852/35834/Masterxthesis-TxDixon.pdf?sequence=1>)

(*Palynology of 2310m -2355m interval, Late Triassic Mungaroo Fm, of Kentish Knock-1 well, distal Australia NW shelf*)

Dolby, J.H. & B.E. Balme (1976)- Triassic palynology of the Carnarvon Basin, Western Australia. *Review Palaeobotany Palynology* 22, p. 105-168.

(*Five Triassic palynological assemblage zones in wells from Carnarvon Basin: I. Kraeuselisporites saeptatus (Griesbachian-Smithian), II. Tigrisporites playfordii (Smithian-Anisian), III. Staurosaccites quadrifidus (Anisian-Carnian), IV. Samaropollenites speciosus (Carnian) and V. Minutosaccus crenulatus (Carnian-Norian). Provincialism in M-L Triassic floras:(1) Onslow microflora on NW Shelf, with mixed Gondwanan-European elements. (2) Ipswich microflora: less diverse Falcisporites-dominated assemblages in E and S Australia; European elements not present*)

Dore, A.G. & I.C. Stewart (2002)- Similarities and differences in the tectonics of two passive margins: the Northeast Atlantic Margin and the Australian North West Shelf. In: M. Keep & S. Moss (eds.) *The sedimentary basins of Western Australia 3*, Proc. West Australian Basin Symposium, Petroleum Exploration Society Australia (PESA), Perth, p. 89-117.

(*Regional review and plate reconstructions of Australian NW shelf*)

Driscoll, N.W. & G.D. Karner (1998)- Lower crustal extension across the Northern Carnarvon Basin, Australia: evidence for an eastward dipping detachment. *J. of Geophysical Research: Solid Earth* 103, B3, p. 4975-4991.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/97JB03295>)

(*N Carnarvon basin 4 extension events:(1) broadly distributed late Permian event, (2) localized Rhaetian event responsible for inception of Barrow and Dampier subbasins, (3) localized Callovian fault reactivation in Barrow-Dampier subbasins and (4) Tithonian-Valanginian event that generated large post-Valanginian regional subsidence across N Carnarvon basin with only minor brittle deformation and erosional truncation. (4) requires significant lower crustal and mantle extension across N Carnarvon, implying existence of E-dipping, intracrustal detachment with ramp-flat-ramp geometry, effectively thinning lower crust and lithospheric mantle. Detachment breached surface close to continent-ocean boundary W of Exmouth Plateau. Flat component of detachment at mid-crustal depths (~15 km) across plateau and ramped beneath Australian continent. Lower crustal ductile extension viable mechanism to generate large regional subsidence with little upper crustal brittle deformation*)

Duddy, I.R., P.F. Green, H.J. Gibson & K.A. Hegarty (2004)- Regional palaeo-thermal episodes in northern Australia. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geological Survey, p. 125-142.

(*Kilometer-scale uplift and erosion in Late Triassic-E Jurassic is major feature of E onshore Canning Basin, corresponding to structuring associated with Fitzroy Movement (White Hills 1 well geohistory curve suggests 2500 m of uplift and erosion between 230 and 180 Ma)*)

Dumont, T. (1992)- Upper Triassic (Rhaetian) sequences of the Australian Northwest Shelf recovered on Leg 122: sea-level changes, Tethyan rifting, and overprint of Indo-Australian breakup. In: U. Von Rad, B.U. Haq et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results 122*, p. 197-211.

(*U Triassic shallow-marine sediments recovered in N part of Exmouth Plateau (Wombat Plateau), a few km from continent/ocean boundary. Capped by erosional post-rift unconformity with 80 My hiatus. Youngest sediments below post-rift unconformity Rhaetian platform limestones. Rhaetian series two shallowing-upward sequences. Many similarities between Wombat U Triassic and European Tethyan Mesozoic*)

Durrant, J.M., R.E. France, M.V. Dauzacher & T. Nilsen (1990)- The southern Bonaparte Gulf basin; new plays. *The Australian Petroleum Exploration Assoc. (APEA) Journal* 30, 1, p. 52-67.

Dyksterhuis, S. & R.D. Muller (2008)- Cause and evolution of intraplate orogeny in Australia. *Geology (GSA)* 36, 6, p. 495-498.

Dyksterhuis, S., R.D. Muller & R.A. Albert (2005)- Paleostress field evolution of the Australian continent since the Eocene. *J. of Geophysical Research* 110, B05102, p. 1-13.

(Reconstructions of plate boundary configuration and age-area distribution of ocean crust around Australia since Eocene to obtain estimates for ridge push, slab pull, and collisional forces acting on Indian-Australian plate. Stress directions over N Australian continent in E Miocene different from present stress directions. Orientations in E Eocene controlled mainly by ridge push from spreading in Wharton Basin in Indian Ocean)

Dyson, I.A. (1998)- Stratigraphy and sedimentology of the *M. australis* sandstone, Barrow and Dampier sub-basins. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia 2*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, p. 503-512.

(Lower Cretaceous glauconitic sandstone in M. australis palynozone Barrow and Dampier sub-basins of Carnarvon Basin. Shallow marine/valley fill facies, three depositional sequences, part of retrogradational set)

Edgerley, D.W. (1974)- Fossil reefs of the Sahul Shelf, Timor Sea. In: A.M. Cameron et al. (eds.) *Proc. 2nd International Coral Reef Symposium*, 2, Great Barrier Reef Committee, Brisbane, p. 627-637.

(Sahul Shelf in Timor Sea, NW Australia, with numerous drowned reefs. Area once was region of prolific reef growth comparable to Great Barrier Reef. Incl. chain of reefs at continental shelf edge, rising from <300m, in area from Ashmore Reef to Sahul Shoal to Echo Shoal ('broken barrier' of Fairbridge 1950). Etc.)

Edwards, D.S., C.J. Boreham, J. Chen, E. Grosjean, A.J. Mory, J. Sohn & J.E. Zumberge (2013)- Stable carbon and hydrogen isotopic compositions of Paleozoic marine crude oils from the Canning Basin; comparison with other west Australian crude oils. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia IV*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p.

(Oils at Cudalgarra 1, Dodonea 1 and Pictor 2 generated by several G. prisca-rich Ordovician source rocks. Oils at Blina and Janpam N 1 derived from Devonian source rock in Fitzroy Trough. Majority of produced oils from Lennard Shelf from E Carboniferous source rocks in Fitzroy Trough)

Edwards, D.S., J.M. Kennard, J.C. Preston, R.E. Summons et al. (2000)- Bonaparte Basin; geochemical characteristics of hydrocarbon families and petroleum systems. *AGSO Research Newsletter* 33, p. 14-19.

(Bonaparte Basin explored for >20 years, with oil production from several fields (Jabiru, Challis-Cassini, Laminaria-Corallina, Elang and the depleted Skua field) and proposed production from giant gas/condensate fields (Bayu-Undan, Sunrise-Loxton Shoals-Troubadour, Petrel-Tern). Two Paleozoic and seven Mesozoic oil families can be identified)

Edwards, D.S., J.M. Kennard, J.C. Preston, C. Boreham et al. (2001)- Geochemical evidence for numerous Mesozoic petroleum systems in the Bonaparte and Browse basins, northwestern Australia. *AAPG 2001 Annual Meeting*, p. 55-56. (Abstract)

(Nine distinct oil families. Two Paleozoic in Petrel Sub-basin. U Jurassic in Swan Graben sourced majority of oils produced from Vulcan Sub-basin. In ZOCA three oil families: (1) mixed marine-terrestrial in Jurassic-Cretaceous Plover, Elang, Frigate Fms and Flamingo Group, (2) condensate from Sunrise-1 with marine carbonate biomarker signature, (3) oils in fractured Darwin Fm marine signature; from Cretaceous Echuca Shoals Fm and related to Browse Basin Cornea and Gwydion oils. Three families of oils with dominant terrestrial organic matter over Browse and Bonaparte Basins and in transition zone. One can be mapped to E-M Jurassic Plover Fm. This system is least understood but wide geographic distribution.)

Edwards, D.S., J.C. Preston, J.M. Kennard et al. (2003)- Geochemical characteristics of hydrocarbons from the Vulcan Sub-basin, western Bonaparte Basin, Australia. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geological Survey, p. 169-200.

(online at: www.ret.gov.au/resources/...)

(Two end-members of oils in Jurassic Vulcan basin, Australia NW Shelf: (1) marine source, tied to Oxfordian Lower Vulcan; (2) terrigenous, tied to fluvio-deltaic shales/ coals, probably E-M Jurassic Middle Plover Fm)

Edwards, D.S., R.E. Summons, J.M. Kennard et al. (1997)- Geochemical characteristics of Palaeozoic petroleum systems in northwestern Australia. Australian Petroleum Production Exploration Association (APPEA) J. 37, p. 351-379.

Ellis, G. (1993)- Late Aptian-Early Albian radiolarian biostratigraphy and palaeoceanography of the Windalia radiolarite (type section), Camarvon Basin, Western Australia. *Eclogae Geologicae Helveticae* 86, p. 943-995.

(online at: <http://dx.doi.org/10.5169/seals-167268>)

(Late Aptian (-E Albian?) widespread marine transgression inundated Australia, with extensive radiolarian-rich facies like Windalia Radiolarite in Carnarvon Basin. Type section ~35m thick, with ammonites and belemnites, and with 59 radiolarian taxa, many recorded previously from Tethyan regions. Assemblages dominated by few non-Tethyan forms (Arachnosphaera exilis, etc.), considered to be endemic elements of 'Austral' faunal realm. (incl. Tan Sin Hok- Roti species Artocapsa ultima, Hemicryptocapsa capita, Ellipsoxiphus? rugosa, etc.))

Ellis, G.J., A. Pitchford & R.H. Bruce (1999)- Barrow island oil field. Australian Petroleum Production Exploration Association (APPEA) J. 39, 1, p. 158-175.

Erskine, R.D. & P.R. Vail (1988)- Seismic stratigraphy of the Exmouth Plateau. In: A.W. Bally (ed.) Atlas of seismic stratigraphy, American Assoc. Petroleum Geol. (AAPG), Studies in Geology 2, p. 163-173.

(Exmouth Plateau with >2000m thick nonmarine- marginally marine Triassic section, overlain by thin, marine latest Triassic (Rhaetian) to Jurassic section. Thin Jurassic section overlain by >1500m thick Berriasian-Valanginian-age clastic wedge that progrades from SE to NW, overlain by thin Hauterivian-Aptian glauconitic sands on shelf. Overlying Aptian-Tertiary section consists of fine-grained deep marine marls)

Etheridge, M.A. & G.W. O'Brien (1994)- Structural and tectonic evolution of the Western Australian margin basin system. Petroleum Exploration Society Australia (PESA) Journal 22, p. 45-63.

(Major NW-SE extension in Late Carboniferous- E Permian under much of W Australian margin, thinning crust from ~40 km to 5-20 km (i.e. 100-500% extension) below much of subsequent Mesozoic basins and present shelf. Inversions of Goulburn Graben in Arafura Sea (major angular unconformity between E Permian (Asselian) and Jurassic, and 4-4.5 km of uplift and erosion), most likely during latest Triassic- E Jurassic 'Fitzroy Movement', driven by major Gondwanan plate readjustment. Sense of Fitzroy Movement consistent with N to NNW-directed compression, perhaps with total shortening of 2-5%)

Exon, N.F. & J.B. Colwell (1994)- Geological history of the outer North West Shelf of Australia: a synthesis. AGSO J. Australian Geology Geophysics 15, p. 177-190.

(online at: www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf)

(Outer continental margin of NW Australia (N Exmouth Plateau- Rowley Terrace) was stretched in Late Paleozoic, and subsided to form part of Westralian Superbasin on S margin of Tethys. Basin filled with thick Triassic and variable thicknesses of Jurassic sediments, before progressive breakup in Callovian-Valanginian. Late Triassic mainly fluvio-deltaic with outer shelf, carbonates including reefal buildups on what is now N Exmouth Plateau and Rowley Terrace. Rift volcanics in areas of future breakup, in latest Triassic and earliest Jurassic. Late Middle Jurassic thermal uplift and erosion prior to breakup of Gondwana in N, and major period of faulting and rift volcanism. Callovian breakup led to genesis of Argo Abyssal Plain)

Exon, N.F., J.B. Colwell, P.E. Williamson & M.T. Bradshaw (1991)- Reefal complexes in Mesozoic sequences: Australia's North West Shelf region. Proc.20th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, p. 51-66.

(Triassic- Early Jurassic carbonate buildups in outer zones of Australia NW Shelf (Wombat Plateau, Rowley margin, etc.) on seismic and in dredge samples. Equivalent rocks possibly in E Indonesia)

Exon, N.F. & D.C. Ramsay (1990)- Distribution of Triassic reefs in the northern Exmouth Plateau and offshore Canning Basin. Bureau Mineral Resources Geology Geophysics, Record 1990/17, p. 1-50.

(online at: https://d28rz98at9flks.cloudfront.net/14309/Rec1990_017.pdf)

(ODP Site 764 demonstrated Rhaetian (Latest Triassic) reefs in N of Exmouth Plateau area, and indicates suitable conditions for reefal development on NW Shelf)

Exon, N.F., U. Ruhl, J.B. Colwell & B.B. West (1992)- Mesozoic reef complexes in the Carnarvon and Canning Basins, Australia. AAPG International Conference, Sydney 1992, Search and Discovery Article 91015 (*Abstract only*)

(ODP Leg 122 cored 200m of Late Triassic reefal carbonates in Site 764 on N Exmouth Plateau Later dredging by BMR showed common reef buildups and shelf carbonates in Late Triassic of N Carnarvon and W Canning basins. Seismic from N Carnarvon indicate reefs first became established in Rhaetian, when paleolatitude was 25-30° S, and may have persisted until Callovian when area had moved to 35-40° S. Large number of buildups identified in N Carnarvon S of ODP sites, presumed to be Jurassic buildups, sitting on horst blocks of Triassic fluvio-deltaic sediments, commonly several 100m thick, 2 km wide, >10 km long)

Exon, N.F. & U. Von Rad (1994)- The Mesozoic and Cainozoic sequences of the Northwest Australian margin, as revealed by ODP core drilling and related studies. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1994, p. 181-200.

(Results of ODP legs 122 and 123, coring six sites on Exmouth and Wombat plateaus, and two sites on abyssal plains nearby. U Triassic sequence cored on Wombat Plateau consists ~600m of marine Nd-prograding Carnian-Norian fluvio-deltaic sediments (Mungaroo Fm), and 300m of Rhaetian reefal and lagoonal carbonates. Major thermal uplift, faulting and erosion (and volcanism in outer Canning Basin) preceded Callovian-Oxfordian breakup that led to Argo Abyssal Plain formation (155 Ma by K/ Ar age of oldest oceanic crust at Site 765. Etc.)

Exon, N.F., U. Von Rad & U. Von Stackelberg (1982)- The geological development of the passive margins of the Exmouth Plateau off Northwest Australia. Marine Geology 47, p. 131-152.

(Exmouth Plateau large sunken continental block off NW Shelf, formed during Mesozoic breakup of Australia and Greater India. N margin formed in Callovian (155 Ma), when continental fragment moved off to NW. Early rift Late Triassic-E Jurassic volcanics (213-192 Ma) over thick Triassic paralic sequence. N of E-W hinge line several 1000m of E-M Jurassic pre-breakup carbonates and coals. Breakup along series of rifted and sheared segments, with NE-trending Callovian horsts and grabens. Horsts planed off in Late Jurassic- E Cretaceous. Margin was covered by few 100m of Late Cretaceous- Cenozoic pelagic carbonate as it sank to present depth of 2000-2500m. NE-trending West margin formed by Neocomian (120-125 Ma) rifting, as India moved off to NW. Triassic paralic sequence unconformably overlain by thin Late Jurassic and younger marine beds, indicating area was high in E-M Jurassic. NW South margin formed by shearing in Neocomian. Thick Triassic paralics unconformably overlain by thick Late Jurassic-Neocomian delta, suggesting area was high in E-M Jurassic, but depocenter before and after)

Exon, N.F. & J.B. Willcox (1980)- The Exmouth Plateau: stratigraphy, structure and petroleum potential. Bureau Mineral Resources Geology Geophysics (BMR), Bull. 199, p. 1-52.

(online at: www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=52)

(Exmouth Plateau and adjacent lower continental slopes in water depths of 800-5000m, off NW Shelf petroleum province. Crust ~20 km thick, with 5 km of Paleozoic and 5 km of Mesozoic and younger beds over Precambrian basement. Major Late Triassic unconformity separates block-faulted older sediments from gently warped younger ones. In Paleozoic and most of Mesozoic area was embayment of Tethys, with deposition of paralic and shallow marine clastics. In Late Cretaceous-Cenozoic carbonate deposition was dominant)

Exon, N.F., P.E. Williamson, U. von Rad, B.U. Haq & S. O'Connell (1989)- Ocean drilling finds Triassic reef play off N.W. Australia. Oil and Gas Journal, Oct. 30, p. 46-52.

(Site 764 of Leg 122 of Ocean Drilling Program cored 200m of U Triassic (Rhaetian) reef complex off N margin of Exmouth plateau)

Eyles, C.H. & N. Eyles (2000)- Subaqueous mass flow origin for Lower Permian diamictites and associated facies of the Grant Group, Barbwire Terrace, Canning Basin, Western Australia. Sedimentology, 47, p. 343-356.

Eyles, C.H., A.J. Mory & N. Eyles (2003)- Carboniferous- Permian facies and tectono-stratigraphic successions of the glacially influenced and rifted Carnarvon Basin, Western Australia. *Sedimentary Geology* 155, p. 63-86.
(Carnarvon Basin of W Australia is rift basin with up to 5 km late Carboniferous- E Permian glacially influenced marine sedimentary strata, accumulated along uplifted and glaciated margin of Pilbara Craton. Three stratigraphic successions: (I) rapidly deposited (30m/Ma) glacially influenced marine strata (Lyons Group, with Westphalian- E Sakmarian palynomorphs); (II) Callythara and Cordalia Fm fossiliferous shales recording reduced sedimentation rates; (III) Moogooloo Sst)

Eyles, N. & P. de Broekert (2001)- Glacial tunnel valleys in the Eastern Goldfields of Western Australia cut below the Late Paleozoic Pilbara ice sheet. *Palaeogeog., Palaeoclim., Palaeoecol.* 171, p. 29-40.

Eyles, N., C.H. Eyles, S.N. Apak & G.M. Carlsen (2001)- Permian- Carboniferous tectono-stratigraphic evolution and petroleum potential of the northern Canning basin, Western Australia. *American Assoc. Petroleum Geol. (AAPG) Bull.* 85, 6, p. 989-1006.

Eyles, N., C.H. Eyles & A.D. Miall (1983)- Lithofacies types and vertical profile models; an alternative approach to the description and environmental interpretation of glacial diamict and diamictite sequences. *Sedimentology* 30, p. 393-410.

Eyles, N., A.J. Mory & J. Backhouse (2002)- Carboniferous- Permian palynostratigraphy of West Australian rift basins: resolving tectonic and eustatic controls during Gondwanan glaciations. *Palaeogeogr. Palaeoclim. Palaeoecology* 184, p. 305-319.

(Late Carboniferous- E Permian up to 2-3 km thick glacially-influenced siliciclastic successions in 7 NW Australia basins (Bonaparte, Canning, Carnarvon, Collie, N and S Perth). Tripartite successions of glacial-deglaciation cycles (diamictite/ shale/ sandstone) of different ages and marked variations in thickness. Tectonostratigraphic model and palynological zonation chart)

Eyles, N., A. Mory & C.H. Eyles (2006)- A 50-million year-long record of glacial to post-glacial marine environments preserved in a Carboniferous- Lower Permian graben, Northern Perth Basin, Western Australia. *Journal of Sedimentary Research* 76, 3-4, p. 618-632.

(Perth Basin intracratonic rift with 12 km Carboniferous- Cretaceous. M Carboniferous- Lower Permian (Serpukhovian-Kungurian, ~50 My) 2 km glacially influenced marine strata recording transition from glacial to postglacial conditions at high (70°) paleolatitudes. Thickness reflects abundant supply of sediment from adjacent ice-covered Yilgarn Craton and continued subsidence along Darling-Urella fault system. Sedimentology highlights key role of glacial meltwaters rather than direct glacial processes)

Fairbridge, R.W. (1953)- The Sahul Shelf, northern Australia: its structural and geological relationships. *J. Royal Society Western Australia* 37, p. 1-33.

(Discussion of Sahul Shelf between Timor Trough- N Australia. Shelf edge abnormally deep, around 550m, much shallower than Sunda Shelf edge. Shelf terraces at 3-5, 10-15, 25-30 and 55-60 fathoms (1 fathom= 1.83m). Isolated coral reefs at edges of shelf and shelf terraces. Includes brief discussion of geology of Aru Islands)

Falvey, D.A. & J.C. Mutter (1981)- Regional plate tectonics and the evolution of Australia's passive continental margins. *BMR J. Australian Geology Geophysics* 6, p. 1-29.

(Passive continental margins around Australia evolved through progressive dissection of E Gondwanaland in five episodes, starting at 155 Ma off NW Australia, 120 Ma in SW, 80 Ma in SE, 65 Ma in NE, and 55 Ma S of Australia. Breakup/ seafloor spreading preceded by sedimentary basin subsidence in fault-bounded rifts, starting 40-50 My before breakup. Such rifting often preceded by broader, intra-cratonic style basin subsidence 50-100 My before breakup. Post breakup subsidence rapid, but sedimentation usually interrupted by submarine erosion in shallow rapidly subsiding ocean basin)

Forman, D.J. & D.W. Wales (1981)- Geological evolution of the Canning Basin, Western Australia. *Bureau Mineral Resources Geology Geophysics, Bull.* 210, p. 1-91.

(online at: https://s3-ap-southeast-2.amazonaws.com/corpdata/60/Bull_210.pdf)

Foster, C.B. & J.B. Waterhouse (1988)- The *Granulatisporites confluens* Opper-zone and early Permian marine faunas from the Grant Formation of the Barbwire Terrace, Canning Basin, Western Australia. Australian J. Earth Sciences 35, p. 135-157.

(Diverse plant microfossil assemblage in core of marine, glaciogene Grant Fm in Canning Basin with 68 palynomorph species (ferns, lycophods, gymnosperms and algae). Assemblage assigned to Granulatisporites confluens Opper-zone (first described from Argentina, also in India, Africa and Antarctica). Associated marine fauna diverse, with 20 species of molluscs and brachiopods. Presence of Strophalosia cf. subcircularis links to younger Asselian faunas of E and S Australia and India. G. confluens zone assemblages also known from offshore Bonaparte, Collie and Troubridge Basins (Late Asselian- Sakmarian?))

Frankowicz, E. & K.R. McClay (2010)- Extensional fault segmentation and linkages, Bonaparte Basin, outer North West Shelf, Australia. American Assoc. Petroleum Geol. (AAPG) Bull. 94, 7, p. 977-1010.

FROG Tech Pty (2005)- OZ SEEBASE Study 2005. Public Domain report to Shell Development Australia.

(online at: www.frogtech.com.au/ozseebase-details/)

(GIS and PDF versions of extensive study of Australia Basement geology, terranes, tectonic history and basins)

Fuji, T., G.W. O'Brien, P. Tingate & G. Chen (2004)- Using 2D and 3D basin modelling to investigate controls on hydrocarbon accumulation in the Vulcan sub-basin, Timor Sea, Northwestern Australia. Australian Petroleum Production Exploration Association (APPEA) J. 2004, p. 93-122.

Gaina, C., R.D. Muller, B.J. Brown & T. Ishihara (2003)- Microcontinent formation around Australia. Geological Society Australia Special Publ. 22, p. 399-410. *(also in Geological Society of America, Special Paper 372, p. 405-416)*

Microcontinents of Australian origin in Tasman Sea and Indian Ocean include E Tasman Rise, Gilbert Seamount, Seychelles, Elan Bank (Kerguelen Plateau), possibly fragments of Lord Howe Rise and Norfolk Ridge, Wallaby Plateau. Tasman Sea continental fragments formed by ridge jumps onto adjacent continental margins after sea-floor spreading in S Tasman Sea commenced. E Tasman Plateau separated from Lord Howe Rise at ~83 Ma. Most microcontinents formed by re-rifting of young continental margin in vicinity of mantle plume stem. Weak inner flank of rifted margin weakens further when passing over mantle plume, causing nearby spreading ridge to jump onto this zone of weakness, isolating passive margin segment and leaving narrow passive margin behind)

Gardner, R.L., N.R. Daczko, J.A. Halpin & J.M. Whittaker (2015)- Discovery of a microcontinent (Gulden Draak Knoll) offshore Western Australia: implications for East Gondwana reconstructions. Gondwana Research 28, 3, p. 1019-1031.

(Dredged samples from Gulden Draak Knoll show it is rifted continental fragment at boundary between W Perth Abyssal Plain and Wharton Basin, Indian Ocean. Comprises granulite facies basement with Cambrian granite)

Gartrell, A.P. (2000)- Rheological controls on extensional styles and the structural evolution of the Northern Carnarvon Basin, North West Shelf, Australia. Australian J. Earth Sciences 47, p. 231-244.

(online at: https://web.archive.org/web/20060906220633id_/http://www.geosci.usyd.edu.au/users/prey/Teaching/Geos-3003/geos3003papers/Extension/Gartrell_Car_Basin_NwshelfAus_AJES2000.pdf)

(Extensional architecture of N Carnarvon Basin can be explained in terms of changes in lithospheric rheology during multiphase extension and lower crustal flow)

Gartrell, A.P., M. Keep, C. van der Riet, L. Paterniti, S. Ban & S. Lang (2022)- Hyperextension and polyphase rifting: Impact on inversion tectonics and stratigraphic architecture of the North West Shelf, Australia. Marine and Petroleum Geology 139, 105594, p. 1-16.

(Restoration of deep seismic lines across Australia's NW Shelf indicates changes in rifting style during multiple phases of extension and continental breakup. Neo-Proterozoic and Early Paleozoic rifting characterised by low-angle detachment faults, crustal-scale necking and hyperextension of crust (Metamorphic Core Complex mode), localised over Proterozoic orogenic belts adjacent to major cratonic blocks. Late Paleozoic and Mesozoic extension reactivated these low-angle rift fault systems. Narrow rift basins also began forming due to changes in

rheological architecture of lithosphere following previous extension, crustal thinning and post-rift cooling. Wide rift mode extension may have occurred prior to, or in conjunction with, development of narrow rifts in N Carnarvon and Browse basins. Extension progressively localised into narrow rift basins, which in some cases, matured into seafloor spreading centers, typically outboard of major low-angle detachment fault systems)

Gartrell, A.P. & M. Lisk (2005)- Potential new method for paleostress estimation by combining three-dimensional fault restoration and fault slip inversion techniques: first test on the Skua Field, Timor Sea. In: P. Boulton & J. Kaldi (eds.) Evaluating fault and cap rock seals, AAPG Hedberg Series 2, p. 23-36.
(Fault restorations suggest stress regime responsible for Late Miocene fault activity near Skua oil field in Timor Sea differs from present-day stress regime. Late Miocene extensional regime, present-day transtensional stress regime. Widespread late Tertiary extensional faulting, decreasing fault activity to present day. Most hydrocarbon leakage associated with fault reactivation in present-day stress regime)

Gartrell, A., M. Lisk & J.R. Underschlutz (2002)- Controls on the trap integrity of the Skua oil field, Timor Sea. In: M. Keep & S.J. Moss (eds.)- The sedimentary basins of Western Australia 3, Proc. West Australian Basins Symposium, Perth 2002, p. 389-407.
(Fill-spill model for Skua oil field challenges importance of Mio-Pliocene fault reactivation as principal control on trap integrity. Restoration shows important role of pre-existing fault intersections)

Gartrell, A., J. Torres, M. Dixon & M. Keep (2016)- Mesozoic rift onset and its impact on the sequence stratigraphic architecture of the Northern Carnarvon Basin. The APPEA Journal 2016, p. 143-158.
*(online at: https://www.researchgate.net/profile/Anthony-Gartrell/publication/319229663_Mesozoic_rift_Etc.)
(Ages proposed for onset of rifting in N Carnarvon Basin vary from Late Triassic to E Jurassic. Seismic sections from Exmouth Sub-basin and outer Exmouth Plateau demonstrate significant growth strata and displacement on normal faults starting at least at base of R. rhaetica zone (Rhaetian))*

Gartrell, A., Y. Zhang, M. Lisk & D. Dewhurst (2004)- Enhanced hydrocarbon leakage at fault intersections: an example from the Timor Sea, Northwest Shelf, Australia. J. Geochemical Exploration 78-79, p. 361-365.

Gartrell, A., Y. Zhang, M. Lisk & D. Dewhurst (2004)- Fault intersections as critical hydrocarbon leakage zones: integrated field study and numerical modelling of an example from the Timor Sea, Australia. Marine and Petroleum Geology 21, 9, p. 1165-1179.

Geological Survey Western Australia (2006)- Summary of petroleum prospectivity, Western Australia 2006: Bonaparte, Bight, Canning, Officer, Perth, Northern Carnarvon, and Southern Carnarvon Basins. Western Australia Geological Survey, p. 1-34.
(Available online; high-level overview of W. Australia activity and discoveries)

George, A.D. & N. Chow (2002)- The depositional record of the Frasnian/Famennian boundary interval in a fore-reef succession, Canning Basin, Western Australia. Palaeogeogr. Palaeoclim. Palaeoecology 181, 1-3, p. 347-374.

George, A.D., K.M. Trinajstić & N. Chow (2009)- Frasnian reef evolution and palaeogeography, SE Lennard Shelf, Canning Basin, Australia. In: P. Koenigshof (ed.) Devonian change: case studies in palaeogeography and palaeoecology, Geological Society, London, Special Publ. 314, p. 73-107.
(Frasnian (Devonian) reef complexes of SE Lennard Shelf, N Canning Basin, developed on tilt-block highs and evolution was controlled by fault-related subsidence)

George, S.C., M. Ahmed, K. Liu & H. Volk (2004)- The analysis of oil trapped during secondary migration. Organic Geochemistry 35, p. 1489-1511.

Geoscience Australia (2010)- Regional geology of the northern Carnarvon Basin. Offshore Petroleum acreage release, p. 1-24.
(online at: www.ret.gov.au/Documents/par/geology/carnarvon/documents/Northern%20Carnarvon%20Basin%20REGIONAL%20geology.pdf)

Ghori, K.A.R., A.J. Mory & R.P. Iasky (2005)- Modeling petroleum generation in the Paleozoic of the Carnarvon Basin, Western Australia: implications for prospectivity. American Assoc. Petroleum Geol. (AAPG) Bull. 89, p. 27-40.

(Modeling of Paleozoic succession in Carnarvon Basin shows potential source rock intervals reached maximum generation- migration in Carboniferous-Permian. Best Paleozoic oil-prone source beds thin beds in carbonate-dominated Silurian- Devonian on Gascoyne Platform, but Devonian source beds restricted to N parts. Maturity increases from immature in S-SE to mature in N-NW. Best gas-prone source in Lower Permian of Merlinleigh Subbasin. Best U Permian oil-gas source beds in Peedamullah Shelf, where they are mature in NW)

Gibbons, A., J.M. Whittaker & P. Muller (2010)- Revised plate tectonic history of the West Australian margin reveals how the Gascoyne Terrane docked at West Burma. ASEG-PESA 21st Int. Geoph. Conf., Sydney 2010, p. 1-4.

Gibbons, A.D., U. Barckhausen, P. van den Bogaard, K. Hoernle, R. Werner, J.M. Whittaker & R.D. Muller (2012)- Constraining the Jurassic extent of Greater India: tectonic evolution of the West Australian margin. *Geochem. Geophysics Geosystems* 13, 5, Q05W13, p. 1-25.

(online at: <http://onlinelibrary.wiley.com/doi/10.1029/2011GC003919/epdf>)

(New model for Jurassic N extent of Greater India constrained by revised seafloor spreading anomalies, fracture zones and crustal ages based on drillsites/dredges from abyssal plains along W Australian margin and Wharton Basin, where unexpected sliver of Jurassic seafloor (153 Ma) was found embedded in Cretaceous (95 Ma) seafloor. Neotethyan sliver must have originally formed along W extension of spreading center that formed Argo Abyssal Plain, separating W extension of W Argoland/W Burma from Greater India as ribbon terrane)

Gibson-Poole, C.M., S.C. Lang, J.E. Streit, G.M. Kraishan & R.R. Hillis (2002)- Assessing a basin's potential for geological sequestration of carbon dioxide: an example from the Mesozoic of the Petrel sub-basin, NW Australia. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia* 3, Proc. West Australian Basins Symposium, Perth 2002, p. 439-462.

Giles, D., P.G. Betts & G.S. Lister (2004)- 1.8-1.5-Ga links between the North and South Australian cratons and the Early-Middle Proterozoic configuration of Australia. *Tectonophysics* 380, p. 27-41.

Glenister, B.F., C. Baker, W.M. Furnish & J.M. Dickins (1990)- Late Permian ammonoid cephalopod *Cyclolobus* from Western Australia. *Journal of Paleontology* 64, 3, p. 399-402.

(Single specimen of Cyclolobus persulcatus Rothpletz (1892) from Hardman Fm, Canning Basin. Youngest Permian ammonoid known from Australia. Originally described from W Timor Bobonaro melange, where commonly associated with type Timorites curvicostatus and other Late Permian 'Amarassi fauna')

Glenister, B.F., C. Baker, W.M. Furnish & G.A. Thomas (1990)- Additional Early Permian ammonoid cephalopods from Western Australia. *Journal of Paleontology* 64, 3, p. 392-399.

(Svetlanoceras irwinense (Teichert and Glenister, 1952), etc., from basal Callytharra Fm oldest ammonoids from Permian of Carnarvon Basin (~Sakmarian))

Glenister, B.F. & W.M. Furnish (1961)- The Permian ammonoids of Australia. *Journal of Paleontology* 35, 4, p. 673-736.

(19 species of ammonoids known from Early-Late Permian of Australia, mainly from sedimentary basins of W Australia. Agathiceras, Metalegoceras, Propinacoceras, etc. Pseudoschistoceras gigas (Smith) from Bitauini beds of Timor figured and compared with P. simile Teichert)

Glenister, B.F., F.S. Rogers & S.K. Skwarko (1993)- Ammonoids. In: S.K. Skwarko (ed.) *The palaeontology of the Permian of Western Australia*, Geological Survey of Western Australia, Perth, Bull. 136, p. 54-63.

(online at: <http://dmpbookshop.eruditetechnologies.com.au/product/palaeontology-of-the-permian-of-western-australia.do>)

(E Permian ammonoid faunas of W Australia (Perth, Carnarvon basins) strikingly provincial (tied to Boreal Realm with dominance of Metalegoceratidae and Paragastrioceratidae, and lacking Tethyan Perrinitidae). Late Permian ammonoids tend to be cosmopolitan)

Glenn, K.C. & V. Passmore (1998)- Carpenteria, Bamaga and Karumba Basins biozonation and stratigraphy 1998, Chart No.16. Geoscience Australia (AGSO), Canberra, Chart 16.
(online at: https://d28rz98at9flks.cloudfront.net/76687/Chart_16_Carpentaria_Basin.pdf)

Glenton, P.N., J.T. Sutton, J.G. McPherson, M.E. Fittall, M.A. Moore, R.G. Heavysege & D. Box (2013)- Hierarchical approach to facies and property distribution in a basin-floor fan model, Scarborough gas field, North West Shelf, Australia. In: Int. Petroleum Technology Conference (IPTC 2013), Beijing, IPTC 17037, p. 1-15.
(Scarborough gas field discovered in 1979 in Carnarvon Basin, 285 km offshore in water depths of 900-1000m, with ~16 Tcf GIP dry gas in low-relief anticline. Reservoir E Cretaceous basin-floor fan turbidite sands, sourced from N-ward-prograding Barrow Gp fluvio-deltaic system, ~50 km S of Scarborough. Reservoir interval three-tiered fan sequence. Dominant reservoir quartzose m-f-grained sandstones, largely unlithified, with porosities >30% and permeabilities of 100's-1000's mD)

Glikson, A.Y., D. Jablonski & S. Westlake (2010)- Origin of the Mt Ashmore structural dome, West Bonaparte Basin, Timor Sea. Australian J. Earth Sciences 57, 4, p. 411-430.
(Mt Ashmore dome in W Bonaparte Basin structural dome below major pre-Oligocene/post-Late Eocene unconformity and above 6km-deep-seated basement high. Microbrecciation suggest possible impact origin. Age if Mt Ashmore dome contemporaneous with Late Eocene impact cluster)

Goktas, P. (2013)- Morphologies and controls on development of Pliocene-Pleistocene carbonate platforms: Northern Carnarvon Basin, Northwest Shelf of Australia. M.Sc. Thesis, University of Texas at Austin, p. 1-72.
(online at: <https://repositories.lib.utexas.edu/handle/2152/22220>)
(Interpretation of 3D seismic data over four Plio-Pleistocene flat-topped carbonate platforms on NW Shelf)

Goktas, P., J.A. Austin, C.S. Fulthorpe & S.J. Gallagher (2016)- Morphologies and depositional/erosional controls on evolution of Pliocene-Pleistocene carbonate platforms: Northern Carnarvon Basin, Northwest Shelf of Australia. Continental Shelf Research 124, p. 63-82.

Goncharov, A. (2003)- Basement and crustal structure of the Bonaparte and Browse basins, Australian northwest margin. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 551-566.
(Basement and crustal structure of Bonaparte and Browse basins substantially different to each other. Bonaparte Basin up to 22 km of sediment, Browse Basin up to 12-14 km. Sedimentation in Bonaparte and Browse basins initiated in region with relatively thick crust. Bonaparte Basin deepest Moho directly beneath deepest basement. More typical inverse relationship between Moho topography and depth to basement is observed in Browse Basin)

Gorter, J.D. (1994)- Triassic sequence stratigraphy of the Carnarvon Basin, Western Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 397-413.
(Thirteen depositional sequences in Triassic of offshore Carnarvon Basin. Ages constrained by conodonts)

Gorter, J.D. (1998)- Revised Upper Permian stratigraphy of the Bonaparte Basin. In: The sedimentary basins of Western Australia 2. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, p. 213-228.
(Four regionally extensive Upper Permian limestones in Bonaparte Basin. Regional extent and mappability of these carbonates dictates revision of Upper Permian sequences)

Gorter, J.D. (1999)- Evidence for a widespread Late Eocene (?) meteor bombardment of the northern Bonaparte Basin, offshore northern Australia, and its effect on hydrocarbon prospectivity. Petroleum Exploration Society Australia (PESA) Journal 27, p. 25-40.

(Fohn-1 exploration well in offshore N Bonaparte basin with 350 m thick breccia lens interpreted as buried impact crater formed in late Eocene erosion surface. Trace element geochemistry includes anomalous platinum group element values, including iridium. Fohn South with raised outer rim and 30 other smaller circular features at same stratigraphic horizon may all be impact craters)

Gorter, J.D. & S.W. Bayford (2000)- Possible impact origin for the Middle Miocene (Serravallian) Puffin structure, Ashmore Platform, Northwest Australia. *Australian J. Earth Sciences* 47, 4, p. 707-714.

(Circular structure on seismic possible impact crater (but in Gorter et al. 2002 interpreted as E Miocene patch reef)

Gorter, J.D. & J.M. Davies (1999)- Upper Permian carbonate reservoirs of the North West Shelf and Northern Perth Basin, Australia. *Australian Petroleum Production Exploration Association (APPEA) J.* 39, 1, p. 343-362.

Gorter, J.D. & I. Deighton (2002)- Effects of igneous activity in the offshore northern Perth Basin- evidence from petroleum exploration wells, 2D seismic and magnetic surveys. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia* 3, Proc. West Australian Basins Symposium, Perth 2002, p. 874-899.

Gorter, J.D. & A.Y. Glikson (2000)- Origin of a late Eocene to pre-Miocene buried crater and breccia lens at Fohn-1, North Bonaparte Basin, Timor Sea: a probable extraterrestrial connection. *Meteoritics Planetary Science* 35, 2, p. 381-392.

(online at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1945-5100.2000.tb01784.x/epdf>)

(Seismic data and >350 thick, Platinum Group Elements-rich carbonate breccia lens intersected by Fohn-1 well in Timor Sea, interpreted in terms of buried 4.8 km-wide impact crater of Late Eocene- Oligocene age. Original crater at least 1400m deep)

Gorter, J.D., P.J. Jones, R.S. Nicoll & C.J. Golding (2005)- A reappraisal of the Carboniferous stratigraphy and the petroleum potential of the southeastern Bonaparte Basin (Petrel sub-basin), NW Australia. *Australian Petroleum Production Exploration Association (APPEA) J.* 2005, p. 275-295.

(Revision of latest Tournaisian- Namurian stratigraphy of Petrel sub-basin, NW Shelf)

Gorter, J.D. & A.S. Kirk (1995)- The Kimmeridgian marl in the Timor Sea: relevance to regional and geological evolution and possible hydrocarbon plays. *The APEA Journal* 35, 1, p. 152-168.

Gorter, J.D. & D.M. McKirdy, P.J. Jones & G. Playford (2003)- Reappraisal of the early Carboniferous Milligans Formation source rock system in the southern Bonaparte Basin, northwestern Australia. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geological Survey, p. 232-253.

(E-M Tournaisian and Late Devonian clastics more likely candidate for Turtle- Barnett oils than Viséan Milligans Fm)

Gorter, J.D., P.J. Jones, R.S. Nicoll & C.J. Golding (2005)- A reappraisal of the Carboniferous stratigraphy and the petroleum potential of the southeastern Bonaparte Basin (Petrel sub-basin), Northwestern Australia. *Australian Petroleum Production Exploration Association (APPEA) J.* 2005, p. 275-295.

Gorter, J., R.S. Nicoll, I. Metcalfe, R. Willink & D.Ferdinando (2009)- The Permian-Triassic boundary in Western Australia: evidence from the Bonaparte and Northern Perth basins-exploration implications. *Australian Petroleum Production Exploration Association (APPEA) J.* 2009, p. 311-334.

(Several sedimentary basins in W Australia contain Late Permian or older petroleum reservoir rocks, overlain by thick (400- 2000m) Early Triassic shaly sequences. Age of base Triassic shales re-assessed)

Gorter, J., S.E. Poynter, S.W. Bayford & A. Caudullo (2008)- Glacially influenced petroleum plays in the Kulshill Group (Late Carboniferous- Early Permian) of the southeastern Bonaparte Basin, Western Australia. *Australian Petroleum Production Exploration Association (APPEA) J.* 2008, p. 69-112.

(Glacial deposits in Lower Kulshill Group (Late Carboniferous-E Permian) in cores from onshore wells in SE Bonaparte Basin and extend at least 100 km to N. Trap oil and gas in Turtle and Barnett wells. Overlying

organic-rich Treachery Shale reflects rapid deglaciation in Granulatisporites confluens palynozone in (late Asselian-) E Sakmarian)

Gorter, J.D., J.P. Rexilius, S.L. Powell & S.W. Bayford (2002)- Late Early to Mid-Miocene patch reefs, Ashmore Platform, Timor Sea- evidence from 2D and 3D seismic surveys and petroleum exploration wells. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. West Australian Basins Symposium, Perth 2002, p. 355-375.

(Pascal 1 and Lucas 1 wells on Ashmore Platform penetrated E Miocene patch reefs with Lepidocyclina spp. Nearby seismic structures, including 'impact crater' at Puffin, also likely of reefal origin. In Lucas 1 well Late Eocene argillaceous packstone at 1090-1199 m contains abundant Operculiniids, Amphistegina, Asterigerina and common Lacazinella)

Gorter, J.D., V. Ziolkowski & S.W. Bayford (1998)- Evidence of Lower Triassic reservoirs with possible hydrocarbon charge in the southern Bonaparte Basin. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, p. 229-235.

(Sandstone interval in Lower Triassic Mt Goodwin Fm in wells in S Bonaparte Basin commonly associated with mappable seismic reflector. Seismic profiles show brightening of this event, and direct hydrocarbon indicators strongly imply presence of source rocks in pre-Triassic section).

Gradstein, F.M. (1992)- Legs 122 and 123, Northwestern Australia margin- a stratigraphic and palaeogeographic summary. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results, 123, p. 801-816.

(online at: www-odp.tamu.edu/Publications/123_SR/VOLUME/CHAPTERS/sr123_43.pdf)

Gradstein, F.M., J.N.Ludden et al. (1992)- Proceedings ODP, Scientific Results 123: Argo Abyssal Plain/Exmouth Plateau. Ocean Drilling Program, College Station, TX, p. 1-818.

Grain, S.L., W.M. Peace, E.C.D. Hooper, E. McCartain, P.J. Massara, N.G. Marshall & S.C. Lang (2013)- Beyond the deltas: Late Triassic isolated carbonate build-ups on the Exmouth Plateau, Carnarvon Basin, Western Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-19.

Grant-Mackie, J.A. (1994)- Mesozoic Bivalvia from Clerke and Mermaid Canyons, northwest Australian continental slope. AGSO J. Australian Geology Geophysics 15, 1, p. 119-125.

(online at: www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf)

(Dredge samples from 3625-4480m of Rowley Terrace contain bivalves of Tethyan affinity in Late Triassic reefal limestone (Paleocardita aff. globiformis) and E Jurassic oolitic calcarenite (Pseudopecten dugong n.sp.)

Greenhalgh, J., D. Rajeswaran & T. Paten (2015)- A new look at the prospectivity of the Caswell Sub-Basin, Australian NWS. Proc. SE Asia Petroleum Exploration Society (SEAPEX) Conference 2015, Singapore, 7.1, p. 1-22. *(Extended Abstract + Presentation)*

Grenfell, H.R. (1985)- A paleoenvironmental Analysis of the Permo-Triassic of the Bonaparte Basin, Northwest Australia, based on palynomorphs. New Zealand Geol. Survey Hornibrook Symposium p. 59-61.

Grice, K., J. Backhouse, R. Alexander, N. Marshall & G.A. Logan (2005)- Correlating terrestrial signatures from biomarker distributions, $\delta^{13}C$, and palynology in fluvio-deltaic deposits from NW Australia (Triassic-Jurassic). Organic Geochemistry 36, p. 1347-1358.

(Organic geochemistry and palynology used to establish palaeoenvironmental conditions of Triassic-Jurassic fluvio-deltaic deposits in Delambre-1 well. Changes in higher plant biomarker distributions correlate with (1) brackish water environments; (2) changes in composition of spore and pollen assemblages; (3) sedimentary facies; and (4) stable carbon isotopic composition of higher plant biomarkers. Changes are all consistent with climatic shifts in NW Australia in Late Triassic- M Jurassic. Combustion marker benzopyrene abundant in samples with Falcisporites australis pollen. Decline of F. australis and rapid emergence of Corollina spp.-

dominated assemblages marks rapid-pollen extinction event at end of Triassic. Triassic-Jurassic boundary increase in higher plant biomarkers (cadalene and simonellite) in prodeltaic facies)

Griffin, W.L., E.A. Belousova, S.R. Shee, N.J. Pearson & S.Y. O'Reilly (2004)- Archean crustal evolution in the northern Yilgarn Craton: U-Pb and Hf-isotope evidence from detrital zircons. *Precambrian Res.* 131, p. 231-282. *(U-Pb and Hf-isotope analyses of zircons from N Yilgarn Craton and adjacent Capricorn Orogen, E of Perth, W Australia. Oldest crustal components 3.7 Ga. Main zircon population around ~2700 Ma. 1.8-2.3 Ga magmatism associated with Capricorn Orogen (between Yilgarn- Pilbara cratons). 540 Ma episode in NE part of craton involved metamorphism or remelting of 2.7-3.0 Ga crust of E Goldfields Province)*

Grosjean, E., D.S. Edwards, T.J. Kuske, L. Hall, N. Rollet & J. Zumberge (2016)- The source of oil and gas accumulations in the Browse Basin, North West Shelf of Australia: a geochemical assessment. AAPG/SEG Int. Conf. Exhib., Melbourne 2015, Search and Discovery Article 10827, p. 1-39. *(Abstract + Presentation)* *(online at: www.searchanddiscovery.com/pdfz/documents/2016/10827grosjean/ndx_grosjean.pdf.html)* *(Browse Basin significant gas province with EUR 36 TCF gas and 1148 MMB condensate in Ichthys, Prelude/Concerto, Crux, etc. fields. Charged from gas-prone source rocks in E-M Jurassic Plover Fm. Oil-prone source rocks in U Jurassic Lower Vulcan and Lower Cretaceous Echuca Shoals Fms charge limited. Sub-economic oil in Browse Basin only in C Caswell sub-basin (Caswell) and on Yampi Shelf (Cornea, Gwydion), where oil-gas in Cretaceous reservoirs, derived from marine organic matter in E Cretaceous Echuca Shoals Fm)*

Grosjean, E., D.S. Edwards, N. Rollet C.J. Boreham, D. Nguyen & T. Buckler (2016)- Geochemical evidence for a new Triassic petroleum system on the western margin of Australia. *The APPEA Journal* 61, 2, p. 616-625. *(online at: https://www.researchgate.net/publication/352972700_Geochemical_evidence_for_a_new_Triassic_petroleum_system_on_the_western_margin_of_Australia)* *(Unexpected 2014 discovery of oil in M Triassic of Phoenix South 1 well (and 2018 Dorado Field) in Bedout subbasin of Roebuck Basin on NW Shelf marks new Triassic petroleum system)*

Gunn, P.J. (1988)- Bonaparte Basin: evolution and structural framework. In: P.G & R.R. Purcell (eds.) *The Northwest Shelf, Australia*. Petroleum Exploration Society Australia (PESA), p. 275-285.

Gurnis, M., M. Kominz & S. Gallagher (2020)- Reversible subsidence on the North West Shelf of Australia. *Earth Planetary Science Letters* 534, 116070, p. 1-10. *(Australian NW Shelf 300m of tectonic subsidence from 6-5Ma, then reverses when 300m of tectonic uplift occurred from 2- 1 Ma. Along strike extent of subsidence pattern is ~ 400 km. Reversible subsidence points to dynamic topography, but rates incompatible with dynamic topography associated with motion of Australia over large-scale convection (10 to 40 m/Myr). At 6 Ma most distal parts of Australian basement started to underthrust accretionary ridge of Banda Arc, but traditional buckling model problematic. New geodynamic mechanism required to fit observations)*

Guzel, M. (2012)- Palaeobiogeographic significance of Jurassic and Cretaceous Western Australian ostracod faunas. Ph.D. Thesis Deakin University, Melbourne, p. 1-417. *(online at: <https://dro.deakin.edu.au/eserv/DU:30048942/guzel-palaeobiogeographic-2012.pdf>)* *(Jurassic- E Cretaceous marine ostracod faunas of W Australia. E Jurassic ostracod faunas of W end of Tethys and NW Australia (E end of S Tethys) little variation in depositional conditions along N Gondwana marine shelf. By Late Jurassic distinctive Indian Ocean ostracod fauna developed. By Barremian- Aptian Austral Province initiated)*

Haig, D.W. (1992)- Aptian-Albian foraminifers from the Cuvier Abyssal Plain and comparison with coeval faunas from the Australian region. In: F.M. Gradstein et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results* 123, p. 291-297. *(online at: www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_14.pdf)* *(79 U Aptian-Albian foram species from ODP Site 766, off W Australia. Uppermost Albian age near top (equivalent of Rotalipora appenninica Zone), but deeper correlation tentative due to absence of index species. Mid-Cretaceous faunas from W Australia represent middle- high paleolatitudes in S Hemisphere. Benthic*

assemblages belong to Marssonella Association. Australian fauna lacks many families present in Tethyan (low-latitude) faunas. Late Albian planktonic foraminifers from Site 766 similar to those from Papuan Basin)

Haig, D.W. (2018)- Permian (Kungurian) foraminifera from Western Australia described by Walter Parr in 1942: reassessment and additions. *Alcheringa* 42, 1, p. 37-66.

(Study of well-preserved late E Permian siliceous agglutinated Foraminifera originally recorded by Parr from Quinmanie Shale and lower Wandagee Fm in Merlinleigh sub-basin of S Carnarvon Basin)

Haig, D.W. (2019)- Early Permian transition from continental ice-sheet cover to warm-temperate episodes in the East Gondwana lowlands. In: S. Hartenfels et al. (eds.) 19th Int. Congress on Carboniferous and Permian, Cologne 2019, *Kolner Forum Geol. Palaontologie*, 23, p. 136-137.

(Vast continental ice sheet over much of E Gondwana during M-L Pennsylvanian. E Gondwana interior rift basins show:(1) global warm spike during Gzhelian (latest Carboniferous) may have initiated rapid melting of ice sheets that resulted in deposition of thick glacially-influenced lowest Permian deposition. Ice-sheets over East Gondwana lowlands in W Australia melted by earliest Sakmarian; (2) First major post-glacial depositional cycle commenced with mud facies in M Sakmarian. Widespread carbonate marine deposition in late Sakmarian- E Artinskian; (3) Second major post-glacial depositional cycle as mud-dominated mid Artinskian, deposited under cold conditions as shown by scattered dropstones. Warming during the latest Artinskian- E Kungurian. Maximum marine flooding during latest Artinskian–earliest Kungurian)

Haig, D.W., A. Dillinger, G. Playford, R. Riera, A. Sadekov, G. Skrzypek et al. (2022)- Methane seeps following early Permian (Sakmarian) deglaciation, interior East Gondwana, Western Australia: Multiphase carbonate cements, distinct carbon-isotope signatures, extraordinary biota. *Palaeogeogr. Palaeoclim. Palaeoecology* 591, 10, 110862, p.

(Shallow-marine methane seeps identified from nodule carbonate-cement fabric in Sakmarian marine lower Holmwood Shale in Irwin Basin formed in methane seeps, which overlies glaciogenic Nangetty Fm. Seep biota consist of small thickets of tube worms, Tubiphytes, microbial mats, alga Litostroma, etc. Deglaciation of Pennsylvanian ice sheets that covered large parts of East Gondwana and associated release of biogenic methane seems to have coincided with formation of seeps. (see also Haig et al., below)

Haig, D.W., A. Dillinger, G. Playford, R. Riera, A. Sadekov, G. Skrzypek et al. (2024)- Preliminary appraisal of biota from methane-seep and associated deposits, lower Holmwood Shale, early Permian (Sakmarian), Irwin Basin, Western Australia. *J. Royal Society Western Australia* 106, p. 75-103.

(online at: https://www.rswa.org.au/wp-content/uploads/2024/02/Haig_etal_2024.pdf)

(Fossil assemblages preserved in nodules of methane-seep deposits in lower Permian (Cisuralian, Sakmarian) of Irwin Basin, include seep biota of small thickets of tubeworms, less common algal-like Tubiphytes. Surrounding mudstone with unusual assemblage of siliceous agglutinated foraminifers)

Haig, D.W., M. Smith & M.C. Apthorpe (1997)- Middle Eocene Foraminifera from the type Giralia calcarenite, Gascoyne Platform, southern Carnarvon Basin, western Australia. *Alcheringa* 21, p. 229-245.

(M Eocene larger foram assemblage from Giralia calcarenite of Gascoyne Platform, NW Australia. Limestone one sequence with maximum thickness of 40-50m, reflecting maximum flooding event. With larger foraminifera Discocyclina, Asterocyclina and Nummulites (but no Pellatispira as reported by Chapman and Crespin, 1935). Rare Distichoplax algae near base)

Haig, D.W., D.K. Watkins & G. Ellis (1996)- Mid-Cretaceous calcareous and siliceous microfossils from the basal Gearle Siltstone, Giralia Anticline, Southern Carnarvon Basin. *Alcheringa* 20, 1, p. 41-68.

(Diverse assemblage of E Albian foraminifera (Hedbergella planispira Zone), radiolaria and nannoplankton (CC8a Subzone) in basal beds of Gearle Siltstone in Giralia Anticline. Transition from Aptian Windalia Radiolarite to Gearle Siltstone may reflect marine transgressive pulse. Deposition of basal Gearle Siltstone coincident with major increase in bathymetry in Papuan, Laura and other basins in E Australia)

Haines, P.W., M. Hand & M. Sandiford (2001)- Palaeozoic synorogenic sedimentation in central and northern Australia: a review of distribution and timing with implications for the evolution of intracontinental orogens. *Australian J. Earth Sciences* 48, p. 911-928.

Haines, P.W., M.T.D. Wingate & C.L. Kirkland (2013)- Detrital zircon U-Pb ages from the Paleozoic of the Canning and Officer Basins, Western Australia; implications for provenance and interbasin connections. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia IV*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p.

Hall, L.S., A.D. Gibbons, G. Bernardel, J.M. Whittaker, C. Nicholson, N. Rollet & R.D. Muller (2013)- Structural architecture of Australia's southwest continental margin and implications for Early Cretaceous basin evolution. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia IV*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-20.

(Review of E Cretaceous plate tectonic history of SW margin of Australia, including Perth and Mentelle basins, largely following Gibbons et al. (2012) model)

Halpin, J.A., A.J. Crawford, N.G. Direen, M.F. Coffin, C.J. Forbes & I. Borissova (2008)- Naturaliste Plateau, offshore Western Australia: a submarine window into Gondwana assembly and breakup. *Geology (GSA)* 36, p. 807-810.

(Submarine Naturaliste Plateau off SW Australia is block of continental origin exhumed during Cretaceous breakup between Australia and Antarctica. Reworked Mesoproterozoic (ca. 1230-1190 Ma) zircons from granite and orthogneiss samples dredged from S margin of plateau. Igneous rocks metamorphosed during Cambrian Pinjarra Orogeny at ~515 Ma. Protoliths affinities to Mesoproterozoic crust in Albany-Fraser-Wilkes Orogen (Australia-Antarctica))

Haq, B.U., U. von Rad, S. O'Connell, A. Bent, et al. (1990)- Proceedings of the Ocean Drilling Program (ODP), Initial Reports 122, College Station, TX, p. 1-818.

Harrowfield, M. & M. Keep (2005)- Tectonic modification of the Australian North-West Shelf: episodic rejuvenation of long-lived basin divisions. *Basin Research* 17, p. 225-239.

(Neogene collision between Australia and Banda Arc modified adjacent Browse and Bonaparte Basins. Two trends: (1) continuous long-wavelength amplification of Permo-Carboniferous basement topography, and (2) flexure and normal faulting of Triassic-Recent sedimentary cover)

Haston, R.B. & J.J. Farrelly (1993)- Regional significance of the Arquebus 1 well, Browse Basin, NW Shelf, Australia. *Australian Petroleum Exploration Assoc. (APEA) Journal* 33, 1, p. 28-38.

He, S. & M. Middleton (2002)- Heat flow and thermal maturity modelling in the Northern Carnarvon Basin, North West Shelf, Australia. *Marine and Petroleum Geology* 19, p. 1073-1088.

Heap, A.D. & P.T. Harris (2008)- Geomorphology of the Australian margin and adjacent seafloor. *Australian J. Earth Sciences* 55, 4, p. 556-585.

(online at: www.tandfonline.com/doi/pdf/10.1080/08120090801888669)

(Paper on systematical mapping of 6702 seafloor geomorphic features around Australia: Plateaus, basins, terraces, reefs (4172), etc. Australian margin relatively underrepresented in shelf and rise and over-represented in slope areas, reflecting mainland bounded on three sides by rifted continent-ocean margins and associated large marginal plateaus)

Heath, R.S. & M.C. Apthorpe (1986)- Middle and Early(?) Triassic foraminifera from the Northwest Shelf, Western Australia. *J. Foraminiferal Research* 16, p. 313-333.

(online at: <http://jfr.geoscienceworld.org/content/16/4/313.full.pdf>)

(Anisian foraminifera from Lawley No. 1 well, Dampier sub-basin, NW Shelf. Well-preserved, non-Tethyan assemblage of 34 species, 10 new. Anisian age of material based on palynological evidence (T. playfordi zone))

Hefti, J., S. Dewing, C. Jenkins, A. Arnold & B.E. Korn (2006)- Improvements in seismic imaging, Io Jansz gas field, North West Shelf, Australia. Australian Petroleum Production Exploration Association (APPEA) J. 46, 1, p. 135-160.

Heine, C. (2002)- The tectonic evolution of the Northwest Shelf of Australia and southern Southeast Asia. M.Sc. Thesis Ruhr-Universitat Bochum and University of Sydney, p. 1-94.

(online at: www.earthbyte.org/people/christian/media/Heine_02_MScThesis_e-version.pdf)

(Argo and Gascoyne Abyssal Plains off NW Australia are only preserved patches of Tethyan ocean floor; rest destroyed by subduction. W Burma Block identified as continental fragment breaking up from NW Shelf in Late Jurassic and accreted to SE Asian mainland in Santonian-Coniacian (85-80Ma) near W Thailand)

Heine, C. & R.D. Muller (2005)- Late Jurassic rifting along the Australian Northwest Shelf: margin geometry and spreading ridge configuration. Australian J. Earth Sciences 52, p. 27-39.

(online at: ftp://ftp.es.usyd.edu.au/pub/christian/permanent/Heine_05_LtJurassicRiftingNWShelf.AJES.pdf)

(Magnetic anomaly record of Argo and Gascoyne Abyssal Plains re-interpreted, showing continental breakup in Argo and Gascoyne started simultaneously in Oxfordian with M25A (= E Kimmeridgean?; JTvG) as oldest anomaly. Sea-floor spreading continued until M14 (Valanginian), separating W Burma Block and possibly other continental fragments like Sikuleh Terrane of W Sumatra from N Australian margin)

Heine, C., R.D. Muller, B. Steinberger & L. DiCaprio (2010)- Integrating deep earth dynamics in paleogeographic reconstructions of Australia. Tectonophysics 483, 1-2, p. 135-150.

(Cenozoic progressive flooding of Australia requires downward tilting of Australian Plate towards SE Asian subduction system. Reconstruction of flooding history for last 70 Ma on continental scale. S low caused by sinking slab material from E Gondwana subduction zone in Cretaceous. N low first straddles N Australia in Oligocene, attributable to material subducted N and NE of Australia. Apparent Late Cenozoic N-ward tilt of Australia function of S Australia moving away from Gondwana subduction-related dynamic topography low in Oligocene, followed by drawing down of N Australia as it overrode slab burial ground under much of N Australia since Miocene. Without mantle convection most of Australia's continental shelves would be exposed)

Heine, C., R.D. Muller & M. Norvick (2002)- Revised tectonic evolution of the Northwest Shelf of Australia and adjacent abyssal plains. In: M. Keep & S. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. West Australian Basin Symposium, Petroleum Exploration Society Australia (PESA), p. 955-957.

Heirtzler, J.R., P. Cameron, P.J. Cook, T. Powell, H.A. Roeser, S. Sukardi & J.J.Veevers (1978)- The Argo abyssal plain. Earth Planetary Science Letters 41, p. 21-31.

(Magnetic anomalies in Argo Abyssal Plain identified as M10 to M25, increasing in age from Java Trench to NW Shelf of Australia. Argo Abyssal Plain is bounded by 5600m contour and reaches max. depth of 5730m. Joey Rise limits Argo Abyssal Plain on SW. Numerous diapir-like structures)

Helby R. (1987)- *Muderongia* and related dinoflagellates of the latest Jurassic to Early Cretaceous of Australasia. In: P.A. Jell (ed.) Studies in Australian Mesozoic palynology. Memoir Assoc. Australasian Palaeontologists (AAP) 4, Sydney, p. 297-336.

Helby, R., R. Morgan & A.D. Partridge (1987)- A palynological zonation of the Australian Mesozoic. In: P.A. Jell (ed.) Studies in Australian Mesozoic palynology. Memoir Assoc. Australasian Palaeontologists (AAP) 4, Sydney, p. 1-94.

(online at: www.researchgate.net/profile/Stephen-Mcloughlin-4/post/Helby_et_al_1987/attachment/ Etc.)

(Late Permian- Cretaceous dinoflagellate zonation, which is now preferred tool for dating Mesozoic sediments of Australian NW Shelf- New Guinea. Falcisporites superzone ranges from Late Permian- latest Triassic or Hettangian. Protohaploxy)

Helby, R., R. Morgan & A.D. Partridge (2004)- Updated Jurassic- Early Cretaceous dinocyst zonation, NWS Australia. Geoscience Australia Publ. ISBN 1 920871 01 2.

(online at: www.ga.gov.au/corporate_data/61127/61127.pdf)

(Updated Jurassic- Early Cretaceous dinoflagellate zonation chart)

Helby, R.J. & A.D. Partridge (1977)- A palynological reconnaissance of BMR stratigraphic drilling in Mesozoic rocks of the Carpentaria Basin. Esso Australia Ltd., Palaeontological Report 1977/22, p. 1-25.
(On microfiche appendix 1 in R. Helby et al. (eds.) (1987) A palynological zonation of the Australian Mesozoic, Memoir Assoc. Australasian Palaeontologists 4, p. 168-196)
(Bathonian- Aptian palyno-biostratigraphic zonation)

Henderson, R.A. (1998)- Eustatic and palaeoenvironmental assessment of the mid-Cretaceous Bathurst Island Group of the Money Shoals Platform, northern Australia. *Palaeogeogr. Palaeoclim. Palaeoecology* 138, p. 115-138.

Hengesh, J.V. & B.B. Whitney (2016)- Transcurrent reactivation of Australia's western passive margin: An example of intraplate deformation from the central Indo-Australian plate. *Tectonics* 35, 5, p. 1066-1089.
(NW Australia passive margin intersects E termination of Java trench of Sunda arc subduction zone and W western termination of Timor Trough at Banda arc collision zone. Differential relative motion between these sectors reactivated former rift margin of NW Australia, evidenced by Pliocene-Quaternary deformation along 1400km long offshore fault system. Earthquake focal mechanisms consistent with dextral motion along NE trending fault planes. Faults crosscut Late Miocene unconformities eroded over M Miocene inversion structures. Onset of deformation consistent with time of collision of Scott Plateau between 3 Ma-present. Example of intraplate deformation resulting from kinematic transitions along distant plate boundary)

Hillis, R.R. (1991)- Australia- Banda Arc collision and in situ stresses in the Vulcan Subbasin (Timor Sea) as revealed by borehole breakout data. *Exploration Geophysics* 22, 1, p. 189-193.
(Boreholes in Vulcan Sub-basin elliptical cross-section, formed in response to in situ stress. Long axes of breakouts 130-170°N trend, implying NE-ENE-oriented maximum horizontal stress. This orientation not controlled by compression from Australia/ Banda Arc collision zone, but consistent with models of stress distribution in Indo-Australian plate based on plate-driving forces at all of its boundaries)

Hillis, R.R. (1992)- Evidence for Pliocene erosion at Ashmore Reef (Timor Sea) from the sonic velocities of Neogene limestone formations. *Exploration Geophysics* 23, p. 489-495.
(Sonic velocity of Miocene Oliver Fm at Ashmore Reef-1 well anomalously fast, probably due to 1.3 km of Pliocene erosion. Erosion was synchronous with subsidence of present-day Timor Trough and uplift of Timor island, so is believed to be linked with collision between Australian Continent and Indonesian Banda Island Arc)

Hillis, R.R. (1998)- The Australian stress map. *Petroleum Exploration Society Australia (PESA) News* 37, p. 40-43.

Hillis, R.R., J.J. Meyer & S.D. Reynolds (1998)- The Australian stress map. In: ASEG 13th Int. Geoph. Conf. Exhib., *Exploration Geophysics (Melbourne)* 29, 3-4, p. 420-427.
(Australian stress map (mainly from borehole breakouts) indicates high level of horizontal compression in Australian Continent. Maximum horizontal stress oriented NE-SW from New Guinea along NW Shelf to Bonaparte and Canning Basins. To W ~50° rotation to 100°N in Carnarvon Basin. Max. horizontal stress oriented 010-020°N in Bowen Basin of Queensland and Amadeus Basin of C Australia)

Hillis, R.R., S.D. Mildren, C.J. Pigram & D.R. Willoughby (1996)- The North West Shelf stress map. *PESA News* 22, p. 42-47.
(NW Shelf stress map, based on analysis of borehole breakouts, indicates direction of maximum contemporary horizontal compression in upper few km of crust. Regional stress direction is consistently oriented ~050° 060°N (SW-NE) from onshore Canning Basin, Bonaparte basin to New Guinea. Between Canning and Carnarvon Basins max orientation swings ~40° to 090°-100°N (WNW-ESE.)

Hillis, R.R., S.D. Mildren, C.J. Pigram & D.R. Willoughby (1997)- Rotation of horizontal stresses in the Australian North West continental shelf due to the collision of the Indo-Australian and Eurasian plates. *Tectonics* 16, 2, p. 323-335.

(40° rotation of regional maximum horizontal stress orientation between W (Carnarvon Basin) and E (Bonaparte Basin) end of Australian NW Shelf. Borehole breakouts in Carnarvon Basin show σ_{hmax} orientation of 90°-100°N. Regional σ_{hmax} orientation from New Guinea through Bonaparte Basin to Canning Basin is 50°-060°N. Between Canning and Carnarvon σ_{hmax} rotates to 90°-100°N. Banda Arc collisional zone not generating significant net push; 50°-060°N σ_{hmax} orientation of much of N Australian margin probably controlled by New Guinea orogen)

Hillis, R.R., M. Sandiford, S.D. Reynolds & M.C. Quigley (2008)- Present-day stresses, seismicity and Neogene-to-Recent tectonics of Australia's 'passive' margins: intraplate deformation controlled by plate boundary forces. In: H. Johnson et al. (eds.) *The nature and origin of compression in passive margins*, Geological Society, London, Special Publ. 306, p. 71-90.

(Widespread Neogene-Recent deformation on and adjacent to Australia's passive margins. Ongoing intraplate deformation of Australian continent tied to plate boundary forces)

Hillis, R.R. & A.F. Williams (1993)- The stress field of the North West Shelf and wellbore stability. *The Australian Petroleum Exploration Assoc. (APEA) Journal* 33, 1, p. 373-385.

Hinz, K., H. Beiersdorf, N.F. Exon, H.A. Roeser, H.M.J. Stagg & U. Von Stackelberg (1978)- Geoscientific investigations from the Scott Plateau off northwest Australia to the Java Trench. *BMR J. Australian Geology Geophysics* 3, p. 319-340.

(online at: www.ga.gov.au/corporate_data/80974/Jou1978_v3_n4_p319.pdf)

(Results of 1977 RV Valdivia marine geological survey. Scott Plateau between Argo Abyssal Plain in W and Roti Basin in N is foundered continental block at depth of 2000-3000m. Dominant fault direction is NW to WNW, an ancient strike direction on Australian continent. W margin probably formed as NE-trending rifts and NW-trending transforms during Late Jurassic breakup. Argo Abyssal Plain 5000-5730m deep, overlain by ~400m of Late Jurassic-Cretaceous sediments, unconformably overlain by 200m of Tertiary sediment. Callovian breakup was preceded by period of basic volcanism and shallow marine sedimentation, followed by restricted shallow marine conditions in the Late Jurassic, and bathyal carbonate sedimentation by Late Cretaceous. Manganese crusts up to 1 cm thick at all dredge stations on Scott Plateau)

Hocking, R.M. (1988)- Regional geology of the northern Carnarvon basin. In: P.G. & R.R. Purcell (eds.) *The North West Shelf, Australia*, Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA), p. 97-114.

(Carnarvon Basin of W Australia two distinct parts: (1) southern, onshore, N-trending sub-basins with up to 7km of mainly Paleozoic sediments, and (2) northern, offshore, NE trending sub-basins, up to 15 km deep, with thick Mesozoic and Cenozoic sequences as well as Paleozoic sediments)

Hocking, R.M. (1990)- Carnarvon Basin. In: *Geology and mineral resources of Western Australia*, Western Australia Geological Survey, Memoir 3, p. 457-495

Hocking, R.M. (1992)- Jurassic deposition in the southern and central North West Shelf, western Australia. *Geological Survey of Western Australia, Perth, Record* 1992/7, p. 1-101.

Hocking, R.M., A.J. Mory & I.R. Williams (1994)- An atlas of Neoproterozoic and Phanerozoic basins of Western Australia. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, p. 21-44.

(W Australia (mainly onshore) basins: (1) Neoproterozoic (Savory, Amadeus, Officer), (2) Paleozoic (Gunbarrel, S Bonaparte, Ord, Canning, S Carnarvon); (3) Mesozoic-Cainozoic (N Bonaparte, Browse, Roebuck, N Carnarvon; grouped into Westralian Superbasin). Perth- Collie basins both Paleozoic and Mesozoic elements)

- Hoffman, N. & K.C. Hill (2004)- Structural-stratigraphic evolution and hydrocarbon prospectivity of the deep-water Browse Basin, North West Shelf, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 393-409.
- Holford, S.P., N. Schofield, C.A.L. Jackson, C. Magee, P.F. Green & I.R. Duddy (2013)- Impacts of igneous intrusions on source and reservoir potential in prospective sedimentary basins along the Western Australian continental margin. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 4, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-11.
- Hollis, J.A., C.J. Carson & L.M. Glass (2009)- SHRIMP U-Pb zircon geochronological evidence for Neoproterozoic basement in western Arnhem Land, northern Australia. *SHRIMP U-Pb zircon geochronological evidence for Neoproterozoic basement in western Arnhem Land, N Australia. Precambrian Research* 174, p. 364-380.
(Pine Creek Orogen, W Arnhem Land, on N periphery of North Australian Craton with metamorphosed Paleoproterozoic sediments with Neoproterozoic zircon detritus, particularly in 2530-2510 Ma and ca. 2670-2640 Ma age range. Pine Creek orogen itself thermal-compressional event around 1865- 1855 Ma)
- Hopper, J.R., J.C. Mutter, R.L. Larson, C.Z. Mutter, P. Buhl et al. (1992)- Magmatism and rift margin evolution; evidence from northwest Australia. *Geology (GSA)* 20, 9, p. 853-857.
(Deep seismic observations from NW Australia show Cuvier margin is volcanic passive margin that formed as Greater India rifted away from Australia in E Cretaceous. Formation of Cuvier Basin and rapid initial sea-floor spreading resulted in emplacement of exceptionally thick oceanic crust, while contemporaneous spreading off adjacent Exmouth Plateau formed normal-thickness oceanic crust)
- Horstman, E.L (1988)- Source maturity, overpressures and production, North West Shelf, Australia. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia, Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA), p. 529-538.
- Howarth, V. & T.M. Alves (2016)- Fluid flow through carbonate platforms as evidence for deep-seated reservoirs in Northwest Australia. *Marine Geology* 380, p. 17-43.
- Howe, J.R.W., R.J. Campbell & J.P. Rexilius (2003)- Integrated uppermost Campanian-Maastrichtian calcareous nannofossil and foraminiferal biostratigraphic zonation of the northwestern margin of Australia. *J. Micropalaeontology* 22, 1, p. 29-62.
(online at: <https://www.j-micropalaeontol.net/22/29/2003/jm-22-29-2003.pdf>)
(uppermost Campanian-Maastrichtian calcareous microfossil zonation based on ODP holes on Exmouth Plateau and petroleum exploration wells from Vulcan sub-basin. NW Australian margin at this time transitional between cool-water Austral Province to S and warm-water Tethyan Province to N. Many Tethyan marker-species missing or have different ranges. U Campanian- lower U Maastrichtian disconformity on NW margin)
- Huber, B.T. (1992)- Paleobiogeography of Campanian-Maastrichtian foraminifera in the southern high latitudes. *Palaeogeogr. Palaeoclim. Palaeoecology* 92, p. 325-360.
(On Late Cretaceous planktonic forams; mainly near Antarctica)
- Hull, J.N.F. & C.M. Griffiths (2002)- Sequence stratigraphic evolution of the Albian to Recent section of the Dampier Sub-basin, North West Shelf Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 617-639.
(In Dampier sub-basin Albian-Santonian sequences progressive increase in water depth and carbonate content, reaching maximum with widespread Santonian calcilutites. Following major relative sea level fall at base Oligocene a strongly prograding carbonate margin established, persisting to present day. Late Miocene- Recent section significant basinward thickening and onlap above N17-1 SB, implying renewed tectonic subsidence associated with collision of Australia and SE Asia in Late Miocene)
- Huston, D.L., R.S. Blewett & D.C. Champion (2012)- Australia through time: a summary of its tectonic and metallogenic evolution. *Episodes* 35, 1, p. 23-43.

(online at: www.episodes.co.in/contents/2012/march/p23-43.pdf)

Iasky, R.P., A.J. Mory, K.A. Blundell & K.A.R. Ghori (2002)- Prospectivity of the Peedamullah Shelf and Onslow Terrace revisited. In: M. Keep & S.J. Moss (eds.) The sedimentary Basins of Western Australia 3, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 741-759.

(Pennsylvanian?- Early Sakmarian glacially influenced marine strata of Lyons Group investigated on Peedamullah Shelf, adjacent to Mermaid Nose)

Imbert, P. & S. Ho (2012)- Seismic-scale funnel-shaped collapse features from the Paleocene- Eocene of the North West Shelf of Australia. *Marine Geology* 332-334, p. 198-221.

(Cluster of funnel-shaped seismic anomalies offshore Carnarvon basin, Australia NW shelf, in Paleogene deep-water carbonates and marls. Individual depressions typically circular, >1 km wide and few 100m deep. Interpreted as collapse structures caused by thermal gas hydrates moving upsection. Three episodes in study area. May have developed as consequence of global hyperthermal events).

Ingram, B. & R. Morgan (1988)- The development and status of the Mesozoic palynostratigraphy of the North West Shelf, Australia. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia, Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA), p. 581-590.

(Palynology has become dominant biostratigraphy tool in Mesozoic section of NW Shelf (Helby, Morgan and Partridge 1987 scheme new industry standard))

Ingram, G.M., S. Eaton & J.M.M. Regtien (2000)- Cornea case study: lessons for the future. *Australian Petroleum Production Exploration Association (APPEA) J.* 40, 1, p. 56-65.

Ishiwa, T., Y. Yokoyama, Y. Miyairi, M. Ikehara & S. Obrochta (2016)- Sedimentary environmental change induced from late Quaternary sea-level change in the Bonaparte Gulf, northwestern Australia. *Geoscience Letters* 3.33, p. 1-11.

(online at: <https://geoscienceletters.springeropen.com/articles/10.1186/s40562-016-0065-0>)

(Bonaparte Gulf of NW Australian continental margin among widest in world (up to 500km), with shallow carbonate terraces and platforms exposed during periods of lower sea level. Switch from siliciclastic to carbonate-dominated sedimentation during last glaciation at ~26 ka, associated with local sea-level fall of -90m)

Ishiwa T., Y. Yokoyama Y. Miyairi, S. Obrochta, T. Sasaki, A. Kitamura, A. Suzuki et al. (2016)- Reappraisal of sea-level lowstand during the Last Glacial Maximum observed in the Bonaparte Gulf sediments, northwestern Australia. *Quaternary International* 397, p. 373-379.

(Sea-level minimum at Last Glacial Maximum occurred at 20.8 ka and LGM durations shorter than reported)

Ito, M., S. O'Connell, A. Stefani & P. Borella (1992)- Fluviodeltaic successions at the Wombat Plateau: Upper Triassic siliciclastic-carbonate cycles. In: U. von Rad, B.U. Haq et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 122, p. 109-

(online at: www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_06.pdf)

(Carnian-Norian sediments at ODP Sites 759 and 760 on Wombat Plateau ~600m thick transgressive-regressive cycles in deltaic system. Sands dominated by monocrystalline quartz, probably derived from acidic plutonic and volcanic rocks in continental block. Av. ratio of monocrystalline quartz: feldspar: lithic fragments (Qm:F:Lt) is 71:22:7, indicating source from transitional continental and cratonic interior terranes. Mica up to 11%, metasedimentary lithics <0.7%, but generally absent. Upper Carnian sediments more feldspathic and with some volcanic fragments, indicating onset of rifting with volcanism in Gondwana continental block. Around barriers and/or delta lobes, carbonate shoals/banks probably developed)

Jablonski, D.J. (1997)- Recent advances in the sequence stratigraphy of the Triassic to Lower Cretaceous succession in the Northern Carnarvon Basin, Australia. *Australian Petroleum Production Exploration Association (APPEA) J.* 36, 1, p. 429-454.

Jablonski, D. & A.J. Saitta (2004)- Permian to Lower Cretaceous plate tectonics and its impact on the tectono-stratigraphic development of the Western Australian margin. Australian Petroleum Production Exploration Association (APPEA) J. 44, 1, p. 287-327.

Jason, R., G. McMurtrie & J. Keall (2004)- Hydrocarbon potential of the Outer Browse Basin, NW Australia. Proc. Deep water and frontier exploration in Asia & Australasia Symp, Indonesian Petroleum Association (IPA), Jakarta, p. 497-507.

(Outer Browse Basin frontier area believed to contain distal extensions of Browse Basin petroleum systems: large gas condensate discoveries in Mesozoic horst blocks, reservoired in Jurassic deltaic sediments, or small oil discoveries in E Cretaceous sandstones in drapes over Mesozoic horsts or basement highs. Maginnis-1 2002 well failed to encounter Jurassic reservoir and penetrated thicker than anticipated M Jurassic volcanic section)

Jenkins, C.C., R.M. Chiquito, P.N. Glenton, A.A. Mills, J. McPherson, M.C. Schapper & M.A. Williams (2008)- Reservoir definition at the Jansz/ Io gas field, NW Shelf, Australia: a case study of an integrated project from exploration to development. Proc. Int. Petroleum Technical Conference (IPTC) Kuala Lumpur, p. 1-32.

(Extensive description of Jansz field, 2000 discovery 250 km off NW coast of Australia, in 1100-1400m water. Jansz/Io is structural/ stratigraphic trap with gas in U Jurassic (Oxfordian) shallow-marine mud-rich sandstone reservoir, up to 65 m thick)

Jenkins, C.C., A. Duckett, B.A. Boyett, P.N. Glenton, A.A. Mills, M.C. Schapper, M.A. Williams & J.G. McPherson (2017)- The Jansz-Io gas field, Northwest Shelf Australia: a giant stratigraphic trap. In: R.K. Merrill & C.A. Sternbach (eds.) Giant fields of the decade 2000-2010, American Assoc. Petroleum Geol. (AAPG), Memoir 113, Chapter 16, p. 305-322.

(Jansz-Io gas field large stratigraphic trap over 2000 km², with both structural (faulted anticline) and stratigraphic (reservoir pinch-out) components. Stratigraphic component defined by reservoir extent, (depositional downlap to NW and erosional truncation by U Jurassic and Lw Cretaceous unconformities to SE). Original gas in place for Oxfordian sandstone reservoir 11-33 TCF)

Jenkins, C.C., D.M. Maughan, J.H. Acton, A. Duckett, B.E. Korn & R.P. Teakle (2003)- The Jansz gas field, Carnarvon Basin, Australia. Australian Petroleum Production Exploration Association (APPEA) J., 43, 1, p. 303-324.

(Large gas discovery in stratigraphic/ subunconformity trap in U Jurassic sandstones of Carnarvon Basin)

Jitmahantakul, S. & K. McClay (2013)- Late Triassic-Mid Jurassic to Neogene extensional fault systems in the Exmouth Sub-basin, northern Carnarvon Basin, North West Shelf, Western Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-22.

(Exmouth sub-basin major NE- to NNE-trending Mesozoic -Cenozoic depocenter in intra-passive margin N Carnarvon Basin. Late Triassic (Rhaetian) to M Jurassic (Callovian) W-directed extension produced N-S to NE-SW striking domino-style extensional fault systems that formed rift basin, segmented into 4 depocenters by E-W striking accommodation zones. Three systems of extensional faults: 1. Rhaetian-Callovian planar fault systems of major rift phase; 2. Late Berriasian- E Valanginian post-rift planar domino fault arrays; 3. Late Cretaceous-Neogene polygonal fault arrays formed during passive margin subsidence and sedimentation)

Jonasson, K.E. (2001)- Atlas of petroleum fields onshore Canning Basin. Dept. Mineral and Petroleum Res. 2, 1, p. 1-72.

Jones, A.T., G.A. Logan, J.M. Kennard & N. Rollet (2005)- Reassessing potential origins of synthetic aperture radar (SAR) slicks from the Timor Sea region of the Northern West Shelf on the basis of field and ancillary data. Australian Petroleum Production Exploration Association (APPEA) J. 45, p. 311-331.

Jones, A.T., G.A. Logan, J.M. Kennard, P.E. O'Brien, N. Rollet, M. Sexton & K.C. Glenn (2005)- Testing natural hydrocarbon seepage detection tools on the Yampi Shelf, northwestern Australia. Geoscience Australia Survey S267, Post Survey Report, GA Record 2005/15, p. 1-50.

Jones, H.A. (1973)- Marine geology of the northwest Australian continental shelf. Bureau Mineral Resources Geology Geophysics, Bull. 136, p. 1-102.

(online at: www.ga.gov.au/corporate_data/104/Bull_136.pdf)

Jones, P.J. & C.B. Foster (1985)- Late Permian (Kazanian) ostracods and associated palynomorphs, from the Petrel Sub-basin, northwestern Australia. Memoir Assoc. Australasian Palaeontologists (AAP) 27, p. 33-51.

(*Marine ostracod fauna from limestone cuttings of Pearce Mb (497-502 m) of Hyland Bay Fm in Barnett 1 well in SE Petrel basin. Contains Graphiadactyllis formosa and other species known from Late Permian (Kazanian) of Russian Platform. Associated with APP 43 (=Dulhuntyispora dulhuntyi) spore-pollen zone*)

Jones, P.J. & R.S. Nicoll (1985)- Late Triassic conodonts from Sahul Shoals No. 1, Ashmore Block, northwestern Australia. BMR J. Australian Geology Geophysics 9, p. 361-364.

(online at: www.ga.gov.au/corporate_data/81199/Jou1984_v9_n4_p361.pdf)

(*Late Triassic conodont Epigondolella primitia recovered from core at ~1885m in BOCAL 1970 Sahul Shoals 1 well on Ashmore Block, NW Australia. In upper part of 1955m thick Triassic sequence. Dated as latest Carnian-earliest Norian. Sample interval within Samaropollenites speciosus Zone of Onslow Microflora. E. primitia also known from Timor, Sumatra, Malay Peninsula, Austrian Alps, etc.*)

Jones, R.W., P.A. Ventris, A.A.H. Wonders, S. Lowe, H.M. Rutherford, M.D. Simmons et al. (1993)- Sequence stratigraphy of Barrow Group (Berriasian-Valanginian) siliciclastics, North-West Shelf, Australia, with emphasis on the sedimentological and palaeontological characterization of systems tracts. In: D.G. Jenkins (ed.) Applied Micropalaeontology, Kluwer Academic Publishers, Dordrecht, p. 193-223.

(*Five Barrow Group (Berriasian-Valanginian) siliciclastic sequences described from NW Shelf, Australia, and calibrated against global third-order cycles*)

Jones, W., A. Tripathi, R. Rajagopal & A. Williams (2011)- Petroleum prospectivity of the West Timor Trough. PESA News (Petroleum Exploration Society of Australia) 114, p. 61-65.

(*Brief seismic-based review of W Timor Trough. Jurassic sediments missing in wells on Ashmore Platform, but new seismic data indicates thicker Jurassic strata in NE, particularly in Timor Graben*)

Jules, R., J.R. Ye & Q. Cao (2016)- Geological conditions and hydrocarbon accumulation processes in the Sahul Platform, Northern Bonaparte Basin, Australia. Int. J. Geosciences 7, p. 792-827.

(online at: http://file.scirp.org/pdf/IJG_2016062913404548.pdf)

(*Sahul Platform in N Bonaparte Basin between Timor Trough to N and Malita Graben to S. With Sunset-Loxton Shoals and Chuditch gas fields in M Jurassic Plover Fm sandstone. Hydrocarbons migrated mainly from U Jurassic Frigate Shale source rock in Malita Graben to Sunset-Loxton Shoals field in Late Cretaceous (66 Ma). In Chuditch field hydrocarbon migration initiated in Late Miocene (7.5 Ma) from Plover Fm source rock*)

Kaiko, A.R. (1998)- Thermal history analysis of the Barrow and Dampier Sub-basins, North West Shelf, Western Australia. B.Sc. (Hons) Thesis University of South Australia, p. 1-681.

(online at: <http://search.ror.unisa.edu.au/media/researcharchive/open/9915960302001831/53112361830001831>)

(*On causes of apparent vitrinite reflectance suppression in Jurassic-Cretaceous of Barrow- Dampier subbasins*)

Kaiko, A.R. & A.M. Tait (2001)- Post-rift tectonic subsidence and palaeo-water depths in the northern Carnarvon Basin, western Australia. Australian Petroleum Production Exploration Association (APPEA) J. 2001, p. 367-379.

(*Subsidence history of N Carnarvon Basin dominated by thermal sag following E-M Jurassic rifting. Miocene wrench-related uplift (several 100m) caused local basin inversion*)

Kaiko, A.R. & P.R. Tingate (1996)- Suppressed vitrinite reflectance and its effect on thermal history modelling in the Barrow and Dampier sub-basins. Australian Petroleum Production Exploration Association (APPEA) J. 1996, p. 428-443.

(Jurassic-Cretaceous formations of predominantly marine origin yield vitrinite reflectance values that are often lower than expected. Two possible explanations: (1) recent increase in thermal gradients occurred; or (2) vitrinite reflectance is suppressed, related to the marine environment of deposition)

Kaoru, M., Y. Kurata, D.J. Christiansen & J. Scott (2004)- The Crux gas-condensate discovery, northern Browse Basin, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 67-79.

Karner, G.D. & N.W. Driscoll (1999)- Style, timing and distribution of tectonic deformation across the Exmouth Plateau, northwest Australia, determined from stratal architecture and quantitative basin modeling. In: C. Mac Niocaill & P.D. Ryan (eds.) Continental Tectonics, Geological Society, London, Special Publ. 164, p. 271-311.
(Tectonic events responsible for formation of Exmouth Plateau varied in space and time. Deformation broadly distributed in Late Permian event (widespread 'intra-cratonic' Locker Shales and Mungaroo Fm). Late Triassic-E Jurassic extension more localized and formed Exmouth, Barrow and Dampier sub-basins. Callovian and Kimmeridgian extension resulted in seafloor spreading. Regional extension in Tithonian- Valanginian generated widespread regional subsidence. After initiation of seafloor spreading, inversion phase with minor reactivation of fault systems. Post-Valanginian subsidence requires significant lower crustal and mantle extension across Exmouth Plateau in Tithonian-Valanginian, which should be accompanied by large injection of heat)

Keall, J.M. & P.J. Smith (2000)- The impact of late tilting on hydrocarbon migration, eastern Browse Basin, Western Australia. AAPG International Conference Exhibition, Bali 2000, American Assoc. Petroleum Geol. (AAPG) Bull. 84; 9, p. 1445-1446 *(Abstract only)*

(Discoveries of oil in Gwydion-1 (1995) and Cornea-1 (1996) on E margin of Browse Basin confirmed presence of oil source in E Cretaceous- Late Jurassic source rocks, with migration of >50 km from kitchen areas to W. Wells drilled along E side of basin have residual oil columns, suggesting traps had greater structural closure at time of charge. Uplift and erosion in Miocene resulted in tilting of traps, causing reduction in amount of closure and spilling of oil updip)

Keall, J.M. & P.J. Smith (2003)- The Argus-1 gas discovery, northern Browse Basin, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 37-52.

(N Browse 2000 discovery in tilted Triassic-Jurassic fault block with >240m dry gas column mainly in Oxfordian shallow marine sandstones)

Keep, M. (2000)- Neogene tectonic influences on petroleum systems in the Browse Basin and Timor Sea, North West Shelf, Australia. AAPG International Conference Bali 2000. *(Extended abstract)*

Keep M., A. Bishop & I. Longley (2000)- Neogene wrench reactivation of the Barcoo Sub-basin, northwest Australia: implications for Neogene tectonics of the northern Australian margin. Petroleum Geoscience 6, 3, p. 211-220.

(Barcoo Basin is S part of Browse Basin. Barcoo Fault system is Miocene reactivation of older structures, resulting in right-lateral wrench zone. Exact timing of inversion uncertain, but probably mainly M Miocene)

Keep, M., M. Clough & L. Langhi (2002)- Neogene tectonic and structural evolution of the Timor Sea region. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia 3, Proc. West Australian Basins Symposium, Perth 2002, p. 341-353.

(Two major and one minor Neogene structural reactivation events: Earliest Miocene (25-23 Ma; rel. minor; =New Guinea collision?), Late Miocene (11- 5.5 Ma; related to Sumba collision/ uplift or New Guinea collision/ folding; 8 Ma seems widespread Indo-Australian event) and late E Pliocene (~3 Ma- present-day; =Timor collision). Dominantly right-lateral transpression in Browse, left-lateral transtension in Timor Sea)

Keep, M. & M. Harrowfield (2008)- Elastic flexure and distributed deformation along Australia's North West Shelf: Neogene tectonics of the Bonaparte and Browse basins. In: H. Johnson et al. (eds.) The nature and origin of compression in passive margins, Geological Society, London, Special Publ. 306, p. 185-200.

(Neogene collision between Australia and Banda Arc modified adjacent Bonaparte and Browse basins of NW Australia. Modification both continuous long-wavelength amplification of Permo-Carboniferous basement topography and flexure and normal faulting of Triassic-Recent sedimentary cover)

Keep, M., M. Harrowfield & W. Crowe (2007)- The Neogene tectonic history of the North West Shelf, Australia. *Exploration Geophysics* 38, p. 151-174.

(Continental collision in vicinity of Timor Island (Banda Orogen) influences Neogene deformation in Timor Sea, but little effect in Carnarvon Basin. Location of deformation changes from outboard in Timor Se, to inboard in Carnarvon Basin, with neotectonic events controlled by basement boundaries in Carnarvon Basin. Virtually all Neogene faults in Browse and Bonaparte Basins have normal displacement. Minor compressional inversional structures associated with latest Oligocene- E Miocene arc collision at N margin of Australia/ PNG)

Keep, M., J. Hengesh & B. Whitney (2012)- Natural seismicity and tectonic geomorphology reveal regional transpressive strain in northwestern Australia. *Australian J. Earth Sciences* 59, 3, p. 341-354.

(Temporary seismic network in NW Australia recorded 28 earthquakes, with dominantly strike-slip solutions)

Keep, M., A. Holbourn, W. Kuhnt & S.J. Gallagher (2018)- Progressive Western Australian collision with Asia: implications for regional orography, oceanography, climate and marine biota. *J. Royal Society Western Australia* 101, p. 1-16.

(online at: https://api.research-repository.uwa.edu.au/ws/portalfiles/portal/57358418/Keep_et_al_2018.pdf)

(W Australia margin migrated >30° N-ward in last 50 Myrs, carrying evidence of Paleogene greenhouse to Neogene icehouse climate and ocean transitions in sedimentary sequences. In last 10 Myrs Australia collided with the Asian plate to N, restricting interchange between Indian and Pacific oceans. This created Indonesian Throughflow and ongoing crustal stress along NW Shelf. Recent sediment coring by IODP and RV Sonne yielded superb palaeoclimatic and palaeoceanographic archives)

Keep, M. & S.J. Moss (2000)- Basement reactivation and control of Neogene structures in the Outer Browse Basin, North west Shelf. *Exploration Geophysics* 31, p. 424-432.

(Late Permian- Early Triassic NE-SW extensional faults with minor reactivation in Cenomanian-Turonian, but more pronounced transpression in M Oligocene and M-L Miocene)

Keep, M., C.M. Powell & P.W. Baillie (1998)- Neogene deformation of the North West Shelf. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia 2*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1998, p. 81-91.

(Changing angles of collision between the Indo-Australian and Eurasian plates result in a variety of reactivation structures along the NW Shelf. Zones of high strain/ reactivation strongly partitioned into discrete areas. Neogene deformation major impact on petroleum accumulations, both enhancing or breaching earlier traps)

Kennard, J.M. (1996)- Petrel Sub-basin study 1995-1996, Geohistory modelling. Australian Geological Survey Organisation (AGSO) Record 1996/43, p. 1-120.

(online at: https://d28rz98at9flks.cloudfront.net/22673/Rec1996_043.pdf)

(Most wells show uplift and erosion of 400-1000m of Permian- E Triassic sediments during Late Triassic-earliest Jurassic 'Fitzroy Movement'/ basin inversion (peak of Fitzroy Movement probably in late Middle Triassic (Ladinian))

Kennard, J.M., I. Deighton, D.S. Edwards et al. (1999)- Thermal history modelling and transient heat pulses: new insights into hydrocarbon expulsion and 'hot flushes' in the Vulcan Sub-basin, Timor Sea. *Australian Petroleum Production Exploration Association (APPEA) J.* 39, 1, p. 177-207.

(Good overview of Vulcan Basin; Late Tithonian submarine fans in Paqualin/Swan graben)

Kennard, J.M., I. Deighton, D.S. Edwards, C.J. Boreham & A.G. Barrett (2002)- Subsidence and thermal history modelling: new insights into hydrocarbon expulsion from multiple petroleum systems in the Petrel Sub-basin, Bonaparte Basin. In: M. Keep & S. Moss (eds.) *The sedimentary basins of Western Australia 3*, Proc. West Australian Basin Symposium, Petroleum Exploration Society Australia (PESA), Perth, p. 409-437.

(Thermal history analysis of E Carboniferous- Permian petroleum systems in Petrel. Modelled oil- gas expulsion from postulated oil-prone source in Lower Carboniferous Milligans Fm in two offshore depocenters N and S of Turtle-Barnett High. Expulsion commenced in Late Carboniferous, peaked in E Permian, prior to onset of Late Triassic 'Fitzroy Movement' uplift. Expulsion from Lower Permian Keyling Fm restricted to central and outer portions of Petrel Deep. Expulsion from outer Petrel Deep in Late Permian-E Triassic. C Petrel Deep peaked in E Triassic, with minor expulsion in Late Triassic-Cretaceous. Gas expulsion from U Permian Hyland Bay Fm limited to outboard limits of Petrel Sub-basin. Timing is Jurassic-Cretaceous, with peak in mid-late Cretaceous)

Kennard, J.M., I. Deighton, D. Ryan, D.S. Edwards & C.J. Boreham (2003)- Subsidence and thermal history modelling: new insights into hydrocarbon expulsion from multiple petroleum systems in the Browse Basin. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 412-435.

Kennard, J.M., D.S. Edwards, T.E. Ruble, C.J. Boreham et al. (2000)- Evidence for a Permian petroleum system in the Timor Sea region, northwestern Australia. AAPG International Conference Exhibition, Bali 2000, American Assoc. Petroleum Geol. (AAPG) Bull. 84, 9 (*Abstract only*)

Kennard, J.M., M.J. Jackson, K.K. Romine, K.K. Shaw & P.N. Southgate (1994)- Depositional sequences and associated petroleum systems of the Canning Basin, WA. In: P.G & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Petroleum Exploration Society Western Australia, p. 657-676.

Kennard, J.M., M.J. Jackson, K.K. Romine & P.N. Southgate (1994)- Canning Basin project Stage II- Geohistory modelling, AGSO Record, 1994/67, p. 1-242.

(online at: https://d28rz98at9flks.cloudfront.net/14787/Rec1994_067.pdf)

(Geohistory analysis of 32 Canning Basin wells. Multiple Ordovician- Triassic tectonic events (Ordovician-Silurian Samphire Marsh Extension, E Devonian Prices Creek Uplift, M-L Devonian Pillara Extension, mid-Carboniferous Meda Transpression, E Permian- Triassic Point Moody Extension and Late Triassic- E Jurassic Fitzroy Transpression) resulted in three subsidence phases, each ended by uplift phase. Large anticlines with up to 2600m of erosion of Permian- E Triassic strata formed during Fitzroy Transpression)

Kennard, J.M., P.N. Southgate, M.J. Jackson, P.E. O'Brien, N. Christie-Blick, A.E. Holmes & J.F. Sarg (1992)- New sequence perspective on the Devonian reef complexes and the Frasnian-Famnenian boundary, Canning Basin, Australia. *Geology (GSA)* 20, p. 1135-1138.

(Late Devonian barrier reef complex crops out as ~350 km long and 3-50km wide NW-SE linear belt at N margin of Canning Basin, fringing Proterozoic Kimberley block. 15 Frasnian-Tournaisian sequences mapped)

Killick, M.F. & P.H. Robinson (1994)- The good and bad of diagenesis; a review of sandstone reservoirs in the North Bonaparte Basin. In: P. & G. Purcell (eds.) The sedimentary basins of Western Australia. Proc. Petroleum Exploration Society Australia (PESA) Symposium 1, Perth, p. 275-288.

(U Jurassic- Lower Cretaceous sandstones in N Bonaparte Basin range from fluvial channels to basin floor fans. Gross similarities in diagenetic histories. Reservoir quality primarily controlled by depositional setting. Clean blocky sands of M Jurassic Plover Fm higher porosity-permeability than more argillaceous Sandpiper sands. Major diagenetic events: (1) widespread precipitation of carbonate cements in Cretaceous; and (2) quartz cementation, initiated before carbonate precipitation, but probably peaked in M Tertiary. Some hydrocarbon migration may have occurred before late kaolinite precipitation, preserving reservoir quality)

King, E. (2008)- Seismic stratigraphy of the intra-Barrow Group, Barrow sub-basin, Northwest Shelf, Australia. M.Sc. Thesis University of Adelaide, School of Petroleum, p. 1-126.

(online at: <https://digital.library.adelaide.edu.au/dspace/bitstream/2440/59013/2/02whole.pdf>)

(Seismic stratigraphy of basal Cretaceous (Berriasian- E Valanginian) Barrow Delta, S of Barrow island. Large shelf-margin fluvial-deltaic system built out to NE. Eleven 2nd-order sequences, with lowstand, transgressive and highstand systems tracts. Within Sequence 1 higher-order sequences with numerous lowstand system wedges and associated channel features)

- Kivior, T. (2005)- Characterising top seal in the Vulcan Sub-Basin, North West Shelf, Australia. B.Sc. (Hons) Thesis, University of Adelaide, Australian School of Petroleum, p. 1-390.
(online at: <https://digital.library.adelaide.edu.au/dspace/bitstream/2440/59638/2/02whole.pdf>)
- Kivior, T., J.G. Kaldi & R.M. Jones (2000)- Late Jurassic and Cretaceous Seals of the Vulcan Sub-Basin. AAPG International Conference Bali 2000, AAPG Search and Discovery Article 9091, 1p. (*Abstract only*)
(*Paleo-oil columns in Vulcan Sub-Basin suggest trap breach, either via top seal or fault leakage. Late Jurassic-Cretaceous with four significant shale-marl seal intervals, capable of supporting 100m hydrocarbon columns*)
- Kivior, T., J.G. Kaldi & S.C. Lang (2002)- Seal potential in Cretaceous and Late Jurassic rocks of the Vulcan subbasin. Australian Petroleum Production Exploration Association (APPEA) J. 41, p. 203-224.
(*Almost all Late Jurassic and Cretaceous seals in Volcan sub-basin capable of holding back hydrocarbon columns greater than present or paleocolumns encountered. This suggests hydrocarbon leakage unlikely to have occurred as result of top seal capillary failure*)
- Klootwijk, C. (1996)- Phanerozoic configurations of Greater Australia: evolution of the North West Shelf. Part 1: Review of reconstruction models. Australian Geological Survey Organisation (AGSO), Record 1996/51, p. 1-105.
(online at: www.ga.gov.au/webtemp/1209383/Rec1996_051.pdf)
(*Review of SE Asia- NW Australia plate tectonic evolution models. Models show general agreement for original position of Sibumasu block opposite NW Australia, with N China block in near proximity. Positions of S China and Indochina blocks less clear, but possibly located off N Greater India, perhaps near W Australia*)
- Klootwijk, C. (1996)- Phanerozoic configurations of Greater Australia: evolution of the North West Shelf. Part 2: Palaeomagnetic and geologic constraints on reconstructions. Australian Geological Survey Organisation (AGSO), Canberra, Record 1996/52, p. 1-85.
(online at: www.ga.gov.au/corporate_data/23691/Rec1996_052.pdf)
(*Paleomagnetic constraints on Paleozoic-Mesozoic stripping of Gondwana's NE margin. This occurred through separation of extensive ribbon-continents rather than individual fragments. Ribbon continents and fragments of Gondwanan origin identified in wide zone of Asia, peripheral to Siberian Platform*)
- Klootwijk, C. (1996)- Phanerozoic configurations of Greater Australia: evolution of the North West Shelf. Part 3: Palaeomagnetic data base. Australian Geological Survey Organisation (AGSO), Canberra, Record 1996/53, p.
- Klootwijk, C. (1998)- Phanerozoic polepath loops and their correlation with basin development and resource accumulation. AGSO Research Newsletter 29, p. 1-3.
- Klootwijk, C. (2010)- A heretic view of the Alice Springs Orogeny: Australia-Asia collision and tectonic extrusion. 20th Australian Geological Convention, Canberra 2010, Geological Society Australia, Abstracts 98, p. 94-95. (*Abstract only*)
(*Paleomagnetic data show N-ward excursion of Australia of >30° of latitude, which may have started in E Devonian and peaked in M-L Visean when promontory of Australian craton in central New Guinea reached latitudes of 30°-40° N, and possibly collided with C Asian Orogenic Belt, closing Paleasian Ocean*)
- Klootwijk, C. (2010)- Australia's controversial Middle-Late Palaeozoic pole path and Gondwana-Laurasia interaction. *Palaeoworld* 19, 1-2, p. 174-185.
(*Alternative paleomagnetic pole path indicates substantial N-ward excursion of Australia/ NE Gondwana in E Carboniferous, possibly starting in E Devonian, with New Guinea continental promontory of Australia reaching latitudes of 30°- 40°N by Visean(?)*)
- Klootwijk, C. (2013)- Middle-Late Paleozoic Australia-Asia convergence and tectonic extrusion of Australia. *Gondwana Research* 24, 1, p. 5-54.
(*Paleomagnetic data from Carboniferous of W Tamworth Belt, S New England Orogen, show N-ward excursion over ~30°, that probably started in E Devonian. At M-L Visean peak, C New Guinean promontory of Australian*)

craton reached 30°-40°N, within latitude range of W Central Asian Orogenic Belt. Devonian-Carboniferous convergence with this belt proposed as driver for tectonism throughout Australia and C Asia Orogenic Belt)

Kloss, O., G.R. Wood, J. Benson, S.C. Lang et al. (2003)- A revised depositional model for the Cape Hay Formation, Petrel Field, northern Australia. In: G.K. Ellis, P.W. Baillie & T.J. Munson (eds.) Timor Sea Petroleum Geoscience, Proc. Timor Sea Symposium, Darwin 2003, p. 503-519.

(Petrel Field in Bonaparte Basin is large gas resource in Late Permian Cape Hay Formation, interpreted as transgressive, sandy tide-dominated, restricted estuarine fill succession)

Kodama, K. & J.G. Ogg (1992)- Motion of the Australian Plate from sediment paleoinclinations, Early Cretaceous through Holocene. In: F.M. Gradstein et al., Proc. Ocean Drilling Program (ODP), Scientific Results, 123, p. 549-554.

(Change in paleolatitude of areas off NW Australia since E Cretaceous determined from paleomagnetism of cores from ODP Leg 123 and DSDP Leg 27. E Cretaceous paleolatitudes for Sites 766 and 261 around 37°S, lower latitude than expected from Australian apparent polar wander path (APWP). Mid Cretaceous- Paleogene paleolatitudes for Site 765 also lower than predicted by APWP. (NB: results incompatible with present-day relative positions?; Site 261 is 5° N of Site 765 today, but in Cretaceous shown as 5° S of Site Site 765; JTvG))

Korn, B.E., R.P. Teakle, D.M. Maughan & P.B. Siffleet (2003)- The Geryon, Orthrus, Maenad and Urania gas fields, Carnarvon Basin, Western Australia. Australian Petroleum Production Exploration Association (APPEA) J. 43, 1, p. 285-301.

(Gas fields part of 'Greater Gorgon' group in Barrow sub-basin of Carnarvon basin)

Kraus, G.P. & K.A. Parker (1979)- Geochemical evaluation of petroleum source rock in Bonaparte Gulf-Timor Sea region, northwestern Australia. American Assoc. Petroleum Geol. (AAPG) Bull. 63, p. 2021-2041.

Kristan-Tollmann, E. & J. Colwell (1991)- Alpinen Enzesfelder Kalk (Unter-Lias) vom Exmouth-Plateau NW von Australien. Austrian J. Earth Sciences (Mitteilungen Osterreichischen Geol. Gesellschaft) 84, p. 301-308.

(online at: https://www.zobodat.at/pdf/MittGeolGes_84_0301-0308.pdf)

*('Alpine Enzesfelder Limestone (Lower Liassic) from the Exmouth plateau, NW of Australia'. Lower Liassic yellow echinoid-mollusc limestone samples dredged from NE part of submarine Exmouth Plateau from >2000m water depth. Similar to Enzesfeld Fm in Northern Limestone Alps in Austria and also from Timor. Sample 96 DR 30 with distinct foram fauna with *Involutina liassica*, *I. turgida*, *Trocholina* spp., etc. (although these may also be found in latest Triassic; abundant *I. liassica* usually signifies lowermost Liassic). Part of Alpine Late Triassic-Jurassic facies belt that stretches for >15,000 km from Alps to Australia-PNG)*

Kristan-Tollmann, E. & F. Gramann (1992)- Paleontological evidence for the Triassic age of rocks dredged from the Northern Exmouth Plateau (Tethyan foraminifers, echinoderms, and ostracodes). In: U. von Rad, B.U. Haq et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 122, p. 463-474.

(Limestone samples from ODP site 764 and Sonne cruise 1979 dredge samples from N side Wombat Plateau have Norian- Rhaetian fauna, similar to other Tethyan/ 'Alpine' foram faunas, including Timor and PNG, suggesting close similarity of faunal communities throughout Tethys realm)

Kuwahara, Y., K. Yasukawa, E. Tanaka, K. Nakamura, M. Ikehara & Y. Kato (2024)- Multi-elemental statistical features of Early Paleogene sediments from the mid-latitude Eastern Indian Ocean. Paleoclimatology and Paleoclimatology 39, 10, e2023PA004829, p. 1-22.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2023PA004829>)

(Stable isotopic ratios from late Paleocene- M Eocene nannofossil chalks in ODP Leg 122 Site 762 Hole C, Exmouth Plateau, Australia NW margin, in mid-latitude eastern Indian Ocean. Bulk $\delta^{13}C$ and $\delta^{18}O$ identify warming period called E Eocene Climatic Optimum (EECO) and cooling toward M Eocene. Identified at least six hyperthermals (Paleocene-Eocene Thermal Maximum, H2, H1, J, ETM3, and L)

Labutis, V.R. (1994)- Sequence stratigraphy and the North West shelf of Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 159-180.

(Permian- Paleocene sequence stratigraphic framework for NW Shelf based on biozonation of Helby et al. (1987), Exxon models of sequence stratigraphy and the time scale of Harland (1982). Provides insight into timing, rifting history and type of tectonic deformation affecting NW Shelf)

Labutis, V.R., A.D. Ruddock & A.P. Calcraft (1998)- Stratigraphy of the southern Sahul Platform. Australian Petroleum Production Exploration Association (APPEA) J. 38, 1, p. 115-136.

Laitrakull, K., P. Weimer & R. Bouroullec (2012)- Sequence stratigraphic interpretation of the Cretaceous through Miocene Section, Barcoo Sub-basin, Browse Basin, Northwest Shelf, Australia. Proc. Int. Petroleum Tech. Conference, Bangkok 2012, IPTC 14729, p. 1654-1679.

(Sequence stratigraphic framework for Cretaceous- M Miocene of Barcoo sub-basin of Browse Basin, to evaluate stratigraphic trap potential from seismic and 4 wells. Six 2nd-order mega-sequences recognized, each subdivided into 2-7 3rd-order depositional sequences. Base Cretaceous- Top Turonian dominated by major progradational-aggradational siliciclastic margin, with up to 40 km of progradation to NW. Major transgression in Late Cretaceous caused margin backstepping. Cenozoic section also prograded to NW, but thinner than underlying Cretaceous strata, and is less prospective due to shallow burial and lack of traps. To date, no fields discovered)

Langford, R.P., G.E. Wilford, E.M. Truswell & A.R. Isern (1995)- Palaeogeographic atlas of Australia, vol. 10- Cainozoic. BMR, Canberra.

Langhi, L. & G.D. Borel (2005)- Influence of the Neotethys rifting on the development of the Dampier Sub-basin (North West Shelf of Australia), highlighted by subsidence modeling. Tectonophysics 397, p. 93-111.

(online at: https://www.unil.ch/files/live/sites/mcg/files/users/gborel/public/Dampier_Neotethys.pdf)

(Tectonic subsidence curves around Roebuck 1 well show striking Permo-Carboniferous rifting phase related to Neotethys (means Mesotethys?; JTVG) rifting and Late Jurassic-Early Cretaceous event coeval with Argo Abyssal Plain spreading. Permo-Carboniferous episode greater effect on proximal Dampier Sub-basin subsidence than Argo rifting. Two modes of extension: Late Paleozoic (widespread) and Mesozoic (localised))

Langhi, L. & G.D. Borel (2008)- Reverse structures in accommodation zone and early compartmentalization of extensional system, Laminaria High (NW shelf, Australia). Marine and Petroleum Geology 25, p. 791-803.

(Late Jurassic rift phase key to accumulation of hydrocarbons in Timor Sea. On Laminaria High Oxfordian-Kimmeridgian E-W faults forms structural traps with discoveries. Secondary reverse structures act as secondary hydrocarbon traps and/or as migration barriers (flower structure in extensional setting))

Langhi, L., N.B. Ciftci & G.D. Borel (2011)- Impact of lithospheric flexure on the evolution of shallow faults in the Timor foreland system. Marine Geology 284, p. 40-54.

(Laminaria High lithosphere flexure during collision of Australian NW margin and Banda volcanic arc is mechanism for Late Neogene fault development and reactivation of Jurassic structures. Initiation of faulting during Late Miocene when Laminaria High entered flexed area (forebulge). Maximum fault growth between Late Pliocene and Early Pleistocene when Laminaria High was located near forebulge hinge)

Langhi, L., N.B. Ciftci & D. Dewhurst (2011)- Structural trap modification associated with foreland lithospheric flexure. AAPG Annual Convention Exh., Houston 2011, Poster, Search and Discovery Article 40780, p. 1-5.

(online at: www.searchanddiscovery.com/documents/2011/40780langhi/ndx_langhi.pdf)

(Bonaparte basin/ Timor Sea Late Jurassic horst block structures modified by Late Miocene and younger flexure of underthrusting Australian continental margin in Timor Trough foreland basin. Creation of 'hour-glass structures' and affecting seal integrity of pre-Miocene hydrocarbon traps)

Langhi, L. & S.B. Reymond (2005)- Seismic attributes mapping of Late Palaeozoic glacial deposits on the Australian North West Shelf. Exploration Geophysics 36, 2, p. 224-233.

(Gondwana supercontinent experienced extensive Permo-Carboniferous glaciation, simultaneous with onset of Neotethys rifting of N Gondwana margin. Terrestrial ice sheet in W Australia. Describes seismic attributes of Late Paleozoic syn-rift sequences in half-graben (series of basal moraines followed by deglaciation deposits))

Langhi, L. & C. Steiner (2003)- Permian glacial and fluvio-deltaic depositional systems of the Dampier Sub-Basin (North West Shelf of Australia) revealed by 3-D seismic. Abstract AAPG International Conference, Barcelona 2003.

Langhi, L., Y. Zhang, A. Gartrell, J. Underschultz & D. Dewhurst (2010)- Evaluating hydrocarbon trap integrity during fault reactivation using geomechanical three-dimensional modeling: an example from the Timor Sea, Australia. American Assoc. Petroleum Geol. (AAPG) Bull. 94, 4, p. 567-591.
(Analysis of faults and fault seal on Laminaria High, Bonaparte basin, where Neogene extensional-transtensional reactivation affects most trap-bounding faults and may be reason for many breached or underfilled traps)

Langhi, L., Y. Zhang, A. Gartrell, M.P. Brincat, M. Lisk, J. Underschultz & D. Dewhurst (2013)- Mechanism of upfault seepage and seismic expression of hydrocarbon discharge sites from the Timor Sea. In: F. Aminzadeh et al. (eds.) Hydrocarbon seepage: from source to surface, Chapter 2, Soc. Exploration Geophysicists (SEG) and American Assoc. Petroleum Geol. (AAPG), Geophysical Developments Series 16 p. 11-41.
(Seismic expression of hydrocarbon leakage across faults from Jurassic reservoirs in Laminaria and Corallina fields)

L'Anson, A., C. Elders & S. McHarg (2019)- Marginal fault systems of the Northern Carnarvon Basin: evidence for multiple Palaeozoic extension events, North-West Shelf, Australia. Marine and Petroleum Geology 101, p. 211-229.

(Paleozoic structures along NW margin of Australia long recognised as fundamental events responsible for formation of offshore basins. Two distinct orientations of structures provide evidence for early poly-phase rift history of NW margin: (1) NNE trending faults of Candace Terrace initiated in Carboniferous or Devonian; (2) NE-SW faults of Permian phase, unconformably overlain by Triassic sediments. Etc.)

Larson, R.L. (1977)- Early Cretaceous breakup of Gondwanaland off western Australia. Geology (GSA) 5, 1, p. 57-60.

(Magnetic lineations between Wallaby and Exmouth plateaus off W Australia identified as Early Cretaceous reversals M-0 to M-4 and some older Early Cretaceous. Formed at same plate boundary as anomalies in Perth abyssal plain and date Early Cretaceous breakup of E Gondwanaland at between 120-135 Ma)

Laurie, J.R., S. Bodorkos, R. Nicoll, J.L. Crowley, D J. Mantle, A.J. Mory, G.R. Wood, J. Backhouse et al. (2016)- Calibrating the middle and late Permian palynostratigraphy of Australia to the geologic time-scale via U-Pb zircon CA-IDTIMS dating. Australian J. Earth Sciences, 63, 6, p. 701-730.

(U-Pb zircon dating allows direct calibration of palynostratigraphy to numerical time-scale highlights significant inaccuracies in the previous indirect correlation. Top Dulhuntyispora granulata Zone (APP4.1) in Wordian, D. dulhuntyi Zone (APP4.3) exceptionally short, within Wuchiapingian, not E Capitanian; top D. parvithola Zone (APP5) near Permo-Triassic boundary, not in latest Wuchiapingian, etc.)

Laurie, J.R., S. Bodorkos, T.E. Smith, J. Crowley & R. Nicoll (2015)- The CA-IDTIMS Method and the Calibration of endemic Australian palynostratigraphy to the geological timescale. In: AAPG /SEG Int. Conf. Exhib., Melbourne 2015, Search and Discovery Article 51207, p. 1-19.

*(online at: www.searchanddiscovery.com/pdfz/documents/2015/51207laurie/ndx_laurie.pdf.html)
(Permian palynozone recalibration via zircon dating of volcanic beds. Similar to Laurie et al. 2016))*

Laurie, J.R. & C.B. Foster (eds.) (2001)- Studies in Australian Mesozoic palynology II. Memoir Assoc. Australasian Palaeontologists (AAP) 24, Sydney, p. 1-235.

Laurie, J.R., D. Mantle, R.S. Nicoll & J. Ogg (2009)- Customising the geological timescale for use in Australasia. Australian Petroleum Production Exploration Association (APPEA) J. 2009, p. 301-309.

(On adaptation of standard Geological Time Scale, which was largely built around Northern Hemisphere datasets, for Australian region)

Lavering, I.H. (1993)- Quaternary and modern environments of the Van Diemen Rise, Timor Sea, and potential effects of additional petroleum exploration activity. BMR J. Australian Geology Geophysics 13, 4, p. 281-292.

(online at: https://d28rz98at9flks.cloudfront.net/49557/Jou1993_v13_n4.pdf)

(Sediments on Van Diemen Rise, Sahul Shelf, E Timor Sea, mainly skeletal calcareous sand. Several sinuous channels cut through terraces and banks during subaerial exposure of carbonate shelf during Last Glacial Maximum. At ~18 000 BP sea level was -120 m below present shoreline; only narrow marine shelf near edge of present continental shelf. Shoals on narrow shelf focus of coral reef growth. Calcrete concretions formed on exposed land surface. Today entirely clastic sedimentation <50 m, derived from wet-season river input. Large foraminifera and coralline algae dominate shallow banks and rises. Halimeda-dominated assemblages on outermost shelf edge banks)

Lavering, I. & A. Jones (2002)- Carbonate shoals and hydrocarbons in the western Timor Sea. Petroleum Exploration Society Australia (PESA) News 55, p. 40-42.

(Major carbonate shoals, particularly along edge of NW Australia continental shelf, some associated with active petroleum seepage systems)

Lavering, I.H. & S. Ozimic (1988)- Bonaparte Basin petroleum accumulations. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia, Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA), p. 331-337.

(33 known petroleum accumulations in Bonaparte Basin in Devonian-Tertiary reservoirs. Largest oilfields Challis, Jabiru, Puffin and Skua, in faulted-anticline traps in Vulcan Sub-basin, Ashmore Platform and Jabiru Terrace. Largest gas accumulations Petrel and Tern in anticlinal traps in Permian of Petrel sub-basin. Palozoic oils lower gravity than Mesozoic oils. Gases in Permian- Carboniferous sequences higher nitrogen and CO₂)

Lavin, C., A. Goody & I. Longley (2023)- Stepping off the edge: the geological framework of deepwater northern Australia. The APPEA Journal 63, S1, p. 257-262.

(‘Outer Ashmore Trough’ S of imbricate wedge on N flank of Timor Trough (S of westernmost Timor; with North Hibernia 1 and Ashmore Reef 1 wells)). With thickened Triassic depocenter of clastics and broad Norian carbonate platform; probably follows hyperextended Late Permian rifting)

Laws, R. (1988)- The geological significance of recent discoveries and developments in Australia and Papua New Guinea. Australian Petroleum Exploration Assoc. (APEA) Journal 28, 2, p. 55-66.

Laws, R. A. & G.P. Kraus (1974)- The regional geology of the Bonaparte Gulf- Timor Sea area. Australian Petroleum Exploration Assoc. (APEA) Journal 14, 1, p. 77-84.

Lech, M.E., C. Lewis, L. White & S.Abbott (2018)- Triassic provenance analysis of the Roebuck Basin, North West Shelf of Australia. Proc. Australian Exploration Geoscience Conference (AEGC 2018), Sydney, 1p.

(Poster presentation)

(Detrital zircons dating of samples from Roebuck basin, NW Shelf, shows broad range of old ages. Euhedral Triassic zircons common to all samples suggest proximal volcanic source, possibly Lhasa Terrane or Birds Head/ Sula Spur?)

Lee, R.J. & P.J. Gunn (1988)- The Bonaparte Basin. In: Petroleum in Australia- the first century, Australian Petroleum Exploration Assoc. (APEA), Special Publ., p. 252-269.

Lee, S.G & M. Bawden (2011)- Exploration opportunities in the prolific Bonaparte Basin of the Timor Sea. Spectrum Geo Expro 8, 2.

Lemon, N.M. & C.R. Barnes (1997)- Salt migration and subtle structures: modelling of the Petrel Sub-basin, northwest Australia, Australian Petroleum Production Exploration Association (APPEA) J. 37, p. 245-258.

Leonard, A.A., A. Vear, A.L. Panting et al. (2003)- Blacktip 1 gas discovery: an AVO success in the southern Bonaparte Basin, Western Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 25-35.

(Gas in Lower Permian Keyling Fm, less in E Triassic Mt Goodwin Fm; est. EUR 1.1 TCF; trap Late Triassic compressional anticline)

Lewis, C.J. & K.N. Sircombe (2013)- Use of U-Pb geochronology to delineate provenance of North West Shelf sediments, Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-26.

(online at: www.asi-pl.com.au/f.ashx/News_Items/WABS2013_Lewis-1.pdf)

(Pilbara, Yilgarn and Kimberley cratons not major protosources during M-U Triassic of NW Shelf. Detrital zircon ages of Berriasian Brewster Mb sandstone from Burnside 1 in Caswell sub-basin main components 1890-1730 Ma (12%; Halls Creek orogen?), 1660-1370 Ma (13%) and 1240-1100/820 Ma (~54%). Subordinate components 2750-2380 Ma (~7%; Yilgarn?) and 730-550 Ma. Triassic (240-200 Ma; mainly Norian) euhedral zircon grains of enigmatic volcanic origin in most Mungaroo Fm samples suggest volcanic event proximal to Exmouth Plateau at this time (some of the sediments of Mungaroo Fm possibly delivered via transcontinental river systems from Australia, but euhedral crystals suggest short transport distances (into backarc basin from Late Triassic arc on Lhasa/ SW Borneo/ E Java- W Sulawesi blocks that had not yet fully separated from NW Australia in Triassic time?))

Lindsay, J.F. (1997)- Permian postglacial environments of the Australian Plate. In: I.P. Martini (ed.) Late glacial and postglacial environmental changes, Oxford University Press, p. 213-229.

Lipski, P. (1993)- Tectonic setting, stratigraphy and hydrocarbon potential of the Bedout Sub-basin, NW Shelf. Australian Petroleum Exploration Assoc. (APEA) Journal 33, 1, p. 138-150.

Lipski, P. (1994)- Structural framework and depositional history of the Bedout and Rowley sub-basins. In P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 769-777.

(Bedout and Rowley Mesozoic sub-basins between Carnarvon and Browse basins with rel. thick Permian-Triassic- E Jurassic. Rel. unexplored)

Lisk, M. M.P. Brincat, P.J. Eadington & G.W. O'Brien (1998)- Hydrocarbon charge in the Vulcan Sub-basin. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium 2, p. 287-303.

(Analyses on 13 fields and 35 abandoned wells suggest oil fields were once more widespread. Jabiru, Skua, Swift and Cassini oil fields had different paleo-OWC to those observed today. Most fields show evidence for paleo-gas cap, indicating early gas charge prior to oil accumulation. Many gas fields had oil columns prior to gas charge. Technical success rate is 1 in 9, about 1 in 24 for commercial fields. Paleo-oil column heights range from few m to >200m, exceeding 30m at Eclipse, East Swan, Octavius and Osprey).

Lisk, M., G.W. O'Brien & M.P. Brincat (1997)- Gas displacement: an important control on oil and gas distribution in the Timor Sea? Australian Petroleum Production Exploration Association (APPEA) J. 37, p. 259-271.

Lisk, M., G.W. O'Brien & P.J. Eadington (2002)- Quantitative evaluation of the oil-leg potential in the Oliver gas field, Timor Sea, Australia. American Assoc. Petroleum Geol. (AAPG) Bull. 86, 9, p. 1531-1542.

Lisk, M., J. Ostby, N.J. Russell & G.W. O'Brien (2002)- Oil migration history of the offshore Canning Basin. Australian Petroleum Production Exploration Association (APPEA) J. 2000, 2, p. 133-153.

(Fluid inclusions suggest active petroleum system in offshore Canning basin, despite absence of Late Jurassic source system)

Liu, C., C.S. Fulthorpe, J.A. Austin & C.M. Sanchez (2011)- Geomorphologic indicators of sea level and lowstand paleo-shelf exposure on Early-Middle Miocene sequence boundaries. *Marine Geology* 280, p. 182-194. *(3D seismic analysis of two sequence boundaries in E-M Miocene section of N Carnarvon Basin, Australian NW Shelf. Step-like discontinuities on DLS4 and DLS3.1 represent buried wave-cut terraces or sea cliffs, incisions of DLS3.1 are karst, both implying significant lowstand paleo-shelf exposure of E-M Miocene sequence boundaries)*

Liu, K., P.J. Eadington, J.M. Kennard et al. (2003)- Oil migration in the Vulcan sub-basin, Timor Sea, investigated using GOI and FIS data. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geological Survey, p. 333-351.

Logan, G.A., A.T. Jones, J.M. Kennard, G.J. Ryan & N. Rollet (2010)- Australian offshore natural hydrocarbon seepage studies, a review and re-evaluation. *Marine and Petroleum Geology* 27, 1, p. 26-45. *(Surprisingly few natural hydrocarbon seeps identified in Australia's offshore basins. Low Recent burial and subsidence rates not favourable for seepage. Also difficulties in proving seepage on high energy, shallow carbonate shelves. Active thermogenic methane seepage on Yampi Shelf, only proven occurrence in Australia, driven by deposition of thick Late Tertiary carbonate succession and Late Miocene tectonic reactivation)*

Logan, G., A.T. Jones, G.J. Ryan, M. Wettle, M. Thankappan, E. Grosjean, N. Rollet & J.M. Kennard (2008)- Review of Australian offshore natural hydrocarbon seepage studies. *Geoscience Australia Record* 2008/17, p. 1-235.

(online at: https://d28rz98at9flks.cloudfront.net/65973/Rec2008_017.pdf)

Long, D., A. Millar, S. Weston, L. Esteban, A. Forbes & M. Kennedy (2018)- Ungani Oil Field, Canning Basin-evaluation of a dolomite reservoir. *Proc. Australian Exploration Geoscience Conf. (AEGC 2018)*, Sydney, ASEG Extended Abstracts 2018, 1, p. 1-8. *(Extended Abstract)*

(online at: www.publish.csiro.au/ex/pdf/ASEG2018abT5_2B)

(Ungani field, discovered in Canning Basin in 2011, with 37°API oil from Tournasian Lower Laurel Fm dolomite reservoirs. Sealed by Laurel Shale(?). Heterogeneous reservoir quality)

Longley, I.M., M.T. Bradshaw & J. Heberger (2001)- Australian petroleum provinces of the twenty-first century. In: M.W. Downey et al. (eds.) *Petroleum provinces of the Twenty-first century*, American Assoc. Petroleum Geol. (AAPG), Memoir 74, p. 287-317.

Longley, I.M., C. Buessenschuett, L. Clydsdale, C.J. Cubitt, R.C. Davis, M.K. Johnson, N.M. Marshall et al. (2002)- The North West Shelf of Australia- a Woodside perspective. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia 3*. *Proc. West Australian Basins Symposium Perth*, p. 27-86.

(also online at: www.searchanddiscovery.com/documents/longley/images/longley_full_big.pdf)

(NW Shelf of Australia major gas province with minor oily sweet spots. Pre-rift Permo-Triassic intracratonic sediments, overlain by Jurassic- Cainozoic syn-post- and rift successions, deposited in response to rifting and seafloor spreading of at least three continental blocks in Oxfordian-Valanginian. Rifting initiated in C Argo area in Oxfordian, jumped N of Timor in Tithonian, to S Cuvier area in Valanginian. 754 exploration wells between 1953-2001 discovered 2.6 GBO, 2.6 GBC, 152 Tcf gas in 233 fields. Most traps sands in horsts and tilt blocks, or overlying drape structures. 97% reservoired below Cretaceous regional seal. Dominance of gas (84%) due to quality and maturity of source. Effective oil source mainly in Jurassic pre- and syn-rift deltaic or partially restricted syn-rift marine settings. Open marine deposits typically lean and gas-prone. 119 Tcf of gas reserves remain undeveloped, together with ~1400 MB condensate)

Lorenzo, J.M. (2004)- Foreland basins: lithospheric flexure, plate strength and regional stratigraphy. Ph.D. Thesis Louisiana State University, p. 1-168. *(Unpublished)*

(Including chapters on flexural loading control of accommodation in Timor Sea- Australian NW shelf. Model represents geometry of Timor Trough as ~300 km wide, ~2000m deep depression with 300m high forebulge. Inelastic deformation in SW part of Timor Sea reveals tectonic loading since Late Miocene; NE region loading more substantial since Late Pliocene)

Lorenzo, J.M., J.C. Mutter, R.L. Larson and NW Australia Study Group (1991)- Development of the continent-ocean transform boundary of the southern Exmouth Plateau. *Geology (GSA)* 19, p. 843-846.

(Two-stage model for development of southern transform margin of Exmouth Plateau: (1) Tithonian-Valanginian? rift stage, with extension at high angle to future transform; (2) E Cretaceous drift stage, with underplating of continental rim resulting in permanent isostatic uplift)

Lorenzo, J.M., G.W. O'Brien, J. Stewart & K. Tandon (1998)- Inelastic yielding and forebulge shape across a modern foreland basin: North West Shelf of Australia, Timor Sea. *Geophysical Research Letters* 25, p. 1455-1458.

(Timor Trough is 'underfilled' foreland basin created by partial subduction of NW continental shelf of Australia beneath Timor Island. Change of effective elastic thickness of continental lithosphere from ~80 km to ~25 km over 300 km explains high curvature on outer Trough wall and low shelf forebulge (~200m) as measured along base Pliocene unconformity. Jurassic basement normal faults reactivated during bending of foreland)

Lorenzo, J.M. & E.E. Vera (1992)- Thermal uplift and erosion across the continent-ocean transform boundary of the southern Exmouth Plateau. *Earth Planetary Science Letters* 108, p. 79-92.

(Thermal evolution model of continental lithosphere at paleo-transform margin at SW side of Exmouth Plateau, NW Australia. Up to 3.5 km of sediments eroded from continental rim, decreasing to almost no erosion at 60 km from continent-ocean transform boundary. Surface elevation result of competing (1) thermal uplift, (2) surface erosion and (3) local isostatic rebound in response to erosion. Most erosion ceases by 40 Myrs after ridge emplacement and ~1000 km³ sediments eroded for every 10km of transform length)

Loutit, T.S., K.K. Romine & C.B. Foster (1997)- Sequence stratigraphy, petroleum exploration and *A. cinctum*. Australian Petroleum Production Exploration Association (APPEA) J. 1997, p. 272-284.

Loutit, T.S., R.E. Summons, M.T. Bradshaw & J. Bradshaw (1996)- Petroleum systems of the North West Shelf, Australia: how many are there? Proc. 25th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, p. 437-452.

(At least 5 regionally significant petroleum 'supersystems' on NW Shelf of Australia)

Loutit, T.S., R.E. Summons, M.T. Bradshaw & J. Bradshaw (1998)- The petroleum systems of the North West Shelf, Australia. Proc. World Petroleum Congress, Actes et Documents 15, 2, p. 11-21.

Lowry, D.C. (1995)- Fighting fractured Flamingo; lessons from Rambler-1, Timor Sea. The Australian Petroleum Exploration Assoc. (APEA) Journal 35, p. 655-665.

MacNeill, M., N. Marshall & C. McNamara (2018)- New insights into a major Early-Middle Triassic rift episode in the NW Shelf of Australia. Proc. Australian Exploration Geoscience Conf. (AEGC 2018), Sydney, ASEG Extended Abstracts, 1, p. 1-5. *(Extended Abstract)*

(online at: www.publish.csiro.au/ex/pdf/ASEG2018abM3_3B)

(Prograding 'lava delta' complex interpreted from seismic within Triassic of Roebuck Basin (offshore Canning), under Huntsman 1 well. Steeply dipping clinoforms show NW to SE progradation. Volcanic package up to 10km thick, with pronounced magnetic anomaly. Within bigger scale rift complex, probably E-M Triassic magma plume that initiated triple junction at NW end of Canning basin/ Argo abyssal plain. Lavas possible source of Triassic zircons in Mungaroo Fm?)

Maftai, A., E.J. King & M.C. Flores (2013)- The Gorgon Field; an overview. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p.

Magee, M., O.B. Duffy, K. Purnell, R.E. Bell, C.A.L. Jackson & M.T. Reeve (2016)- Fault-controlled fluid flow inferred from hydrothermal vents imaged in 3D seismic reflection data, offshore NW Australia. *Basin Research* 28, p. 299-318.

(online at: <https://pdfs.semanticscholar.org/6770/b1642241aa0f93d84e26c32dd863035645cb.pdf>)

(121 craters and mounded features on intra-Tithonian horizon interpreted as ancient hydrothermal vents, likely related to magmatic activity. Buried vents consist of craters up to 264m deep, which host mound of disaggregated sedimentary material up to 518m thick. Vent alignment along underlying fault traces)

Makaluni, P., J. Hauser & S. Clark (2022)- Tilting of the Australian continent: new evidence from the subsidence and deposition history of the Northern Carnarvon Basin. *Marine and Petroleum Geology* 137, 105483, p. 1-21.

(Australian continent has been tilting NE-wards since Late Cretaceous. In N Carnarvon Basin NE-ward shift of subsidence, with highest subsidence rates in SW (Exmouth and Barrow sub-basins) from E Jurassic-E Cretaceous. In M Cretaceous, subsidence and sedimentation moved NE towards Dampier) and parts of Barrow sub-basin. In Cenozoic highest subsidence rates moved further NE to Beagle sub-basin and N Rankin platform. Mantle-driven and subduction-driven tilting of Australian continent caused observed tilting)

Makaluni, P., J. Hauser, L. Langhi & S. Clark (2024)- Kinematic reconstruction of the Jurassic intraplate rift deformation in the Northern Carnarvon Basin, Australia. *Tectonophysics* 875, 230255, p. 1-18.

(Inboard sub-basins of N Carnarvon Basin reconstruction: Late Triassic- E Jurassic initiation of rifting, creating Exmouth and Barrow sub-basin grabens. Rifting shifted NE into Dampier and Beagle regions from M Jurassic to E Cretaceous. Rifting rates in nearshore areas slowed at ~155 Ma, coinciding with Argoland-separation and seafloor spreading. Rates increased again at ~145 Ma during Tithonian extension, then decreased at ~120 Ma during seafloor spreading in Cuvier and Gascoyne regions. Temporal correlation between Gondwana dispersal events and nearshore sub-basin rift evolution suggests sub-basins part of broader deformation across margin. Breakups released extension forces and caused rift cessation in nearshore NCB)

Mamet, B. & D.J. Belford (1968)- Carboniferous foraminifera, Bonaparte Gulf Basin, Northwestern Australia. *Micropaleontology* 14, p. 339-347.

(Carboniferous foraminiferal faunas from well and outcrop samples of Bonaparte Gulf Basin, NW Australia. Many genera cosmopolitan (Archaeodiscus, Propermodiscus, Asteroarchaeodiscus, Endothyra, Globoendothyra). Australian fauna strong Tethyan influence and resemble those from Tethyan SE Asia, suggesting free migration between Gondwana and Laurasia)

Marshall, N.G. & S.C. Lang (2013)- A new stratigraphic framework for the North West Shelf, Australia. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia IV*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-32.

Martin, J.R. (2008)- Sedimentology, provenance and ice-sheet dynamics of the Late Palaeozoic glaciation in Oman and the Canning Basin (West Australia): an integrated outcrop and subsurface study of the Permian-Carboniferous glaciogenic suites of Arabia and Western Australia. Ph.D. Thesis, University of Manchester, p. *(Unpublished)*

Martin, J.R., J. Redfern, M.S.A. Horstwood, A.J. Mory & B.P.J. Williams (2018)- Detrital zircon age and provenance constraints on late Paleozoic ice-sheet growth and dynamics in western and central Australia. *Australian J. Earth Sciences* 66, 2, p. *(Manuscript online*

at: www.research.manchester.ac.uk/portal/files/83861278/Martin_et_al_resubmissionAA_JRM_011018.docx)
(Detrital zircons from glaciogenic lower Permian Grant Gp of Canning Basin indicate sources principally from basement terranes in C Australia. No evidence for extensive glacial facies younger than M Sakmarian in region)

Maxwell, A.J., L.W. Vincent & E.P. Woods (2003)- The Audacious discovery, Timor Sea and the role of pre-stack depth migration seismic processing. In: G.K. Ellis et al. (eds.) *Timor Sea Symposium Darwin 2003*, Northern Territory Geological Survey, p. 53-65.

(2001 Vulcan Basin oil discovery in Plover Fm, directly under intra-Valanginian unconformity)

McClay, K., N. Scarselli & S. Jitmahantakul (2013)- Igneous intrusions in the Carnarvon Basin, NW Shelf, Australia. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia 4*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-19.

(Early Cretaceous age intrusions imaged on 3D seismic in N Carnarvon Basin)

McClure, I.M., D.N. Smith, A.F. Williams, L.J. Clegg & C.C. Ford (1988)- Oil and gas fields in the Barrow sub-basin. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia, Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA), p. 371-390.

(Review of Barrow basin oil-gas fields: Barrow Island (1964), Harriet (1986), South Pepper/ North Herald (1987), Saladin, Chervil, Bambra (1982), Harriet and Rosette on E flank. On W side Gorgon (1980), W Tryal Rocks (1972), Spar (1976), etc.)

McConachie, B.A., M.T. Bradshaw & J. Bradshaw (1996)- Petroleum systems of the Petrel sub-basin- an integrated approach to basin analysis and identification of hydrocarbon exploration opportunities. Australian Petroleum Production Exploration Association (APPEA) J. 1996, p. 248-268.

McCormack, K.D. & K. McClay (2013)- Structural architecture of the Gorgon Platform, North West Shelf, Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p.

McCormack, K.D. & K. McClay (2020)- Orthorhombic faulting in the Beagle Sub-basin, North West Shelf, Australia. In: K.R. McClay & J.A. Hammerstein (eds.) Passive margins: tectonics, sedimentation and magmatism, Geological Society, London, Special Publ. 476, p. 205-230.

McElhinny, M.W., C.M. Powell & S.A. Pisarevsky (2003)- Paleozoic terranes of eastern Australia and the drift history of Gondwana. Tectonophysics 362, p. 41-65.

McGowran, B. (1978)- Australian Neogene sequences and events. Proc. 2nd Working Group Meeting Biostratigraphic datum planes of the Pacific Neogene, IGCP Project 114, Bandung 1977, p. 165-167.

McGowran, B. (1979)- The Tertiary of Australia: foraminiferal overview. Marine Micropaleontology 4, 3, p. 235-264.

(Four major Tertiary sequences. Larger foraminifera in Australia limited to 5 Eocene and 4 Oligo-Miocene excursions of tropical larger foraminifera, reflecting rel. warm climate periods: late M-L Eocene, Late Oligocene N3-N4, late E- early M Miocene N8-N11 and N14 (similar to northward excursions in Northern Hemisphere of (sub-)tropical larger foraminifera faunas into Japan; JTvG))

McGowran, B. (2023)- Southern limestones under western eyes. The modern world evolving in Southern Australia. ANU Press, Australian National University, Canberra, p. 1-408.

(online at: <https://press-files.anu.edu.au/downloads/press/n11174/pdf/book.pdf>)

McHarg, S., A. l'Anson & C. Elders (2018)- The Permian and Carboniferous extensional history of the Northern Carnarvon Basin and its influence on Mesozoic extension. Proc. Australian Exploration Geoscience Conf. (AEGC 2018), Sydney, ASEG Extended Abstracts, 1, p. 1-8. *(Extended Abstract)*

(online at: http://www.publish.csiro.au/ex/pdf/ASEG2018abM3_1B)

(Paleozoic fault system of N Carnarvon Basin complex interaction of N to NE trending faults This older rift architecture affected geometry of subsequent U Triassic - M Jurassic deformation (initiated in Rhaetian, but most significant in E Jurassic))

McHarg, S., C. Elders & J. Cunneen (2020)- Extensional fault-related folding of the North West shelf, Western Australia. American Assoc. Petroleum Geol. (AAPG) Bull. 104, 4, p. 913-938.

(Examples of folds associated with extensional faults)

McIntyre, C.L. & P.J. Stickland (1998)- Sequence stratigraphy and hydrocarbon prospectivity of the Campanian to Eocene succession, northern Bonaparte Basin, Australia. Australian Petroleum Production Exploration Association (APPEA) J. 38, 1, p. 313-338.

(Late Cretaceous paleogeography, etc.)

McLoughlin, S. & C. Pott (2009)- The Jurassic flora of Western Australia. *Geologiska Foren. Forhandlingar* (GFF), Stockholm, 131, p. 113-136.

(Jurassic plant remains in W Australia sparse. Assemblages show links to E Australian, Indian and Antarctic floras of E Jurassic- E Cretaceous age. Bennettitaleans leaves intermediate in size between low and high latitude mid-Mesozoic assemblages, supporting previous paleogeographic placements of W Australia in mesothermal middle-latitude province in Jurassic)

McTavish, R.A. (1973)- Triassic conodont faunas from western Australia. *Neues Jahrbuch Geologie Palaontologie, Abhandlungen*, 143, 3, p. 275-303.

Metcalf, I., R.S. Nicoll & R.J. Willink (2008)- Conodonts from the Permian- Triassic transition in Australia and position of the Permian- Triassic boundary. *Australian J. Earth Sciences* 55, p. 349-361.

(Permian- Triassic boundary, using conodonts, carbon-isotopes and new radio-isotopic dating, placed in lower part of Kraeuselisporites saeptatus and Lunatisporites pellucidus Zones of W and E Australia, respectively)

Middleton, M.F. (1988)- Seismic atlas of the North West Shelf. In: P.G. & R.R. Purcell (eds.) *The North West Shelf, Australia, Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA)*, p. 457-478.

Mihut, D. & R.D. Muller (1998)- Revised sea-floor spreading history of the Argo abyssal plain. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth*, p. 73-80.

(Revised interpretation shows complete set of NE-SW trending anomalies from M26 (155 Ma) to M21 (150.4 Ma; lineations oblique to N margin Exmouth Plateau, but more closely parallel J-K extension in rest of NW margin?)

Mihut, D. & R.D. Muller (1998)- Volcanic margin formation and Mesozoic rift propagators in the Cuvier Abyssal Plain off Western Australia. *J. of Geophysical Research* 103, B11, p. 27135-27149.

(Breakup between India and W margin of Australia started at ~136 Ma (M14; ~Valanginian- Hauterivian), creating Gascoyne and Cuvier abyssal plains. This was followed by two rift propagation events that transferred parts of Indian Plate to Australian plate)

Mildren, S.D., R.R. Hillis, T. Fett & P.H. Robinson (1994)- Contemporary stresses in the Timor Sea; implications for fault-trap integrity. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia, Petroleum Exploration Society Australia (PESA) Symposium, 1*, p. 291-300.

(Borehole breakouts, caused by compressional shear failure of wellbore wall, analyzed in 5 Timor Sea wells. Breakouts mainly oriented SE-S-SE, hydraulic fractures mainly NE, consistent with NE-oriented maximum horizontal stress)

Miyazaki, S. (1989)- Characterization of Australia's oil fields by fluid and reservoir properties and conditions: *Australian Petroleum Exploration Assoc. (APEA) Journal* 29, 1, p. 287-298.

Miyazaki, S. (1997)- Australia's southeastern Bonaparte Basin has plenty of potential. *Oil and Gas Journal* 95, p. 78-81.

Mollan, R.G., R.W. Craig & M.J.W. Lofting (1970)- Geologic framework of continental shelf off Northwest Australia. *American Assoc. Petroleum Geol. (AAPG) Bull.* 54, 4, p. 583-600.

(Ashmore Reef 1 well with complete Tertiary Triassic sequence: Tertiary-U Cretaceous carbonate-clay sequence, thin Lower Cretaceous- U Jurassic section with detritus from underlying 1000' thick U Jurassic basic lavas, and thick Triassic sedimentary sequence. NW shelf has block-faulted Precambrian basement)

Molyneux, S., R. McGee, J. Goodall, A. Padman, C. Valenti, B. Hartung-Kagi, J. Winterhalder, B. Zein & T. Jacobson (2015)- The Lower Triassic petroleum prospectivity of the North West Shelf post the Phoenix South-1

- discovery. Proc. SE Asia Petroleum Exploration Society (SEAPEX) Conference 2015, Singapore, 9.3, p. 1-7. (Abstract + Presentation)
(Only commercial hydrocarbon discoveries in Lower Triassic and Permian of NW Shelf in Perth Basin and Petrel sub-basin. Lower Triassic Locker Shale may be source, seal and potential reservoir)
- Morgan, R. (1980)- Palynostratigraphy of the Australian Early and Middle Cretaceous. Memoirs Geological Survey of New South Wales, Palaeontology 18, p. 1-146.
(164 dinoflagellate, 13 acritarch, and 137 spore-pollen species identified in 22 sections in Australia. Seventy-nine dinoflagellate and four acritarch species require taxonomic comment; the other taxa only listed. 13 new dinoflagellate species proposed. Aptian-Cenomanian marine section can be divided into nine units; Neocomian-Cenomanian into seven units (see also Helby, Morgan & Partridge 1987, 2004))
- Moron, S., P.A. Cawood, P.W. Haines, S.J. Gallagher, S. Zahirovic, C.J. Lewis & L. Moresi (2019)- Long-lived transcontinental sediment transport pathways of East Gondwana. *Geology (GSA)* 47, 6, p. 513-516.
(online at: <https://pubs.geoscienceworld.org/gsa/geology/article/47/6/513/569964/Long-lived-transcontinental-sediment-transport>)
(Strikingly similar age spectra and Hf isotopic arrays from Paleozoic- E Mesozoic sedimentary sequences from Paleo-Tethyan margin basins suggest long-lived supercontinental-scale drainage system across Australia, with headwaters originating in Antarctica and flowed N to margin of Paleo-Tethys Ocean. Sediments eroded from Proterozoic orogenic belts and flanked remnants of Archean cratons. With map of continental configuration of East Gondwana at ~215 Ma (Norian), showing active Paleotethys margin in N and NE)
- Moron, S., P.A. Cawood, P.W. Haines, S.J. Gallagher, S. Zahirovic, C.J. Lewis & L. Moresi (2019)- Paleozoic to Triassic continental-scale sediment provenance of the Canning, Officer and Northern Carnarvon Basins, Western Australia. In: M. Keep & S.J. Moss (eds.) *The Sedimentary Basins of Western Australia V*, Proc. Petroleum Exploration Society of Australia (PESA) Symposium, Perth 2019, WA, p. 1-18.
(online at: www.academia.edu/40583462/Paleozoic_to_Triassic_continental_scale_sediment_provenance_Etc.)
- Mory, A.J. (1990)- Bonaparte Basin. Geological Survey of Western Australia, Report 3, p. 380-415.
- Mory, A.J. (1988)- Regional geology of the Offshore Bonaparte Basin. In: P.G & R.R. Purcell (eds.) *The Northwest Shelf, Australia*, Petroleum Exploration Society Australia (PESA), p. 287-309.
(online at: https://www.researchgate.net/publication/275644034_Regional_Geology_of_the_Offshore_Bonaparte_Basin)
(Key review of NW-SE trending Bonaparte Paleozoic rift basin. Oldest sediments identified offshore Late Devonian (Cambrian volcanics and sediments present onshore). Along NW margin of basin Mesozoic NE-trending rifting and breakup. Cainozoic sedimentation consists largely of carbonate shelf progradation in outer part of basin)
- Mory, A.J. (1991)- Regional geology of the Offshore Bonaparte Basin, Northwestern Australia. Geological Survey of Western Australia, Report 29, p. 1-47.
- Mory, A.J. (2023)- Mesozoic transformation of Western Australia: rifting and breakup of Gondwana. Geological Survey of Western Australia, Perth, p. 1-82.
(online at: <https://dmpbookshop.eruditetechnologies.com.au/product/mesozoic-transformation-of-western-australia-rifting-and-breakup-of-gondwana.do>)
(Elegant recent review of Mesozoic history of W Australia (1) Late Paleozoic- Triassic intracratonic rifting, (2) E-M Jurassic rifting, (3) Late Jurassic- E Cretaceous breakup and separation and (4) M-L Cretaceous trailing-edge rifting and marginal sag. Etc.)
- Mory, A.J. & J. Backhouse (1997)- Permian stratigraphy and palynology of the Carnarvon Basin, Western Australia. Geological Survey of Western Australia, Perth, Report 51, p. 1-46.
(online at: www.dmp.wa.gov.au/documents/10.gsdprpt51.pdf)

(Permian of Carnarvon Basin dominated by marine to nearshore siliciclastics, up to 5000m thick in Merlinleigh sub-basin. Virtually uninterrupted sequence. Mid-Permian break in deposition, spanning Microbaculispora trisina to M. villosa Zones evident in wells on Peedamullah Shelf)

Mory, A.J., J. Backhouse & D. Haig (2019)- The Late Paleozoic ice age in Western Australia. Presentation, 19th International Congress on the Carboniferous and Permian (ICCP 2019), Cologne, 18p.
(online at: www.researchgate.net/publication/336890355_The_Late_Paleozoic_ice_age_in_Western_Australia)
(On widespread Late Carboniferous- E Permian glacial deposits in W Australia)

Mory, A.J. & G.M. Beere (1988)- Geology of the onshore Bonaparte and Ord basins in Western Australia. Geological Survey of Western Australia, Perth, Bull. 134, p. 1-184.
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(online at: <https://www.tandfonline.com/doi/full/10.1080/08120099.2023.2185676>)
(The Pseudoreticulatispora confluens–P. pseudoreticulata spore-pollen zonal datum typically coincides with end of widespread E Permian glacial deposits in Western Australia. Previously attributed to mid-Sakmarian, but dating of zircons from volcanic tuffs in Bonaparte and Canning Basins point to 295.25 Ma age for this datum (Asselian or Asselian-Sakmarian boundary))

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(Review of W Australia Paleozoic stratigraphy, tectonic events and paleogeographic maps)

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Mory, A.J., J. Redfern & J.R. Martin (2008)- A review of Permian-Carboniferous glacial deposits in Western Australia. In: C.R. Fielding et al. (eds.) Resolving the Late Paleozoic ice age in time and space, Geological Society of America (GSA), Special Paper 441, p. 29-40.
(Extensive ice sheet covered W Australia from at least latest Carboniferous- earliest Permian (Gzhelian- mid-Sakmarian). Younger glacially influenced successions present in nearly all Phanerozoic basins in W Australia, typically lowermost glacial facies, middle marine mudstone facies, and uppermost fluvial-deltaic strata)

Moss, S., D. Barr, R. Kneale, P. Clews & T. Cruse (2003)- Mid to late Jurassic shallow marine sequences of the eastern Barrow Sub-basin: the role of low-stand deposition in new exploration concepts. Australian Petroleum Production Exploration Association (APPEA) J. 43, 1, p. 231-255.

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(Sequence biostratigraphic analyses from 5 wells in N Carnarvon Basin. Late Oligocene- M Miocene with deeper-water benthic assemblages. Regional flooding event at start of M Miocene (climatic optimum, 16-14.5 Ma), followed by karstification on shelf and incision on clinoform front. Transition to shallow-water, warm facies on shelf in M and Late Miocene, with benthic fauna dominated by larger foraminifera, probably result of progradation. Late M Miocene (12 Ma) intensification of development of gullies and submarine canyons)

Muller, R.D., S. Dyksterhuis & P. Rey (2012)- Australian paleo-stress fields and tectonic reactivation over the past 100 Ma. *Australian J. Earth Sciences* 59, 1, p. 13-28.

(Changes in stress regime of Australian continent through time can be modelled by changing geometry and forces acting along boundaries of Indo-Australia and Paleo-Australian plate since E Cretaceous. Intraplate structural events may be caused by interaction of far field stress field with heterogeneous geology of Australia. Some intraplate suture zones of Australian continent particularly weak, i.e. faulted portions of NW Shelf and Flinders Ranges, which reactivated when favourable stress regimes existed)

Muller, R.D., N. Flament, K.J. Matthews, S.E. Williams & M. Gurnis (2016)- Formation of Australian continental margin highlands driven by plate-mantle interaction. *Earth Planetary Science Letters* 441, p. 60-70.

(E Australian highlands well-documented episodic uplift history spanning 120 Myrs. Initial dynamic uplift of 400-600 m from 120-80 Ma driven by E-ward motion of EAustralia margin away from sinking E Gondwana slab, At ~60 Ma in S (Snowy Mountains) renewed uplift of ~700, propelled by the gradual motion of margin over edge of large Pacific mantle upwelling. N highlands experienced continuous history of dynamic uplift, first due to the end of subduction E of Australia, then due to moving over large passive mantle upwelling. Etc.)

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(Review of Late Jurassic- Recent seafloor spreading around Australia. In NW Late Jurassic breakup of Argoland at ~156 Ma, followed by start of seafloor spreading at Gascoyne and Cuvier abyssal plains in E Cretaceous (~132 Ma), starting separation of Australia and Greater India. Onset of Australia- Antarctica slow separation at ~100 Ma. In E seafloor spreading of Tasman Sea propagated from S, with early rifting at ~70 Ma, continuous spreading at 64 Ma and onset of opening in Coral Sea area at ~58 Ma. At ~52 Ma (Early Eocene) end of seafloor spreading along entire E and NE Australia margin)

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Muller, R.D., A. Goncharov & A. Kritski (2005)- Geophysical evaluation of the enigmatic Bedout basement high, offshore northwestern Australia. *Earth Planetary Science Letters* 237, p. 264-284.

(Bedout High in Roebuck (offshore Canning) Basin unusual structure, controversially interpreted as end-Permian impact structure. Associated with major crustal thinning and interpreted magmatic underplating. Moho uplift of 7-8 km. Thermal modelling from well La Grange-1 and basalts drilled on top of Bedout High consistent with rifting above anomalously hot mantle. Preferred interpretation is basement high formed by two consecutive Paleozoic and Mesozoic rifting episodes, orthogonal to each other, with basin formation to E and W)

Muller, R.D., D. Mihut & S. Baldwin (1998)- A new kinematic model for the formation and evolution of the West and Northwest Australian margin. In: P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia 2*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1998, p. 55-72.

(Revised model of Mesozoic continental breakup and sea-floor spreading in Perth, Cuvier, Gascoyne and Argo abyssal plains. Sea-floor spreading in Gascoyne and Cuvier abyssal plains starts in E Valanginian. At Albian-Cenomanian boundary (99 Ma) spreading direction between India- Australia changed from NW-SE to N-S. Event at ~61 Ma in E Paleocene in Tasman Sea and SE Indian- Pacific oceans with change in spreading direction. 99 Ma event resulted in renewed local extension, 61 Ma event may reflect elastic buckling of lithosphere. Both events may have originated from stepwise subduction of Neo-Tethyan Ridge, first N of India at 99 Ma, then N of Australia at 61 Ma. NW Shelf accelerated subsidence, starting at ~20 Ma. Cannot be explained by foreland basin loading, but likely result of complex evolution of compressive intraplate stresses following breakup of Indo-Australian Plate into Indian, Australian and Capricorn plates)

Muller, R.D., D. Mihut, C. Heine, C. O'Neill & I. Russell (2002)- Tectonic and volcanic history of the Carnarvon Terrace: constraints from seismic interpretation and geodynamic modeling. In: M. Keep & S. Moss (eds.) *The sedimentary basins of Western Australia 3*, Proc. West Australian Basin Symposium, Petroleum Exploration Society Australia (PESA), Perth, p. 719-740.

(Carnarvon Terrace multi-phase history of faulting and sedimentation, with major bounding faults active during Late Triassic and E Jurassic. Major phase of uplift and erosion shortly before breakup between Greater India and Australia prior to 130 Ma. Widespread lower Cretaceous intrusions in Exmouth sub-basin and offshore Wallaby and Zenith plateaus, provide evidence for syn- and post-rift volcanism)

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(Ungani and Yulleroo fields oils derived from Carboniferous source. Maximum burial and oil generation/expulsion in basin immediately prior to Fitzroy Uplift around 200 Ma)

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(Ichthys gas-condensate field in Browse Basin, W Australia)

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(Structures in Timor Sea area can be described in terms of compound wrench-duplex structures involving subsequent normal and reverse inversion, resulting from wrench episodes from E Triassic- Present)

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(In Triassic N margin of Gondwana opened onto Meso-Tethys Ocean. Continental margin was formed by Lhasa and W Burma Blocks and New Guinea part of Australian Plate. Cratonic basins along future margin of Australian Plate: Perth Basin in S, Bonaparte Basin and Triassic basins on Banda Arc islands. Only along N margin of New Guinea and some islands of N Banda Arc did continental margin shelf areas open directly onto Meso-Tethys Ocean. Triassic sediments deposited in tectonically controlled basins. Conodonts and other fossils allow high-resolution correlation of sequences and events)

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(online at: https://d28rz98at9flks.cloudfront.net/70371/Chart_36_Northern_Carnarvon_Basin.pdf)

Nicoll, R.S. & C.B. Foster (1994)- Late Triassic conodont and palynomorph biostratigraphy and conodont thermal maturation, North West Shelf, Australia. BMR J. Australian Geology Geophysics 15, 1, p. 101-118.

(online at: www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf)

(Late Triassic (Norian-Rhaetian) conodonts from cores, wells and dredge samples on NW Shelf assigned to Metapolygnathus primitius, Epigondolella triangularis, E. spiculata, E. postera, E. bidentata, Misikella hernsteini, and M. posthernsteini zones. Calibrated with dinocyst and spore-pollen zonations)

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(Studies of relationships between conodont faunas and spore-pollen and dinocyst palynofloras from W Australian margin and Timor have revised calibration of Australian Triassic palynomorph zones and stage terminology. Wombat-Timor Trough (newly defined) is axis of sedimentation on NW Shelf in Triassic)

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(online at: https://d28rz98at9flks.cloudfront.net/70371/Chart_32_Browse_Basin.pdf)

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(Principal tectonic event shaping architecture of Timor Sea is Late Carboniferous- E Permian crustal extension to 35-40% of former thickness. Vulcan Sub-basin/ Ashmore Platform/Sahul Platform part of single upper plate rift margin, with extension via 'pulling' of lower crust from beneath upper crust. Flexural stress on inboard of upper plate rift margin initiated Vulcan Sub-basin and Malita Graben. Subsequent thermal subsidence created thick sediments until Late Triassic. Jurassic extension associated with rifting and ultimate break-up of Gondwana was minor compared to Permo-Carboniferous event, possibly because crust so heated/ stretched during Permo-Carboniferous that limited Jurassic extension led to crust failure and start of seafloor spreading)

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Palu, T.J., L.S. Hall, D. Edwards, E. Grosjean, N. Rollet, C. Boreham, T. Buckler et al. (2017)- Source rocks and hydrocarbon fluids of the Browse Basin. *AAPG/SEG 2017 Int. Conf. Exhib., London, Search and Discovery Article* 11028, p. 1-9. *(Abstract + Posters)* *(online at: www.searchanddiscovery.com/documents/2017/11028palu/ndx_palu.pdf)* *(Four Mesozoic petroleum systems identified in Caswell sub-basin. Source rocks in subbasin sufficient maturities to have transformed most of kerogen into hydrocarbons, with most expulsion from Late Cretaceous- Present. In Barcoo Sub-basin only source rocks within the J10-J20 supersequences sufficient maturity for generation. Predominantly gas-prone kerogen in Jurassic-Cretaceous)*

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(Major Carboniferous-Permian intra-continental rift in approximate locations of Jurassic-Cretaceous rift margin that separated Australia from various Asian terranes and India. Intracontinental rift structurally modified by later M Permian extension. Shallow marine conditions persisted across conjugate margin through Triassic and into Jurassic. With S to N back-stepping Late Permian carbonate ramps. With 300 Ma plate restoration)

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(On workflow of interpretation of ultra-high resolution seismic sequences (~40,000 yrs duration) in E Cretaceous prograding shelf-margin (Lower Barrow Gp) on NW Shelf of Australia)

Paumard, V., J. Bourget, T. Payenberg, B. Ainsworth, S. Lang, H. Posamentier & A. George (2018)- Shelf-margin architecture and shoreline processes at the shelf-edge: controls on sediment partitioning and prediction of deep-water deposition style. *Proc. Australian Exploration Geoscience Conference (AEGC 2018), Sydney, ASEG Extended Abstracts*, 1, p. 1-6.

(online at: www.publish.csiro.au/ex/pdf/ASEG2018abM2_3B)

(Lower Barrow Group in N Carnarvon basin is latest Tithonian- E Valanginian prograding shelf-margin system with ~100-500m high clinoforms. 3D seismic shows high-order clinothems with cyclicity of ~40,000 yrs. Falling to flat shelf-edge trajectories associated with sediment bypass; rising shelf-edge trajectories linked with increasing sediment storage on shelf. Fluvial-dominated coastlines steep slope clinoforms; wave-dominated coastlines low-angle slope clinoforms. Turbidite systems mostly short-lived, fed by multiple small rivers forming linear ramp systems. Due to shallow configuration of margin (<500m), short slopes and high sand ratio, turbidite systems smaller scale (<50 km) and shorter lived than most modern turbidite systems (100-1000 km))

Paumard, V., J. Bourget, T. Payenberg, R.B. Ainsworth, A.D. George, S. Lang, H. Posamentier & D. Peyrot (2018)- Controls on shelf-margin architecture and sediment partitioning during a syn-rift to post-rift transition: Insights from the Barrow Group (Northern Carnarvon Basin, North West Shelf, Australia). *Earth-Science Reviews* 177, p. 643-677.

(Full version of Paumard et al. (2018), above)

Paumard, V., J. Bourget, T. Payenberg, A.D. George, R.B. Ainsworth, S. Lang & H.W. Posamentier (2020)- Controls on deep-water sand delivery beyond the shelf edge: accommodation, sediment supply, and deltaic process regime. *Journal of Sedimentary Research* 90, 1, p. 104-130.

(Study of 30 clinothems in E Cretaceous Lower Barrow Group, N Carnarvon Basin (av. time span ~ 47,000 years), and used to establish relationships between shelf-margin architecture, paleoshoreline processes, and deep-water system types. Low accommodation/ sediment supply on shelf associated with sediment bypass. Fluvial-dominated coastlines typically with steep slope gradients and more mature, longer run-out turbidite systems. Wave-dominated shorelines linked to gentle gradients, with limited development of turbidite systems)

Payenberg, T.H.D., H. Howe, T. Marsh, P. Sixsmith, W.S. Kowalik, A. Powell, K. Ratcliffe, V. Lasky, A. Allgoewer et al. (2013)- An integrated regional Triassic stratigraphic framework for the Carnarvon Basin, NWS,

Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-24.

Payenberg, T.H.D., B.J. Willis, P. Sixsmith, S.D. Connell, A. Powell, K.T. Milliken, H.W. Posamentier et al. (2024)- Quantification and classification of a giant fluvial-distributive system - the Triassic Mungaroo Formation, NWS, Australia. *Earth-Science Reviews* 249, 104676, p. 1-23.
(*Triassic (Carnian) Mungaroo Fm of N Carnarvon basin, NW Shelf Australia, part of long-lived continental-scale fluvial catchment. Large, low-gradient distributive river system*)

Pegum, D.M. (1997)- An introduction to the petroleum geology of the Northern Territory of Australia. Northern Territory Geological Survey, p. 1-47.
(online at: www.nt.gov.au/d/Minerals_Energy/Geoscience/Content/File/Pubs/IntroPetGeologyNT.pdf)
(*Brief introduction to N Australia onshore and offshore (Bonaparte, Arafura, Carpenteria) basins*)

Petrie, E. et al. (2002)- Oil and gas resources Australia 2001. Geoscience Australia, p. 1-245.
(online at: <https://www.ga.gov.au/pdf/OC0035.pdf>)
(*2001 status review*)

Petkovic, P., C.D.N. Collins & D.M. Finlayson (2000)- A crustal transect between Precambrian Australia and the Timor Trough across the Vulcan sub-basin. *Tectonophysics* 329, 1-4, p. 23-38.
(*Seismic data along Vulcan transect in N Australia show rel. unaltered Precambrian Kimberley Basin rocks near the Australian coast, extending to edge of Yampi shallow-water shelf with crustal thickness of 35 km. Crust thins to 26 km under outer shelf near Timor Trough. Paleozoic/Mesozoic basin sequences thicken to 12-13 km, suggesting attenuation of Precambrian basement rocks from 35 to 13-14 km across margin ($\beta=2.6$)*)

Petkovic, P., C.D.N. Collins & D.M. Finlayson (2000)- Crustal structure across the Vulcan Sub-basin from seismic refraction and gravity data. *Exploration Geophysics* 31, p. 287-294.
(*Attenuated continental crust between Kimberley Block and Timor Trough hosts major oil and gas fields. Crustal thickness varies between 25-30 km, greatest beneath Kimberley Block and Vulcan Sub-basin*)

Pirrie, D., P. Doyle, J.D. Marshall & G. Ellis (1995)- Cool Cretaceous climates: new data from the Albian of Western Australia. *J. Geological Society, London*, 152, p. 739-742.
(*Oxygen isotopes of endemic S Hemisphere *Dimitobelus* spp. belemnites from E-M Albian Gearle Siltstone in Giralia Anticline, Carnarvon Basin, suggest mean paleotemperature of 10.1°C, implying cool paleoclimates at mid-high paleolatitudes (during period of 'Greenhouse' Earth?). Associated with common radiolaria (incl. *Stichomitra communis* Tan), possibly suggesting upwelling. Overlies widespread late Aptian- E Albian Windalia radiolarite*)

Playford, P.E. (1980)- Devonian Great Barrier Reef of Canning Basin, Western Australia. *American Assoc. Petroleum Geol. (AAPG) Bull.* 64, p. 814-840.
(*M-U Devonian barrier-reef belt exhumed as series of limestone ranges for 350 km along NE margin of Canning basin. Developed as reef-fringed platforms standing 10s- 100s of m above surrounding seafloor. Platforms built by stromatoporoids, algae, and corals in Givetian-Frasnian and by algae in Famennian*)

Playford, P.E. (1982)- Devonian reef prospects in the Canning basin, Western Australia; implications of the Blina oil discovery. *Australian Petroleum Exploration Assoc. (APEA) Journal* 22, 1, p. 258-271.

Playford, P.E. (1984)- Devonian reef prospects, Canning and Bonaparte basins, Western Australia. In: S.T. Watson (ed.) *Transactions Third Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1982*, American Assoc. Petroleum Geol. (AAPG), p. 221-225.
(*Canning Basin Blina 1 well tested paraffinic oil in Famennian reefal platform limestones*)

Playford, P.E., R.M. Hocking & A.E. Cockbain (2009)- Devonian reef complexes of the Canning Basin, Western Australia. *Geological Survey of Western Australia Bull.* 145, p. 1-444.

Playford, P.E. & D.C. Lowrie (2009)- Devonian reef complexes of the Canning Basin, Western Australia. Geological Survey of Western Australia Bull. 118, p. 1-150.

Powell, D.E. (1982)- The Northwest Australian continental margin. Philosophical Transactions Royal Society London A305, 1489, p. 45-62.

(NW Shelf of Australia typical 'passive' continental margin. Pre-break-up Permian- M Jurassic rift valley and intra-cratonic basins with thick fluvio-deltaic sediments with marine incursions. Break-up near end M Jurassic, accompanied by large-scale block faulting with uplift and erosion. Late Jurassic- E Cretaceous marine sediments transgressed over eroded surface, with Callovian, late Oxfordian- Kimmeridgian, late Tithonian- early Cretaceous marine incursions. Open marine conditions became widespread in Albian in S part of NW Shelf and Cenomanian in N part. Thick prograding wedge of mainly carbonates since M Eocene resulted in NW regional tilt of Shelf. Hydrocarbon occurrences related to source rocks in restricted basins)

Powell, D.E. & S.J. Mills (1978)- Geological evolution and hydrocarbon prospects of contrasting continental margin types, North-West Australia. In: S. Wiriyosujono & A. Sudradjat (eds.) Proc. Regional Conference Geology and Mineral Resources of SE Asia (GEOSEA), Jakarta 1975, Indonesian Association Geologists (IAGI), p. 77-101.

(Early review of NW Australian margin- Timor Trough)

Power, M. (2008)- Miocene carbonate reef complexes in the Browse Basin and the implication for drilling operations. Australian Petroleum Production Exploration Association (APPEA) J. 48, p. 115-132.

Preston, J.C. & D.S. Edwards (2000)- The petroleum geochemistry of oils and source rocks from the northern Bonaparte basin, offshore northern Australia. Australian Petroleum Production Exploration Association (APPEA) J. 40, 1, p. 257-282.

Price, P.L. (1997)- Permian to Jurassic palynostratigraphic nomenclature of the Bowen and Surat basins. In: P. Green (ed.) The Surat and Bowen Basins, SE Queensland, Queensland Dept. Mines Energy, Brisbane, p. 137-178.

(First spore-pollen zonation of Permian of Australia (relatively low-resolution and based on mainly endemic flora)

Pryer, L.L., K.K. Romine, T.S. Loutit & R.G. Barnes (2002)- Carnarvon Basin architecture and structure defined by the integration of mineral and petroleum exploration tools and techniques. Australian Petroleum Production Exploration Association (APPEA) J., 42, p. 287-309.

Purcell, P., M. Butcher & Y.M.J. Collins (2015)- Nicholas Boutakoff and Australia's North West Shelf. AAPG International Conference Exhib., Cartagena, Colombia, 2013, Search and Discovery Article 70152, p. 1-28.

(online at: https://www.searchanddiscovery.com/documents/2015/70152purcell/ndx_purcell.pdf)

(Biography of Russian-Australian geologist Nikolai Alexandrovich Butakov (1903-1977). As Exploration Manager of the small new company Woodside in 1962, he was instrumental in applying for large acreage offshore in the then unexplored Australian NW Shelf. It was granted in May 1963 (and immediately farmed out to Shell and Burmah/ BP))

Purcell, P. & I. Longley (2023)- The North West Shelf, Western Australia's super basin, in the twenty-first century. American Assoc. Petroleum Geol. (AAPG) Bull. 107, 8, p. 1299-1367.

(Major review of Australia NW Shelf geology and hydrocarbon discoveries, plays and future play potential)

Quilty, P.G. (1981)- Early Jurassic Foraminifera from the Exmouth Plateau, Western Australia. Journal of Paleontology 55, 5, p. 985-995.

(Samples dredged from Exmouth Plateau by RV Sonne yielded Late Sinemurian forams Ichthyolaria and Geinitzina. First record of marine rocks of this age from Australia)

Quilty, P.G. (1984)- Cretaceous foraminiferids from Exmouth Plateau and Kerguelen Ridge, Indian Ocean. *Alcheringa* 8, p. 225-241.

(Three localities on N Exmouth Plateau with faunas of Late Aptian- E Cenomanian age in radiolarian-rich mudstones With planktonic forams Ticinella multiloculata, Planomalina buxtorfi, etc. New benthic genus/species Scheibnerova protindica in E Cenomanian of Exmouth Plateau and in previously reported Eltanin samples from Cenomanian of Kerguelen Ridge)

Quilty, P.G. (1990)- Triassic and Jurassic foraminiferid faunas, northern Exmouth Plateau, Eastern Indian Ocean. *J. Foraminiferal Research* 20, 4, p. 349-367.

(Triassic (Rhaetian) and Jurassic (Callovian) foraminiferid faunas documented for first time in Australia from samples dredged on Exmouth Plateau off NW Australia. Triassic fauna diverse, with distinctly Tethyan characteristics. Callovian fauna diverse and cosmopolitan in character)

Quilty, P.G. (2011)- Late Jurassic foraminifera, Wallaby Plateau, Offshore Western Australia. *J. Foraminiferal Research* 41, 2, p. 182-195.

(Foraminifera from RV Sonne sample dredged from 4438-4049 m water depth on Wallaby Plateau SW margin. Oxfordian/Kimmeridgean foram fauna, older than previously known ages in region and predates initiation of seafloor spreading along W Australian margin. Low diversity fauna, dominated by Conicospirillina, Conorboides and Lenticulina. Shallow marine deposition. Area subsided ~4000m since deposition)

Ramsay, D.C. & N.F. Exon (1994)- Structure and tectonic history of the northern Exmouth Plateau and Rowley Terrace: outer North West Shelf. *AGSO J. Australian Geology Geophysics* 15, 1, p. 55-70.

(online at: www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf)

(Seismic lines along margin of Argo Abyssal Plain. N Exmouth Plateau and Rowley Terrace margin underlain by thinned continental crust. At end of M Jurassic period of thermal uplift, faulting, volcanism and erosion over zone within 100-150 km of future abyssal plain, creating widespread angular unconformity, culminating in breakup in Callovian-Oxfordian, and 'Argo Landmass' drifted NW, leaving oceanic crust behind)

Rankey, E.C. (2017)- Seismic architecture and seismic geomorphology of heterozoan carbonates: Eocene-Oligocene, Browse Basin, Northwest Shelf, Australia. *Marine and Petroleum Geology* 82, p. 424-443.

(Eocene-Oligocene heterozoan carbonate strata from Browse Basin defines progradation of nearly 10 km. Sigmoidal to tangential oblique clinoforms, 350-650m high and max. gradients of 8-18°. Patterns reflect prolific heterozoan production across shelf during periods of rising and high base level when the shelf flooded)

Rankey, E.C. (2020)- Eustatic, climatic, and oceanographic influences on geomorphology and architecture of isolated carbonate platforms: Miocene, Northwest Shelf, Australia. *Lithosphere (GSA)* 2020, 8844754, p. 1-33.

Redfern, J. & E. Millward (1994)- A review of the sedimentology and stratigraphy of the Permo-Carboniferous Grant Group, Canning Basin, Western Australia. In P.G. & R.R. Purcell (eds.) *The sedimentary basins of Western Australia*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 753-756.

(Grant Group of Canning Basin deposited during retreat of Gondwanan ice sheet in Late Carboniferous- E Permian. Upper unit of Lower Grant Gp consists of thick mud-rich diamictites)

Redfern, J. & B.P.J. Williams (2002)- Canning Basin Grant Group glaciogenic sediments: part of the Gondwanan Permo-Carboniferous hydrocarbon province. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia* 3, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 2002, p. 851-871.

(Permo-Carboniferous Grant Gp of Canning Basin, W Australia, predominantly glacial in origin. Basal Hoya Fm diamictites, etc. comparable with similar facies in Permo-Carboniferous glaciogenic sediments from other Gondwanan basins)

Reeve, M.T., C.A.L. Jackson, R.E. Bell, C. Magee & I.D. Bastow (2016)- The stratigraphic record of pre breakup geodynamics: Evidence from the Barrow Delta, offshore Northwest Australia. *Tectonics* 35, 8, p. 1935-1968.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2016TC004172>)
(E Cretaceous Barrow Group of offshore N Carnarvon Basin was major deltaic system, formed during late stages of continental rifting. Three major depocenters: Exmouth and Barrow subbasins and S Exmouth Plateau. Overcompaction of pre-Cretaceous sediments in S Carnarvon Basin and pervasive reworking of Permian and Triassic palynomorphs in Barrow Group, suggests onshore S Carnarvon Basin originally contained thicker sedimentary succession that was uplifted and eroded prior to breakup. Anomalously rapid tectonic subsidence during Barrow Gp deposition, despite minimal contemporaneous upper crustal extension, suggests period of depth-dependent extension or dynamic topography preceding breakup)

Rek, A., S. Kleffmann & S. Khan (2003)- Petroleum prospectivity of the northern Exmouth Plateau. Petroleum Exploration Society Australia (PESA) News 62, p. 48-51.
(Exmouth Plateau commonly perceived to be gas-prone province (giant gas fields at Scarborough, Jansz, Gorgon, etc.). N Exmouth plateau still significant resource potential)

Rey, S.S., S. Planke, P.A. Symonds & J.I. Faleide (2008)- Seismic volcanostratigraphy of the Gascoyne margin, Western Australia. J. Volcanology Geothermal Research 172, p. 112-131.
(Large breakup-related volcanic complex on E Cretaceous Gascoyne Margin, W Australia. Three main volcanic seismic facies units related to volcanism: (1) landward flows, (2) seaward dipping reflections and (3) volcanic protrusions. Also domes, Moho, sill intrusions, etc. Galah Rise volcanic complex dominated by 100-200 km long, NE-striking volcanic ridges surrounded by sets of deep-marine emplaced SDRs. Magmatism sparse on shear margin, massive near outer corner and decreases NE-wards along rifted margin segment and away from fracture zone)

Riding, J.B. & R. Helby (2001)- Early Jurassic (Toarcian) dinoflagellate cysts from the Timor Sea, Australia. Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 1-32.

Riding, J.B. & R. Helby (2001)- A selective reappraisal of *Wanaea* Cookson & Eisenack 1958 (Dinophyceae). Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 33-58.

Riding, J.B. & R. Helby (2001)- *Phallocysta granosa* sp. nov., a Mid Jurassic (Bathonian) dinoflagellate cyst from the Timor Sea, Australia. Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 59-63.

Riding, J.B. & R. Helby (2001)- Microplankton from the Mid Jurassic (late Callovian) *Rigaudella aemula* Zone in the Timor Sea, north-western Australia. Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 65-110.

Riding, J.B. & R. Helby (2001)- Dinoflagellate cysts from the Late Jurassic (Oxfordian) *Wanaea spectabilis* Zone in the Timor Sea region. Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 111-140.

Riding, J.B. & R. Helby (2001)- Dinoflagellate cysts from the Late Jurassic (Kimmeridgian) *Dingodinium swanense* Zone in the North-West Shelf and Timor Sea, Australia. Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 141-176.

Riding, J.B. & R. Helby (2001)- Marine microplankton from the Late Jurassic (Tithonian) of the north-west Australian region. Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 177-220.

Riding, J.B. & R. Helby (2001)- Some stratigraphically significant dinoflagellate cysts from the Early Cretaceous (Aptian and Albian) of Australia. Memoir Assoc. Australasian Palaeontologists (AAP) 24, p. 225-235.

Riera, R. (2020)- Stratigraphic evolution of Miocene carbonate platforms of the North West Shelf (Exmouth-Barrow Sub-basins, Australia). Ph.D. Thesis University of Western Australia, p. 1-284.
(online at: <https://research-repository.uwa.edu.au/en/publications/stratigraphic-evolution-of-miocene-carbonate-platforms-of-the-nor>)

Riera, R., J. Bourget, E. Hakansson, V. Paumard & M.E.J. Wilson (2021)- Middle Miocene tropical oligotrophic lagoon deposit sheds light on the origin of the Western Australian coral reef province. *Palaeogeogr. Palaeoclim. Palaeoecology* 576, 110501, p. 1-17.

(online at: <https://www.sciencedirect.com/science/article/pii/S0031018221002868>)

(M Miocene shallow-water limestones with tropical larger benthic foraminifera (Flosculinella, Austrotrillina), Halimeda and scleractinian corals along Australian NW Shelf between ~13 and ~15 Ma, when S-ward extension of seismic barrier reef was at maximum (~2000km long). Climate was warm during M Miocene acme of seismic reefs development, despite NWS located ~7° further S than present. Also support strong S- flowing Leeuwin-current-style oceanic circulation and possible M Miocene aridification of coastal areas)

Riera, R., J. Bourget, T. Allan, E. Hakansson & M.E.J. Wilson (2022)- Early Miocene carbonate ramp development in a warm ocean, North West Shelf, Australia. *Sedimentology* 69, p. 219-253.

(online at: <https://onlinelibrary.wiley.com/doi/10.1111/sed.129170>)

(2400 km long Australian NW Shelf among largest Cenozoic carbonate provinces worldwide, recording transition from E Miocene ramp to M Miocene rimmed platform. Outcrop and well studies show E Miocene strata dominantly larger foraminifera (Lepidocyclina, Flosculinella) with minor coralline algae in proximal platform, grading to micropackstones in more distal platform (Cycloclypeus). Ramp formed in oligotrophic and warm ocean, despite absence of coral reefs. Five Te-Tfl facies associations)

Riera, R., D. Haig & J. Bourget (2019)- Stratigraphic revision of the Miocene Trealla Limestone (Cape Range, Western Australia): implications for Australasian foraminiferal biostratigraphy. *J. Foraminiferal Research* 49, 3, p. 318–338.

(Trealla Lst in Cape Range anticline along NW Australia coast rich in coral and divided into three units: (1) U Burdigalian, (2) Langhian- lower Serravallian, and (3) Serravallian. Influx of quartz sand, probably indicative of a wetter environment in hinterland, started during or after Serravallian. Austrotrillina asmariensis recorded above levels with Orbulina universa. Borelis is replaced by Flosculinella after end of Te Letter Stage. Cycloclypeus had similar bathymetric range to its modern analogue, in lower part of photic zone)

Riding, J.B., D.J. Mantle & J. Backhouse (2010)- A review of the chronostratigraphical ages of Middle Triassic to Late Jurassic dinoflagellate cyst biozones of the North West Shelf of Australia. *Review Palaeobotany Palynology* 162, 4, p. 543-575.

(manuscript online at: https://nora.nerc.ac.uk/id/eprint/12193/1/Riding_et_al_on_Australia_-_the_very_final_draft.pdf)

(Reassessment of ages of 20 Middle Triassic- Jurassic dinoflagellate cyst zones of NW Shelf (relatively minor modifications of Helby, Morgan and Partridge 1987, 2004 zonations))

Riding, J.B., G.E.G. Westermann & D.P.F. Darbyshire (2010)- New evidence for the age of the Athol Formation (Middle Jurassic; Bajocian) in the Tusk-1 and Tusk-2 wells, offshore Carnarvon Basin, Western Australia. *Alcheringa* 34, 1, p. 21-35.

(Co-occurrence of ammonites (Pseudotoites robiginosus) with palynomorphs in Athol Fm of Tusk-1 and 2 wells, off Carnarvon Basin, confirms E Bajocian age of Dissiliodinium caddaense dinoflagellate zone. Ammonite Pseudotoites prominent in E Bajocian of Indo-Pacific Realm (onshore W Australia, S Andes, W New Guinea (where identified previously as Stephanoceras cf. humphriesianum forma indica). Athol Fm indicates E Bajocian marine transgression onto Australian block)

Rinke-Hardekopf, L., S. Back, L. Reuning & J. Bourget (2016)- Channel-levee systems in a tropical carbonate slope environment and the influence of syn-sedimentary deformation, Browse Basin, Australian North-West Shelf. *AAPG 2016 Annual Convention Exhib., Calgary, Search and Discovery Article* 10901, p. 1-14. (Abstract and Presentation)

(Miocene of Browse Basin with one of largest Neogene tropical paleo-barrier reef systems. M-L Miocene carbonate slope with multiple channel and channel-levee complexes. Mature stage larger channel-systems 12- >20km long, with 150- >200m incision depth. Some channels with levee complexes up to 850m wide)

Robb, M.S., B. Taylor & A.M. Goodliffe (2005)- Re-examination of the magnetic lineations of the Gascoyne and Cuvier Abyssal Plains, off NW Australia. *Geophysical J. International* 163, p. 42-55.

(Exmouth and Cuvier margins of NW Australia and adjacent Gascoyne and Cuvier Abyssal Plains formed when Greater India rifted and separated from Australia during Late Jurassic and E Cretaceous. Time of final continental breakup similar along middle Exmouth (at M10N or M11; Late Valanginian) and Cuvier (at M10N) margins. Intervening S Exmouth margin spreading at M7- M4 time (Late Hauterivian; with excess magmatism)

Roberts, J. (1971)- Devonian and Carboniferous brachiopods from the Bonaparte Gulf basin, Northwestern Australia. Bureau Mineral Resources Geology Geophysics (BMR), Bull. 122, 1, Text, p. 1-319.

(online at: www.ga.gov.au/corporate_data/144/Bull_122Vol1.pdf)

(Monograph on systematics and zonations of Devonian- Carboniferous brachiopods of the Bonaparte Gulf Basin. Frasnian-Famennian faunas much in common with platform' faunas in Europe and N America. Tournaisian fauna many endemic forms. Visean- E Namurian faunas close to Europe and N Africa)

Roberts, J. (1971)- Devonian and Carboniferous brachiopods from the Bonaparte Gulf basin, Northwestern Australia. Bureau Mineral Resources Geology Geophysics (BMR), Bull. 122, 2, p. 1-133.

(online at: www.ga.gov.au/corporate_data/144/Bull_122Vol2.pdf)

(Plates of Roberts 1971)

Robinson, P.H. & K.B. McInerney (2004)- Permo-Triassic reservoir fairways of the Petrel Sub-basin, Timor Sea. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 295-312.

Robinson, P.H., H.S. Stead, J.B. O'Reilly & N.K. Guppy (1994)- Meanders to fans: a sequence stratigraphic approach to Upper Jurassic- Lower Cretaceous sedimentation in the Sahul Syncline, North Bonaparte Basin. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA), Perth 1994, p. 223-242.

(In Sahul Syncline up to 2000m of Late Jurassic- E Cretaceous with 11 depositional sequences. Include Callovian fluvial to shoreface sands and Oxfordian- Berriasian offshore shales, Valanginian massive progradation and aggradation that filled the trough with highstand shales and minor sands. From M Valanginian-earliest Aptian veneer of marine, glauconitic shale marked end of Sahul Syncline as structural entity)

Rohead-O'Brien, H. & C. Elders (2018)- Controls on Mesozoic rift-related uplift and syn-extensional sedimentation in the Exmouth Plateau. Proc. Australian Exploration Geoscience Conf. (AEGC 2018), Sydney, ASEG Extended Abstracts, 1, p. 1-8. *(Extended Abstract)*

(online at: http://www.publish.csiro.au/EX/ASEG2018abM2_2B)

(Exmouth Plateau of N Carnarvon Basin, NW Australia, multi-phase extensional history. Initially formed as basin during Permo-Carboniferous rifting event that thinned crust and led to large volumes of Triassic sediment accumulation. Fault activity of second rift phase began in latest Triassic, mainly on NNE-SSW and NE-SW trending faults. Rotation of Triassic fault blocks continued in Jurassic, with erosion of pre-rift sediments. Latest Jurassic infilled of half-grabens and deposition onto highs limited in W as area was starved of sediment. E Cretaceous progradation of Barrow Delta resulted in infilling of previously starved half-grabens)

Rohl, U., T. Dumont, U. Von Rad, R. Martini & L. Zaninetti (1991)- Upper Triassic Tethyan carbonates off Northwest Australia (Wombat Plateau, ODP Leg 122). *Facies* 25, p. 211-252.

(online at: <https://archive-ouverte.unige.ch/unige:24413>)

*(Wombat Plateau U. Carnian and Norian early rift series of deltaics, overlain by Rhaetian shallow marine carbonates that include reefal facies. Presence of foraminifera *Triasina oberhauseri* and *Triasina hantkeni* indicate Upper Norian- Rhaetian age. 25 carbonate microfacies types. Several shallowing-upward cycles from bioturbated wackestones to dolomitic algal bindstones suggest shallow-subtidal to intertidal settings. Also oolitic grainstones, calcisponge reefs and coral patch reefs. Foraminiferal assemblages closest affinity to Seram, also similarities with other regions like Europe)*

Rohl, U., U. Von Rad & G. Wirsing (1992)- Microfacies, paleoenvironment, and facies-dependent carbonate diagenesis in Upper Triassic platform carbonates off Northwest Australia. In: U. Von Rad, B.U. Haq et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 122, p. 129-159.

(online at: http://www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_07.pdf)

(ODP 122 identified 900m U Triassic (Carnian- Rhaetian) early rift sediments on Wombat (N Exmouth) Plateau. Carnian-Norian dominated by fluviodeltaic sediments with many carbonate intercalations. Sequence boundary at base of 'Rhaetian transgression' (215 Ma), overlain by shallowing-upward cycles from bioturbated wackestones to dolomitic algal bindstones, with reef development at platform margin. Open shelf limestone-marl alternations grade into bioclastic and oolitic grainstones, into calcisponge patch reefs and coral reefs. Reef growth ended with sequence boundary, followed by latest Rhaetian sea-level rise. Diagenetic successions of Rhaetian carbonates suggest Wombat Plateau horst was locally subaerially eroded, probably in Callovian-Oxfordian)

Rohrman, M. (2013)- Intrusive large igneous provinces below sedimentary basins: an example from the Exmouth Plateau (NW Australia). *J. of Geophysical Research: Solid Earth* 118, 8, p. 4477-4487.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/jgrb.50298>)

(Exmouth Plateau with breakup-related 150 × 400 km sill complex, intruding mainly Triassic sedimentary rocks between Late Jurassic and E Cretaceous. Sill complex likely sourced by mafic or ultramafic magma chamber at base of crust, seismically imaged as high-velocity body and covering ~16 x 104 km)

Rohrman, M. (2015)- Delineating the Exmouth mantle plume (NW Australia) from denudation and magmatic addition estimates. *Lithosphere* 7, 5, p. 589-600.

(Late Jurassic Exmouth mantle plume upwelling at highly extended and subsided continental fragment bounded by present-day subsea Sonne and Sonja Ridges and includes Cuvier margin and Cape Range fracture zone. Region characterized by ~2.6 km of denudation and ~500m of tectonic uplift, with erosion products acting as source material for E Cretaceous Lower Barrow delta. ~40% of the seismically detected magmatic underplate melt related, with effective underplate ~4 km thick near locus of uplift. Plume-induced domal uplift preceded magmatism and breakup. Plume activity followed by W- propagating hotspot track, possibly terminating in Greater India (Tibet))

Rollet, N., S.T. Abbott, M.E. Lech, D. Caust, R. Romeyn, K. Romine, J. Blevin, K. Khider et al. (2016)- Cretaceous stratigraphic play fairways and risk assessment in the Browse Basin: implications for CO₂ Storage. AAPG/SEG Int. Conf. Exhib., Melbourne 2015, Search and Discovery Article 80513, p. 1-29.

(online at: www.searchanddiscovery.com/documents/2016/80513rollet/ndx_rollet.pdf)

(Browse basin with large undeveloped gas resources (36 Tcf gas, 1148 MMB condensate). Gas rel. high in CO₂ (~8%). Study of Cretaceous deltaic and submarine fan sandstone reservoirs for CO₂ sequestration)

Rollet, N., D. Edwards, E. Grosjean, T. Palu, S. Abbott, M. Lech, J. Totterdell, D. Nguyen et al. (2017)- Reassessment of the petroleum prospectivity of the Browse Basin, offshore North West Australia. Proc. SE Asia Petroleum Exploration Society (SEAPEX) Exploration Conference 2017, Singapore, Session 3, p. 1-35. *(Abstract + Presentation)*

(Browse Basin with large gas-condensate accumulations and small light oil accumulations mostly in Cretaceous. Large undeveloped gas resources (41 TCF), development of Ichthys and Prelude fields. Seven supersequences from late Tithonian- Maastrichtian (K10-K60))

Rollet, N., D. Edwards, E. Grosjean, T. Palu, L. Hall, J. Totterdell, C. Boreham & A. Murray (2018)- Regional Jurassic sediment depositional architecture, Browse Basin: Implications for petroleum systems. Proc. Australian Exploration Geoscience Conf. (AEGC 2018), Sydney, ASEG Extended Abstracts, 1, p. 1-8. *(Extended Abstract)*

(online at: www.publish.csiro.au/ex/pdf/ASEG2018abMI_3B)

(Review of sequence stratigraphy of J10-J20 (Plover Fm) and J30-J50+ K10 (Vulcan Fm) supersequences, and paleogeography of Browse Basin. Large gas-condensate fields along Scott Reef Trend (Calliance, Brecknock, Torosa), in C and NW Caswell subbasin (Ichthys, Prelude, Crown, Proteus, Lasseter), and in Crux field in Heywood Graben, sourced from multiple horizons in Jurassic- basal Cretaceous)

Rollet, N., E. Grosjean, D. Edwards, R.H. Kempton, D. Nguyen, S. Abbott, C. Orlov et al. (2019)- Triassic petroleum systems on the central North West Shelf – Learnings from the greater Phoenix area seismic mapping and geochemical studies. Proc. Australasian Exploration Geoscience Conference (AEGC 2019), Perth, Exploration Geophysics, ASEG Extended Abstracts, p. 1, 1-7.

(online at: <https://www.tandfonline.com/doi/pdf/10.1080/22020586.2019.12073047>)

(Greater Phoenix area in Bedout Sub-basin with recent oil and gas discoveries in E-M Triassic reservoirs of the Keraudren Formation and Locker Shale . Oil likely sourced locally from fluvial-deltaic mudstones. Etc.)

Rollet, N., E. Grosjean, D. Edwards, T. Palu, S. Abbott, J., Totterdell, M.E. Lech, K. Khider et al. (2016)- New insights into the petroleum prospectivity of the Browse Basin: results of a multi-disciplinary study. The APPEA Journal 56, 1, p. 483-494.

(Browse Basin hosts large gas accumulations. Drilling focused in C Caswell Sub-basin (Ichthys, Prelude), and Brecknock-Scott Reef Trend. New sequence stratigraphy of Cretaceous succession and structural framework. Complex charge history, with fluids from multiple Mesozoic source rocks (Lw- M Jurassic J10-J20, Plover Fm), U Jurassic- lowermost Cretaceous J30-K10, Vulcan Fm) and Lower Cretaceous K20-K30, Echuca Shoals Fm))

Rollet, N., G.A. Logan, J.M. Kennard, P.E. O'Brien, A.T. Jones & M. Sexton (2006)- Characterisation and correlation of active hydrocarbon seepage using geophysical data sets: an example from the tropical, carbonate Yampi Shelf, Northwest Australia. Marine and Petroleum Geology 23, 2, p. 145-164.

(Imaging of active hydrocarbon seepage in Australia, on Yampi carbonate Shelf, in 50 and 90m water. Seepage evidenced by gas plumes in water column, hard-grounds, pockmark fields and mounds)

Romine, K.K., J.M. Durrant, D.L. Cathro & G. Bernardel (1997)- Petroleum play element prediction for the Cretaceous- Tertiary basin phase, Northern Carnarvon Basin. Australian Petroleum Production Exploration Association (APPEA) J. 37, p. 315-339.

Rosleff-Soerensen, B., L. Reuning, S. Back & P. Kukla (2011)- Seismic geomorphology and growth architecture of a Miocene barrier reef, Browse Basin, NW Australia. Marine and Petroleum Geology 29, 1, p. 233-254.

(Browse Basin non-tropical carbonate ramp in Eocene- E Miocene, changing to tropical rimmed platform in M Miocene. First reef structures in early M Miocene as narrow linear belts oblique to shelf strike direction. Subsequent progradation forms barrier reef of >40 km. Three ridges separated by progradational steps. Second and third step separated by karst horizon, probably global sea-level fall near Serravallian/ Tortonian boundary. E Tortonian sea-level rise drowned barrier-reef system and later also patch reefs in platform interior. First reefs developed simultaneous to maximum transport capacity of Indonesian Throughflow, Late Miocene reef drowning followed restriction of this seaway and Leeuwin current)

Rosleff-Soerensen, B., L. Reuning, S. Back & P. Kukla (2016)- The response of a basin-scale Miocene barrier reef system to long-term, strong subsidence on a passive continental margin, Barcoo Sub-basin, Australian North West Shelf. Basin Research 28, 1, p. 103-123.

(250 km long M-U Miocene barrier reef in S Browse Basin. Main controls for evolution: subsidence, global eustatic variations and antecedent topography. Sr-age of base of reef in Barcoo 1 well 11.8 Ma. High Miocene subsidence rates mainly caused by accelerated tectonic subsidence related to Australian- Eurasian Plates collision 250-500 km N of study area. Local Miocene tectonic reactivation of older structural grain (transpressional anticlines) served as preferential sites for reef growth)

Ross, M.I. & P.R. Vail (1994)- Sequence stratigraphy of the lower Neocomian Barrow Delta, Exmouth Plateau, northwestern Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1994, p. 435-447.

(Berriasian- E Valanginian northward-prograding Barrow Delta system at S Exmouth Plateau, Sequence stratigraphic interpretation based on seismic data and 25 wells shows latest Berriasian switch of depocenter from W Exmouth Plateau to E Barrow Rift. Superimposed on shift are seven eustatic cycles in Berriasian and four in E Valanginian (but only basinally restricted lowstand system tracts))

- Ruge, S.M., N. Scarselli & A. Bilal (2021)- 3D seismic classification of fluid escape pipes in the Western Exmouth Plateau, North West Shelf of Australia. *J. Geological Society* 178, 3, jgs2020–096, p.
(manuscript online at: https://www.researchgate.net/profile/Nicola-Scarselli/publication/346683776_3D_Seismic_classification_of_Fluid_Escape_Pipes_in_the_western_Exmouth_Plateau_North_West_Shelf_of_Australia)
(171 well-imaged vertical gas chimneys on 3D seismic on W Exmouth Plateau, forming prominent vertical columns up to 4.5 km long. Apparently sourced from multiple levels within Triassic Mungaroo Fm and many terminate with paleo-pockmarks in U Jurassic syn-extension strata. Apparent high seal risk in study area, supported by lack of significant discoveries in area covered)
- Ryan, G.J., G. Bernardel, J.M. Kennard, A.T. Jones, G.A. Logan & N. Rollet (2009)- A pre-cursor extensive Miocene reef system to the Rowley Shoals reefs, Western Australia: evidence for structural control of reef growth or natural hydrocarbon seepage? *Australian Petroleum Production Exploration Association (APPEA) J.* 49, p. 337-361.
(Numerous Miocene reefs and related carbonate buildups in Rowley Shoals region, NW Shelf, forming part of >1600 km Miocene reef tract, which extended N into Browse-Bonaparte basins and S to North West Cape in Carnarvon Basin, comparable in length to modern Great Barrier Reef)
- Sanchez, C.M. (2011)- Controls on sedimentary processes and 3D stratigraphic architecture of a Mid-Miocene to Recent, mixed carbonate-siliciclastic continental margin: Northwest shelf of Australia. Ph.D. Thesis University of Texas at Austin, p. 1-140.
(online at: <https://repositories.lib.utexas.edu/handle/2152/ETD-UT-2011-05-2678>)
- Sanchez, C.M., C.S. Fulthorpe & R.J. Steel (2012)- Miocene shelf-edge deltas and their impact on deepwater slope progradation and morphology, Northwest Shelf of Australia. *Basin Research* 24, 6, p. 683-698.
(Late-Middle Miocene- Pliocene siliciclastics in offshore N Carnarvon Basin, NW Shelf, interpreted as prograding delta deposits)
- Sandiford, M. (2007)- The tilting continent: a new constraint on the dynamic topographic field from Australia. *Earth Planetary Science Letters* 261, p. 152-163.
(N Australian margin broad shelf and Neogene record of stratal onlap. Southern shelf typically <100 km wide and record of progressive offlap with Neogene paleo-shorelines hundreds of kilometres inland, at elevations up to ~250m above present-day sea level. This continental-scale 'reciprocal' stratigraphy implies 250-300m N-down vertical motion with respect to sea level since M Miocene)
- Sandiford, M., M. Quigley, P. De Broekert & S. Jakica (2009)- Tectonic framework for the Cenozoic cratonic basins of Australia. *Australian J. Earth Sciences* 56, p. 5-18.
(Variations in Cenozoic marine inundation of Australia point to tectonic regime involving three modes of deformation. At longest wavelength continent has experienced SW-up/NE-down tilting of 300m towards Indonesia-W Pacific subduction realm since Late Eocene. At intermediate wavelengths undulations of ~100m reflecting lithospheric buckling due to intraplate stress from plate-boundary forcing)
- Sarti, M., A. Russo & F.R. Bosellini (1992)- Rhaetian strata, Wombat Plateau: analysis of fossil communities as a key to paleoenvironmental change. In: U. von Rad, B.U. Haq et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results*, 122, p. 181-195.
(Latest Triassic/ Rhaetian reefal carbonate buildups penetrated on Wombat Plateau. First colonization by sponge-dominated community, followed by coral-dominated community with associated hydrozoans-tabulozoans constituting main core of pinnacle reef complex, reflecting shallowing of environment of deposition. Rhaetian pinnacle assemblage is low-energy, bank-margin 'reef complex')
- Schuchert, C. (1932)- Upper Paleozoic glaciations of Australia. *American Journal of Science*, Ser. 5, 23, 138, p. 540-548.
(Brief discussion of five Carboniferous- Permian glacial episodes in Australia. No figures)

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(S Exmouth oil fields in Latest Tithonian- E Berriasian P. iehiense zone lowstand sands in rotated fault blocks, sourced by Late Jurassic Dingo claystone, sealed by intra-Hauterivian unconformity shales)

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(Palynofacies analysis on core samples from fluvio-deltaic M-U Triassic Mungaroo Fm, N Carnarvon Basin. (upper Samaropollenites speciosus and lower Minutosaccus crenulatus biostratigraphic zones)

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(online at: www.ga.gov.au/corporate_data/15207/Rep_295.pdf)

(Turonian- Maastrichtian nannofossils from onshore Carnarvon and Perth basins and comparison with 10 other localities in Indo-Pacific region, incl. PNG. Three temperature-controlled biogeographic realms in Maastrichtian: (1) Austral (Perth Basin), (2) Extratropical (Carnarvon) and (3) Tropical (PNG) (Maastrichtian with Watznaueria barnesae, Micula murus, etc.))

Shafik, S. (1994)- Significance of calcareous nannofossil-bearing Jurassic and Cretaceous sediments on the Rowley Terrace, offshore northwest Australia. AGSO J. Australian Geology Geophysics 15, 1, p. 71-88.

(online at: www.ga.gov.au/corporate_data/49408/Jou1994_v15_n1.pdf)

(Nannofossils from dredge samples of Rowley Terrace. Relatively rare in Jurassic paralic pre-breakup sequence. Two nannofloras of E Toarcian and E Bajocian ages, reflecting transgressive events. More open marine conditions in Cretaceous, with oldest nannofloras Valanginian age, with both Austral/Boreal and Tethyan elements, suggesting surface-water connection between E Cretaceous juvenile ocean NW of Australia and S Tethyan ocean. Late Cretaceous nannofloras suggest positions in Extratropical Nannoprovince in Campanian (coeval nannofloras from Carnarvon Basin in S Extratropical Nannoprovince, Papuan Basin in Tropical Nannoprovince)

Shamrock, J.L. & D.K. Watkins (2012)- Eocene calcareous nannofossil biostratigraphy and community structure from Exmouth Plateau, Eastern Indian Ocean (ODP Site 762). Stratigraphy 9, 1, p. 1-54.

(Nannofossils from ODP Leg 122- Hole 762C with ~240m of Eocene pelagic chalk off NW Australia: ~250 Eocene species. Major changes in nannofossil assemblages correspond to paleoenvironmental shifts such as PETM (Paleocene-Eocene thermal maximum) and EECO (Early Eocene climatic optimum). Eight new species: Calcidiscus ellipticus, Cruciplacolithus nebulosus, C. opacus, Cyclicargolithus parvus, Hexadelus archus, Hayella situliformis var. ovata, Markalius latus, Pedinocyclus annulus))

Shamrock, J.L. & D.K. Watkins (2012)- Eocene biogeochronology and magnetostratigraphic revision of ODP Hole 762C, Exmouth Plateau (northwest Australian Shelf). Stratigraphy 9, 1, p. 55-76.

(online at: <https://eas2.unl.edu/~dwatkins/Watkins%20images/Shamrock%20%20Watkins%202012b.pdf>)

(~240m thick Eocene interval extends from magnetic polarity Chron C25r to C15r, and nannofossil zones CP6/7 to CP16a (NP7/8-NP21). Four hiatuses, each ~1-2 myr in duration)

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(*Marine macroinvertebrate fossils (mainly brachiopods) from petroleum exploration cores from wells Apium-1 and Redback-2*)

Simons, F.J., A. Zielhuis & R.D. Van der Hilst (1999)- The deep structure of the Australian continent from surface wave tomography. *Lithos* 48, p. 17-43.
(*New model of shear wave speeds in Australian upper mantle. Slow wave propagation under Paleozoic fold belts in E Australia, increasing W across Proterozoic and reaching maximum in Archean cratons. High wave speeds associated with Precambrian shields extend beyond Tasman Line, which marks E limit of Proterozoic outcrop, suggesting parts of Paleozoic fold belts underlain by Proterozoic lithosphere. N Australia craton extends offshore into PNG and under Indian Ocean. Precambrian cratons without thick high-speed 'keel' near passive margins, suggesting processes associated with continental break-up may have destroyed once present tectosphere*)

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(*online at: <http://jfr.geoscienceworld.org/content/38/3/251.full.pdf>*)
(*Late Miocene-Pleistocene planktonic foram zonation and numerical age calibration of datum levels*)

Sircombe, K.N. & M.J. Freeman (1999)- Provenance of detrital zircons on the Western Australia coastline-implications for the geologic history of the Perth basin and denudation of the Yilgarn craton. *Geology (GSA)* 27, 10, p. 879-882.
(*Detrital zircon samples from W Australia placer deposits dominated by Neoproterozoic and Mesoproterozoic ages (little from nearby Archean Yilgarn craton). Dominant ages consistent with derivation from Proterozoic orogens marginal to Yilgarn craton. Peaks around 550 Ma and ~680-700 Ma (Leeuwin Block/Pinjara orogenic belt), ~1200 Ma (Albany-Fraser belt), ~2500-2700 (Yilgarn craton)*)

Skwarko, S.K. (ed.) (1993)- The palaeontology of the Permian of Western Australia. Geological Survey of Western Australia, Perth, Bull. 136, p. 1-417 + Appendices on microfiches.
(*online at: <http://dmpbookshop.eruditetechnologies.com.au/product/palaeontology-of-the-permian-of-western-australia.do>*)
(*Major, well-illustrated inventory of W Australian Permian fossils. Little stratigraphic detail; few comparisons to Timor faunas*)

Smith, B.L. & R.B. Lawrence (1989)- Aspects of exploration and development, Vulcan sub-basin, Timor Sea. *Australian Petroleum Exploration Assoc. (APEA) Journal* 29, p. 546-556.

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(*Early paper identifying wrench faulting in Fitzroy Trough, the mobile N margin of Canning Basin: superimposed Mesozoic en-echelon compressional anticlines and normal fault structures, indicative of right lateral movements of marginal cratonic blocks*)

Smith, P.M. & N.D. Sutherland (1991)- Discovery of salt in the Vulcan Graben: geophysical and geological evaluation. *Australian Petroleum Exploration Assoc. (APEA) Journal* 31, 1, p. 229-249.
(*Salt/ anhydrite in Paqualin, Swan diapirs, Australian NW Shelf*)

Smith, S.A., P.R. Tingate, C.M. Griffiths & J.N.F. Hull (1999)- The structural development and petroleum potential of the Roebuck Basin. Australian Petroleum Production Exploration Association (APPEA) J. 39, 1, p. 364-385.

(In Roebuck (= offshore Canning) Basin three phases of 'Fitzroy Movement': (1) Ladinian large transpressional 'flower structures' along N Turtle Hinge Zone; (2) Norian major en echelon anticlines in Fitzroy Trough and subtle unconformity in the Phoenix 1, 2 wells; (3) Sinemurian change from predominantly back-stepping to prograding and aggrading sedimentation)

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Spry, T.B. & I. Ward (1997)- The Gwydion discovery: a new play fairway in the Browse Basin. Australian Petroleum Production Exploration Association (APPEA) J. 37, 1, p. 87-104.
(3 gas, one oil-gas zone in Barremian- Albian sands on Yampi Shelf)

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(online at: www.ga.gov.au/corporate_data/60864/Rec2004_013.pdf)

(Exmouth Plateau is marginal plateau in water depths of 800- >3000m, part of N Carnarvon Basin. Most of plateau underlain by 10-15 km of faulted sediment section, mainly deposited during extension that preceded breakup from Australia of Argo Land in M Jurassic and Greater India in E Cretaceous. Since last breakup Plateau largely sediment-starved, with only few 100m of mid-Cretaceous-Cenozoic marine sediments. Margins of plateau geologically very distinctive)

Stagg, H.M.J. & J.B. Colwell (1994)- the structural foundations of the Northern Carnarvon Basin. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1994, p. 349-364.

Stagg, H.M.J. & N.F. Exon (1981)- Geology of Scott Plateau and Rowley Terrace. Bureau Mineral Resources Geology Geophysics (BMR), Bull. 213, p. 1-47.

(online at: www.ga.gov.au/corporate_data/62/Bull_213.pdf)

(Scott Plateau of NW Shelf is subsided W margin to Browse Basin, and was probably paleohigh in Permian-Jurassic, shedding sediments into Browse Basin to E and Rowley Sub-basin to S. Since break-up of continental margin in Callovian, plateau gradually subsided to present depth of 1000-3500m, and now covered by ~1 km U Cretaceous-Cainozoic sediments, mainly carbonates. Basement of possible Kimberley Block equivalents probably no more than 2-4 km below seabed)

Stagg, H.M.J., J.B. Willcox, P.A. Symonds, G.W. O'Brien, J.B. Colwell, P.J. Hill, C.S. Lee, A.M.G. Moore & H.I.M. Struckmeyer (1999)- Architecture and evolution of the Australian continental margin. AGSO J. Australian Geology Geophysics 17, 5/6, p. 17-33.

(online at: www.ga.gov.au/corporate_data/81551/Jou2000_v17_n5-6_p017.pdf)

(Review of continental margins of Australia. Normally rifted NW and oblique-slip W margins have polyphase

rift/drift history with progressive separation of continental blocks from Permo-Carboniferous- E Cretaceous. Multiple tectonic episodes produced geologically complex margin with strong imprint of volcanism. Continental shelf and marginal plateaux generally underlain by thick Phanerozoic sediments of Westralian Superbasin; areas of shallow crystalline basement are rare. Phanerozoic generally thick and flat-lying. Extension of upper crust observed only adjacent to inboard confined deep rifts and on outermost margin. Upper crustal extension rarely >20%; basins formed largely as result of lower crustal extension. Goulburn Graben inversion may be related to Late Triassic 'Fitzroy Movement')

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(online at: https://d28rz98at9flks.cloudfront.net/81385/Jou1994_v15_n1_p127.pdf)

(U Triassic corals and spongiomorphs dredged during BMR Cruise 95 from Rowley Terrace, off Canning Basin, NW Australia. Branching spongiomorph (Spongiomorpha sp.) and two corals (Pamiroseris rectilamellosa, Retiophyllia tellae) indicate Late Triassic (Norian-Rhaetian) age. Although different in composition, Rowley Terrace occurrences may be E-ward extension of Wombat Plateau reefs, along rifted margin of Gondwana)

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Stephenson, M.H. (1998)- Preliminary correlation of palynological assemblages from Oman with the *Granulatisporites confluens* Opper Zone of the Grant formation (lower Permian), Canning Basin, Western Australia. J. African Earth Sciences 26, 4, p. 521-526.

(Presence of Granulatisporites confluens indicates Asselian-Tastubian (lowermost Permian) age for glaciogene sediments in Amal-6 borehole, Oman. In part coeval with glaciogene sediments of Canning Basin, W Australia)

Stilwell, J.D., M. Dixon, B. Lehner & S. Gamarra (2011)- Jurassic- Cretaceous boundary ammonite *Blanfordiceras* (Mollusca, Cephalopoda) from Fortissimo-1 wildcat well, Browse basin, Northwest Shelf, Australia. Journal of Paleontology 85, 3, p. 551-554.

(First record in Australia of Latest Tithonian (146.5-145.5 Ma) ammonite Blanfordiceras wallichi in core from Upper Swan Fm in well in Browse Basin, NW shelf. Associated microplankton initially identified as 'basal Cretaceous' Pseudoceratium iehiense or overlying Kalypteia wisemaniae Zone)

Stilwell, J.D., P.G. Quilty & D.J. Mantle (2012)- Paleontology of Early Cretaceous deep-water samples dredged from the Wallaby Plateau: new perspectives of Gondwana break-up along the Western Australian margin. Australian J. Earth Sciences 59, 1, p. 29-49.

(Samples from deep-water escarpments of Wallaby marginal plateau (400 km W of Carnarvon). Previously only modern carbonate, tholeiitic basalts and volcanoclastic rocks sampled. Claystones-sandstones from 3015-5159 m water depths are E Cretaceous (latest Berriasian- Barremian-Aptian) paralic- shallow marine deposits, straddling and post-dating breakup and opening of Cuvier Abyssal Plain. This, with recent identification of Oxfordian-Kimmeridgian foraminifera from same location, indicates presence of pre-breakup sedimentary section beneath parts of Wallaby Plateau)

Struckmeyer, H.I.M (ed.) (2006)- Petroleum geology of the Arafura and Money Shoal Basins. Geoscience Australia, Canberra, Report 2006/22, p. 1-65.

(online at: www.ga.gov.au/corporate_data/63995/Rec2006_022.pdf)

(Arafura Basin is Neoproterozoic- Paleozoic intracratonic basin that extends from onshore N Australia across Arafura Sea into Indonesian waters. It is overlain by the M Jurassic-Cenozoic Money Shoal Basin. Oil shows in Arafura 1 and Goulburn 1 wells, but no commercial discoveries)

Struckmeyer, H.I.M., J.E. Blevin, J. Sayers, J.M. Totterdell, K. Baxter & D.L. Cathro (1998)- Structural evolution of the Browse Basin, North West Shelf: new concepts from deep seismic data. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA), p. 345-367.

(Browse Basin developed in Carboniferous- E Permian as response to N-NW extension, accommodated along NE-striking large normal faults, leading to breakup in E Permian. Rifting created Caswell and Barcoo sub-basins. Contractional reactivation of Paleozoic faults in Late Triassic- E Jurassic, resulting in partial inversion of half-graben. E Jurassic extension accommodated by numerous smaller faults, which caused collapse of many Triassic anticlines. Extension as upper crustal simple shear and lower crustal/upper mantle pure shear during breakup in M Jurassic. Widespread Callovian erosion, associated with continental breakup and initiation of seafloor spreading in Argo Abyssal Plain. Tertiary collision of Australian- Eurasian Plates produced inversion structures in M-L Miocene, along Paleozoic fault trends in Barcoo subbasin, and normal faulting in N Caswell subbasin)

Struckmeyer, H.I.M. & J.M. Totterdell (co-ord.) (1990)- Australia: evolution of a continent. BMR Palaeogeographic Group, Bureau Mineral Resources (BMR), Geology Geophysics, Canberra, p. 1-97.
(online at: www.ga.gov.au/metadata-gateway/metadata/record/22137/)
(Schematic paleogeographic maps of Australia since Cambrian)

Swart, R.H. (1998)- Revision of Permian pleurotomarian gastropods from the Carnarvon and Bonaparte basins. In: G.R. Shi, N.W. Archbold & M. Grover (eds.) Strzelecki international symposium on Permian of eastern Tethys; biostratigraphy, palaeogeography and resources. Proc. Royal Society of Victoria 110, 1-2, p. 163-172.

Swift, M.G. & D.A. Falvey (1990)- Heat flow and heat flow models in evaluating the oil prospectivity of the Exmouth Plateau, Northwest Australia. In: B. Elishewitz (ed.) Proc. CCOP Heat Flow Workshop III, Bangkok 1988, United Nations ESCAP, CCOP, Technical Publication 21, p. 65-78.

Swift, M.G., H.M J. Stagg & D.A. Falvey (1988)- Heat flow regime and implications for oil maturation and migration in the offshore northern Carnarvon Basin. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia. Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA), p. 539-551.
(Present day heat-flow distribution in Exmouth Plateau region compiled from seabed measurements and oil wells. Area of high heat-flow (~90 mW/m²) near Barrow Island, decreasing W-ward to moderate-low (as low as 17 mW/ 1m²) over center of Exmouth Plateau. Some process diverting heat away from Exmouth Plateau Arch)

Symonds, P.A., C.D.N. Collins & J. Bradshaw (1994)- Deep structure of the Browse Basin: implications for basin development and petroleum exploration. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 315-331.
(Primary architecture of Browse Basin of Australian NW Shelf largely result of NE-SW ?Late Devonian- E Carboniferous intra-cratonic upper crustal extension, and NW-N-oriented M Carboniferous- E Permian full-lithosphere extension. Up to 11 km of sediment fill. During extension, crust beneath Browse thinned from 35 km to 10km by removal and stretching of upper and lower crust, leaving mid-crust largely intact. Later deformation events: Late Permian- E Triassic (Bedout Movement), M-L Triassic, and Late Triassic- E Jurassic (Fitzroy Movement) inversion events, post-breakup (Callovian-Oxfordian) margin sag, and ?Late Miocene transpressional anticlines in some areas)

Symonds, P.A., S. Planke, O. Frey & J. Skogseid (1998)- Volcanic evolution of the Western Australian continental margin and its implications for basin development. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, p. 33-54.
(2000km long- 500km wide volcanic province along NW Australian margin around times of continental breakup. Oxfordian (150 Ma) in age in Argo abyssal plain in N, Valanginian (136 Ma) in age in Gascoyne, etc. in S)

Tagliaro, G., C.S. Fulthorpe, S.J. Gallagher, C.M. McHugh, M. Kominz & L. Lavier (2018)- Neogene siliciclastic deposition and climate variability on a carbonate margin: Australian Northwest Shelf. Marine Geology 403, p. 285-300.

(Bare Fm episode of Late Miocene- Pliocene siliciclastic deposition on carbonate-dominated Australian NW Shelf. Bare Formation preceded by M-L Miocene shelf exposure and karstification (~12 Ma). Small lobate deltas in Late Miocene, fluvial and wave dominated delta in Zanclean. Siliciclastic input decreased in Piacenzian and ended in E Pleistocene (~2.4 Ma). Correlate with regional climate trends: arid M-L Miocene, humid Zanclean and return to arid in Piacenzian. Linked to reorganization of Indian Ocean paleoceanography, accompanying N-ward migration of Australian continent and progressive restriction of Indonesian Throughflow)

Tandon, K., J.M. Lorenzo & G.W. O'Brien (2000)- Effective elastic thickness of the northern Australian continental lithosphere subducting beneath the Banda orogen (Indonesia): inelastic failure at the start of continental subduction. *Tectonophysics* 329, p. 39-60.

(Pliocene-Recent continent-island arc collision of N Australian continental lithosphere across Banda orogen from Roti to Kai Plateau formed underfilled foreland basin within Timor-Tanimbar-Aru Trough. Australian continental lithosphere N of Timor believed to be detached from oceanic lithosphere. Effective Elastic Thickness of N Australian continental lithosphere derived using elastic half-beam model. EET varies from 27-75 km, highest near C Timor. Almost cessation of normal faulting in Late Miocene- E Pliocene)

Tao, C., G. Bai, J. Liu, C. Deng, X. Lu, H. Liu & D. Wang (2013)- Mesozoic lithofacies palaeogeography and petroleum prospectivity in North Carnarvon Basin, Australia. *J. of Palaeogeography* 2, 1, p. 81-92.

(online at: www.journalofpalaeogeography.org/fileup/PDF/2013-1-81.pdf)

(Six Late Triassic- Cretaceous paleogeographic maps of N Carnarvon Basin)

Taylor, B.A. & D.W. Haig (2001)- Barremian Foraminifera from the Muderong Shale, oldest marine sequence in the Cretaceous of the southern Carnarvon Basin, Western Australia. *Micropaleontology* 47, p. 125-143.

(E Cretaceous Muderong Shale from S Carnarvon Basin outcrop and wells with restricted marine Ammobaculites- Haplophragmoides- Miliammina- Verneuilinoides association)

Teichert, C. (1940)- Marine Jurassic of East Indian affinities at Broome, north-western Australia. *J. Royal Society Western Australia* 26, p. 103-119.

(Oxfordian-Kimmeridgean faunal assemblages from artesian wells at Broome, W Australia, characterized by pelecypod Buchia (= Malayomaorica; JTvG) and belemnites of Belemnopsis gerardi group, demonstrating presence of marine Late Jurassic between 950- 1550'. Notable similarities to Jurassic faunas of E Indonesia)

Teichert, C. (1941)- Upper Paleozoic of Western Australia: correlation and paleogeography. *American Assoc. Petroleum Geol. (AAPG) Bull.* 25, 3, p. 371-415.

(Late Paleozoic in W Australia starts with glacial deposits, probably of Sakmarian- early Kungurian age (E Permian). Permian glaciation of Australia was single major event with strongest refrigeration in Sakmarian. Rich marine faunas arrived in Australia after climax of glaciation. Upper Paleozoic deposited in geosynclinal trough, marginal to Precambrian shield and continuous with Timor geosyncline of East Indies. p. 405: Great differences exist in composition of Late Paleozoic faunas of Timor (echinoderm-cephalopod facies) and W Australia (brachiopod- bryozoan facies), ...no identical coral species, etc.)

Teichert, C. (1947)- Stratigraphy of Western Australia. *American Assoc. Petroleum Geol. (AAPG) Bull.* 31, 1, p. 1-70.

Teichert, C. (1951)- The marine Permian faunas of Western Australia (an interim review). *Palaontologische Zeitschrift* 24, p. 76-90.

(Marine Permian faunas (~350 species) compared with Tethyan, E Australian and Gondwana faunas. W Australian faunal province affinities with E Tethys (Salt Range, Timor) but dissimilar to E Australian province, although some W Australian elements migrated into N (Queensland) and S (Tasmania) parts of E province)

Teichert, C. (1959)- Australia and Gondwanaland. *Geologische Rundschau* 47, 2, p. 562-590.

(Marine nature of W Australia sediments and the compositions of fossil faunas indicate existence of open ocean W of Australia since E Paleozoic time. Fossil land vertebrate faunas suggests isolation of Australian continent since at least Permian time)

Tesch, P., R.S. Reece, M.C. Pope & J.R. Markello (2018)- Quantification of architectural variability and controls in an Upper Oligocene to Lower Miocene carbonate ramp, Browse Basin, Australia. *Marine and Petroleum Geology* 91, p. 432-454.

Then, J., M. Wilson, I. Copp, M. Buschkuehle & R. Carey (2018)- Depositional, diagenetic and mineralogical controls on porosity development in the Ungani Field, Canning Basin. Proc. Australian Exploration Geoscience Conf. (AEGC 2018), Sydney, ASEG Extended Abstracts 2018, 1, p. 1-8.

(online at: www.publish.csiro.au/ex/pdf/ASEG2018abT5_3B)

(E Carboniferous Tournaisian Dolomite reservoir in Ungani field on S flank of Fitzroy Trough. Fractured and bioclastic-rich with 'reefal' organisms, but with pervasive dolomitisation. Shallow-moderate burial and marine or evaporative reflux fluids likely responsible for pervasive dolomitisation. Subsequent leaching of calcite)

Thomas, B.M., P. Hanson, J.G. Stainforth, P. Stamford & L. Taylor (1991)- Petroleum geology and exploration history of the Carpentaria Basin, Australia, and associated infrabasins. In: M.W. Leighton et al. (eds.) Interior cratonic basins, American Assoc. Petroleum Geol. (AAPG), Memoir 51, p. 709-725.

Thompson, M.J. (2013)- Offshore West Australian basins, fuelling a decade of conventional prosperity for industry and Woodside. Sedimentary Basins of Western Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p.

Thompson, N.B., C. Buessenschuett, L. Clydsdale, C.J. Cubitt, R.C. Davis, M.K. Johnson et al. (2003)- The North West Shelf of Australia- a Woodside perspective. Proc. 2003 SE Asia Petroleum Exploration Society (SEAPEX) Exploration Conference, Singapore, p. 1-43.

(Major review of evolution of NW Shelf of Australia, a major Mesozoic gas province with minor oily sweet spots. Since exploration drilling started in 1953, 754 exploration wells drilled (Dec 2001), discovering 2.6 billion bbls of oil, 2.6 billion bbls of condensate and 152 TCF gas in 233 fields. Most traps sands in rift-related horsts and tilted blocks, or sands in overlying drape structures. 97% of resources reserivoired under dominantly Cretaceous regional seal. Same as Longley et al. 2002)

Thompson, N.B., M.L. Taylor & N.C. Taylor (1998)- Reservoir geology of the Perseus Field, North West Shelf, Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 527-534.

(Perseus Field giant gas accumulation, in structural/stratigraphic trap on Rankin Trend. Gas reserivoired in Bathonian- Callovian deltaic sandstones of Legendre Formation, which subcrop U Jurassic-Lower Cretaceous Main Unconformity in graben between Goodwyn and North Rankin horsts. Six third-order sequences within W. digitata, W. indotata and C. halosa dinoflagellate zones)

Thurrow, J. (1988)- Sedimentology of the Argo and Gascoyne abyssal plains, NW Australia: Report on Ocean Drilling Program Leg 123. *Carbonates and Evaporites* 3, 2, p. 201-212.

Thurrow, J. & U. von Rad (1992)- Bentonites as tracers of earliest Cretaceous post-breakup volcanism off Northwestern Australia. In: F.M. Gradstein et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results, 123, p. 89-106.

(online at: www-odp.tamu.edu/publications/123_SR/VOLUME/CHAPTERS/sr123_04.pdf)

(Bentonites in Berriasian- Valanginian pelagic sediments on and around Wombat- Exmouth Plateau are altered volcanic ash layers, and tied to continental breakup and rapid subsidence during 'juvenile ocean phase')

Tilbury, L., C.J. Clayton, T.J. Conroy, G. Philip, G.A. Boyd, G.A. Johnson et al. (2009)- Pluto- a major gas field hidden beneath the continental slope. Australian Petroleum Production Exploration Association (APPEA) J. 2009, p. 243-268.

(Pluto 2005 gas discovery in Carnarvon Basin in tilted fault block. Gross gas column 209m in Triassic Mungaroo Fm sands and Tithonian sands, sealed by Cretaceous Forestier and Muderong Fm shales)

Tindale, K., N. Newell, J. Keall & N. Smith (1998)- Structural evolution and charge history of the Exmouth Sub-basin, Northern Carnarvon Basin, Western Australia. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 447-472.

(Exmouth sub-basin forms part of Exmouth Barrow-Dampier intra-cratonic rift system of N Carnarvon Basin. With significant thicknesses of U Jurassic Dingo Claystone, principal hydrocarbon source facies in region. Exmouth Sub-basin complex tectonic history, with at least two phases of uplift and erosion in Cretaceous (Valanginian, E Santonian), and Tertiary inversion/ tilting. Also multiphase hydrocarbon charge history)

Tortopoglu, B. (2015)- The structural evolution of the northern Carnarvon Basin, northwest Australia. M.Sc. Thesis, Colorado School of Mines, Golden, p. 1-170

(online at: https://dspace.library.colostate.edu/bitstream/handle/11124/20135/Tortopoglu_mines_0052N_10771.pdf)

(N Carnarvon Basin rift-dominated basin, with five phases of extension (Pre-Top Permian, Top Permian, Base Jurassic, Middle Jurassic, and Late Jurassic) and the Base Cretaceous inversion. Magnitude of rift phases increased during M and Late Jurassic extension)

Tovaglieri, F. (2013)- Depositional history and paleogeography of the Jurassic Plover Formation in Calliance and Brecknock fields, Browse Basin, North West Shelf, Australia: Ph.D. Thesis, University of Western Australia, p. 1-361 + Enclosures.

(online at: research-repository.uwa.edu.au/files/3245318/Tovaglieri_Federico_2013_Part_1.pdf)

(Sequence stratigraphic framework of E-M Jurassic Plover reservoirs in Calliance and Brecknock fields)

Tovaglieri, F. & A.D. George (2012)- Sedimentology and image-log analysis of the Jurassic deltaic Plover Formation, Browse Basin, Australian North West Shelf. AAPG Annual Convention Exhib., Long Beach, Search and Discovery Article 50714, p. 1-19. *(Abstract + Presentation)*

(online at: http://www.searchanddiscovery.com/documents/2012/50714tovaglieri/ndx_tovaglieri.pdf)

(Plover Fm E-M Jurassic syn-rift deltaic system, with 5 second-order sequences of ~5-9 Ma duration)

Tovaglieri, F. & A.D. George (2014)- Stratigraphic architecture of an Early-Middle Jurassic tidally influenced deltaic system (Plover Formation), Browse Basin, Australian North West Shelf. Marine and Petroleum Geology 49, p. 59-83.

(Stratigraphic architecture and evolution of major E-M Jurassic fluvio-deltaic system (Plover Fm). Five 3rd-order sequences record progradational (S1, S2 and S4) and retrogradational (S3 and S5) phases of delta evolution. Common S-directed sediment dispersal in S2 and S3 and increasingly complex with W-directions in S4 and S5. Two rift-related depositional phases separated by phase of uplift between S3- S4. See also corrigendum in Vol. 54, p. 139-140)

Tovaglieri, F., A.D. George, T. Jones & H. Zwingmann (2013)- Depositional and volcanic history of the Early to Middle Jurassic deltaic reservoirs in Calliance and Brecknock Fields (Plover Formation), Browse Basin, North West Shelf, Australia. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-20.

Towner, R.R. & D.L. Gibson (1983)- Geology of the onshore Canning Basin, Western Australia. Bureau of Mineral Resources, Geology and Geophysics Bulletin 215, p. 1-51.

(online at: https://s3-ap-southeast-2.amazonaws.com/corpdata/11/Bull_215.pdf)

(Canning Basin of NW Australia large, intracratonic basin between Halls Creek Province and Pilbara Block, with up to 18 km thick faulted and folded Phanerozoic sediments. Five major periods of sedimentation; each with marine and continental phases, separated by intervals of erosion: (1) E Ordovician mainly marine sediments; (2) Silurian- E Carboniferous: initially evaporitic marine with thick Devonian reef-carbonates; (3) Late Carboniferous marine and continental sedimentation, initially under glacial conditions, warming into E Triassic, followed by major compressional tectonism, probably in E Jurassic; (4) late E Jurassic- E Cretaceous with regional transgression; (5) Cenozoic. Text followed by extensive report by Yeates et al. 1975)

Tucker, S.P. (2009)- Post-rift marine transgression of the southern Browse Basin margin: controls on hydrocarbon reservoir development and exploration potential. Australian Petroleum Production Exploration Association (APPEA) J. 2009, p.

Turner, S., L.B. Bean, M. Dettmann, J.L. McKellar, S. McLoughlin & T. Thulborn (2009)- Australian Jurassic sedimentary and fossil successions: current work and future prospects for marine and non-marine correlation. Geologiska Foren. Forhandlingar (GFF), Stockholm, 131, 1, p. 49-70.
(online at: http://pdfserve.informaworld.com/38517_914071552.pdf)
(Review of Jurassic stratigraphies and fossils across Australia)

Tyler, I.M. & R.M. Hocking (2001)- A revised geological framework for Western Australia. West Australian Geological Survey Record 2002/5, p. 1-7.
(online at: www.doir.wa.gov.au/documents/gswa/gsdPap_Tyler_and_Hocking.pdf)

Tyler, I.M., R.M. Hocking & P.W. Haines (2012)- Geological evolution of the Kimberley region of Western Australia. Episodes 35, 1, p. 298-306.
(online at: www.episodes.org/index.php/epi/article/viewFile/59916/46873)
(History of Kimberley cratonic region in NW Australia began in Paleoproterozoic with rifting along N Australian Craton margin at 1910-1880 Ma, followed by plate collision as part of 1870-1790 Ma events that formed Diamantina Craton within supercontinent Nuna (Hooper Orogeny, Halls Creek Orogeny, etc.))

Vachard, D., D.W. Haig & A.J. Mory (2014)- Lower Carboniferous (middle Viséan) foraminifers and algae from an interior sea, Southern Carnarvon Basin, Australia. Geobios 47, p. 57-74.
(Moderately diverse foraminifera fauna in Yindagindy Fm. Cosmopolitan genus *Koninckopora* and *Plectinopsis* suggest M Viséan age)

Van Aarssen, B.G.K., R. Alexander & R.I. Kagie (1996)- The origin of Barrow Sub-basin crude oils: a geochemical correlation using land-plant biomarkers. Australian Petroleum Production Exploration Association (APPEA) J. 36, 1, p. 465-476.
(New biomarker technology used in sediments and oils-condensates from Barrow Sub-basin. Plant fingerprint established in M-U Jurassic rock samples from Koolinda-1 well. Crude oils from area match closely with Oxfordian (*W. spectabilis* dinozone) of Koolinda-1 sediments. Four oils correlated with slightly older sediments. Five condensates did not fit higher plant fingerprint of Jurassic in Koolinda-1; possibly from older source rocks)

Van Aarssen, B.G.K., R. Alexander & R.I. Kagie (1998)- Higher plant biomarkers on the North West Shelf: application in stratigraphic correlation and palaeoclimate reconstruction. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 123-128.
(Biomarkers (retene, cadene, etc.) tied to higher land plants in Middle-Late Jurassic sequences on NW Shelf. Results show significant climate change in Oxfordian, probably led to dominance of conifer type trees. Palaeoclimate in Carnarvon Basin changed in cyclic fashion during Jurassic, coinciding with second-order sea level changes)

Van Aarssen, B.G.K., R. Alexander & R.I. Kagie (1998)- Molecular indicators for palaeoenvironmental changes. Petroleum Exploration Society Australia (PESA) Journal 26, p. 98-105.
(Similar to Van Aarssen et al. 1998, above)

Van Tuyl, J., T.M. Alves & L. Cherns (2018)- Pinnacle features at the base of isolated carbonate buildups marking point sources of fluid offshore Northwest Australia. Geological Society of America (GSA) Bull. 130, 9-10, p. 1596-1614.
(online at: <https://pubs.geoscienceworld.org/gsa/gsabulletin/article/130/9-10/1596/530065/Pinnacle-features-at-the-base-of-isolated>)

(Seismic data show most Late Oligocene-Miocene isolated carbonate buildups in Browse Basin underlain by bright spots, dim spots and other evidence of fluid accumulation, suggesting buildups formed preferentially on pinnacles formed by mud volcanoes or methanogenic carbonates)

Van Tuyl, J., T. Alves & L. Cherns (2018)- Geometric and depositional responses of carbonate build-ups to Miocene sea level and regional tectonics offshore Northwest Australia. *Marine and Petroleum Geology* 94, p. 144-165.

(online at: <https://www.sciencedirect.com/science/article/pii/S0264817218300801>)

(Geometric/depositional responses of carbonate build-ups to Miocene sea-level change and regional tectonics from seismic data in Browse Basin and outcrops of Cariatiz Reef, SE Spain. Five Miocene sequence boundaries. Growth patterns suggest Messinian structural partitioning across Browse Basin, with local deformation associated with plate collision focused on preferentially oriented faults)

Van Tuyl, J., T. Alves, L. Cherns, G. Antonatos, P. Burgess & I. Masiero. (2019)- Geomorphological evidence of carbonate build-up demise on equatorial margins: a case study from offshore northwest Australia. *Marine and Petroleum Geology* 104, p. 125-149.

(online at: www.sciencedirect.com/science/article/pii/S0264817219300960?via%3Dihub)

(Demise of Miocene carbonate build-ups in Browse Basin between 10-5 Ma) tied to sediment drifts that buried some carbonate build-ups and reduced light transmissivity, inhibiting carbonate production. Current activity and excess nutrient supply are key oceanographic processes that lead to demise of carbonate build-ups)

Veevers, J.J. (1969)- Sedimentology of the Upper Devonian and Carboniferous platform sequence of the Bonaparte Gulf basin. *Bureau Mineral Resources Geology Geophysics, Bull.* 109, p. 1-86.

Veevers, J.J. (1969)- Palaeogeography of the Timor Sea region. *Palaeogeogr. Palaeoclim. Palaeoecology* 6, p. 125-140.

(Deep offshore Ashmore Reef 1 well and seismic in Timor Sea show of ~15,000m thick Phanerozoic sediments in Bonaparte Gulf Basin. Stratigraphic similarity between Permian- early M Miocene of Carnarvon Basin, Ashmore Reef area, and E Timor seems to indicate these areas consistently lay at edge of Australian continent)

Veevers, J.J. (ed.) (1984)- Phanerozoic Earth history of Australia. *Oxford Monographs Geology Geophysics* 2, Oxford University Press, Oxford, p. 1-418.

Veevers, J.J. (ed.) (2000)- Billion-year Earth history of Australia and neighbours in Gondwanaland. *GEMOC Press, Sydney*, p. 1-388.

(Major review of tectonic history of Australia and surrounding areas)

Veevers, J.J. (2001)- Atlas of Billion-year Earth history of Australia and neighbours in Gondwanaland. *GEMOC Press, Sydney*, p. 1-76.

Veevers, J.J. (2004)- Gondwanaland from 650-500 Ma assembly through 320 Ma merger in Pangea to 185- 100 Ma breakup: supercontinental tectonics via stratigraphy and radiometric dating. *Earth-Science Reviews* 68, p. 1-132.

Veevers, J.J. (2006)- Updated Gondwana (Permian-Cretaceous) Earth history of Australia. *Gondwana Research* 9, 3, p. 231-260.

(Permo-Carboniferous glaciation followed by Permian coals and E Triassic barren beds and redbeds, in E deformed in M-Triassic. Coal deposition resumed in Late Triassic and tholeiite erupted in SE. After rifting, W margin formed by the opening of Indian Ocean at 156 and 132 Ma. By 99 Ma mid-Cretaceous, S margin was shaped by opening of SE Indian Ocean, and E highlands uplifted to produce present morphology of Australia)

Veevers, J.J. (2007)- Pan-Gondwanaland post-collisional extension marked by 650-500 Ma alkaline rocks and carbonatites and related detrital zircons: a review. *Earth-Science Reviews* 83, 1-2, p. 1-47.

(A-type granites of 650–500 Ma age common in Africa, South America, India, Antarctica, and Australia, and are indicated by related detrital zircons in Permian-Triassic and younger sediments from Australia, etc.)

Veevers, J.J. & C.M. Powell (eds.) (1994)- Permian-Triassic Pangean Basins and foldbelts along the Panthalassan margin of Gondwanaland. Geological Society of America (GSA) Memoir 184, p. 1-368.

Veevers, J.J., C.M. Powell & S.R. Roots (1991)- Review of seafloor spreading around Australia. I. Synthesis of the pattern of spreading. Australian J. Earth Sciences 38, 4, p. 373-389.
(Twelve reconstructions of seafloor around Australia that spread during dispersal of Argoland (Late Jurassic), India (Early Cretaceous), Antarctica (Late Cretaceous) and Papuan Peninsula (Paleo-Eocene))

Veevers, J.J. & Z.X. Li (1991)- Review of seafloor spreading around Australia. II. Marine magnetic anomaly modeling. Australian J. Earth Sciences 38, 4, p. 391-408.
(Inception of seafloor spreading around Australai youngs in counter-clockwise sense from Late Jurassic (160 Ma) in NW through Early Cretaceous (132.5 Ma) in W and SW, Late Cretaceous (96 Ma) in SE Indian Ocean and Tasman Basin, Paleocene (63.5 Ma) in Coral Sea and Pliocene (3.5 Ma) in Woodlark Basin)

Veevers, J.J. & J. Roberts (1968)- Upper Palaeozoic rocks, Bonaparte Gulf Basin of northwestern Australia Bureau Mineral Resources Geology Geophysics (BMR), Bull. 97, p. 1-155.
*(online at: www.ga.gov.au/corporate_data/149/Bull_097.pdf)
(Bonaparte Gulf Basin of NW Australia extends beneath Timor Sea. Rel. complete Paleozoic section of shelfal marine sediments. U Devonian- Lower Carboniferous sediments known only in S, where unconformably overlies Precambrian, Cambrian and Lower Ordovician rocks, and unconformably overlain by U Carboniferous-Permian sediments. Faulting along E margin in Frasnian. Frasnian- E Tournaisian carbonate reef complexes on NW part of platform. Shale covered platform in E Visean. In Permian, step faults along E margin reactivated)*

Veevers, J.J., J.W. Tayton & B.D. Johnson (1985)- Prominent magnetic anomaly along the continent ocean boundary between the northwestern margin of Australia (Exmouth and Scott Plateaus and the Argo Abyssal Plain). Earth Planetary Science Letters 72, p. 415-426.
(Prominent positive magnetic anomaly along lower slope between N Exmouth Plateau and Argo Abyssal Plain. It lies along Continent-Ocean boundary and is interpreted as complex of rift-related dykes in continental crust and adjacent oceanic crust)

Veevers, J.J. & T.H. Van Andel (1967)- Morphology and basement of the Sahul Shelf. Marine Geology 5, 4, p. 293-298.
(Aeromagnetic survey suggests correspondence of submarine shelf morphology with top surface of magnetic basement)

Volkman, J.K., R. Alexander, R.I. Kagi, R.A. Noble & G.W. Woodhouse (1983)- A geochemical reconstruction of oil generation in the Barrow sub-basin of Western Australia. Geochimica Cosmochimica Acta 47, 12, p. 2091-2105.
(Biomarkers from crude oils from Barrow sub-basin, NW Australian shelf sourced from Upper Jurassic Dingo Claystone Fm)

Von Rad, U. & T.J. Bralower (1992)- Unique record of an incipient ocean basin: Lower Cretaceous sediments from the southern margin of Tethys. Geology (GSA) 20, p. 551-555.
(Wombat Plateau Site 761 three Berriasian-Valanginian fining-upward units above breakup unconformity: (1) barren fine sand, (2) fining-upward very fine sand with belemnites (incl. Belemnopsis cf jonkeri and ?Hibolithes), and (3) calcisphere-nannofossil chalk with volcanic ash layers)

Von Rad, U. & N.F. Exon (1982)- Mesozoic-Cenozoic sedimentary and volcanic evolution of the starved passive continental margin off Northwest Australia. In: J.S. Watkins & C.L. Drake (eds.) Studies in continental margin geology, American Assoc. Petroleum Geol. (AAPG), Memoir 34, p. 253-281.

Von Rad, U., N.F. Exon, R. Boyd & B.U. Haq (1992)- Mesozoic paleoenvironments of the rifted margin off NW Australia (ODP legs 122/123). In: R.A. Duncan et al. (eds.) Synthesis of results from Scientific Drilling in the Indian Ocean. American Geophysical Union (AGU), Geophysical Monograph 70, p. 157-184.

(NW Australia in early Mesozoic time was passive margin of E Gondwana, facing S Tethys Sea. Wombat Plateau: U Triassic synrift fluviodeltaic to carbonate platform deposits; earliest Jurassic platform drowning and early-rift volcanism; Callovian-Oxfordian block faulting and formation of 'post-rift unconformity' and ocean formation at Argo Abyssal Plain; Berriasian rapid subsidence and condensed section of terrigenous littoral sands, belemnite-rich sandy muds and calcisphere-nannofossil chalks; Albian-Cenomanian gradual transition from hemipelagic to pelagic conditions. C Exmouth Plateau failed Late Jurassic breakup, followed by uplift of southern hinterland, erosion and N-ward progradation of Berriasian shelf-margin clastic wedge, overlain by condensed Valanginian section, followed by late Valanginian-early Hauterivian final breakup between Australia and Greater India)

Von Rad, U., N.F. Exon & B.U. Haq (1992)- Rift-to-drift history of the Wombat Plateau, northwest Australia: Triassic to Tertiary Leg 122 results. Proc. Ocean Drilling Program (ODP), Scientific Results 122, College Station, TX, p. 765-800.

(online at: http://www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_46.pdf)

(During E Mesozoic, NW Australia was passive margin of E Gondwana, facing southern Tethys sea. Wombat Plateau is small marginal plateau N of Exmouth Plateau, facing the Argo Abyssal Plain (Late Jurassic oceanic crust; future Indian Ocean). Upper Triassic intracratonic early-rift fluvio-deltaics in Wombat Plateau with carbonate intercalations of Carnian/Norian age. Provenance of Carnian-Norian Siliciclastics with mono- and polycrystalline quartz, plagioclase, mica, low-grade metamorphic, plutonic rock fragments, chert and volcanics was Precambrian Pilbara Massive and its Paleozoic cover. Overlain by Rhaetian carbonate platform with partly dolomitized oolitic/ algal-stromatolitic facies. Likely located in subtropical latitudes (25°-30°S). Triassic capped by non-depositional Jurassic "post-rift unconformity", overlain by Lower Cretaceous, hemipelagic, "juvenile ocean"-stage sediments and by U Cretaceous-Cenozoic "mature ocean"-stage pelagic sediments. Etc.)

Von Rad, U., B.U. Haq et al. (1992)- Proceedings of the Ocean Drilling Program (ODP), Scientific Results 122. Ocean Drilling Program, College Station, TX, p. 1-904.

(Scientific results of ODP work on Exmouth and Wombat Plateaus, NW Australia margin)

Von Rad, U., M. Schott, N.F. Exon, J. Mutterlose, P.G. Quilty & J.Thurow (1990)- Mesozoic sedimentary and volcanic rocks dredged from the northern Exmouth Plateau: petrography and microfacies. BMR J. Australian Geology Geophysics 11, p. 449-472.

(online at: www.ga.gov.au/metadata-gateway/metadata/record/81271/)

(Deeply incised N margin of Exmouth Plateau dredged along seismic reflection profiles in 2000-5600m water. With: (1) Late Triassic- E Liassic mixed early rift volcanics (K-Ar ages 213, 192 Ma), (2) Late Triassic- M Jurassic shallow water carbonate (with microfacies similar to coeval platform carbonates in Alps and Mediterranean area of Tethys Ocean), (3) ?Late Triassic- M Jurassic uplifted and weathered coals and very mature quartz sandstones, (4) latest Triassic- earliest Jurassic red biomicrites shoals and basinal hemipelagic micrites with redeposited calciturbidites. Uplifted horst blocks like Wombat Plateau subaerially eroded in Jurassic or earliest Cretaceous. Following breakup to form Argo Abyssal Plain in earliest Cretaceous deposition of (5) Lower Cretaceous marginal marine claystones, followed by (6) hemipelagic late Lower Cretaceous radiolarian clays. From Turonian increasingly pelagic deposition)

Von Rad U., J. Thurow, B.U. Haq, F. Gradstein, J. Ludden and ODP Leg 122/123 Shipboard Parties (1989)- Triassic to Cenozoic evolution of the NW Australian continental margin and the birth of the Indian Ocean (preliminary results of ODP Legs 122 and 123). Geologische Rundschau 78, 3, p. 1189-1210.

(online at: https://www.researchgate.net/publication/250685516_Triassic_to_Cenozoic_evolution_of_the_NW_Australian_continental_margin_and_the_birth_of_the_Indian_Ocean_preliminary_results_of_ODP_Legs_122_and_123)

Von Stackelberg, U., N.F. Exon, U. von Rad, P. Quilty, S. Shafik, H. Beiersdorf, E. Seibertz & J.J. Veevers (1981)- Geology of the Exmouth and Wallaby Plateaus off northwest Australia: sampling of seismic sequences. BMR J. Australian Geology Geophysics 5, 2, p. 113-140.

(online at: https://d28rz98at9flks.cloudfront.net/81034/Jou1980_v5_n2_p113.pdf)

Walker, T. (2007)- Deepwater and frontier exploration in Australia- historical perspectives, present environment and likely future trends. The APPEA Journal 47, p. 15-38.

Walker, T.R. & A.J. Kantsler (2004)- Deepwater and frontier exploration in Australia- a historical perspective and a view to the future. In: R.A. Noble et al. (eds.) Proc. Deepwater and frontier exploration in Asia and Australasia Symposium, Jakarta, Indonesian Petroleum Association (IPA), p. 471-480.

Warris, B.J. (1993)- The hydrocarbon potential of the Paleozoic basins of Western Australia. Australian Petroleum Exploration Assoc. (APEA) Journal 33, 1, p. 123-137.

Waterhouse, J.B. (1987)- Late Palaeozoic brachiopoda (Athyrida, Spiriferida and Terebratulida) from the Southeast Bowen Basin, East Australia. Palaeontographica, A, 196, p. 1-56.

Waterhouse, J.B. (2011)- Origin and evolution of Permian brachiopods of Australia. Memoir Assoc. Australasian Palaeontologists (AAP) 41, p. 205-228.

(Permian brachiopods of Australia two main associations: (1) E Australia, few families, affected by cool-glacial conditions, interspersed with few warmer-water faunas; (2) W Australia more like faunas of SE Asia and Himalayan region (Paleotethyan?). Played major role in stocking Lopingian faunas of South Asia, especially Himalayas. No mention of Indonesian Permian faunas of Sumatra, Timor, etc.; JTvG)

Webb, G.E. (2025)- Australia's two Great Barrier Reefs: What can ~360 Million years of change teach us?. J. Marine Science and Engineering (JMSE) 13, 8, 1582, p.

(online at: <https://www.mdpi.com/2077-1312/13/8/1582>)

(Comparison of the modern Great Barrier Reef Province and the 360-million-year-old Late Devonian 'Great Barrier Reef of western Australia'. Devonian communities with abundant corals and skeletal sponges were incapable of making modern reef types without competent binders to unify framework into rigid substrate, lacking hard binding by coralline algae and microbialites. Etc.)

Webster, G.D. (1987)- Permian crinoids from the type-section of the Callytharra Formation, Callytharra Springs, Western Australia. Alcheringa 11, 2, p. 95-135.

(E Permian Callythara Fm in Carnarvon Basin, W Australia, with limestone beds with diverse crinoid assemblage of 40 species. Most likely age ~Sakmarian. Eleven species also known from Timor (150 crinoid species, generally believed be of Late Permian age, but may be incorrect), but Australian faunas less diverse and many endemics)

Webster, G.D. (1990)- New Permian crinoids from Australia. Palaeontology 33, p. 49-74.

(online at: http://cdn.palass.org/publications/palaeontology/volume_33/pdf/vol33_part1_pp49-74.pdf)

(13 new species of E Permian crinoids mainly from Teichert collections in W Australia. Australian crinoids cooler water assemblages. 114 species identified, 53 from W Australia, 51 from East Australia, with no species common to both regions)

Webster, G.D. & P.A. Jell (1992)- Permian echinoderms from Western Australia. Mem. Queensland Museum 32, 1, p. 311-373.

West, B.G. & V.L. Passmore (1994)- Hydrocarbon potential of the Bathurst Island Group, northeast Bonaparte Basin, implications for future exploration. Australian Petroleum Exploration Assoc. (APEA) Journal 34, p. 626-643.

Westphal, H. & T. Aigner (1997)- Seismic stratigraphy and subsidence analysis in the Barrow-Dampier Subbasin, Northwest Australia. American Assoc. Petroleum Geol. (AAPG) Bull. 81, 10, p. 1721-1749.

Whibley, M. & E. Jacobson (1990)- Exploration in the northern Bonaparte Basin, Timor Sea, WA-199-P. The Australian Petroleum Exploration Assoc. (APEA) Journal 30, 1, p. 7-25.

Whitney, B.B. & J.V. Hengesh (2015)- Geomorphological evidence of neotectonic deformation in the Carnarvon Basin, Western Australia. *Geomorphology* 228, p. 579-596.

Whittaker, J.M., J.A. Halpin, S.E. Williams, L.S. Hall, N.R. Daczko, R. Gardner, M.E. Kobler & R.D. Muller (2013)- Tectonic evolution and continental fragmentation of the southern West Australian margin. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia IV*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-16.

(Companion paper to Williams et al. 2013. Metamorphic and granitic rocks and sandstones dredged from Batavia and Gulden Draak knolls show these are micro-continents. Geochronology of Gulden Draak Knoll felsic orthogneiss indicate original granites ages Archean (~2850 Ma) and Mesoproterozoic (~1230-1200 Ma). Zircon data from metapelite suggests deposition of protolith sediments between 2800-1200 Ma. All rocks affected by high-grade metamorphism at ~500 Ma. Late Neoproterozoic- Cambrian (540-530 Ma) granite gneisses and granites from Batavia Knoll emplaced during and soon after collisional tectonism along Kuunga Orogen)

Whittam, D.B., M.S. Norvick & C.L. McIntyre (1996)- Mesozoic and Cainozoic tectonostratigraphy of western ZOCA and adjacent areas. Australian Petroleum Production Exploration Association (APPEA) J. 36, 1, p. 209-231.

Williams, C., V. Paumard, J.M. Webster, J. Leonard, T. Salles, M. O'Leary & S. Lang (2023)- Environmental controls on the resilience of Scott Reefs since the Miocene (North West Shelf, Australia): Insights from 3D seismic data. *Marine and Petroleum Geology* 151, 106188, p. 1-28.

(North and South Scott Reefs evolved from barrier reef in Miocene, and into isolated carbonate build-ups during Pliocene, and finally to isolated carbonate platforms that continued to present day)

Williams, S.E., J.M. Whittaker, R. Granot & R.D. Muller (2013)- Early India-Australia spreading history revealed by newly detected Mesozoic magnetic anomalies in the Perth Abyssal Plain. *J. of Geophysical Research: Solid Earth* 118, 7, p. 3275-3284.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/jgrb.50239>)

(Seafloor of Perth Abyssal Plain off W Australia records early spreading history between India and Australia in E Cretaceous breakup. New magnetic anomaly shows crust in W part of basin was part of Indian Plate (conjugate flank to oceanic crust offshore Perth margin). Gulden Draak and Batavia Knolls are microcontinental fragments that rifted away from Australia with Greater India during initial breakup at ~130Ma (~Hauterivian-Barremian), then rifted from India after cessation of spreading in Perth Abyssal Plain in Albian (~101-103Ma))

Williams, S.E., J.M. Whittaker & R.D. Muller (2013)- Newly-recognised continental fragments rifted from the West Australian Margin. In: M. Keep & S.J. Moss (eds.) *The sedimentary basins of Western Australia IV*, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-9.

(Batavia Knoll and Gulden Draak Knoll prominent bathymetric features located >1600 km offshore W Australia recently recovered continental basement rocks, revealing that both knolls are extended microcontinents. These initially rifted with Greater India during breakup with Australia at ~130 Ma, then rifted off India after W-ward ridge jump at ~105-100Ma)

Williamson, P.E., N.F. Exon, B.U. Haq, U. von Rad, S. O'Connell and Leg 122 Shipboard Scientific Party (1989)- A Northwest Shelf Triassic reef play: results from ODP Leg 122. Australian Petroleum Exploration Assoc. (APEA) Journal 29, p. 328-344.

Williamson, P.E., M.G. Swift, S.P. Kravis, D.A. Falvey & F. Brassil (1990)- Permo-Carboniferous rifting of the Exmouth Plateau region (Australia): an intermediate plate model. In: B. Pinet & C. Bois (eds.) *The potential of deep seismic profiling for hydrocarbon exploration*, Research Conference Arles 1989, Technip Editions, Paris, p. 237-248.

(Deep crustal seismic reflection results for Exmouth Plateau. Permo-Carboniferous rifting indicates major thinning (~40%) of granitoid basement and lower crust, utilising 2 major landward-dipping detachment zones. During onshore rifting the upper plate remained E-most, intermediate plate occupied area of subsequent plateau, and lower plate occurred to W. Rift then subsided to be covered by thick sediments of possible Permian to Triassic age. Followed by Mesozoic rifting which preceded seafloor spreading and removal at lower plate W-wards)

Williamson, T. (2006)- Systematics and biostratigraphy of Australian Early Cretaceous belemnites with contributions to the timescale and palaeoenvironmental assessment of the early Australian Early Cretaceous system derived from stable isotope proxies. Ph.D. Thesis, James Cook University, p. 1-106. (*Unpublished*)
(online at: <http://eprints.jcu.edu.au/4906/>)
(Aptian- Cenomanian belemnites from NW Australia. Oxygen-isotope values from Carnarvon Basin continental margin system indicate S Hemisphere mid-latitude Late Aptian sea surface temperatures, similar to today's. Warming trend in Albian-Cenomanian, representing greenhouse climatic conditions)

Willis, I. (1988)- Results of exploration, Browse Basin. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, p. 259-272.
(Exploration of Browse Basin since first discovery in 1963. Four gas discoveries, in M Jurassic sandstones: Scott Reef (1971), Brecknock (1979), North Scott Reef (1982) and Echuca Shoals (1983))

Willmott, W.F., W.G. Whitaker, W.D. Palfreyman & D.S. Trail (1973)- Igneous and metamorphic rocks of Cape York Peninsula and Torres Strait. Bureau Mineral Resources Geology Geophysics (BMR), Bull. 135, p. 1-144.
(online at: www.ga.gov.au/)
(Broad ridge of Precambrian- Paleozoic igneous and metamorphic rocks extends for 450 km along E side of Cape York Peninsula, from where submerged ridge of Paleozoic igneous rocks extends across Torres Strait to PNG. Metamorphic grade increases E-wards from phyllite to gneiss. Cape York Peninsula Batholith probably M Paleozoic age. Lower Carboniferous coal-bearing sediments in small basins. Thick sheets of acid welded tuff in Torres Strait probably Carboniferous age; associated high-level granites S of Temple Bay are Late Carboniferous or E Permian (Badu granite K/Ar 294± 5 Ma). Mesozoic, coarse sandstone followed by finer sediments in trough between two basement ridges)

Winata, M., C. Elders, V. Maselli & R.A. Stephenson (2023)- Regional seismic stratigraphic framework and depositional history of the post-Valanginian passive margin sequences in the Northern Carnarvon Basin, North West Shelf of Australia. Marine and Petroleum Geology 156, 106418, p. 1-23.
(Seismic stratigraphy of post-Jurassic post-rift and Valanginian breakup (separation of India) succession of N Carnarvon Basin (Exmouth Plateau, etc.))

Wingate, M.T.D. & D.A.D. Evans (2003)- Paleomagnetic constraints on the Proterozoic tectonic evolution of Australia. In: M. Yoshida et al. (eds.) Proterozoic East Gondwana: supercontinent assembly and breakup, Geological Society, London, Special Publ. 206, p. 77-91.
(Discussion of Proterozoic assembly of tectonic blocks of Australia. N and W Australian cratonic assemblages in present relative positions since 1.7 Ga and joined to S Australian cratonic assemblage since at least 1.5 Ga)

Woods, E.P. (1994)- A salt-related detachment model for the development of the Vulcan Sub-basin. In: P.G. & R.R.Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, p. 259-274.
(Late Jurassic extensional structuring in Vulcan sub-basin (between Browse and Bonaparte) at or immediately after time of continental breakup to W. Deep salt layer (Silurian- Devonian?) may act as detachment surface. Salt-related detachment explains nature of deep grabens at Swan and Paqualin and occurrence of salt diapirs in these grabens (627m in Paqualin 1 well, Swan diapir). Renewed normal faulting, tied to Timor collision, began in Late Miocene, peaking in Pliocene, not active today)

Woods, E.P. (1998)- Extensional structures of the Jabiru Terrace, Vulcan sub-basin. In: P.G. & R.R. Purcell (eds.) The North West Shelf, Australia. Proc. North West Shelf Symposium, Petroleum Exploration Society Australia (PESA), p. 311-330.

(Sandbox models to recreate Miocene 'hourglass structures' at Jabiru Terrace area. Localised graben in shallow section is good indicator of an underlying Jurassic horst structure)

Woods, E.P. (2004)- A salt-related detachment model for the development of the Vulcan sub-basin. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth 1994, p. 259-273.

Woods, E.P. (2004)- Twenty years of Vulcan Sub-basin exploration since Jabiru- what lessons have been learnt? In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, Darwin, p. 83-97.

Wopfner, H. (1988)- Oil and gas in Australia. *GeoJournal* 16, 4, p. 371-386.

Wormald, G.B. (1988)- The geology of the Challis oilfield- Timor Sea, Australia. In: Petroleum in Australia: the First Century, APEA/MacArthur Press, p. 425-437.

Wright, C.A. (1977)- Distribution of Cainozoic foraminiferida in the Scott Reef No. 1 well, Western Australia. *J. Geological Society of Australia* 24, 5, p. 269-277.

(Maastrichtian- Recent larger and planktonic foram zonation in well in Browse Basin, Australia NW Shelf. Rich planktonic faunas of Lower Paleocene- Lower Eocene (P1c-P6) and Oligocene- Lower Miocene to (P19-N6). In-between barren or shallow water larger foraminifera like Nephrolepidina, Discocyclina, etc.)

Wright, C.A. & M. Apthorpe (1976)- Planktonic foraminiferids from the Maastrichtian of the Northwest Shelf, Western Australia. *J. Foraminiferal Research* 6, p. 228-240.

Online at: <http://jfr.geoscienceworld.org/content/6/3/228.full.pdf>

(Twenty-five planktonic foram species recorded in wells on NW Shelf and used to erect three biostratigraphic zones. Overall tropical and subtropical character of fauna appears inconsistent with paleomagnetic studies which place NW Australia at cool temperate latitude of perhaps as much as 40° S. during. Late Cretaceous)

Wright, C.W. (1963)- Cretaceous ammonites from Bathurst Island, Australia. *Palaeontology* 6, 4, p. 597-614.

(online at: <http://palaeontology.palass-pubs.org/pdf/Vol%206/Pages%20597-614.pdf>)

(16 species of Albian- Turonian ammonites off N Australia. Mainly new species, mostly endemics?)

Wulff, K.J. (1992)- Depositional history and facies analysis of the Upper Jurassic sediments in the eastern Barrow Subbasin. *The APEA Journal* 32, 1, p. 104-122.

Wulff, K. & P. Barber (1995)- Tectonic controls on the sequence stratigraphy of Late Jurassic fan systems in the Barrow-Dampier Basin, North West Shelf, Australia. *Petroleum Exploration Society Australia (PESA) Journal* 23, p. 77-89.

(U Jurassic syn-rift sediments in Barrow-Dampier Basin subdivided into nine depositional sequences. Sequence boundary development related to tectonically-induced changes in basin architecture, associated with continental break-up of E Gondwanaland. Callovian-Oxfordian deposition whilst Barrow and Dampier were two separate sub-basins separated by intra-basinal arch; Kimmeridgian-Tithonian deposits more widespread)

Yeates, A.N., M.T. Bradshaw, J.M. Dickins, A.T. Brakel, N.F. Exon et al. (1987)- The Westralian Superbasin: an Australian link with Tethys. In: K.G. McKenzie (ed.) *International Symposium on Shallow Tethys 2*, A.A. Balkema, Rotterdam, p. 199-213.

Yeates, A.N., D.L. Gibson, R.R. Towner and R.W.A. Crowe (1984)- Regional geology of the onshore Canning Basin, W.A. In: *The Canning Basin, Western Australia*, Petroleum Exploration Society Australia (PESA), p. 23-55.

(Onshore Canning Basin (W Australia) history began in E Ordovician and largely completed by E Cretaceous. Up to M Triassic sedimentation in NW-trending depocenters; Jurassic-Cretaceous sequence relates to break-up of Gondwanaland, and global E Cretaceous rise in sea level)

Yamamoto, K., G. Coelho, T. Jones, P. Miklavs, S. Yamamoto, T. Yamatani, R. Matsui, K. Ichizawa & K. Ono (2022)- Petrographic approach for reservoir characterization of a deep-water sandstone in a giant gas-condensate field, Browse Basin, Western Australia. Proc. Int. Meeting for Applied Geoscience and Energy (IMAGE), SEG-AAPG, Houston, p. 2430-2434.

(online at: <https://archives.datapages.com/data/international-meeting-for-applied-geoscience-and-energy/data/2022/image2022-3740919.1.pdf>)

(Lower Cretaceous Brewster Member is deep-water submarine fan/channel complex sandstone reservoir in Ichthys gas-condensate field in Browse Basin. Quartzarenites with wide porosity-permeability variation can be explained by initial sediment composition (detrital clay and non-quartz grains))

Yang, X.M. & C. Elders (2016)- The Mesozoic structural evolution of the Gorgon Platform, North Carnarvon Basin, Australia. Australian J. Earth Sciences 63, 6, p. 755-770.

(Gorgon Platform on SE edge of Exmouth Plateau in N Carnarvon Basin. Four major sets of extensional faults, controlled by three different extensional events in E-M Jurassic, Late Jurassic and E Cretaceous, all creating unconformities)

Yule, C.T.G. & C. Spandler (2021)- Geophysical and geochemical evidence for a new mafic magmatic province within the Northwest Shelf of Australia. Geochem. Geophysics Geosystems 23, 2, e2021GC010030, p. 1-23.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2021GC010030>)

(Occurrences of buried mafic igneous rocks across Browse, Roebuck, Canning and N Carnarvon basins, NW Shelf, formed together, most likely during supercontinent break-up at ~250 Ma. May represent new magmatic province, named NW Shelf Mafic Magmatic Province. Basalts/dolerites formed in continental rift setting. MMP may have initiated rifting of Cimmerian Block from NW Australia during Permian)

Zachariasse, W.J. (1992)- Neogene planktonic foraminifera from Sites 761 and 762 off northwest Australia. In: U. von Rad, B.U. Haq et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 122, College Station, p. 665-675.

(online at: https://www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_39.pdf)

(Diverse, warm-water Late Oligocene-Recent planktonic foraminifera on Wombat and Exmouth plateaus, despite N-ward drift of Australia across 10°-15° latitude since E Miocene. Invasions of cool-water species during periods of global cooling in late M Miocene (replacement of warm water Paragloborotalia mayeri by Globorotalia partimlabiata), Late Miocene (common cool-water Globorotalia conoidea just after coiling change in Neogloboquadrina humerosa) and Pleistocene (common cool-water Globorotalia inflata))

Zaninetti, L., R. Martini & T. Dumont (1992)- Triassic foraminifera from sites 761 and 764, Wombat Plateau, Northwest Australia. In: U. von Rad, B.U. Haq et al. (eds.) Proc. Ocean Drilling Program (ODP), Scientific Results 122, p. 427-436.

(online at: https://www-odp.tamu.edu/publications/122_SR/VOLUME/CHAPTERS/sr122_24.pdf)

(Late Norian (Triasina oberhauseri) and Rhaetian (Triasina hantkeni) forams from ~250m thick Late Triassic reefal-platform carbonate section in ODP cores from Wombat Plateau at edge of Argo Abyssal Plain, NW Australia. Reefal carbonate platform with inner shelf (intertidal-lagoon), patch reef, and outer shelf facies. Close affinity to microfauna of Seram. First record of Galeanella? laticarinata outside Seram)

Zhan, Y. & A.J. Mory (2013)- Structural interpretation of the Northern Canning Basin, Western Australia. West Australian Basins Symposium, Perth 2013, Session 9, p. 1-17.

(Seismic profiles in N Canning Basin reveal major WNW-oriented strike-slip fault zone in Fitzroy Trough, generated during Late Triassic-E Jurassic 'Fitzroy Transpression'. With NW-oriented fault splays indicative of right-lateral slip. Deformation at this time also produced N-S compression and E-W extension)

Zhen, Y.Y. & R.S. Nicoll (2009)- Biogeographic and biostratigraphic implications of the *Serratognathus bilobatus* Fauna (Conodonts) from the Emanuel Formation (Early Ordovician) of the Canning Basin, Western Australia. Records Australian Museum, Sydney, 61, p. 1-30.

(Discovery of Serratognathus bilobatus in E Ordovician Emanuel Fm of Canning Basin indicates biogeographic link between Australia and E Gondwanan plates in E Ordovician and formation of 'Australasian Province'. S. bilobatus fauna from Canning Basin is more diverse than coeval Chinese Lower Ordovician successions and probably represents assemblage inhabiting relatively deeper water (mid-outer shelf) facies. Also present in Setul Lst, Malaysia. E Ordovician paleobiogeographic reconstruction shows E Gondwana shows Australia- New Guinea in equatorial position)

Zutterkirch, I.C., C.L. Kirkland, M. Barham & C. Elders (2022)- Thin-section detrital zircon geochronology mitigates bias in provenance investigations. J. Geological Society, London, 179, 2, jgs2021-070, p. 1-12.

(online at: <https://jgs.lyellcollection.org/content/jgs/179/2/jgs2021-070.full.pdf>)

(Detrital zircon U-Pb geochronology from 16 thin-sections of Triassic Mungaroo Fm from two wells in N Carnarvon Basin. Youngest age group (c. 320-195 Ma) consistent with active margin to N (Lhasa Terrane or SW Borneo Block?). Single grain defined maximum depositional age of 197 Ma for U Mungaroo Fm, suggesting deposition may have continued into E Jurassic)

IX.15. Eastern Australia Paleozoic-Triassic active East Gondwana-Pacific margin ('Tasmanides')

The 'Tasmanides' or 'Tasman Orogenic zone' is a long, complex, polyphase, subduction-related accretionary margin along the Paleo-Pacific margin of Eastern Australia-Gondwana, from Antarctica in the south to the PNG part of New Guinea island in the north:

- comprising a series of overlapping orogenic belts active from Cambrian to Triassic-Jurassic (including the most outboard 'New England Orogen');
- the Paleozoic-Triassic convergent tectonics was followed by 'orogenic collapse in Cretaceous, creating the wide 'Zealandia' borderlands province, with Late Cretaceous-Paleocene oceanic break-up opening the Tasman Sea - Coral Sea)

Relevance for Indonesia: analog geology to Pretertiary basement of the West Papua Birds Head (Kemum Block), the Banggai-Sula terrane and basement of the PNG (East) half of New Guinea island (with Triassic magmatic arc granites, etc.).

Adams, C. & R. Korsch (2010)- Crossing the Tasman: tracking Torlesse Terrane rocks from New Zealand into the New England Orogen. 20th Australian Geological Convention, Canberra 2010, Geological Society Australia, Abstracts 98, p. 71-72. (*Abstract only*)

(New Zealand Torlesse Supergroup extensive Permian-Cretaceous accretionary wedge of quartzose greywacke turbidites. Provenances continent-derived, plutonic rock, best match with Carboniferous, Permian and Triassic sources in New England Orogen, with some Cambrian and Ordovician. Jurassic-Cretaceous ages dominant in North Island, Late Permian-Triassic in South Island. Oldest horizons close to S-most edge of terrane, with slivers with Late Carboniferous limestone, probably oceanic seamount and pelagic seafloor assemblages upon which Torlesse was later deposited. Oldest Torlesse records M Permian initiation (~270 Ma) of major Late Permian-Triassic accretionary phase, supplied by erosion of contemporaneous magmatic arcs in E Australia)

Aitchison, J. (1990)- Significance of Devonian-Carboniferous radiolarians from accretionary terranes of the New England orogen, eastern Australia. *Marine Micropaleontology* 15, p. 365-378.

(Radiolarians provide age constraints for terranes in New England tectonic collage along E margin of Australia. Djungati terrane two siliceous sediment lithofacies: M Silurian- Late Devonian ocean-floor red, ribbon-bedded cherts and latest Devonian green tuffaceous cherts. Anaiwan terrane with latest Devonian and E Carboniferous radiolarians in cherts and tuffaceous siltstones. Yarrimie Fm of Gamilaroi terrane with Late Devonian (Frasnian) radiolarians and allochthonous blocks of limestone with Givetian conodonts and corals)

Aitchison, J., M.C. Blake, P.G. Flood & A.S. Jayko (1994)- Paleozoic ophiolite assemblages within the southern New England Orogen of eastern Australia: implications for the growth of the Gondwana margin. *Tectonics* 13, 1135-1149.

(Narrow belt of E Cambrian ophiolite crops out near Peel- Manning Fault System, juxtaposed against younger arc and subduction complex terranes. May represent portions of Lachlan Fold Belt basement. M-L Devonian ophiolitic rocks in Yarras Complex comprise basement to Birpai subterrane and represent crustal cross section through rifted island arc. Periodic accretion of island arc systems to E margin of Gondwana suggests multiple phases of subduction with possibility of polarity reversals throughout the history of accretion)

Aitchison, J.C. & S. Buckman (2012)- Accordion vs. quantum tectonics: insights into continental growth processes from the Paleozoic of eastern Gondwanan. *Gondwana Research* 22, p. 674-680.

(E Paleozoic Lachlan Fold Belt of E Australia widely regarded as convergent plate margin beneath which Paleo-Pacific (Panthalassic) oceanic lithosphere was continuously subducted, in retreating accretionary orogeny. However, sandstone compositions, chert accumulation and stratigraphic architecture not consistent with this model. Alternative explanation for growth of continental margin includes subduction of oceanic lithosphere outboard of passive Gondwana continental margin under extensive intra-oceanic island arc that now crops out as allochthonous Macquarie arc in foldbelt. Once intervening oceanic lithosphere was eliminated, the arc was emplaced on Gondwana margin. Four such events recognized in Phanerozoic)

Aitchison, J.C., A.M. Davis, J.M.C. Stratford & F.C.P. Spiller (1999)- Lower and Middle Devonian radiolarian biozonation of the Gamilaroi Terrane New England Orogen, Eastern Australia. *Micropaleontology* 45, 2, p. 138-162.

(Seven uppermost Lower to M Devonian radiolarian assemblages in Gamilaroi terrane of E Australia. Gamilaroi terrane sedimentation occurred during Early (Pragian) to Late (Frasnian) Devonian in volcanic island arc environment with abundant radiolarians. Assemblages are dominated by spumellarians)

Aitchison, J.C. & P.G. Flood (1992)- Early Permian transform margin development of the southern New England Orogen, eastern Australia (eastern Gondwana). *Tectonics* 11, 6, p. 1385-1391.

(S New England orogen evolved from zone of high-angle plate convergence during Carboniferous, into either transform margin or highly oblique-convergent margin by E Permian)

Aitchison, J.C. & P.G. Flood (1992)- Implications of radiolarian research for analysis of subduction complex terranes in the New England Orogen, NSW, Australia. *Palaeogeogr. Palaeoclim. Palaeoecology* 96, p. 89-102.

Aitchison, J.C. & P.G. Flood (1994)- Gamilaroi Terrane: a Devonian rifted intra-oceanic island-arc assemblage, NSW, Australia. In: J.L. Smellie (ed.) *Volcanism associated with extension at consuming plate margins*, Geological Society, London, Special Publ. 81, p. 155-168.

(Devonian Gamilaroi terrane of New England orogen is intra-oceanic island arc, with local rifting. Oceanic crust between Gamilaroi terrane and Gondwana subducted E-wards under W margin of Gamilaroi terrane arc. Gamilaroi terrane obducted onto Gondwana margin in latest Devonian, resulting in subduction flip and subsequent development of E-facing continental margin arc system on top of Gamilaroi terrane)

Aitchison, J.C., P.G. Flood & F.C.P. Spiller (1992)- Tectonic setting and paleoenvironment of terranes in the southern New England orogen, eastern Australia as constrained by radiolarian biostratigraphy. *Palaeogeogr. Palaeoclim. Palaeoecology* 94, p. 31-54.

(Radiolarians abundant in Gamilaroi, Djungati and Anaiwan terranes of New England orogen in E Australia. Oldest rocks of Gamilaroi terrane probably Devonian, part of intra-oceanic island arc succession which accreted to E margin of Australia at end of Devonian. Overlain by Carboniferous, continental arc sequence of successor basin. Djungati terrane was part of oceanic basin in M Silurian- Late Devonian, influenced by volcanic island arc activity and tectonically disrupted in latest Devonian- E Carboniferous)

Aitchison J.C. & T.R. Ireland (1995)- Age profile of ophiolitic rocks across the Late Palaeozoic New England Orogen, New South Wales: implications for tectonic models. *Australian J. Earth Sciences* 42, p. 11-23.

(Zircon U-Pb ages from ophiolitic and associated rocks across S part of New England Orogen suggest earliest Cambrian- Triassic ages)

Aitchison J.C., T.R. Ireland, M.C. Blake & P.G. Flood (1992)- 530 Ma zircon age for ophiolite from the New England Orogen: oldest rocks known from eastern Australia. *Geology (GSA)* 20, p. 125-128.

(Magmatic zircons from plagiogranite in Weraerai ophiolite terrane, juxtaposed between Devonian terranes in New England tectonic collage. Dated as 530 ± 6 Ma (E Cambrian))

Allen, C.M., I.S. Williams, C.J. Stephens & C.R. Fielding (1998)- Granite genesis and basin formation in an extensional setting: the magmatic history of the northernmost New England Orogen. *Australian J. Earth Sciences* 45, p. 875-888

Armit, R., P. Betts, J. Stewart, I. Whitnall, P. Donchak & L. Hutton (2015)- Ordovician-Late Silurian geodynamics of north Queensland. Conference Special Group Tectonics Structural Geology, Geological Society Australia, 2015, 2p. *(Extended Abstract)*

(Following Delamerian Orogeny, roll-back of W-dipping subduction system in E Ordovician lead to extension of continental crust in overriding plate along E margin of Gondwana. In N Queensland separation of two micro-continental ribbons from Australian continent (now basement rocks in Hodgkinson Province and Barnard Province). Ordovician back arc inversion)

Babaahmadi, G. Rosenbaum & J. Esterle (2015)- Alternating episodes of extension and contraction during the Triassic: evidence from Mesozoic sedimentary basins in eastern Australia. *Australian J. Earth Sciences* 62, 5, p. 563-579.

(online at: https://www.researchgate.net/publication/277598437_Alternating_episodes_of_extension_and_contraction_during_the_Triassic_Evidence_from_Mesozoic_sedimentary_basins_in_eastern_Australia)
(Triassic tectonic activity in E Australia was characterised by two episodes of extension intermitted by phase of contraction possibly in response to switches between trench retreat and advance, respectively)

Babaahmadi, A., R. Sliwa, J. Esterle & G. Rosenbaum (2017)- The development of a Triassic fold-thrust belt in a synclinal depositional system, Bowen Basin (eastern Australia). *Tectonics* 36, 1, p. 51-77.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2016TC004297>)
(Decollements and resultant structures likely developed in response to mild contraction of E- C Bowen Basin synclinal depositional system during last phase of Permian-Triassic Hunter-Bowen orogeny. W-dipping thrusts in early Late Triassic)

Babaahmadi, A., R. Sliwa, J. Esterle & G. Rosenbaum (2018)- The evolution of a Late Cretaceous- Cenozoic intraplate basin (Duaringa Basin), eastern Australia: evidence for the negative inversion of a pre-existing fold-thrust belt. *Int. J. Earth Sciences* 107, 5, p. 1895-1910.

(Duaringa Basin in E Central Queensland is Late Cretaceous?- Paleogene basin (with M-L Eocene oil shales) that developed simultaneously with opening of Tasman and Coral Seas. Basin overlies Permian-Triassic fold-thrust belt. NNW-striking, NE-dipping Duaringa main boundary fault probably inversion of Triassic thrust)

Babaahmadi, A., I.T. Uysal & G. Rosenbaum (2019)- Late Jurassic intraplate faulting in eastern Australia: A link to subduction in eastern Gondwana and plate tectonic reorganisation. *Gondwana Research*, 66, p. 1-12.

(E Gondwana subjected to subduction processes during M-L Jurassic, with widespread tuffs in Clarence-Moreton, Surat, and Eromanga basins, and likely caused M-L Jurassic intraplate tectonism in E Australia)

Bain, J.H.C. & J.J. Draper (1997)- North Queensland Geology. Australian Geological Survey Organisation (AGSO) Bull. 240 and Queensland Dept. Mines and Energy Queensland Geology 9, p. .

Baker, J.C., C.R. Fielding, P. de Caritat & M.M. Wilkinson (1993)- Permian evolution of sandstone composition in a complex back-arc extensional to foreland basin: the Bowen Basin, eastern Australia. *J. Sedimentary Petrology* 63, p. 881-893.

(Bowen Basin Permo-Triassic back-arc extensional to foreland basin landward of continental volcanic arc. Started with limited back-arc crustal extension in E Permian, with N-S trending grabens with in W quartz-rich sediment from surrounding continental basement; in E calc-alkaline volcanolithic-rich and volcanoclastic sediment from active volcanic arc. Early extension followed by thermal subsidence accompanied by episodic compression in late E Permian- early Late Permian. In W quartzose sediment from W and S, in E volcanolithic-rich sediment from inactive volcanic arc. Latest Permian flexural loading and increased compression and renewed volcanism in E led to volcanics-rich sediment over entire basin)

Bammel, B. (2014)- A tectonic reconstruction of accreted terranes along the Paleo-Pacific margin of Gondwana. M.Sc. Thesis, University of Texas, Arlington, p. 1-92.

(online at: <https://uta-ir.tdl.org/uta-ir/handle/10106/24444>)
(Paleo-Pacific margin of S Gondwana consisted of segments of Australian-Antarctic craton, Argentina -Chile, S Africa, etc. Terra Australis orogen is one of largest and longest lived orogens in Earth history. Tasman foldbelt convergent margin from M Cambrian- Late Triassic, associated with generally W dipping subduction)

Belousova, E.A., W.L. Griffin, S.R. Shee, S.E. Jackson & S.Y. O'Reilly (2001)- Two age populations of zircons from the Timber Creek kimberlites, Northern Territory, as determined by laser-ablation ICP-MS analysis. *Australian J. Earth Sciences* 48, p. 757-765.

(Two populations of kimberlitic zircon in Timber Creek kimberlites, N Territory: 1483 ± 15 Ma for main group (inherited) and 179± 2 Ma (E Jurassic emplacement age))

Black, L.P., R.J. Bultitude, S.S. Sun, J. Knutson & R.S. Blewett (1992)- Emplacement ages of granitic rocks in the Coen Inlier (Cape York): implications for local geological and regional correlation: BMR J. Australian Geology Geophysics 13, p. 191-200.

(online at: https://d28rz98at9flks.cloudfront.net/81317/Jou1992_v13_n3_p191.pdf)

(*New zircon U-Pb ages define two major short-lived episodes of Paleozoic magmatism in Coen Inlier, N Queensland: (1) E Permian (284 Ma; Weymouth Granite, Twin Humps Adamellite); (2) most granites Late Silurian- E Devonian (~402-408 Ma). Similarities in ages of granites in Coen and Georgetown Inliers*)

Blake, P.R. (2010)- Devonian corals of the Yarrol Province, eastern-central Queensland. Memoir Assoc. Australasian Palaeontologists (AAP) 38, p. 1-191.

(*Yarrol Province in E-C Queensland contains latest Silurian to Permian rocks. Devonian corals locally abundant. Fairly diverse Late Devonian coral fauna present, with 45 genera and 77 species (incl. Heliolites, etc.). Six coral faunas, three in E Devonian, two in M Devonian, and one in Late Devonian*)

Blewett, R.S. & L.P. Black (1998)- Structural and temporal framework of the Coen Region, north Queensland: implications for major tectonothermal events in east and north Australia. Australian J. Earth Sciences 45, p. 597-609.

(*Coen Region Proterozoic (Yambo, Savannah) and Paleozoic (Pama, Kennedy) Provinces. N Queensland two major crust-forming periods: Proterozoic (1800-1550 Ma) and Paleozoic (430-280 Ma), with intervening 1000 million years of quiescence interrupted by minor Grenville-age modification (1300-1000 Ma). Coen Region intraplate, with plate-margin processes further E*)

Boger, S.D. & D. Hansen (2004)- Metamorphic evolution of the Georgetown Inlier, northeast Queensland, Australia; evidence for an accreted Palaeoproterozoic terrane? J. Metamorphic Geology 22, p. 511-527.

(*Georgetown Inlier, NE Australia, two separate metamorphic events: (1) contemporaneously with Paleo- to Mesoproterozoic orogenesis; (2) thermal overprint with emplacement of Forsyth Batholith (~1550 Ma)*)

Brakel, A.T., J.M. Totterdell, A.T. Wells & M.G. Nicoll (2009)- Sequence stratigraphy and fill history of the Bowen Basin, Queensland. Australian J. Earth Sciences 56, 3, p. 401-432.

(*Regional seismic synthesis of 10 km-thick continental-shallow marine succession of Bowen Basin revealed 3 basin-fill episodes and 9 depositional supersequences: (A) E Permian volcanics and half-graben development in separate troughs with fluvio-lacustrine sediments including coal. In subsequent thermal subsidence phase, four marine supersequences (B-E) were generated. Foreland loading in Late Permian-Triassic, with pulses of thrust loading and 4 supersequences (F-I). Later part of F mainly non-marine coal measures. Foreland-loading phase greatest rate of subsidence since initial rift, but little evidence of widespread marine flooding*)

Briggs, D.J.C. (1998)- Permian Productidina and Strophosiidina from the Sydney-Bowen Basin and New England Orogen: systematics and biostratigraphic significance. Memoir Assoc. Australasian Palaeontologists (AAP) 19, p. 1-258.

Bruce, M.C. & Y.L. Niu (2000)- Early Permian supra-subduction assemblage of the South Island terrane, Percy Isles, New England Fold Belt, Queensland. Australian J. Earth Sciences 47, p. 1077-1086.

(*South Island of Percy Isles off Queensland dominated by serpentinitised ultramafic rocks. E Permian age (~277 Ma) of calc-alkaline, intermediate volcanics and granitoids from South Island terrane similar to that of Gympie terrane (270-280 Ma) and Berserker terrane of C-E Queensland and may represent different sections of same oceanic arc*)

Bruce, M.C., Y. Niu, T.A. Harbort & R.J. Holcombe (2000)- Petrological, geochemical and geochronological evidence for a Neoproterozoic ocean basin recorded in the Marlborough terrane of the northern New England Fold Belt. Australian J. Earth Sciences 47, p. 1053-1064.

(*Marlborough Terrane largest (~700 km²) ultramafic-mafic complex in E Australia. Terrane is near-horizontal, out-of-sequence thin-skinned nappe sheet and has sea-floor spreading center origin. Crystallisation age of ~562 Ma suggests Late Neoproterozoic ocean basin. New England Fold Belt may have developed on oceanic crust, following oceanward migration of subduction zone at ~540 Ma*)

Bruhl, D. & S. Pohler (1999)- Tabulate corals from the Moore Creek Limestone (Middle Devonian: Late Eifelian- Early Givetian) in the Tamworth Belt (New South Wales, Australia). In: R. Feist et al. (eds.) North Gondwana: Mid-Paleozoic terranes, stratigraphy and biota. *Abhandlungen Geologischen Bundesanstalt*, Vienna, 54, p. 275-293.

(M Devonian (Eifelian-early Givetian) Moore Creek Limestone of Tamworth foldbelt in NSW, E Australia, thought to be deposited in intra-oceanic island arc setting. With tabulate corals, incl. Heliolites porosus. Assemblage and depositional setting may be comparable to NE Kalimantan, described by Rutten 1940, 1943)

Bryan, S.E. (2007)- Silicic large igneous provinces. *Episodes* 30, 1, p. 20-31.

(online at: www.episodes.co.in/www/backissues/301/20-31%20Bryan.pdf)

(Review of Large Igneous Provinces, including Cretaceous (~132-95 Ma; Aptian-Albian) Whitsunday and Late Carboniferous- E Permian (~320-280 Ma) Kennedy-Connors-Auburn Group from NE margin of Australia)

Bryan, S.E., A.G. Cook, C.M. Allen, C. Siegel, D. J. Purdy, J.S. Greentree & I. Tonguc Uysal (2012)- Early-mid Cretaceous tectonic evolution of eastern Gondwana: from silicic LIP magmatism to continental rupture. *Episodes* 35, 1, p. 142-152.

(Early-mid Cretaceous three major continental-scale events in E Gondwana: (1) emplacement of Silicic Large Igneous Province near continental margin; (2) volcanoclastic fill, transgression and regression of major epicontinental seaway developed over Australian continent; (3) uplift, exhumation and continental rupturing culminating in opening of Tasman Basin at ~84 Ma)

Bryan, S.E., A.E. Constantine, C.J. Stephens, A. Ewart, R.W. Schon & J. Parianos (1997)- Early Cretaceous volcano-sedimentary successions along the eastern Australian continental margin: implications for the break-up of eastern Gondwana. *Earth Planetary Science Letters* 153, p. 85-102.

(Two large E Cretaceous volcanic-sedimentary provinces in NE Australia (Whitsunday and Great Artesian Basin), and one in SE (Otway/Gippsland). Large E Cretaceous Whitsunday Aptian-Albian volcanic province (125-105 Ma) along E margin of Australia, part of high-K calc-alkaline pyroclastic volcanic belt that extends for >900 km along C-S Queensland coast. Ages 132-95 Ma, mainly ~120-105 Ma (Albian). Represents volcanism related to rifting/ break-up of E Gondwana margin)

Bryan, S E., A. Ewart, C.J. Stephens, J. Parianos & P.J. Downes (2000)- The Whitsunday Volcanic Province, central Queensland, Australia: Lithological and stratigraphic investigations of a silicic-dominated large igneous province. *J. Volcanology Geothermal Research* 99, p. 55-78.

(Silicic Large Igneous Provinces volumetrically dominated by ignimbrite and spatially and temporally associated with plate break-up. E Cretaceous (~132/125-100/95 Ma) Whitsunday Volcanic Province dominated by dacitic-rhyolitic lithic ignimbrites, each 10-100 m thick. Total ignimbrite-dominated sequence >1 km thick. Early explosive dacitic pyroclastic phase succeeded by mixed pyroclastic-effusive phase. Volcanic sequences intruded by gabbro/dolerite to rhyolite dykes, sills and comagmatic granite, and record evolution of multiple vent, low-relief volcanic region, dominated by several large caldera centres)

Bryan, S.E., R.J. Holcombe & C.R. Fielding (2001)- The Yarrol terrane of the northern New England Fold Belt: fore-arc or back-arc? *Australian J. Earth Sciences* 48, p. 293-316.

(Question 'classical' forearc model for Yarrol Basin of N New England Fold Belt)

Bultitude, R.J., P.J. Donchak, J. Domagala & B.G. Fordham (1993)- The Pre-Mesozoic stratigraphy and structure of the western Hodgkinson Province and environs. *Geological Survey of Queensland, Record* 1993/29, p. 1-259.

(Detailed report on Ordovician- Carboniferous stratigraphy of Hodgkinson Province. Ordovician-Silurian limestone-dominated. Devonian turbidite-dominated Chilligoe and Hodgkinson Fms until Late Devonian (Famennian) when E-directed thrusting halted deep-water sedimentation. Area effectively cratonised by numerous Late Carboniferous- E Permian (~320- 275 Ma) granite plutons and subaerial volcanic sequences (part of N Queensland Volcanic-Plutonic Province). M Jurassic-E Cretaceous fluvial- shallow-marine quartzose sands and gravels deposited in W part of region)

Bultitude, R.J., P.J. Donchak, J. Domagala, B.G. Fordham & D.C. Champion (1990)- Geology and tectonics of the Hodgkinson Province, North Queensland. Proc. 1990 Pacific Rim Congress (PACRIM), Gold Coast 1990, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, 3, p. 75-81.

(Hodgkinson Province is N part of Tasman Orogen, with extensive outcrops of Silurian-Devonian in Queensland. Siliciclastic turbidites dominant, with common mafic volcanics and fossiliferous limestones near W margin. Complex deformational history, numerous thrust faults. Up to five major deformational events, mostly in E-M Carboniferous, pre-dating Late Carboniferous- Late Permian granites. Dominant NNW-NW oriented cleavage pre-dates deposition of M Jurassic- E Cretaceous sediments of Laura Basin. Late Permian- E Triassic deformational event?)

Bultitude, R.J., P.D.Garrad, P.J.T.Donchak, J. Domagala, D.C. Champion, I.D. Rees et al. (1997)- Cairns Region. In: J.H.C. Bain & J.J. Draper (eds.) North Queensland Geology, Chapter 7, Australian Geological Survey Organisation (AGSO) Bull. 240, p. 225-325.

Burger, D., C.B. Foster & J.L. McKellar (1992)- A review of Permian to Cretaceous palynostratigraphy in Eastern Australia. Bureau Mineral Resources Geology Geophysics (BMR), Canberra, Record 1992/5, p. 1-26.
(online at: https://d28rz98at9flks.cloudfront.net/14516/Rec1992_005.pdf)

Burrow, C.J., S. Turner & G.C. Young (2010)- Middle Palaeozoic microvertebrate assemblages and biogeography of East Gondwana (Australasia, Antarctica). Palaeoworld 19, p. 37-54.
(On Silurian- Carboniferous fish remains from Australia and links to other regions)

Campbell, L.M., R.J. Holcombe & C.R. Fielding (1999)- The Esk Basin- a Triassic foreland basin within the northern New England Orogen. In: P.G. Flood (ed.) Regional geology, tectonics and metallogenesis, New England Orogen, NEO '99, University of New England, Armidale 1999, p. 275-284.
(Evolutionary history of Esk Basin redefined as consisting of E Permian phase of extension, M-Permian passive thermal subsidence and latest Permian-E Triassic foreland loading, paralleling tectonic evolution of Bowen Basin. Esk Basin developed in depocenter on SE margin of larger Bowen Basin and likely contiguous with it. Continental volcanic-arc active in E-M Triassic in SE Queensland, during hiatus in deformation. Hunter-Bowen Orogeny produced exposed fold-thrust highland by E Triassic arc magmatism migrated W onto continent, and that terminal thrusting of orogenic event occurred prior to end of M Triassic)

Caprarelli, G. & E.C. Leitch (1998)- Magmatic changes during the stabilisation of a cordilleran fold belt: the Late Carboniferous-Triassic igneous history of eastern New South Wales, Australia. Lithos 45, p. 413-430.
(Between Late Carboniferous and Late Permian, magmatic arc in New England Fold Belt in NE NSW shifted E-ward and changed in trend from NNW to N. Devonian-Late Carboniferous arc located in W of Fold Belt, Late Permian-Triassic mainly in earlier forearc. Growth of younger arc accompanied by compressional deformation that stabilised New England Fold Belt. During transition two suites of S-type granitoids: Hillgrove at ~305 Ma during compressional and regional metamorphism episode and Bundarra at ~280 Ma during late extensional episode. Termination of earlier arc resulted from shallow breakoff of downgoing plate)

Cawood, P.A. (1982)- Structural relations in the subduction complex of the Paleozoic New England fold belt, Eastern Australia. The Journal of Geology 90, 4, p. 381-392.

(New England Fold Belt of SE Australia divided by Peel Fault System into W magmatic arc- frontal arc and E subduction complex assemblage. W part of subduction complex repeated slices of dolerite-basalt-radiolarian chert- siltstone and, in younger thicker slices, sandstone. Basal contacts always faulted. Reflect progressive off-scraping and accretion of upper segments of oceanic lithosphere by imbricate thrust faulting, rather than subduction beneath arc. Regional orogenic deformation at termination of underthrusting in E Permian)

Cawood, P.A. (1984)- The development of the SW Pacific margin of Gondwana: correlations between the Rangitata and New England orogens. Tectonics 3, 5, p. 539-553.

(Before formation of Tasman Sea, Late Paleozoic-Mesozoic Rangitata Orogen of New Zealand and New Caledonia abutted New England Orogen of E Australia. Similar Permian-Cretaceous igneous and deformational

events in two orogens: (1) end of arc volcanism and widespread sedimentation in New England, together with onset of regional deformation and crustal anatexis synchronous with start of volcanism and sedimentation in Rangitata Orogen; (2) E Permian andesitic volcanism in E New England is along-strike extension of Brook Street terrane of New Zealand; (3) Late Permian regional deformation in New England coincides with break in subduction-related igneous activity in New England and Rangitata Orogens and shift in locus of activity; (4) Late Permian-Triassic calc-alkaline igneous activity in New England correlates with pyroclastic material in forearc basin of Rangitata Orogen; (5) cessation of plutonism in New England corresponds with start of Esk Head Melange in New Zealand; (6) Late Cretaceous plutons in New England Orogen similar to final Rangitata orogenesis, both marking initial rifting associated with formation of Tasman Sea)

Cawood, P.A. (2005)- Terra Australis orogen: Rodinia breakup and development of the Pacific and Iapetus margins of Gondwana during the Neoproterozoic and Paleozoic. *Earth-Science Reviews* 69, p. 249-279.
(Pacific Ocean formed through Neoproterozoic rifting of Rodinia and never subsequently closed. Record of ocean opening and inception of ocean convergence/subduction preserved in Neoproterozoic- late Paleozoic Terra Australis Orogen. Orogen pre-dispersal length along E Gondwana margin ~18000 km long, up to 1600 km wide. Subduction of Pacific Ocean established at Gondwana margin by ~570 Ma. Termination of Terra Australis Orogen at ~300-230 Ma associated with assembly of Pangea (Pan-Pacific Gondwanide Orogeny)

Cawood, P.A. & G. Buchan (2007)- Linking accretionary orogenesis with supercontinent assembly. *Earth-Science Reviews* 82, p. 217-256.

(Assembly of Gondwana and Pangea indicate timing of collisional orogenesis between amalgamating continental bodies synchronous with subduction initiation and contractional orogenesis in accretionary orogens along margins of supercontinents. Final assembly of Gondwana between ~570-510 Ma, amalgamating East and West Gondwana, coeval with switch from passive margin sedimentation to convergent margin activity along Pacific margin of supercontinent. Subduction initiation along Pacific margin 580-550 Ma. Final stages of assembly of Pangean supercontinent between ~320-250 Ma, with major plate boundary reorganization and regional orogenesis along Pacific margin. E Gondwana margin segment transpressional and transtensional activity from ~305-270 Ma, after which convergence along margin was re-established. In E Australia this involved E-ward migration of arc magmatism into old subduction complex)

Cawood, P.A. & R.J. Korsch (2008)- Assembling Australia: Proterozoic building of a continent. *Precambrian Research* 166, p. 1-35.

Cawood, P.A. & E.C. Leitch (1984)- Accretion and dispersal tectonics of the southern New England foldbelt, Eastern Australia. In: D.G. Howell (ed.) *Tectonostratigraphic terranes of the Circum-Pacific region*, Circum-Pacific Council Energy and Mineral Resources, Earth Science Series 1, p. 481-492.

Cawood, P.A., E.C. Leitch, R.E. Merle & A.A. Nemchin (2010)- Earliest Permian non-collisional orogeny and basin formation in the southern New England fold belt sector of the Terra Australis Orogen. 20th Australian Geological Convention, Canberra 2010, Geological Society Australia, Abstracts 98, p. 70 *(Abstract only)*
(Tablelands Orogeny major tectonothermal event around Carboniferous-Permian boundary, between 305-295 Ma, with HT/LP metamorphism, ending long-lived subduction-related magmatic arc activity in W New England. Followed by development of new E Permian arc (S-type granites) and contemporaneous extensional basins on accretionary complex of older arc system. Major stratigraphic break in Tamworth Belt in latest Carboniferous, with removal of several 1000m of M Devonian- Carboniferous strata before E Permian)

Cawood, P.A., E.C. Leitch, R.E. Merle & A.A. Nemchin (2011)- Orogenesis without collision: stabilizing the Terra Australis accretionary orogen, eastern Australia. *Geological Society of America (GSA) Bull.* 123, 11-12, p. 2240-2255.

(Convergent margin magmatism along W margin of New England foldbelt ended latest Carboniferous (~305 Ma), followed by short pulse of compressional deformation/ metamorphism. Followed by onset of clastic sedimentation and local calc-alkaline volcanism, dated at 293 Ma in extensional Barnard Basin. Emplacement of S-type granites with high-T metamorphism at 296-288 Ma. Hunter-Bowen orogenic phase regional deformation/ metamorphism at ~265-260 Ma, associated with I-type plutonism and volcanic activity in New

England orogen that ceased around 230 Ma, marking end of Gondwanide orogenesis. No evidence that deformation was related to collision with major lithospheric mass. Widespread development of extensional basins in E third of Australia in E Permian indicates controls acting on continental scale, probably changing plate kinematics)

Cawood, P.A., S.A. Pisarevsky & E.C. Leitch (2011)- Unraveling the New England orocline, east Gondwana accretionary margin. *Tectonics* 30, TC5002, p. 1-15.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2011TC002864>)

(New England orocline developed during Late Carboniferous- E Triassic Gondwanide Orogeny (310-230 Ma), which deformed pre-Permian arc assemblage (W magmatic arc, adjoining forearc basin and E subduction complex). Buckling of arc system about vertical axis during N-ward translation of S segment of arc system against N segment, which is pinned relative to cratonic Gondwana. Final stage of orocline formation (~270-265 Ma; ~M Permian) overlaps with major gap in magmatic activity)

Champion, D.C. & R.J. Bultitude (1994)- Granites of the eastern Hodgkinson Province. II. their geochemical and Nd-Sr isotopic characteristics and implications for petrogenesis and crustal structure in north Queensland. Queensland Geological record, Dept. of Minerals and Energy, Queensland, p. 1-113.

Champion, D.C. & R.J. Bultitude (2003)- Granites of North Queensland. In: P. Blevin et al. (eds.) The Ishihara Symposium: Granites and associated metallogenesis, Macquarie University, Geoscience Australia Record 2003/14, p. 19-23.

(online at: www.ga.gov.au/image_cache/GA3675.pdf)

(N Queensland major episodes of granite formation in: Mesoproterozoic (~1550 Ma), Cambrian-Ordovician (~480-460 Ma; Macrossan Igneous Province), Silurian Devonian (~430-380 Ma; Pama Igneous Province), and Carboniferous- Late Permian (~330-260 Ma; Kennedy Igneous Province; most voluminous, 3 subgroups))

Chappell, B.W. (1994)- Lachlan and New England: fold belts of contrasting magmatic and tectonic development. *Journal and Proceedings of the Royal Society New South Wales* 127, p. 47-59.

Chaproniere, G.C.H., C.J. Pigram, P.A. Symonds & P.J. Davies (1990)- The Northeast Australian margin and adjacent areas- a biostratigraphic review and geohistory analysis. Bureau Mineral Resources Geology Geophysics, Record 1990/7, p. 1-30.

(online (without plates) at: www.ga.gov.au/image_cache/GA13885.pdf)

(Review of M Eocene- Recent biostratigraphy of NE Australian offshore wells in SE Papuan and Capricorn/ Great Barrier Reef Basins, DSDP Sites in Coral Sea Basin and Lord Howe Rise and dredge samples. Anchor Cay I well with Late Eocene Pellatispira. Early Oligocene unconformity in most S Papuan/ Capricorn wells)

Cohen, B.E. (2012)- The scenic rim of southeastern Queensland, Australia: a history of mid Cenozoic intraplate volcanism. *Episodes* 35, 1, p. 103-109.

(online at: www.episodes.co.in/contents/2012/march/p103-109.pdf)

(SE Queensland intraplate plume-derived mafic volcanism provide record of N-ward Australian plate movement over mantle plume. Major slowdown between 26 -23 Ma is correlated with initial collision of Ontong Java plateau with N subduction margin of Australian plate, which also caused brief changes in direction of Tasmantid and Lord Howe seamount chains and also changed motion of Pacific plate. Little contamination of upper mantle-driven magmas by 36 km thick continental crust, except rhyolites formed during last 1 Myr of slow plate velocity)

Collins, W.J. (1991)- A reassessment of the 'Hunter-Bowen orogeny': tectonic implications for the southern New England fold belt. *Australian J. Earth Sciences* 38, p. 409-423.

(All Late Permian deformation in S New England Fold Belt ascribed to single compressive tectonic event: Hunter-Bowen Orogeny (265-250 Ma). E Permian rifting of Carboniferous arc and fore-arc of Tamworth Belt and region W of it produced Sydney Basin and subsidiary meridional troughs in backarc environment. Initial E-W compression in Late Permian produced meridional folds and above W-propagating decollement. Final deformation reactivated ancestral Peel Fault, rotated fault blocks in Tamworth Belt and caused sinistral displacement of tectonostratigraphic units in Tablelands Complex, culminating in Permian dispersal event.

Orogenic cycle recorded as massive flooding of Sydney Basin with continental detritus from S New England Fold Belt, in response to uplift of belt, and change from backarc to foreland basin in Late Permian)

Collins, W.J. & S.W. Richards (2008)- Geodynamic significance of 'post-collisional' S-type granites in circum-Pacific orogens. *Geology (GSA)* 36, p. 559-562.

(Delamerian, Lachlan and New England orogens characterized by 'tripartite associations' of (1) belts of S-type granite and associated high T-low P metamorphic complexes, (2) outboard oceanic arc sequences, remnants of which are preserved as greenstones, and (3) intervening, slightly younger back-arc basins into which I-type plutons are emplaced. Four tripartite associations: M Cambrian, Cambrian-Ordovician, Silurian and Carboniferous, each representing distinct phase of arc retreat, magmatism, and back-arc rifting that followed major compressive event associated with closure of precursor back-arc basin)

Coney, P.J. (1992)- The Lachlan belt of eastern Australia and Circum-Pacific tectonic evolution. *Tectonophysics* 214, p. 1-25.

(Pacific Ocean basin remarkable permanency through Phanerozoic, with accretionary continental margin orogens showing little evidence of continental collisions (unlike Circum-Atlantic and Tethyan realms). Through Paleozoic- E Mesozoic South America, Antarctica, and Australia were joined along SE, S and SW margins of Pacific Ocean, with Pacific margin orogenic system extending for 20,000 km from NW South America to NE Australia. Lachlan Fold Belt E Paleozoic deep-marine turbiditic facies common along margin, often directly juxtaposed against cratonic interior. Prolonged histories of Late Precambrian- Late Cambrian, then E Silurian- E Mesozoic convergent to transpressive and accretionary tectonics, often accompanied by magmatism)

Coney, P.J., A. Edwards, R. Hine, F. Morrison & D. Windrum (1990)- The regional tectonics of the Tasman orogenic system, Eastern Australia. *J. Structural Geology* 12, p. 519-543.

(Tectonic evolution of Tasman orogen four main phases: (1) late Proterozoic- E Paleozoic, generally deep-marine turbiditic sedimentation submarine volcanism, and shifting deformation, metamorphism and plutonism; (2) major mid-Paleozoic deformation, volcanism and plutonism; (3) major accretionary phase in outer New England belt of terranes that culminated in Late Paleozoic and continuing into E Mesozoic; (4) extensional break-up of Gondwanaland in Cretaceous, continuing to present)

Craven, S.J., N.R. Daczko & J.A. Halpin (2012)- Thermal gradient and timing of high-T-low-P metamorphism in the Wongwibinda Metamorphic Complex, southern New England Orogen, Australia. *J. Metamorphic Geology* 30, p. 3-20.

(online at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1525-1314.2011.00949.x/pdf>)

(Wongwibinda high T- low P Metamorphic Complex in S New England Orogen (variably metamorphosed Devonian-Carboniferous turbidites, intruded by granodiorite/granitoids). Overall increase in metamorphic grade from W to E. Age peak metamorphism ~297 Ma. Zircon U-Pb crystallization age in granodiorite 290.5 Ma, suggesting confirming pluton emplacement post-dates peak HTLP metamorphism (both earliest Permian))

Crawford, A.J., S. Meffre & P.A. Symonds (2003)- 120 to 0 Ma tectonic evolution of the southwest Pacific and analogous geological evolution of the 600 to 220 Ma Tasman Fold Belt System. *Geological Society Australia Special Publ.* 22, p. 377-397. (or *Geological Society of America (GSA), Special Paper* 372, p. 383-403).

(Elongate microcontinental ribbons (Lord Howe Rise, Norfolk-New Caledonia Ridge) calved off E Australia during ~120-52 Ma extension, with oceanic crust formation from 85-52 Ma, producing Tasman Sea and S Loyalty Basin. Change in Pacific plate motion at ~55 Ma initiated E-directed subduction along recently extinct spreading center in S Loyalty Basin. Subduction of S Loyalty Basin crust led to arrival at ~38 Ma of 70-60 My old Norfolk Ridge volcanic passive margin at trench, and W-directed emplacement of New Caledonia ophiolite. After locking of subduction zone at 38-34 Ma, subduction jumped E to form new W-dipping subduction zone and Vitiaz arc. Arc splitting episodes fragmented Vitiaz arc to form S Fiji (31-25 Ma) and N Fiji Basins (10 Ma- present). Collision of Ontong Java Plateau with Solomons section of Vitiaz arc resulted in reversal of subduction polarity, and growth of Vanuatu arc. Continued rollback of trench fronting Tonga arc since 6 Ma split this arc to form Lau Basin-Havre Trough. SW Pacific style of crustal growth above rolling-back slab applied to Tasman Fold Belt)

Crespin, I. (1947)- Foraminifera in the Permian rocks of Australia. Bureau Mineral Resources Geology Geophysics, Bull. 15, p. 1-31.

(online at: www.ga.gov.au/metadata-gateway/metadata/record/206/)

(On smaller benthic forams from Queensland, New South Wales, Tasmania, W Australia, etc. The only record of two genera of fusulinid forams is *Neoschwagerina* and *Verbeekina* from W Kimberley area in W Australia by Chapman and Parr (1937) (but these fusulinid identifications now believed to be erroneous; JTvG))

Crespin, I. (1958)- Permian foraminifera of Australia. Bureau Mineral Resources Geology Geophysics, Bull. 48, p. 1-207.

(online at: www.ga.gov.au/metadata-gateway/metadata/record/239/)

(106 species/46 genera of Permian foraminifera, all small benthics, mainly arenaceous. Beds in W Australia from which Chapman and Parr (1937) described fusulinids not Permian but Triassic, and supposed fusulinids are probably fish remains (Brunnschweiler, 1954))

Crook, K.A.W. & E.A. Felton (1975)- Tasman Geosyncline greenstones and ophiolites: J. Geological Society of Australia 22, p. 117-131.

(Alpine-type serpentinites rather common in Tasman Geosyncline. Metallogeny affinities with ophiolites, suggesting a common origin as oceanic crust. W Pacific-type geosynclines, such as Tasman Geosyncline, may have developed on oceanic crust of unusual composition)

Crouch, S.B.S. (1999)- Geology, tectonic setting and metallogenesis of the Berserker subprovince, northern New England Orogen. Queensland Govt. Mining J. 100, p. 6-14.

(Glen 2005: Early Permian volcanics, erupted in back-arc or intra-arc setting)

Davies, P.J., J.A. McKenzie, A. Palmer-Julson et al. (1991)- Introduction. Proc. Ocean Drilling Program (ODP), Initial Reports 133, College Station, p. 5-30.

(online at: www-odp.tamu.edu/publications/133_IR/VOLUME/CHAPTERS/ir133_01.pdf)

(With cross-sections of Queensland and Townsville Troughs)

Davis, B.K., C.C. Bell & M. Lindsay (2002)- A single late orogenic Permian episode of gold mineralization in the Hodgkinson Province, North Queensland, Australia. Economic Geology 97, 2, p. 311-323.

(Quartz-hosted gold deposits in Hodgkinson province widely distributed, emplaced during waning stages of D4, main contractional phase of Permian-Triassic Hunter-Bowen orogeny, associated syn-D4 Whypalla supersuite, indicating mineralization in E Permian or later)

Davis, B.K., R.A. Henderson & R.J. Bultitude (1998)- Evidence for a major crustal dislocation in the Hodgkinson Province, North Queensland. Australian J. Earth Sciences 45, 6, p. 937-942.

(Late Paleozoic granites intruding multiply deformed Silurian-Devonian strata of Hodgkinson Province, N Queensland, display pronounced WNW-ESE orientations, reflecting zone of structuring during post-D2 regional deformation and reactivated in Hunter-Bowen Orogeny (D4), with overall sinistral displacement)

Davis, B.K., R.A. Henderson & R. Wysoczanski (1998)- Timing of granite emplacement under conditions of low strain in the northern Tasman Orogenic Zone, Australia. Tectonophysics 284, 3, p. 179-202.

(Granite plutons of Mount Alto and Whypalla supersuites intruded in S of multiply deformed Silurian-Devonian Hodgkinson Province during E Permian. Wall rocks contain evidence for four deformation events. Main stage of granite emplacement during weak contractional D3 deformation)

Day, R.W., L.C. Cranfield & H. Schwarzbock (1974)- Stratigraphy and structural setting of Mesozoic basins in southeastern Queensland and northeastern New South Wales. In: A.K. Denmead et al. (eds.) The Tasman Geosyncline, a Symposium. Geological Society Australia, Queensland Div., p. 319-363.

Day, R.W., C.G. Murray & W.G. Whitaker (1978)- The eastern part of the Tasman Orogenic Zone. Tectonophysics 48, p. 327-364.

(E part of Tasman Orogenic Zone (or Fold Belt System) comprises Hodgkinson-Broken River Orogen in N (Ordovician- E Carboniferous volcanoclastic flysch with shelf carbonate facies sediments) and New England Orogen in center and S (Silurian-Triassic). Two zones, now separated by Alpine-type ultramafic belts: W: partly on E Paleozoic continental crust with Late Silurian- E Permian volcanic-arc deposits, in E: probably on oceanic crust, with pelagic sediments, flysch and ophiolites of Silurian- E Permian age. New England Orogen viewed as Pacific-type continental margin with calc-alkaline volcanic arc in W, volcanoclastic continental shelf in center and in E continental slope and oceanic basin)

De Keyser, F. & K.G. Lucas (1968)- Geology of the Hodgkinson and Laura Basins, North Queensland. Bureau Mineral Resources Geology Geophysics (BMR), Bull. 84, p. 1-245.
(online at: www-a.ga.gov.au/web_temp/1187541/Bull_084.pdf)
(Hodgkinson Basin of N Queensland thick folded Paleozoic sediments (incl. limestones with corals *Halysites*, *Favosites*, *Heliolites*, etc.), unconformably overlain by Jurassic- Cretaceous sand-dominated sediments of Laura Basin)

Denaro, T., C. Ramsden & D. Brown (2007)- Queensland minerals, a summary of major mineral resources, mines and projects. Queensland Department of Mines and Energy, Indooroopilly, p. 1-1005.
(partly online at: www.lgdi.net/resources/i/docs/11_qld_mineral_4th.pdf)
(Overview of Queensland geology, igneous provinces and mineral occurrences)

DiCaprio, L., R.D. Muller & M. Gurnis (2010)- A dynamic process for drowning carbonate reefs on the northeastern Australian margin. *Geology (GSA)* 38, 1, p. 11-14.
(Australian NE marginal plateaus underwent accelerated tectonic subsidence in Late Miocene- Pliocene that, with second-order global sea-level rises, drowned Miocene carbonate platforms. Mechanism for anomalous subsidence of mature passive margin uncertain. Plate model shows Late Miocene NE Australia overrode subducted slabs from Eocene Melanesian subduction N of PNG. Surface subsidence induced by sinking slabs may have caused relative sea-level rises outpaced Late Miocene reef growth)

Dickins, J.M. & E.J. Malone (1973)- Geology of the Bowen Basin, Queensland. Bureau Mineral Resources Geology Geophysics, Bull. 130, p. 1-154.
(online at: www.ga.gov.au/corporate_data/102/Bull_130.pdf)
(Bowen Basin of NE Australia is Permian- Triassic basin, overlapped by Mesozoic Surat Basin. Complex tectonic history with pre-Lower Devonian movement and discordances between M-U Devonian and between Carboniferous- Permian on margins, particularly in W, where strongly folded and faulted Carboniferous beds are overlain by relatively flat Permian. In U Permian Bowen Basin cut off from sea by uplift along E margin, and Blackwater Gp (= U Bowen Coal Measures, with rich *Glossopteris* flora with *Taeniopteris*) was deposited. Granites on En margin with isotopic age of ~240 Ma emplaced during uplift and are of same age as volcanics in Blackwater Gp. Uplift and folding in Late Triassic. Onset of sedimentation in Great Artesian Basin in Jurassic)

Direen, N.G. & A.J. Crawford (2003)- The Tasman Line: where is it, what is it, and is it Australia's Rodinian breakup boundary? *Australian J. Earth Sciences* 50, p. 491-501.
(Several different interpretations of position of Tasman Line, the boundary between Australian Precambrian craton in W and Early Paleozoic foldbelts in E)

Dixon, D.A. & G.J. Pope (1987)- Oil shale of the Duaringa Basin, Central Queensland. *Fuel* 66, 3, p. 305-308.
(Extensive oil shale deposits in Cenozoic Duaringa Basin of C Queensland. NNW-trending, 180 x 20km half-graben, superimposed on deformed E margin of Permo-Triassic Bowen Basin. Up to 1300m of flat-lying fluvio-lacustrine sediments, with oil shale of M-L Eocene age in two near-surface seams (Rundle and Stuart oil shale deposits) (see also Pope 2000))

Draper, J.J. (1988)- Permian limestone in the southeastern Bowen Basin, Queensland: an example of temperate carbonate deposition. *Sedimentary Geology* 60, 1, p. 155-162.

(Two limestone-bearing sequences in Permian Bowen foreland basin. Mainly skeletal grainstones and packstones with crinoids, bryozoans, brachiopods, molluscs, ahermatypic corals, foraminifera and sponge spicules influenced by cold to cool-temperate climatic conditions at paleolatitude of 60°S)

Elliott, L. (1989)- The Surat and Bowen Basins. Australian Petroleum Explorers J. 29, p. 398-416.

Elliott, L.G. (1993)- Post-Carboniferous tectonic evolution of eastern Australia. Australian Petroleum Exploration Assoc. (APEA) Journal 33, p. 215-236.

Ewart, A., R.W. Schon & B.W. Chappell (1992)- The Cretaceous volcanic-plutonic province of the Central Queensland (Australia) coast- a rift related calc-alkaline province. Trans. Royal Society Edinburgh, Earth Sci. 83, p. 327-345.

Ewing, M., L.V. Hawkins & W.J. Ludwig (1970)- Crustal structure of the Coral Sea. J. of Geophysical Research 75, p. 1953-1962.

(Seismic refraction data suggest M-U Paleozoic Tasmanide Belt continues offshore under Queensland Plateau. Coral Sea underlain by normal oceanic crust, with ~2.5 km of sediment cover)

Exon, N.F. (1976)- Geology of the Surat Basin in Queensland. Bureau Mineral Resources Geology Geophysics, Bull. 166, p. 1-235.

(online at: www.ga.gov.au/corporate_data/77/Bull_166.pdf)

(Surat Basin of E Australia S of Bowen Basin and W of New England foldbelt. Contains 2500m of Jurassic and Cretaceous sediments, terrestrial Jurassic, but with two marine incursions in Early Cretaceous. Sequence is almost flat-lying, with few drape or compaction folds and faults. Volcanic debris suggests contemporaneous volcanism in Jurassic and E Cretaceous. Erosion during Late Cretaceous and Early Tertiary. Oligocene and Miocene volcanism around margins of basin)

Exon, N.F., P.J. Hill, Y. Lafoy, C. Heine & G. Bernardel (2006)- Kenn Plateau off northeast Australia: a continental fragment in the Southwest Pacific jigsaw. Australian J. Earth Sciences 53, 4, p. 541-564.

(Kenn Plateau was part of E Australia, S of present Marion Plateau. Presumably underlain by Paleozoic-Triassic basement of New England Fold Belt. Overlying sediments probably Late Triassic- Jurassic non-marine sediments, Early Cretaceous rift-volcanics, Late Cretaceous- Eocene synrift and sag marine sediments, etc. Kenn Plateau started to separate from Queensland at ~63 Ma (Cretaceous- Tertiary boundary)

Exon, N.F., P.J. Hill, Y. Lafoy, G. Burch, A. Post, C. Heine, P. Quilty, R. Howe & L. Taylor (2005)- The geology of the Kenn Plateau off northeast Australia: results of the Southern Surveyor Cruise SS5/2004 (Geoscience Australia Cruise 270). Geoscience Australia, Canberra, Record 2005/4, p. 1-172.

(online at: https://d28rz98at9flks.cloudfront.net/61747/Rec2005_004.pdf)

(In Late Cretaceous Kenn Plateau was part of Maryborough Basin to W and Capricorn Basin to N. It separated from Australia in earliest Paleocene- M Eocene by moving NE along Cato Fault Zone and rotating 45° CCW).

Falvey D.A. & L.W.H. Taylor (1974)- Queensland plateau and Coral Sea Basin: structural and time-stratigraphic patterns. Bull. Australian Soc. Exploration Geophysicists 5, 4, p. 123-126.

(W Coral Sea region contains one major and three minor marginal plateaux, partly surrounding deep abyssal plain. Coral Sea underlain by ~1km sediment and E Eocene oceanic crust. Queensland Plateau continental crust with Paleozoic basement rocks, tectonically part of onshore Tasman Geosyncline. Continental rifts beneath Queensland Trough and plateau/basin margin, with 1-3 km of U Cretaceous sediments on basement. Subsidence followed seafloor spreading in basin. Early Oligocene depositional break. Residual highs along old Paleozoic trends subsided in E Miocene and locally capped by modern coral reefs)

Feary, C.M., D.C. Champion, R.J. Bultitude & P.J. Davies (1993)- Igneous and metasedimentary basement lithofacies of the Queensland Plateau. Proc. Ocean Drilling Program (ODP), Scientific Results, 133, p. 535-540.

(online at: www-odp.tamu.edu/publications/133_SR/VOLUME/CHAPTERS/sr133_37.pdf)

(Queensland Plateau basement penetrated at Sites 824 and 825 on W Queensland Plateau. Altered and deformed metasedimentary rocks, cut by relatively undeformed intermediate dikes. Similar to latest Silurian-Devonian Hodgkinson Fm of N Queensland, a greywacke-shale-slate succession with turbiditic structures, cut by Late Paleozoic- E Mesozoic dike swarms, deposited in deep marine, extensional back-arc basin environment in Devonian, with deformation in E-M Carboniferous. Uplift and erosion produced peneplaned surface on which extensive M and Late Cenozoic carbonate reefs developed. Tasman Fold Belt much wider than outcrop width on Australian mainland)

Fergusson, C.L. (1991)- Thin-skinned thrusting in the northern New England Orogen, Central Queensland, Australia. *Tectonics* 10, 4, p. 797-806.

(N New England Orogen and E Bowen Basin Late Permian- Middle Triassic deformation event ('Hunter-Bowen Orogeny'). W-directed, thin-skinned tectonics, NNW trending folds in Late Permian sediments)

Fergusson, C.L. (2010)- Plate driven extension and convergence along the East Gondwana active margin: Late Silurian-Middle Devonian tectonics of the Lachlan Fold Belt, southeastern Australia. *Australian J. Earth Sciences* 57, 5, p. 627-649.

Fergusson, C.L. (2019)- Subduction accretion and orocline development in modern and ancient settings: implications of Japanese examples for development of the New England Orogen of eastern Australia. *J. Geodynamics* 129, p. 117-130.

(Texas Orocline in S New England Orogen of E Australia nucleated during subduction of seamount chain, resulting in orogenic curvature of Carboniferous subduction complex. Subduction of seamount chain shown by abundant limestone associated with ocean island basalts amongst accreted turbidites in core of orocline)

Fergusson, C.L. & R.A. Henderson (2015)- Early Palaeozoic continental growth in the Tasmanides of northeast Gondwana and its implications for Rodinia assembly and rifting. *Gondwana Research* 28, 3, p. 933-953

Fergusson, C.L., R.A. Henderson, C.M. Fanning & I.W. Withnall (2007)- Detrital zircon ages in Neoproterozoic to Ordovician siliciclastic rocks, northeastern Australia: implications for the tectonic history of the East Gondwana continental margin. *J. Geological Society, London*, 164, p. 215-225.

(U-Pb detrital zircon ages in Neoproterozoic- E Paleozoic metamorphosed clastics of NE Australia show two major successions along E Gondwana margin (1) Late Neoproterozoic passive margin, with rifting at ~600 Ma. Most zircon ages 1000-1300 Ma; (2) E Paleozoic active margin of Gondwana that developed on former passive margin, with distinctive 510-600 Ma detrital zircon signature that is widespread in E Gondwana. Also 460-510 Ma zircon ages from local igneous sources)

Fielding, C.R., T.D. Frank, L.P. Birgenheier, M.C. Rygel, A.T. Jones & J. Roberts (2008)- Stratigraphic imprint of the Late Paleozoic Ice Age in eastern Australia: a record of alternating glacial and nonglacial climate regime. *J. Geological Society, London*, 165, p. 129-140.

(online at: <https://web.viu.ca/earle/geol305/labs/fielding-et-al.pdf>)

NSW and Queensland Carboniferous- Permian at least eight glacial intervals in mid-Carboniferous (~327 Ma) to early Late Permian (~260 Ma). Glaciations P1 (299–291 Ma: Asselian- E Sakmarian) and P2 (287–280 Ma: late Sakmarian- M Artinskian; appear most widespread glaciations in E Australia, but may reflect greater area covered by subsiding sedimentary basins in E Permian? Gradual demise of glaciation in Late Permian)

Fielding, C.R., T.D. Frank, L.P. Birgenheier, M.C. Rygel, A.T. Jones & J. Roberts (2008)- Stratigraphic record and facies associations of the Late Paleozoic ice age in eastern Australia (New South Wales and Queensland). *Geological Society of America (GSA), Special Paper 441*, p. 41-57.

Fielding, C.R., M.A. Martin & K.L. Bann (2015)- Stratigraphy and sedimentology of the Permian succession in the Southwest Bowen Basin, Queensland. *Proc. Eastern Australian Basins Symposium (EABS), Petroleum Exploration Society Australia (PESA)*, p. 13-27.

Fielding, C.R., R. Sliwa, R.J. Holcombe & A.T. Jones (2001)- A new palaeogeographic synthesis for the Bowen, Gunnedah and Sydney Basins of eastern Australia. In: K.C. Hill & T. Bernecker (eds.) Eastern Australasian Basins Symposium. Petroleum Exploration Society Australia (PESA), Special Publ., p. 269-278.

Fielding, C.R., R. Sliwa, R. Holcombe & J. Kassan (2000)- A new palaeogeographic synthesis of the Bowen Basin of central Queensland. In: J.W. Beeston (ed.) Proc. Bowen Basin Symposium 2000, Geological Society Australia, p. 287-302.

Fielding, C.R., C.J. Stephens & R.J. Holcombe (1997)- Permian stratigraphy and palaeogeography of the eastern Bowen Basin, Gogango overfolded zone and Strathmuir synclinorium in the Rockhampton-Mackay region of Central Queensland. Geological Society Australia, Special Publ. 19, p. 80-95.
(Connors-Auburn Arch E Permian continental volcanic arc at E side of Bowen basin. Did not form basin-marginal physiographic feature: Permian strata in Bowen Basin and New England Fold Belt correlative formations and facies assemblages on both sides of Arch)

Fishwick, S., M. Heintz, B.L.N. Kennett, A.M. Reading & K. Yoshizawa (2008)- Steps in lithospheric thickness within eastern Australia, evidence from surface wave tomography. Tectonics 27, TC4009, p. 1-17.
(Lithospheric thickness of E Australia reconstructed from seismic surface wave tomographic model)

Fordham, B.G. (1990)- Microfossils and gross structure and stratigraphy of the Silurian-Devonian Chillagoe Formation, western Hodgkinson Province, northeast Australia. Abstracts, Geological Society Australia 25, p. 48-49.
(Abstract only) (E Silurian- E Devonian radiolarian/ conodonts in flysch and limestone of Chillagoe Fm in imbricated thrust slices of Hodgkinson Province. Conodonts have CAI value of 5, consistent with prehnite-pumpellyite to lower greenschist grade)

Fordham, B.G. (1994)- Complex structure in the Mungana region of the Hodgkinson Province, and significance for exploration programs. In: Queensland Department of Minerals and Energy Symposium, Queensland Exploration Potential 1994, Handbook 32, Queensland Dept. Minerals and Energy, Brisbane, p.

Foster, D.A. & D.R. Gray (2000)- Evolution and structure of the Lachlan fold belt (orogen) of Eastern Australia. Annual Review Earth Planetary Sciences 28, p. 47-80.
(Stepwise shortening and accretion of Lachlan foldbelt, with deformation and metamorphism from Late Ordovician (450 Ma) - E Carboniferous. Dominant events at ~440-430 Ma and 400-380 Ma. Accretion of Lachlan and related Tasmanides belts added ~2.5 M km² to surface area of Gondwana. Sedimentary, magmatic, and deformational processes converted oceanic turbidite fan system into continental crust of normal thickness)

Foster, D.A. & D.R. Gray (2008)- Paleozoic crustal growth, structure, strain rate, and metallogeny in the Lachlan Orogen, eastern Australia. In: J.E. Spencer & S.R. Titley (eds.) Ores and orogenesis: Circum-Pacific tectonics, geologic evolution and ore deposits, Arizona Geological Society Digest 22, p. 213-226.

Foster, D.A., D.R. Gray & C. Spaggiari (2005)- Timing of subduction and exhumation along the Cambrian East Gondwana margin and the formation of Paleozoic backarc basins. Geological Society of America (GSA) Bull. 117, 1-2, p. 105-116.

Foster, D.A., D.R. Gray, C. Spaggiari G. Kamenov & F.P. Bierlein (2009)- Palaeozoic Lachlan orogen, Australia; accretion and construction of continental crust in a marginal ocean setting: isotopic evidence from Cambrian metavolcanic rocks. In: Geological Society, London, Special Publ. 318, p. 329-349.
(Lachlan orogen classic accretionary orogen between Paleo-Pacific subduction zone and Australian craton, probably on basement of mafic oceanic crust along with possible small fragments of older continental crust)

Fukui, S., T. Tsujimori, T. Watanabe & T. Itaya (2012)- Tectono-metamorphic evolution of high P/T and low-P/T metamorphic rocks in the Tia complex, southern New England Fold Belt, eastern Australia: insights from K-Ar chronology. J. Asian Earth Sciences, p. 59, p. 62-69.

(Tia Complex in S New England Fold Belt is poly-metamorphosed Late Paleozoic accretionary complex. New K-Ar ages and geological data postulate model of E-ward rollback of a subduction zone in E Permian)

Fukui, S., T. Watanabe, T. Itaya & C. Leitch (1995)- Middle Ordovician high PT metamorphic rocks in eastern Australia: evidence from K-Ar ages. *Tectonics* 14, 4, p. 1014-1020.

(K-Ar dating of metamorphic rocks from S part of New England fold Belt indicated 3 metamorphic episodes, at ~260 Ma, between ~340-310 Ma, and ~470 Ma. The 470 Ma event, is High P and identified from blocks in serpentinite melange in lenses close to faulted boundary between Devonian-Carboniferous arc flank/ forearc basin rocks and oceanic rocks of similar age which make up an accretionary subduction complex)

Gaina, C., R.D. Muller, J.Y. Royer, J. Stock, J. Hardebeck & P. Symonds (1998)- The tectonic evolution of the Tasman Sea: A tectonic puzzle with thirteen pieces. *J. of Geophysical Research* 103, B6, p. 12,413-12,433.

(Model for tectonic evolution of Tasman between Australian and Lord Howe Rise plates from 73.6- 52 Ma when spreading ceased. Major tectonic event at 61 Ma, during counterclockwise change in spreading direction, contemporaneous with similar event in SW Pacific Ocean. Tasman Sea rifting propagated from S to N in several stages and several rifts failed. 13 continental blocks acting as microplates between 90- 64 Ma)

Gaina, C., R.D. Muller, J.Y. Royer & P. Symonds (1999)- Evolution of the Louisiade triple junction. *J. of Geophysical Research* 104, B6, p. 12,927-12,939.

(Finite rotations for opening of Coral Sea differ from rotations of Tasman Sea opening, confirming triple junction between Australian Plate, Mellish Rise and Louisiade Plateau during opening of Coral Sea (62-52 Ma). Extension between Mellish Rise and Louisiade Plateau, and extensional and transform motion occurred between Australia and Mellish Rise. Extension in Osprey Embayment may explain small areas of oceanic crust W of Coral Sea Basin. W boundary of Coral Sea was NE-SW strike-slip fault, active between 58 and 52 Ma)

Gaina, C., W.R. Roest, R.D. Muller & P. Symonds (1998)- The opening of the Tasman Sea: a gravity anomaly animation. *Earth Interactions*, 2-002, 4, p. 1-23.

(online at: www.earthbyte.org/Resources/Movies/ei021.pdf)

Gallagher, K., T.A. Dumitru & A.J.W. Gleadow (1994)- Constraints on the vertical motion of eastern Australia during the Mesozoic. *Basin Research* 6, 2/3, p. 77-94.

(Backstripping and AFT analysis of Eromanga, Surat and Clarence-Moreton basins show linear subsidence in Jurassic, with increasing subsidence towards E. Cretaceous preserved only in Eromanga Basin. Cretaceous probably deposited, then eroded over Surat and Clarence-Moreton Basins. Exhumation started in E in Late Cretaceous-Early Tertiary. Removed section greater in E (~2.5 km) than in W (<1 km). Results suggest platform tilting, related to Jurassic- E Cretaceous subduction along E Australia. Cessation of subduction, and subsequent opening of Tasman Sea in Late Cretaceous accompanied by uplift on E margin and termination of widespread deposition on platform)

Gibson, P.J. (1989)- Petrology of two Tertiary oil shale deposits from Queensland, Australia. *J. Geological Society, London*, 146, 2, p. 319-331.

(In E Central Queensland series of small E Paleogene rift basins with M-L Eocene lacustrine oil shale deposits. Petrography of oil shales in Lowmead and Duaringa Basins)

Glen, R.A. (2005)- The Tasmanides of Eastern Australia. In: A.P.M. Vaughan et al. (eds.) *Terrane processes at the margins of Gondwana*. Geological Society, London, Special Publ. 246, p. 23-96.

(Major review of Tasmanines foldbelt of E Australia. Five Neoproterozoic- Triassic orogenic belts along E margin of Gondwana, with internal Permian-Triassic rift- foreland basin system. Complex deformation ended with E Triassic accretion of intra-oceanic arc)

Glen, R.A. (2013)- Refining accretionary orogen models for the Tasmanides of eastern Australia. *Australian J. Earth Sciences* 60, 3, p. 315-370.

(SW to NE younging of stratigraphy in S Tasmanides of E Australia has been used to infer continually E-wards-rolling paleo-Pacific plate, but not simple, continuous rollback. E-wards rollback of paleo-Pacific plate from

520-502 Ma (Cambrian) opened vast backarc basin that never closed. Ordovician- Carboniferous, almost vertical stacking of continental margin arcs in New England Orogen indicates constant W-dipping plate boundary. Rollback in E Permian never completely reversed, so Late Permian-Triassic to Cretaceous arcs lie farther E, with rifted fragments in Lord Howe Rise and in New Zealand. N Tasmanides missed out M Cambrian plate boundary. Tasmanides characterised by general absence of material accreted from paleo-Pacific plate and dominance of craton-derived, recycled sedimentary rocks)

Glen, R.A., E. Belousova & W.L. Griffin (2016)- Different styles of modern and ancient non-collisional orogens and implications for crustal growth: a Gondwanaland perspective. *Canadian J. Earth Sciences* 53, 11, p. 1372-1415.

(online at: <http://www.nrcresearchpress.com/doi/pdf/10.1139/cjes-2015-0229>)

(Review of non-collisional, convergent margin orogens, commonly called accretionary orogens. Along margin of Australian Plate, New Guinea accretionary orogen, SW Pacific Orogen, Tasmanides (Lachlan Orogen, outboard New England Orogen), etc. All non-collisional orogens involve continental growth, but only New England Orogen and to lesser extent New Guinea Orogen involve significant crustal growth)

Glen, R.A. & S. Meffre (2009)- Styles of Cenozoic collisions in the western and southwestern Pacific and their applications to Palaeozoic collisions in the Tasmanides of eastern Australia. *Tectonophysics* 479, p. 130-149.

(Several styles of collisions in W and SW Pacific, mainly oblique and strike-slip collisions between island arcs and rifted continental fragments and collisions between forearc lithosphere and continental fragments. The 58 Ma collision along N Australian plate margin in New Guinea, 44-34 Ma collision in New Caledonia and 26-25 Ma collision in N Island New Zealand may be parts of single, S-migrating plate boundary collision. Collision between forearc crust and continental fragment produces subduction flip or rollback, thus avoiding classic arc-continent collision. Pacific style collisions applied to interpretation of Delamerian Orogen and Lachlan Orogen in S Tasmanides with varying degrees of success)

Goscombe, P.W. & B.A. Coxhead (1995)- Clarence-Moreton, Surat, Eromanga, Nambour, and Mulgildie Basins. In: C.R. Ward et al. (eds.) *Geology of Australian coal basins*, Geological Society Australia, Coal Geol. Group, Special Publ. 1, p. 489-511.

Gray, D.R., D.A. Foster & F.P. Bierlein (2002)- Geodynamics and metallogeny of the Lachlan Orogen. *Australian J. Earth Sciences* 49, p. 1041-1056.

(Paleozoic Lachlan Orogen of E Australia is accretionary orogen made up of structurally thickened oceanic successions, including turbidites from deep-sea fans, andesitic volcanics from remnant island arcs, forearc sediments and slices of oceanic crust. Accretion by collapse of marginal basin during double divergent subduction. Stepwise deformation and metamorphism from Late Ordovician- E Carboniferous times formed three subprovinces. In W Subprovince, Ordovician turbidites host major lode Au deposits (C Victoria). In E Subprovince, porphyry Cu-Au deposits formed in Ordovician oceanic island arc)

Gray, D.R., D.A. Foster & M. Bucher (1997)- Recognition and definition of orogenic events in the Lachlan Fold Belt. *Australian J. Earth Sciences* 44, 4, p. 489-501.

(Unconformities used to establish orogenic framework for Lachlan Fold Belt. Four orogenic pulses between 440-340 Ma (Latest Ordovician- Late Devonian; Lachlan Orogeny) not regional events. M Devonian 'Tabberabberan' event (~380-370 Ma) represents limited deformation during amalgamation of W and C/E subprovinces. Orogeny over much of Lachlan Fold Belt progressive, ongoing and subduction-controlled in complex oceanic, SW Pacific-style setting, analogous to migrating deformation and sedimentation in accretionary wedges above subduction zones)

Gray, D.R., D.A.Foster, R.J.Korsch & C.V. Spaggiari (2006)- Structural style and crustal architecture of the Tasmanides of eastern Australia, example of a composite accretionary orogen. In: S. Mazzoli et al. (eds.) *Styles of continental contraction*, Geological Society of America (GSA), Special Paper 414, p. 119-132.

(E Australian Tasmanides both thin-skinned thrusting and thick-skinned faulting. Composite orogenic system made up of three orogenic belts: (1) former rifted passive margin to make Delamerian Orogen, (2) turbidite fan system(s) in back-arc setting to make Lachlan Orogen, (3) arc-subduction complex with older accreted

components to make New England Orogen. New England Orogen constructed from craton-vergent, fore-arc and magmatic arc sequences, subduction complexes, and ophiolite fragments)

Gray, D.R., D.A. Foster, R. Maas, C.V. Spaggiari, R.T. Gregory, B.D. Goscombe & K.H. Hoffmann (2007)- Continental growth and recycling by accretion of deformed turbidite fans and remnant ocean basins: examples from Neoproterozoic and Phanerozoic orogens. In: R.D. Hatcher et al. (eds.) *The 4D Framework of continental crust*. Geological Society of America (GSA) Memoir 200, p. 63-92.

Gust, D.A., C.J. Stephens & A.T. Grenfell (1993)- Granitoids of the northern NEO: their distribution in time and space and their tectonic implications. In: J.C. Aitchison & P.G. Flood (eds.) *New England Orogen, Eastern Australia, Proc. NEO '93 Conference, University of New England*, p. 565-572.
(Half of exposed granites in N New England foldbelt have E-M Triassic ages, between 230-250 Ma, coeval with overwhelmingly andesitic terrestrial volcanism)

Haig, D.W. (2008)- Cretaceous foraminiferal biostratigraphy of Queensland. *Alcheringa* 3, 3, p. 171-187.
(On distribution of foraminiferids in Aptian-Albian marine deposits of Laura, Carpentaria, Eromanga and Surat Basins. Two main associations: Ammobaculites (hyposaline, cool, shallow water) and Marssonella (normal marine, open shelf). Cool, hyposaline, shallow water conditions prevailed over much of Queensland. Open marine shelf conditions in Albian in Laura and NE Carpentaria Basins. Albian northern seaway to open ocean)

Haig, D.W. & D. Barnbaum (1978)- Early Cretaceous microfossils from the type Wallumbilla Formation, Surat Basin, Queensland. *Alcheringa* 2, 2, p. 159-178.
(Shallow marine fauna of probable Aptian age)

Hallock, P., K. Sheps, G. Chaproniere & M. Howell (2006)- Larger benthic foraminifers of the Marion Plateau, northeastern Australia (ODP Leg 194): comparison of faunas from bryozoan (Sites 1193 and 1194) and red algal (Sites 1196-1198) dominated carbonate platforms. In: F.S. Anselmetti et al. (eds.) *Proc. Ocean Drilling Program (ODP), Scientific Results 194*, p. 1-31.
(online at: www-odp.tamu.edu/publications/194_SR/VOLUME/CHAPTERS/009.PDF)
(Two Neogene carbonate platforms on Marion Plateau, both with common latest Oligocene-Late Miocene larger foraminifera, incl. Amphistegina, Cycloclypeus (incl. Katacycloclypeus annulatus), Lepidocyclina, Miogypsina and Operculina. Five LBF facies assemblages. Operculina complanata common in terrigenous mud-rich facies, Lepidocyclina spp. dominated in more carbonate-rich facies)

Harrington, H.J. (1983)- Correlation of the Permian and Triassic Gympie terrane of Queensland with the Brook Street and Maitai terranes of New Zealand. In: *Permian Geology of Queensland*, Geological Society Australia, Queensland Division, Brisbane, p. 431-436.

Harrington, H.J. (1987)- Tectonic setting of Permian coal basins of Eastern Australia. In: E. Brennan (ed.) *Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville*, p. 792-796.
(Coal basins near E margin of Australia formed in foreland basin setting in front of growing orogen. Terminated and compressed when Gympie volcanic arc accreted to orogen)

Harrington, H.J. (1987)- Geological units common to eastern Australia and New Zealand. In: E. Brennan (ed.) *Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville*, p. 801-804.
(New Zealand is exposed part of subcontinent that separated from Australia when Tasman Sea opened in Late Cretaceous. Three main belts: (1) West: was part of Antarctica, (2) Central: Hokonui and Caples terranes, broadly correlate with Gympie Terrane of E Queensland, which is island arc/ forearc/ accretionary wedge terrane that accreted to Australasia in Mid-Triassic; (3) Torlesse rocks, emplaced over Caples in Triassic, Jurassic and Cretaceous strike-slip episodes)

Harrington, H.J., A.T. Brakel, J.W. Hunt, A.T. Wells, M.F. Middleton, P.E. O'Brien, D.S. Hamilton et al. (1989)- Permian coals of eastern Australia. Bureau Mineral Resources (BMR), Canberra, Bull. 231, p. 1-407 + Appendices, figures

(online at: https://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=28)

(Extensive report on Permian coals in large areas of E Australia, in 3 basin types: (1) small rifts and valleys with seams up to 30m thick; (2) large interior intracratonic basins (Cooper, Galilee), which formed on E Paleozoic orogen and filled by mainly non-marine sediments; (3) marginal foredeep basins, formed near Permian coast of Australia (Sydney-Bowen Basin, with almost all major black coal mines, 1700 km long, separated from Paleo-Pacific Ocean only by ridge in developing New England-Yarrol Orogen). Interior basins coals separated by lacustrine sediments; marginal basins coals separated by marine sediments. As ice waned in Late Permian, cold-temperate conditions resulted in widespread upper coal measures)

Harrington, H.J. & R.J. Korsch (1985)- Tectonic model for the Devonian to Middle Permian of the New England Orogen. Australian J. Earth Sciences 32, p. 163-179.

Harrington, H.J. & R.J. Korsch (1987)- Oroclinal bending in the evolution of the New England- Yarrol Orogen and the Moreton Basin. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, p. 797-800.

Hashimoto, T., N. Rollet, V. Stagpoole, K. Higgins, P. Petkovic et al. (2010)- Geology and evolution of the Capel and Faust basins: petroleum prospectivity of the deepwater Tasman Sea frontier. New Zealand Petroleum Conf. 2010, p. 1-15.

(online at: www.nzpam.govt.nz/cms/pdf-library/petroleum-conferences-1/2010-nzpc-technical-posters-papers/P24_Hashimoto_abstract.pdf)

Hashimoto, T., N. Rollet, K. Higgins, G. Bernandel & R. Hackney (2008)- Capel and Faust Basins: preliminary assessment of an offshore deepwater frontier region. In: J.E. Blevin et al. (eds.) Eastern Australasian Basins Symposium III- Energy security for the 21st century, Sydney, Petroleum Exploration Society Australia (PESA), Special Publ., p. 311-315.

(Capel and Faust basins at NE margin of Tasman oceanic basin, between E Australia and New Caledonia at water depths of 1300-2500m. New data acquired by Geoscience Australia)

Hashimoto, T., N. Rollet, K. Higgins, V. Stagpoole, P. Petkovic, R. Hackney et al. (2011)- Petroleum prospectivity of the Eastern Australian deepwater frontier basins: insights from the Capel and Faust Basins. Poster AAPG Annual Convention Exh., Houston 2011, Search and Discovery Article 10358, p. 1-15.

(Large basin depocenters with up to 6 km of sediment in Tasman Sea region between Australia, New Zealand and New Caledonia. Formed during two Cretaceous extensional events preceding final breakup of E Gondwana margin. Syn-rift deposition initially dominated by volcanoclastics, then non-marine to shallow marine clastics)

Hawkins, P.J. & L.J. Williams (1990)- Review of the geology and economic potential of the Laura Basin. Queensland Resource Industries, Record 1990/2, p. 1-36.

(online at: <https://qdexguest.deedi.qld.gov.au/...>)

(Laura Basin is N-S trending intra-cratonic Jurassic-Cretaceous basin on E of Coen inlier of York Peninsula, with geological history similar to Carpenteria Basin. Onshore part at least 1100m thick)

Henderson, R.A. (1980)- Structural outline and summary geological history for north-eastern Australia. In: R.A. Henderson & P.J. Stephenson (eds.) The geology and geophysics of North-eastern Australia, Geological Society Australia, Queensland Division, Brisbane, p. 1-26.

(Hodgkinson Province of NE Queensland with folded-thrust Silurian- Devonian turbidites interpreted as M Paleozoic accretionary prism)

Henderson, R.A. (1987)- An oblique subduction and transform faulting model for the evolution of the Broken River Province, northern Tasman Orogenic Zone. Australian J. Earth Sciences 34, p. 237-249.

(Suggests Marion and Queensland Plateaux underlain by accretionary complex rocks of New England orogen?)

Henderson, R.A., C.L. Fergusson, E.C. Leitch, V.J. Morand, J.J. Reinhardt & P.F. Carr (1993)- Tectonics of the northern New England Fold Belt. In: P.G. Flood & J.C. Aitchison (eds.) Proc. New England Orogen, eastern Australia (NEO'93) Conf., University of New England, Armidale, p. 505-515.

(N New England foldbelt classic active margin tectonostratigraphic assemblage of Late Silurian- Permian age, with subduction complex, forearc basin, magmatic arc and backarc extensional elements. Two episodes of contraction: (1) Late Carboniferous (rel, minor) and (2) Late Permian- M Triassic Hunter-Bowen orogeny, transforming assemblage into fold-thrust belt (W-directed thrusting). Discrete belts of ultramafic and metasedimentary assemblages. Magmatic arc granitoids poorly developed here?)

Higgins, K., T. Hashimoto, N. Rollet, J. Colwell, R. Hackney & P. Milligan (2015)- Structural analysis of extended Australian continental crust: Capel and Faust basins, Lord Howe Rise. In: G.M. Gibson et al. (eds.) Sedimentary basins and crustal processes at continental margins: from modern hyper-extended margins to deformed ancient analogues, Geological Society, London, Special Publ. 413, p. 9-33.

(Capel and Faust basins (N Lord Howe Rise) in SW Pacific with multiple large depocenters up to 150 km long and 40 km wide, containing over 6 km of sediment. Basins probably evolved in two E Cretaceous rift episodes leading to final break-up of E Gondwanan margin: oblique rifting along E-W vector in ?Early Cretaceous-Cenomanian and NE-SW orthogonal rifting in ?Cenomanian- Campanian. Pre-rift basement is a collage of several terranes, including Paleozoic orogen with NW-trending basement fabric (New England Orogen))

Hill, P.J. (1992)- Capricorn and northern Tasman Basins: structure and depositional systems. Exploration Geophysics 23, 2, p. 153-162.

(Capricorn Basin Late Cretaceous failed rift arm at N end of Tasman rift system. Late Cretaceous- E Paleogene syn-rift continental/restricted marine deposits overlain by Eocene-Recent mainly marine post-rift sediments. Basement structures generally N-NW trend. Discontinuous series of rift basins of various geometries. Mid-Eocene compressional or transpressional event produced minor faulting/ folding and uplift/ erosion, attributed to plate reorganization at ~43 Ma. Late Oligocene volcanism in S Capricorn Basin, with volcanic edifices exposed on seafloor. In Tasman Basin, 3 km Cenozoic post-breakup sediments over oceanic basement and extended continental crust at base of continental slope)

Hoffmann, K.L., N.F. Exon, P.G. Quilty & C.S. Findlay (2008)- Mellish Rise and adjacent deep water plateaus off northeast Australia: new evidence for continental basement from Cenozoic micropalaeontology and sedimentary geology. Proc. Eastern Australian Basins Symposium III Sydney, Petroleum Exploration Society Australia (PESA), p. 317-323.

(Mellish Rise, E of Queensland Plateau, buoyant block of continental crust in SW Pacific, in water depths ~1500- 2900m. Paleocene- Quaternary sediments in dredge samples. Common manganese crusts and nodules. Late Eocene tropical larger foram Biplanispira in dredge sample first in Australasian waters (but not figured))

Hoffmann, K.L., J.M. Totterdell, O. Dixon, G.A. Simpson, A.T. Brakel, A.T. Wells & J.L. Mckellar (2009)- Sequence stratigraphy of Jurassic strata in the lower Surat Basin succession, Queensland. Australian J. Earth Sciences 56, 3, p. 461-476.

(Non-marine sequence stratigraphy of Early- early Late Jurassic strata in lower part of Surat Basin)

Holcombe, R.J. & T.A. Little (1994)- Blueschists of the New England Orogen: structural development of the Rocksberg Greenstone and associated units near Mt Mee, southeast Queensland. Australian J. Earth Sciences 41, p. 115-130.

(Blueschist facies rocks in Late Paleozoic New England Orogen in SE Queensland contains metamorphic structures and fabrics related to both subduction and uplift. Protoliths of Rocksberg Greenstone mafic volcanoclastics and interpreted as remnants of volcanoclastic apron of seamount constructed on oceanic lithosphere. Seamount was dismembered in M Carboniferous. Overprinted by greenschist facies conditions during exhumation from depths of >18 km, which began in Late Carboniferous)

Holcombe, R.J., C.J. Stephens, C.R. Fielding, D. Gust, T.A. Little et al. (1997)- Tectonic evolution of the northern New England Fold Belt: The Permian-Triassic Hunter-Bowen event. In: P.M. Ashley & P.G. Flood

(eds.) Tectonics and metallogenesis of the New England Orogen, Geological Society Australia, Special Publ. 19, p. 52-65.

(New England Fold Belt complex arrangement of terranes, dominated by contractional structures formed during Late Permian- late M Triassic Hunter-Bowen Orogeny (~265-230 Ma). ~35 My period records W-ward (East?; JTvG) migration of continental magmatic arc during period of contraction, and subsequent transition to extensional (and ultimately intra-plate) setting. Half of exposed granitoids intermediate, E-M Triassic (250-230 Ma). Late Triassic (~230-220 Ma) change to extensional regime, with predominantly silicic granites and volcanics, and creation of small N-NW elongate basins (Ipswich, Tarong, etc.) unconformably over folded E-M Triassic rocks)

Holcombe, R.J., C.J. Stephens, C.R. Fielding, D. Gust, T.A. Little et al. (1997)- Tectonic evolution of the northern New England Fold Belt: Carboniferous to Early Permian transition from active accretion to extension. In: P.M. Ashley & P.G. Flood (eds.) Tectonics and metallogenesis of the New England Orogen, Geological Society Australia, Special Publ. 19, p. 66-79.

(Discussion of transition from active accretion in mid-Carboniferous to widespread extension through Late Carboniferous- E Permian. Transition interpreted in terms of E-ward retreat of convergent slab, and migration of volcanic arc offshore)

Hoy, D. & G. Rosenbaum (2017)- Episodic behavior of Gondwanide deformation in eastern Australia: insights from the Gympie Terrane: episodic Gondwanide orogeny in Australia. Tectonics 36, 8, p. 1497-1520.

(Earliest deformation of Gympie Terrane of E Australia during final pulse of Permian- Triassic Hunter-Bowen orogenesis (235-230 Ma; ~Carnian). No evidence for crustal suture, suggesting terrane accretion not main mechanism behind deformation. Gondwanide Orogeny more likely linked to plate-reorganization)

Hunt, J.W. (1989)- Permian coals of eastern Australia: geological control of petrographic variation. Int. J. Coal Geology 12, p. 589-634.

(Coal types and geological controls in E Australia Permian basins (Sydney- Bowen foreland Basins in E, large cratonic Galilee- Cooper basins in W, and small cratonic Blair Athol, Wolfgang and Oaklands Basins))

Hutton, A.C. (2009)- Geological setting of Australasian coal deposits. In: R. Kininmonth & E. Baafi (eds.) Australasian Coal Mining Practice, Australasian Institute of Mining and Metallurgy, p. 40-84.

James, N.J., T.D. Frank & C.R. Fielding (2009)- Carbonate sedimentation in a Permian high-latitude, subpolar depositional realm: Queensland, Australia. Journal of Sedimentary Research 79, 3, p. 125-143.

(Lower-Middle Permian limestones from NE Australia New England Foldbelt and Bowen basin typical cold water limestones without corals, fusulinids, etc.)

Jansson, I.M., S. McLoughlin, V. Vajda & M. Pole (2008)- An Early Jurassic flora from the Clarence-Moreton Basin, Australia. Review Palaeobotany Palynology 150, p. 5-21

(Low-diversity E Jurassic flora in floodbasin siltstones of Clarence-Moreton Basin. Basin has Late Triassic-Late Jurassic sedimentary section over moderately deformed M-L Paleozoic accretionary prism and intrusive igneous rocks. Palynoflora dominated by Classopollis pollen and attributable to Late Pliensbachian- E Toarcian age (180-185 Ma) upper Corollina (=Classopollis) torosa Zone. Relatively humid paleoclimate)

Jeon, H., I.S. Williams, B.W. Chappell & V.C. Bennett (2010)- Implications of contrasting patterns of inherited zircon in the Late Palaeozoic granites of the Lachlan and New England fold belts. 20th Australian Geological Convention, Canberra 2010, Geological Society Australia, Abstracts 98, p. 249. *(Abstract only)*

(Lachlan Foldbelt granites mostly Silurian-Devonian, some in NE Carboniferous age. Inherited zircons same as detrital zircons in intruded Ordovician sediments. Two inheritance age patterns in Carboniferous (~340-325 Ma) I-type granites. New England fold belt granites Permian-Triassic in age, mainly E Permian (~290 Ma) S-type and Late Permian (~250 Ma) I-types. S-type inherited zircon, mostly Carboniferous age (peaks at 310 and 330 Ma; same age as Carboniferous granites in LFB)

Jessop, K., N.R. Daczko & S. Piazzolo (2019)- Tectonic cycles of the New England Orogen, eastern Australia: a review. *Australian J. Earth Sciences* 66, 4, p. 459-496.

(New England Orogen is youngest orogen of Tasmanides of E Australia. Two main cycles of compression (thrust tectonics and advance of arc towards continental plate) and-extension (rifting, basin formation, thermal relaxation and retreat of arc towards oceanic plate). Within two main cycles, six tectonic phases. Remnants of E Permian offshore arc formed during extensive slab rollback. Start of Hunter-Bowen compression phase, thought to be at ~265 Ma, complicated by extensional magmatism in E Queensland between 270-260 Ma (M Permian))

John, C.M., G.D. Karner, E. Browning, R.M. Leckie, Z. Mateo, B. Carson & C. Lowery (2011)- Timing and magnitude of Miocene eustasy derived from the mixed siliciclastic-carbonate stratigraphic record of the northeastern Australian margin. *Earth Planetary Science Letters* 304, p. 455-467.

(online at: <https://www.geo.umass.edu/faculty/leckie/John%202011%20EPSL%20Marion%20SL.pdf>)

(Marion Plateau carbonate platform 8 sequences (18.0, 17.2, 16.5, 15.4, 14.7, 13.9, 13.0, 11.9 Ma), controlled by glacio-eustasy as demonstrated by increases in $\delta^{18}O$ (= deep-sea Miocene isotope events Mi1b, Mbi-3, Mi2, Mi2a, Mi3a, Mi3, Mi4, and Mi5), reflecting increased ice volumes primarily on Antarctica. Backstripping estimates combined with $\delta^{18}O$ estimates yields sea-level fall amplitudes of 27m at 16.5 and at 15.4 Ma, 33m at 14.7 Ma, 59 ± 6 m at 13.9 Ma. Sea-level fell by 53-69 m between 16.5-13.9 Ma. Implies >90% of E Antarctic Ice sheet formed during M Miocene)

Jones, A.T. & C.R. Fielding (2004)- Sedimentological record of the late Paleozoic glaciation in Queensland, Australia. *Geology (GSA)* 32, p. 153-156.

(Glaciation in Queensland, NE Australia, restricted to discrete periods, in Namurian (315 Ma), Westphalian (311 Ma) and Sakmarian (289-293 Ma). Glaciations confined to local (valley or mountain) glaciers)

Keep, M. (2003)- Physical modelling of deformation in the Tasman Orogenic Zone. *Tectonophysics* 375, p. 37-47.

Kemp, A.I.S., C.J. Hawkesworth, W.J. Collins, C.M. Gray, P.L. Blevin & EIMF (2009)- Isotopic evidence for rapid continental growth in an extensional accretionary orogen: The Tasmanides, eastern Australia. *Earth Planetary Science Letters* 284, p. 455-466.

(Nd and zircon Hf-O isotope data used to study continental crust formation in Tasmanides (515-230 Ma), which formed by repeated opening and closure of sediment-filled back-arc basins behind long-lived subduction zone. Juvenile magmatic input enhanced during extensional, back-arc rifting episodes that followed crustal thickening, suggesting relationship between slab rollback and continental growth. Juvenile component in Tasmanide igneous rocks increased from Cambrian to Triassic, as subduction zone migrated outboard. Subduction zone retreat formed large tracts of new crust in E Australia at comparable rates to crust generation at modern island arcs)

Kidane, T.B., M. Fuller & Y.I. Otofujii (2010)- Shipboard paleomagnetic age estimates for an acoustic basement emplacement in Marion Plateau, off northeast Australia. *Australian J. Earth Sciences* 57, 2, p. 231-241.

(Shipboard paleomagnetic work on olivine basalt cores from bottom of ODP Leg 194 holes 1193C and 1198B give paleolatitude of Marion Plateau at 33.3°S, indicating possible emplacement time for basalt of either 130-110 Ma or 190-165 Ma. Latter result better fit with $40Ar/39Ar$ age of 162 ± 1 Ma for basalt)

Klootwijk C. (1985)- Paleomagnetism of the Tasman fold belt: indicator for mid-Carboniferous large-scale southward displacement of the New England region. In: *Third Circum Pacific Terrane Conference, Extended Abstracts* 14, p. 124-127.

Klootwijk C. (2009)- Sedimentary basins of eastern Australia: paleomagnetic constraints on geodynamic evolution in a global context. *Australian J. Earth Sciences* 56, 3, p. 273-308.

(L2 loop indicates Late Devonian- M Carboniferous N-ward excursion of NE Gondwanaland. Succeeding early-Late Carboniferous S-ward movement of NE Gondwanaland was extremely fast and created extensional environment, initiating Westralian Superbasin. L3 loop reflects change in rotation of Gondwanaland from CCW (Late Carboniferous) to CW (E Permian), leading to Stephanian initiation of Bowen-Gunnedah-Sydney basins)

Korsch, R.J. (1984)- Sandstone compositions from the New England Orogen, Eastern Australia- implications for tectonic setting. *J. Sedimentary Petrology* 54, 1, p. 192-211.

(Late Paleozoic sandstones from New England Orogen mainly quartz-poor, lithic to feldspathic types derived from volcanic arc terrane, evolving from mafic to more felsic in composition through time. Volcanic source existed for >100 Million years. Possibly deposited in backarc basin)

Korsch, R.J. (2004)- A Permian-Triassic retro-foreland thrust system- The New England Orogen, and adjacent sedimentary basins, Eastern Australia. In: K.R. McClay (ed.) *Thrust tectonics and hydrocarbon systems*, American Assoc. Petroleum Geol. (AAPG), Memoir 82, p. 515-537.

(From Late Devonian to Triassic, E Australia was active, convergent plate margin with W-dipping subduction system. Permian-Triassic development, of major W-directed retroforeland thrust belt in N New England, with formation of thick foreland-basin phase in adjacent Bowen Basin to W)

Korsch, R.J., C.J. Adams, L.P. Black, D.A. Foster, G.L. Fraser, C.G. Murray, C. Foudoulis & W.L. Griffin (2009)- Geochronology and provenance of the Late Paleozoic accretionary wedge and Gympie Terrane, New England Orogen, eastern Australia. *Australian J. Earth Sciences* 56, 5, p. 655-685.

(New England Orogen result of Late Devonian- Triassic W-dipping subduction system at boundary of E Gondwanaland and Panthalassan Ocean. Late Paleozoic accretionary wedge contains deep-marine trench fill turbidites with in-faulted slices of oceanic crust. Turbidites first-cycle, immature, quartz-poor, volcanic-derived. Dating of detrital zircons and hornblendes show maximum depositional ages of 355-316 Ma for sediments in accretionary wedge, indicating accretionary wedge evolved over 40 Ma, with principal sources from active continental margin volcanic arc. Quartz-rich sandstones from E part of accretionary wedge with Late Paleozoic-Archean zircon ages, indicating quartz-rich detritus from continental interior dominated depocenters)

Korsch, R.J., C.J. Boreham, J.M. Totterdell, R.D. Shaw & M.G. Nicoll (1998)- Development and petroleum resource evaluation of the Bowen, Gunnedah and Surat Basins, Eastern Australia. *Australian Petroleum Production Exploration Association (APPEA) J.* 38, p. 199-237.

Korsch, R.J., M.P. Doublier, D.D. Brown, J.M. Simpson, A.J. Cross, R.D. Costelloe & W. Jiang (2024)- Crustal architecture and tectonic development of western Queensland, Australia, based on deep seismic reflection profiling: Implications for Proterozoic continental assembly and dispersal. *Tectonophysics* 878, 230302, p. 1-18.

(online at: <https://www.sciencedirect.com/science/article/pii/S0040195124001045>)

Korsch, R.J. & H.J. Harrington (1981)- Stratigraphic and structural synthesis of the New England Orogen. *Australian J. Earth Sciences* 28, p. 205-226.

(Four principal sets of regional deformations: D1- pre-Late Carboniferous (could extend back into Devonian); D2-Late Carboniferous- E Permian (~295 Ma); D3-E Permian (~273 Ma); D4-Late Permian (~250 Ma).)

Korsch, R.J. & H.J. Harrington (1987)- Oroclinal bending, fragmentation and deformation of terranes in the New England Orogen, Eastern Australia. In: E.C. Leith & E. Scheibner (eds.) *Terrane accretion and orogenic belts*, American Geophysical Union (AGU), Geodynamics Series 19, p. 119-127.

(New England Orogen two pre-Permian terranes which form forearc basin-accretionary wedge couple. Orogen disrupted by major oroclinal bending in late E Permian)

Korsch, R.J., P.E. O'Brien, M.J. Sexton, K.D. Wake-Dyster & A.T. Wells (1989)- Development of Mesozoic transtensional basins in easternmost Australia. *Australian J. Earth Sciences* 36, p. 13-28.

(E Australia basins Esk Trough, Ipswich Basin and Clarence-Moreton Basin initiated by transtensional events in Late Permian or Early Triassic)

Korsch, R.J. & J.M. Totterdell (2009)- Subsidence history and basin phases of the Bowen, Gunnedah and Surat Basins, eastern Australia. *Australian J. Earth Sciences* 56, 3, p. 335-353.

(E Permian- M Triassic Bowen and Gunnedah Basins and E Jurassic- E Cretaceous Surat Basin complex subsidence history over 200 My: (1) E Permian, rapid subsidence in half-grabens along W margin of Bowen-

Gunnedah Basins; extension ceased at ~280 Ma, followed by thermal subsidence with widespread, uniform sedimentation; (2) Late Permian foreland basin phase, driven by thrust loading to E in New England Orogen. very high rates of tectonic subsidence (3) peneplanation in Late Triassic; (4) sedimentation at start of Jurassic, forming Surat Basin, with tectonic subsidence driven by dynamically induced platform tilting; (5) subduction ceased at ~95 Ma, resulting in rapid uplift, due to rebound of lithosphere)

Korsch, R.J., J.M. Totterdell, D.L. Cathro & M.G. Nicoll (2009)- Early Permian East Australian rift system. *Australian J. Earth Sciences* 56, 3, p. 381-400.

(E Permian- M Triassic Bowen and Gunnedah back-arc basins developed in response to tectonic events to E (W-dipping subduction system at E Gondwana margin). Initial extension part of major E Permian N-S trending E Australian Rift System from N Queensland to S New South Wales. Denison Trough with producing gasfields. E part of rift system commenced at ~305 Ma and volcanic-dominated. Half-grabens in and W of Bowen Basin non-volcanic, with mechanical extension from ~285-280 Ma (~Artinskian), followed by thermal subsidence)

Korsch, R.J., J.M. Totterdell, T. Fomin & M.G. Nicoll (2009)- Contractional structures and deformational events in the Bowen, Gunnedah and Surat Basins, eastern Australia. *Australian J. Earth Sciences* 56, 3, p. 477-499.

(Permian- Triassic Bowen and Gunnedah Basins formed in backarc setting, initially extensional, but switched to contractional in mid-Permian, with major W-directed thrust belt in New England Orogen and foreland basin phase to W in Bowen-Gunnedah. Inversion of E Permian extensional faults as thrusts. During Late Permian-Late Triassic period of rapid subsidence driven by thrust loading several short periods of non-deposition and contraction. Final contractional event in early Late Cretaceous corresponds with cessation of sedimentation in Surat Basin, uplift and reactivation of earlier structures)

Korsch, R.J., K.D. Wake-Dyster & D.W. Johnstone (1991)- Structure of the Permian-Mesozoic eastern Australian Basins complex, with emphasis on the BMR Bowen Basin deep seismic profiles. *Exploration Geophysics* 22, 1, p. 223-226.

(Permian Taroom Trough (S extension of Bowen Basin) interpreted as transtensional basin. Small flower structures in overlying Jurassic sediments are transpressional features due to reactivation of faults. Bowen Basin Late Permian- E Triassic sedimentary wedge thickening to E, initiated during period of extension oriented ENE-WSW in latest Carboniferous or earliest Permian)

Korth, J. (1987)- Analytical studies on Australian oil shales. Ph.D. Thesis, University of Wollongong, p. 1-328.

(online at: <http://ro.uow.edu.au/theses/1110>)

(Analyses of M-L Eocene lacustrine oil shales of upper and lower seams of Duaringa deposit, Queensland. Telalginite (torbanite) with common green algae Botryococcus, Tasmanites and Gloeocapsomorpha; lamalginite (lamosite) mainly with planktonic Pediastrum)

Kositcin, N., D.C. Champion & D.L. Huston (2009)- Geodynamic synthesis of the North Queensland region and implications for metallogeny. *Geoscience Australia Record* 2009/30, p. 1-196.

(online at: www.ga.gov.au/corporate_data/69159/Rec2009_030.pdf)

(Useful overview of N Queensland geology and geodynamic history)

Leitch, E.C. (1975)- Plate tectonic interpretation of the Palaeozoic history of the New England Fold Belt. *Geological Society of America (GSA) Bull.* 86, p. 141-144.

(M-U Paleozoic paleogeographic elements in New England Fold Belt comprise W volcanic chain, a fore-chain basin, and E non-volcanic arc-platform-trench complex, developed above W-dipping subduction zone. Temporary halts in subduction led to minor deformational episodes. Subduction ceased in E Permian, followed by major orogenesis. Late stage right-lateral movement on Demon Fault displaced paleogeographic elements)

Leitch, E.C., C.L. Fergusson & R.A. Henderson (2003)- Arc to craton provenance switching in a Late Palaeozoic subduction complex, Wandilla and Shoalwater terranes, New England Fold Belt, eastern Australia. *Australian J. Earth Sciences* 50, p. 919-929.

(Wandilla and Shoalwater terranes of N New England Fold Belt are Carboniferous accretionary subduction complexes formed at convergent plate boundary along E edge of Gondwana. Sandstones from Wandilla terrane quartz-poor and derived from magmatic arc; Shoalwater terrane quartz-rich and from cratonic region)

Leitch, E.C., J.V. Morand, C.L. Fergusson, R.A. Henderson & P.F. Carr (2007)- Accretion and post-accretion metamorphism in subduction complex terranes of the New England Fold Belt, eastern Australia. *J. Metamorphic Geology* 11, 3, p. 309-318.

(Two regional metamorphic episodes in Late Paleozoic subduction complexes of Queensland: (1) Synaccretion prehnite-pumpellyite and greenschist facies, (2) upper greenschist- upper amphibolite facies episode at ~250 Ma in arc or back-arc setting. Similar pattern for 1000 km along New England Fold Belt)

Leitch, E.C. & E. Scheibner (1987)- Stratotectonic terranes of the Eastern Australian Tasmanides. In: E.C. Leitch & E. Scheibner (eds.) *Terrane accretion and orogenic belts*, American Geophysical Union (AGU), Geodynamics Series 19, p. 1-19.

(Some 36 tectonostratigraphic terranes accreted along E Australia Tasmanides convergent margin of E cratonic edge of Gondwanaland. Major episodes of amalgamation coincided with widespread deformational episodes. Despite >200 Myr of subduction in Paleozoic- Mesozoic no evidence for major continental collision or large exotic terranes, but mainly magmatic arcs and microcontinental blocks)

Li, P.F., G. Rosenbaum & D. Rubatto (2012)- Triassic asymmetric subduction rollback in the southern New England Orogen (eastern Australia): the end of the Hunter-Bowen Orogeny. *Australian J. Earth Sciences* 59, 6, p. 965-981.

(New England Orogen youngest subduction in Australian continent, with history of W-dipping Devonian-Triassic subduction. From M-L Permian- U Triassic (~265-235 Ma) subjected to contractional deformation (Hunter-Bowen Orogeny) and widespread I-type calc-alkaline magmatism. Zircon ages from granites 255-215 Ma. Magmatism during Hunter-Bowen Orogeny along NNE-SSW belt; younger magmatism (235-215 Ma) aligned along N-S belt farther E, suggesting E-ward arc migration, possibly in response to slab rollback. Proposed model involves asymmetric slab rollback, possibly in response to pinning of N part of subduction zone by Gympie Terrane accretion, marking earliest phase of Mesozoic rifting of E Australia)

Li, P., G. Rosenbaum & P. Vasconcelos (2014)- Chronological constraints on the Permian geodynamic evolution of eastern Australia. *Tectonophysics* 617, p. 20-30.

(New England Orogen in E Australia developed as a subduction-related orogen in Late Devonian-Carboniferous, and was modified in Permian by deformation, magmatism and oroclinal bending)

Li, P.F., G. Rosenbaum, J.H. Yang & D. Hoy (2015)- Australian-derived detrital zircons in the Permian-Triassic Gympie terrane (eastern Australia): evidence for an autochthonous origin. *Tectonics* 34, 5, p. 858-874.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2015TC003829>)

(Gympie terrane is E-most segment of Tasmanides in E Australia. U-Pb ages of detrital zircons of Permian-Triassic sediments mainly Carboniferous and Permian (age peaks ~263 Ma, ~300 Ma, ~310 Ma and ~330 Ma). Triassic sediments additional younger age peak of ~240 Ma. Ages correlative to episodes of magmatism in adjacent New England Orogen, indicating source from Australian continent. Gympie is not exotic terrane)

Lindner, A.W. (1983)- Geology and geochemistry of some Queensland Tertiary oil shales. In: *Symposium on Geochemistry and chemistry of oil shale*, Seattle, p. 10-19.

(online at: https://web.anl.gov/PCS/acsfuel/preprint%20archive/Files/28_3_SEATTLE_03-83_0010.pdf)

(Duaranga Tertiary basin in NE Queensland E Tertiary rift basin, related to Tasman Sea- Coral Sea rifting. With algal-rich lacustrine oil shales (lamosites). Highest grade in Rundle deposits; 25-161m thick (see also Dixon 1987)

Lipski, P. (2001)- Geology and hydrocarbon potential of the Jurassic- Cretaceous Maryborough Basin. In: K.C. Hill & T. Bernecker (eds.) *Eastern Australasian Basins Symposium, a refocused energy perspective for the future*, Petroleum Exploration Society Australia (PESA), Special Publ., p. 263-268.

(Maryborough Basin Late Triassic- E Tertiary basin that straddles coastline of SE Queensland, with up to >6000m of Jurassic- Cretaceous sediments. Late Cretaceous transpressional deformation formed NW-trending anticlines. Source rocks marine and lacustrine shales of Early Cretaceous Maryborough Fm and also coals and shales of E-M Jurassic Tiaro and E Cretaceous Burrum Coal Measures)

Little, T.A., R.J. Holcombe, G.M. Gibson, R. Offler, P.B. Gans & M.O. McWilliams (1992)- Exhumation of Late Paleozoic blueschists in Queensland, Australia, by extensional faulting. *Geology (GSA)* 20, p. 231-234.
(Blueschists in SE Queensland record Carboniferous history of subduction and metamorphism and later thermal overprint from intrusion of Late Carboniferous S-type granitoids at ~306 Ma. By E Permian most of New England orogeny uplifted and eroded and now site of back-arc extensional basins)

Little, T.A., R.J. Holcombe & R. Sliwa (1993)- Structural evidence for extensional exhumation of blueschist-bearing serpentinite matrix melange, New England Orogen, southeast Queensland, Australia. *Tectonics* 12, p. 536-549.

(N D'Aguilar block with blueschist blocks in serpentinite matrix melange. Mid-Carboniferous epidote-blueschist metamorphism, intruded by ~306 Ma (latest Carboniferous) granitoids)

Little, T.A., M.O. McWilliams & R.J. Holcombe (1995)- 40Ar/39Ar thermochronology of epidote blueschists from the North D'Aguilar block, Queensland Australia: timing and kinematics of subduction complex unroofing. *Geological Society of America (GSA) Bull.* 107, p. 520-535.

(Epidote blueschists as coherent schists and blocks in serpentinite matrix melange. Formed below 18 km depth in lower plate of metamorphic core complex. Slate from upper plate dated as 315 Ma (Late Carboniferous), interpreted as minimum age for subduction. Exhumation of lower plate schists coeval with overprinting by greenschist facies fabric by ductile stretching and normal faulting. Phengites from lower plate schists 40Ar/39Ar plateau ages of ~299-296 Ma (earliest Permian; = time of cooling below ~350°C). Similar cooling ages for different blueschist blocks support view that Australian melange uplifted by extensional tectonic processes unrelated to serpentinite diapirism)

Lloyd, A.R. (1967)- Neogene foraminifera from H.B.R. Wreck Island No. 1 bore and Heron Island bore, Queensland; their taxonomy and stratigraphic significance. Part 1. Lituolacea and Miliolacea. *Bull. Bureau Mineral Resources Geology Geophysics* 92, p.

Lloyd, A.R. (1970)- Neogene foraminifera from HBR Wreck Island No. 1 bore and Heron Island bore, Queensland; their taxonomy and stratigraphic significance. Part 2. Nodosariacea and Buliminacea. *Bull. Bureau Mineral Resources Geology Geophysics* 108, p. 145-225.

(online at: www.ga.gov.au/corporate_data/160/Bull_108.pdf)

(Mainly Miocene open marine foraminifera from below Great Barrier Reef)

MacKenzie, D.E. (1987)- Geology, petrology and mineralization of the Permo-Carboniferous Featherbed Volcanics Complex, Northeastern Queensland. In: E. Brennan (ed.) *Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville*, p. 297-301.

(Late Carboniferous- E Permian Featherbed Volcanics at W margin of Hodgkinson Basin. Late Carboniferous I-type andesitic-rhyolitic ignimbrites and minor andesite lava, with dioritic-granitic intrusives and Sn, W and base metal mineralization. Main part of complex E Permian, mainly A-type rhyolitic ignimbrite)

Marsden, M.A.H. (1972)- The Devonian history of northeastern Australia. *Geological Society Australia J.* 19, 1, p. 125-162.

(Devonian rocks in 'Tasman Geosyncline' 3 tectonic divisions (1) broad mobile platform (2) volcanic-rich New England Geosyncline, and (3) N Queensland complex marine-continental sedimentation on cratonic blocks, with non-volcanic flysch-like sedimentation in marginal Hodgkinson Basin. Devonian rocks affected by intense Late Paleozoic tectonic and igneous activity in E marginal regions, but only minor effects to West)

Marshallsea, S.J., P.F. Green & J. Webb (2000)- Thermal history of the Hodgkinson Province and Laura Basin, Queensland: multiple cooling episodes identified from apatite fission track analysis and vitrinite reflectance data. *Australian J. Earth Sciences* 47, 4, p. 779-797.

(Hodgkinson Province and Laura Basin underwent regional Cretaceous cooling, possibly two episodes: mid-Cretaceous (110-100 Ma) and Late Cretaceous (80-70 Ma). Rocks now at outcrop cooled from Cretaceous paleotemperatures between 50-130°C in S and from >100°C in N. In Hodgkinson Province also evidence for E Jurassic cooling episode, with cooling starting at ~200 Ma. Regional extent of Cretaceous cooling episode suggest uplift/ denudation, with removal of 0.8- >3.0 km of Triassic and younger section, starting between ~110 and 80 Ma)

Matthews, K.J., A.J. Hale, M. Gurnis, R.D. Muller & L. DiCaprio (2011)- Dynamic subsidence of Eastern Australia during the Cretaceous. *Gondwana Research* 19, 2, p. 372-383.

(Australia's E Cretaceous eastward passage over sinking subducted slabs induced widespread dynamic subsidence and formation of large epeiric sea in E interior)

McConachie, B.A., J.N. Dunster, P. Wellman, T.J. Denaro, C.F. Pain, M.A. Habermehl & J.J. Draper (1997)- Carpentaria Lowlands and Gulf of Carpentaria regions. In: J.H.C. Bain & J.J. Draper (eds.) *North Queensland Geology*, Australian Geological Survey Organisation (AGSO) Bull. 240, 365-397.

(Laura Basin, etc.)

McKellar, J.L. (2002)- Geophysical controls on late Palaeozoic- early Mesozoic geological history and floral succession: eastern Australia in perspective. In: G.A. Brock & J.A. Talent (eds.) *First Int. Palaeontological Congress*, Sydney, Australia, Geological Society Australia, p. 47-84.

Michaelsen, P. & R.A Henderson (2000)- Sandstone petrofacies expressions of multiphase basinal tectonics and arc magmatism: Permian-Triassic north Bowen Basin, Australia. *Sedimentary Geology* 136, p. 113-136.

(Permian- Triassic sandstones of N Bowen Basin two petrofacies: (A) Lower- mid U Permian quartz-rich, sourced primarily from cratonic basement; (B) U Permian- Lw Triassic volcanolithic, sourced from magmatic arc provenance in New England Orogen. Evidence of contemporaneous volcanism shown by tuffs- tonsteins in Late Permian succession)

Mortimer, N., F. Hauff & T. Calvert (2008)- Continuation of the New England Orogen, Australia, beneath the Queensland Plateau and Lord Howe Rise. *Australian J. Earth Sciences* 55, 2, p. 195-209.

(Greywacke, argillite, greyschist and hypabyssal igneous rocks from ODP core on Queensland Plateau and xenoliths in volcanic breccia with 260-240 Ma K-Ar ages dredged from Lord Howe Rise. Low-intermediate detrital quartz contents and age suggest correlation with New England Orogen of E Australia. New England Orogen terranes continue towards New Zealand at least as far as S Lord Howe Rise)

Muller, R.D., V.S L. Lim & A.R. Isern (2000)- Late Tertiary tectonic subsidence on the northeast Australian passive margin: response to dynamic topography? *Marine Geology* 162, 2-4, p. 337-352.

(Accelerated subsidence in Late Miocene-Pliocene off NE Australia difficult to account for by thrust loading in PNG or collision along Australian-Pacific plate boundary. Shear wave tomography displays NNW-SSE trending band of high velocities in upper mantle from Queensland Plateau to Indonesia, probably subducted slab material from Late Eocene- Oligocene subduction N of PNG. Observed post- 9 Ma tectonic subsidence of Queensland and Marion plateaus probably caused by dynamic surface topography due to Australia's NE margin overriding slab burial ground, modulated by flexural deformation resulting from collision tectonics N of Australia)

Murgulov, V., E. Beyer, W.L. Griffin, S.Y. O'Reilly, S.G. Walters & D. Stephens (2007)- Crustal evolution in the Georgetown Inlier, North Queensland, Australia: a detrital zircon grain study. *Chemical Geology* 245, p. 198-218.

(Detrital zircon ages of Precambrian Georgetown Inlier. Archean zircons evidence for existence of Archean crustal components in Georgetown Inlier. At least three stages of heating and granitoid magmatism: 1545-1585 Ma, 420 Ma and 340 Ma. Similarities/ differences in crustal evolution of Mt Isa, Broken Hill and Georgetown

blocks suggest Proterozoic history of Australian continental margin involved accretion and subsequent dispersal of individual, originally Archean, microcomments)

Murgulov, V., W. Griffin & S. O'Reilly (2013)- Carboniferous and Permian granites of the northern Tasman orogenic belt, Queensland, Australia: insights into petrogenesis and crustal evolution from an in situ zircon study. *Int. J. Earth Sciences (Geologische Rundschau)* 102, 3, p. 647-669.

(U-Pb dating and Lu-Hf systematics of zircon in Carboniferous I-type and Permian S- and I-type granites of Hodgkinson Province in N Tasman orogenic belt, Queensland)

Murray, C.G. (1974)- Alpine-type ultramafics in the northern part of the Tasman Geosyncline- possible remnants of Palaeozoic ocean floor. In: A.K. Denmead et al. (eds.) *The Tasman Geosyncline- a symposium*, Geological Society Australia, Queensland Division, Brisbane, p. 161-181.

Murray, C.G. (1985)- Tectonic setting of the Bowen Basin. In: *Bowen Basin Coal Symposium*, Geological Society Australia Abstracts 17, p. 5-16.

Murray, C.G. (1986)- Metallogeny and tectonic development of the Tasman Fold Belt System in Queensland. *Ore Geology Reviews* 1, p. 315-400.

Murray, C.G. (1987)- Tectonic evolution and metallogenesis of the New England fold belt, Eastern Australia. In: *Pacific Rim Congress 87, Gold Coast 1987*, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, p. 353-358.

(New England foldbelt is E part of Tasman foldbelt system. Late Devonian- Early Cretaceous active magmatic margin. Metallogenic deposits mainly associated with extensive Late Permian- Late Triassic granites and silicic volcanics)

Murray, C.G. (1990)- Tectonic evolution and metallogenesis of the Bowen Basin. In J.W. Beeston (ed.) *Bowen Basin Symposium 1990*, Proc. Geological Society Australia, p. 201-212.

Murray, C.G. (1997)- From geosyncline to fold belt: a personal perspective on the development of ideas regarding the tectonic evolution of the New England Orogen. *Geological Society Australia, Special Publ.* 19, p. 1-28.

Murray, C.G. (2003)- Granites of the northern New England Orogen. In: P. Blevin et al. (eds.) *The Ishihara Symposium: Granites and associated metallogenesis*, Macquarie University, Geoscience Australia Record 2003/14, p. 101-108.

(online at: www.ga.gov.au/image_cache/GA3700.pdf)

(N New England Orogen granites of 4 main age groups: M- Late Devonian (380 Ma; Mt Morgan trondjhemite oceanic island arc); M Carboniferous- E Permian (330-280 Ma; Connors and Auburn Arches; subduction followed by extension), Late Permian- Late Triassic (275-205 Ma; Yarrol; subduction changing to extensional in Late Triassic due to slab rollback) and Early Cretaceous (145-90 Ma; Whitsunday Volcanics; extensional)

Murray C.G. (2007)- Devonian supra-subduction zone setting for the Princhester and Northumberland serpentinites: implications for the tectonic evolution of the northern New England Orogen. *Australian J. Earth Sciences* 54, p. 899-925.

Murray, C.G., P.R. Blake, L.J. Hutton, I.W. Whitnall, M.A. Hayward, G.A. Simpson & B.G. Fordham (2003)- Discussion and Reply- Yarrol terrane of the northern New England Fold Belt: forearc or backarc? *Australian J. Earth Sciences* 50, p. 271-278.

(Critical discussion of Bryan et al. (2001) paper, which questioned standard tectonic model of New England Orogen as Late Devonian- E Carboniferous classic convergent continental margin with parallel volcanic arc, forearc basin and accretionary wedge assemblages. Bryan et al. model not considered to be viable alternative)

Murray, C.G., C.L. Fergusson, P.G. Flood, W.G. Whitaker & R.J. Korsch (1987)- Plate tectonic model for the Carboniferous evolution of the New England Fold Belt. *Australian J. Earth Sciences* 34, p. 213-236.

Mutter, J.C. (1977)- The Queensland Plateau. Bureau Mineral Resources Geology Geophysics, Bull. 179, p. 1-55.

(online at: www.ga.gov.au/corporate_data/87/Bull_179.pdf)

(Queensland Plateau of NE Australia large submarine plateau (237,000 km²) in 200- 3000m water depth, facing Coral Sea. Basement structure continuation of structural onshore Tasman Geosyncline in SW). Widespread uplift and erosion in Late Cretaceous- M Eocene, forming planar basement surface. Subsidence began in M Eocene, with faulting and differential subsidence of basement surface. Rifting and formation of Queensland and Townsville basins ended by M Oligocene, followed by period of thermal subsidence. Sediment thickness from 300m on basement highs to >1000m in graben structures)

Mutter, J.C. & D. Jongsma (1978)- The pattern of the Pre-Tasman Sea rift system and the geometry of breakup. *Bull. Australian Soc. Exploration Geophysicists* 9, 3, p. 70-75.

Mutter, J.C. & G. Karner (1978)- Cretaceous taphrogeny in the Coral Sea. *Bull. Australian Soc. Exploration Geophysicists* 9, 3, p. 82-87.

(Little evidence to support Cretaceous taphrogenesis preceding separation of continental blocks in Coral Sea)

Mutter, J.C. & G. Karner (1978)- The evolution of the continental margin off Northeast Australia- a review. In: R.A. Henderson (ed.) *Geophysics of Northeastern Australia*, Geological Society Australia, Brisbane, p. 47-69.

Mutter, J.C. & G. Karner (1980)- The continental margin off northeast Australia. In: R.A. Henderson & P.J. Stephenson (eds.) *The Geology and Geophysics of Northeast Australia*. Geological Society Australia, Queensland Div., Brisbane, p. 47-69.

Neumann, N.L. (2007)- Time-space evolution of the Georgetown and Coen regions. In: N.L. Neumann & L. Geoffrey (eds.) (2007)- *Geochronological synthesis and time-space plots for Proterozoic Australia*, Geoscience Australia, Canberra, Record 2007/06, p. 74-87.

(online at: www.ga.gov.au/image_cache/GA10759.pdf)

(Proterozoic igneous- metamorphic events of Georgetown and Coen inliers of N Queensland mainly 1540-1590 Ma and ~1680-1720 Ma. Georgetown Region also magmatism in Silurian- E Devonian and Carboniferous-Permian. Coen Region also Silurian-Devonian, Late Devonian- E Carboniferous and Carboniferous-Permian magmatism)

Neumann, N.L. & L. Geoffrey (eds.) (2007)- *Geochronological synthesis and time-space plots for Proterozoic Australia*. Geoscience Australia, Canberra, Record 2007/06, p. 1-216.

(online at: www.ga.gov.au/image_cache/GA10759.pdf)

(Extensive overview of ages of igneous rocks and episodes of metamorphism in Proterozoic across Australia. Very useful for provenance analysis of detrital zircons)

Norvick, M.S. & M.A. Smith (2001)- Mapping the plate tectonic reconstruction of southern and southeastern Australia and Implications for petroleum systems. *Australian Petroleum Production Exploration Association (APPEA) J.*, p. 15-35.

Norvick, M.S., M.A. Smith & M.R. Power (2001)- The plate tectonic evolution of Eastern Australia guided by the stratigraphy of the Gippsland Basin. *Petroleum Exploration Society Australia (PESA) Eastern Australian Basins Symposium*, Melbourne, p. 15-23.

(Common themes in E Australasia include Triassic-Jurassic subduction, from Papuan Fold Belt to New Zealand, and Late Barremian-Albian volcanogenic sedimentation (back-arc volcanism). Local developments include Lower Cretaceous rift basins in Bass Strait area (N-S extension between Australia- Antarctica), Turonian-Santonian rift basins (E-W Tasman Sea opening). Tasman Sea seafloor spreading started in S in M

Santonian (~85 Ma) and stopped in E Eocene (~54 Ma). Later spreading event opened Coral Sea, starting in Paleocene (~62 Ma). Subduction prisms began approaching NE Australasia in E Eocene. Etc.)

Nott, J. & S. Horton (2000)- 180 Ma continental drainage divide in northeastern Australia: role of passive margin tectonics. *Geology (GSA)* 28, 8, p. 763-766.

(Stratigraphy and sedimentology of Jurassic-Tertiary sediments in Laura and Carpentaria basins in NE Australia show continental drainage divide here remained stationary since M Jurassic. Maximum of only 50m of denudation could have occurred on continental drainage divide here since Cretaceous)

Nutman, A.P., S. Buckman, H. Hidaka, T. Kamiichi, E. Belousova & J. Aitchison (2013)- Middle Carboniferous- Early Triassic eclogite-blueschist blocks within a serpentinite melange at Port Macquarie, eastern Australia: implications for the evolution of Gondwana's eastern margin. *Gondwana Research* 24, p. 1038-1050.

(New England Orogen with suites of Paleozoic- earliest Mesozoic rocks, formed in supra-subduction zone settings at Gondwana E margin. In Port Macquarie serpentinite with blocks of low-T, high-P metamorphic rocks with glaucophane blueschists and lawsonite-bearing eclogites. High-P metasediments contain Archean to 251±6 Ma (Permo-Triassic) detrital zircons, with most grains of M Devonian- Carboniferous age (380-340 Ma). In Lorne Basin to S ≥220 Ma Triassic sedimentary and volcanic rocks unconformably overlie serpentinite melange and provide minimum age of high-P metamorphism. Emplacement of melange with high-P rocks may have been due to docking of Permian oceanic island arc (Gympie terrane in S Queensland?) and Andean-style arc at E Australian margin (New England Orogen 260-230 Ma N-S oriented magmatic belts)

O'Brien, P.E., R.J. Korsch, A.T. Wells, M.J. Sexton & K. Wake-Dyster (1994)- Structure and tectonics of the Clarence-Moreton Basin. In: A.T. Wells & P.E. O'Brien (eds.) *Geology and petroleum potential of the Clarence-Moreton Basin, New South Wales and Queensland*, Australian Geological Survey Organisation (AGSO) Bull. 241, p. 195-216.

Offler, R. & D.A. Foster (2008)- Timing and development of oroclines in the southern New England Orogen, New South Wales. *Australian J. Earth Sciences* 55, p. 331-340.

Offler, R. & J. Gamble (2002)- Evolution of an intra-oceanic island arc during the Late Silurian to Late Devonian, New England Fold Belt. *Australian J. Earth Sciences* 49, p. 349-366.

Offler, R. & C. Murray (2011)- Devonian volcanics in the New England Orogen: tectonic setting and polarity. *Gondwana Research* 19, 3, p. 706-715.

(Devonian volcanics in New England Orogen formed in intra-oceanic island arc and back arc basin settings. Many samples that formed in BAB have mixed MORB and arc characteristics, believed to be due to subduction component in basaltic magma. Samples with MORB-like compositions originated at spreading centers. Late Devonian basalts more arc-like to W, suggesting W-facing polarity. Two subduction zones in Late Devonian: (1) dipping W beneath Lachlan Orogen, (2) dipping E beneath rifted intra oceanic arc. Obduction of this intra oceanic arc over continental margin of Lachlan Orogen in latest Devonian at ~375 Ma led to development of new W dipping subduction zone oceanward and start of continental, arc magmatism)

O'Sullivan, P.B., D.A. Foster, B.P. Kohn & A.J.W. Gleadow (1996)- Multiple postorogenic denudation events: an example from the eastern Lachlan fold belt, Australia. *Geology (GSA)* 24, 6, p. 563-566.

(Fission-track results from E part of Lachlan fold belt suggest two distinct episodes of rapid km-scale denudation since M Carboniferous when deformation in fold belt ceased: (1) E Triassic, possibly response to Hunter-Bowen orogeny, affected New England fold belt, Sydney-Bowen basin, and now Lachlan fold belt (2) M Cretaceous, possibly in response to onset of continental extension in Tasman Sea at ~96 Ma, resulting in km-scale denudation over much of SE highlands of Australia)

Partridge, A.D. (2006)- Australian Mesozoic and Cenozoic palynology zonations (Charts 1-4). In: E. Monteil (coord.) *Australian Mesozoic palynology zonations- updated to the 2004 Geologic Time Scale*, Geoscience Australia Record 2006/23.

(online at: www.ga.gov.au/image_cache/GA14151.pdf, www.ga.gov.au/image_cache/GA14153.pdf)
(*Spore-pollen and dinocyst zonations charts: Jurassic- Early Cretaceous for Australia, Late Cretaceous-Cenozoic Gippsland Basin*)

Petrizzo, M.R. (2000)- Upper Turonian-lower Campanian planktonic foraminifera from southern mid-high latitudes (Exmouth Plateau, NW Australia): biostratigraphy and taxonomic notes. *Cretaceous Research* 21, 4, p. 479-505.

(*Planktonic foraminifera from ODP Holes 762C and 763B. Include low latitude (*Globotruncana ventricosa*, *Hedbergella flandrini*, *Marginotruncana marianosi*) and high latitude (*Globigerinelloides impensus*, *Hedbergella sliteri*) markers different vertical distribution at mid-high latitudes from low latitudes*)

Passmore, V.L. (1980)- Laura Basin. In: Stratigraphic correlation between sedimentary basins of the ESCAP region, VII, ESCAP Atlas of stratigraphy II, Australia, Japan, Mineral Resources Development Series 46, p. 23-27.

(*Well cross-section of N-S trending Laura Basin shows ~500-700m sandy Middle- Late Jurassic section (Dalrymple Sst, Gilbert River Fm), unconformably over Hodgkinson Basin Permian. Basin trends offshore under Great Barrier Reef*)

Peters, S.G. (1993)- Polygenetic melange in the Hodgkinson goldfield, Northern Tasman Orogenic Zone. *Australian J. Earth Sciences* 40, 2, p. 115-129.

(*Melange intercalated with multiply deformed Siluro-Devonian shale, greywacke, clast-in-matrix rock, spilite and chert in Hodgkinson goldfield of NE Australia*)

Phillips, G., B. Landenberger & E. A. Belousova (2011)- Building the New England Batholith, eastern Australia- linking granite petrogenesis with geodynamic setting using Hf isotopes in zircon. *Lithos*, 122, 1-2, p. 1-12.

(*U-Pb and Hf isotope analysis of zircons from granitoids of Permian-Triassic New England Batholith*)

Phillips, G. & R. Offler (2011)- Contrasting modes of eclogite and blueschist exhumation in a retreating subduction system: The Tasmanides, Australia. *Gondwana Research* 19, 3, p. 800-811.

(*Three groups of HP metamorphic blueschists and eclogites in Tasmanides: (1) eclogite-blueschists in thick sedimentary sequences (exhumation by buoyancy of continental slabs); (2) moderate-P (<9 kbar) blueschist of arc to MORB-type composition in sedimentary or serpentinite melange zones (accretionary HP rocks; exhumation by corner flow and/or extensional collapse in accretionary wedge) and (3) eclogites of MORB-type composition within serpentinite (exotic HP rocks; exhumation by slab rollback and trench retreat). Dominant W-dipping, E-ward migrating subduction zone can explain HP metamorphic rocks in Tasmanides*)

Pohler, S. (1998)- Devonian carbonate buildup facies in an intra-oceanic island arc (Tamworth Belt, New South-Wales, Australia). *Facies* 39, p. 1-34.

(*E- M Devonian biohermal buildups in Tamworth Belt, possibly comparable to NE Kalimantan Devonian coral*)

Pope, G.J. (2000)- An application of sequence stratigraphy in modelling oil yield distribution, the Stuart oil shale deposit, Queensland, Australia. M.Sc. Thesis Queensland University of Technology, p. 1-121.

(online at: https://eprints.qut.edu.au/16145/1/Graham_Pope_Thesis.pdf)

(*M-L Eocene lacustrine oil shales of Stuart deposit in Rundle Fm of Duaringa half-graben, C Queensland coast*)

Powell, C.M. (1984)- Late Devonian and early Carboniferous: continental magmatic arc along the eastern edge of the Lachlan Fold belt. In: J.J. Veevers (ed.) *Phanerozoic Earth history of Australia*, Oxford Science Publ., p. 329-240.

Powell, C.M., Z.X. Li & G.A. Thrupp (1990)- Australian Palaeozoic palaeomagnetism and tectonics- I. Tectonostratigraphic terrane constraints from the Tasman Fold Belt. *J. Structural Geology* 12, p. 553-565.

(*Tasman Fold Belt three N-S orogenic realms: Kanmantoo, Lachlan-Thomson and New England. Kanmantoo Orogen accreted to Australia by Late Cambrian. Lachlan Fold Belt two major amalgamated terranes by M*

Silurian, progressively covered, from W in Late Silurian-Late Devonian by quartzose overlap assemblage. New England Orogen fragmentary E Paleozoic history, but from Devonian onwards related to series of volcanic island and continental margin magmatic arcs. Docking not demonstrated until mid-Carboniferous)

Powell, C.M., S.R. Roots & J.J. Veevers (1988)- Pre-breakup continental extension to East Gondwanaland and the early opening of the eastern Indian Ocean, *Tectonophysics* 155, p. 261-289.

Power, P.E. & S.B. Devine (1970)- Surat Basin, Australia- subsurface stratigraphy, history and petroleum. *American Assoc. Petroleum Geol. (AAPG) Bull.* 54, 12, p. 2410-2437.

(Jurassic- Lower Cretaceous Surat basin is segment of Great Artesian basin. Deposition of fluvial quartzose sands began in Late Triassic E of Surat basin and transgressed W-ward to C and N parts of basin, covering folded and block-faulted Triassic and older rocks. Mainly non-marine deposits, up to 7500' thick. Uplift-erosion event in M Jurassic time. Cretaceous sediments becoming marine. Basin contracted in M Cretaceous due to deformation N and E of basin. Small Jurassic oil-gas fields. Source probably in nonmarine Jurassic rocks, but marine Permian may have contributed)

Przeslawski, R., A. Williams, S.L. Nichol, M.G. Hughes, T.J. Anderson & F. Althaus (2011)- Biogeography of the Lord Howe Rise region, Tasman Sea. *Deep Sea Research II*, 58, 7-8, p. 959-969.

(Lord Howe Rise is ribbon fragment of continental crust, separated from E Gondwana as Tasman Sea opened in Late Cretaceous. It attained present position once seafloor spreading ended, at ~52Ma, then subsided to present depth by ~23 Ma. LHR supports mixture of endemic species together with species associated with Australian and NewZealand continental margins)

Quinn, C.D., I.G. Percival, R.A. Glen & W.J. Xiao (2014)- Ordovician marginal basin evolution near the palaeo-Pacific east Gondwana margin, Australia. *J. Geological Society, London*, 171, 5, p. 723-736.

(Ordovician Macquarie Arc in E Lachlan Orogen of SE Australia long considered to be intra-oceanic arc within an accretionary orogen. More likely extensional tectonics at palaeo-Pacific E Gondwana margin in Ordovician with alkalic and calc-alkalic Cu-Au porphyry deposits away from active arc system)

Raza, A., K.C. Hill & R.J. Korsch (2009)- Mid-Cretaceous uplift and denudation of the Bowen and Surat Basins, eastern Australia: relationship to Tasman Sea rifting from apatite fission-track and vitrinite-reflectance data. *Australian J. Earth Sciences* 56, p. 501-531.

(Peak paleotemperatures/ depth of burial in Bowen and Gunnedah Basins, E Australia, in Early Cretaceous. Late Cretaceous (100-80 Ma) cooling, with erosion of up to 1.9 km of Jurassic- E Cretaceous rock. Uplift widespread along E margin of Gondwanaland, including all of E Australia, New Zealand, Antarctica. Onset of mid-Cretaceous denudation coincided with continental extension after cessation of volcanism and subduction at ~95 Ma, and prior to initiation of seafloor spreading at ~84 Ma and formation of current passive margin)

Rey, P.F. & R.D. Muller (2008)- Late Cretaceous-Paleocene evolution of the East Gondwana margin, a new dynamic model for the formation of marginal basins. In: J.E. Blevin et al. (eds.) *Eastern Australasian Basins Symposium III- Energy security for the 21st century*, Sydney, Petroleum Exploration Society Australia (PESA), Special Publ., p. 267-269.

(At ~100 Ma E Gondwana cordillera started oceanward gravitational collapse, until opening of Tasman Sea from ~90 to 52 Ma. Collapse of cordilleran orogens, marginal basin opening and detachment of microcontinents often considered consequence of slab rollback, but along E Gondwana margin Late Cretaceous change in plate motion probably caused switch from contractional to extensional tectonics)

Rey, P.F. & R.D. Muller (2010)- Fragmentation of active continental plate margins owing to the buoyancy of the mantle wedge. *Nature Geoscience* 3, p. 257-261.

(Mantle-wedge buoyancy may explain collapse of E Gondwana Cordillera along edge of E Australia/ E Antarctic. At 105-90 Ma, change in absolute plate motion reduced subduction velocity, triggering gravitational collapse of orogen and fragmentation of active margin)

Roberts, J. (1987)- Carboniferous faunas: their role in the recognition of tectonostratigraphic terranes in the Tasman Belt, eastern Australia. In: E.C. Leitch & E. Scheibner (eds.) *Terrane accretion and orogenic belts*, American Geophysical Union (AGU), Geodynamics Series 19, p. 93-102.

(Two marine invertebrate assemblages in Carboniferous shelfal successions of Australia: (1) high diversity, warm water, E Carboniferous Cosmopolitan; (2) low diversity, cold water, M-L Carboniferous Gondwanan. In E Carboniferous Yarrol-New England portion of Tasman Belt may be separate terrane, in near-equatorial position N of Australia, as indicated by paleomagnetic data, and docked later in Carboniferous)

Roberts, J., J.C. Claoue-Long & C.B. Foster (1996)- SHRIMP zircon dating of the Permian system of eastern Australia. *Australian J. Earth Sciences* 43, 4, p. 401-421.

(SHRIMP zircon dates from Permian ignimbrites and tuffs associated with fossiliferous strata within the Sydney-Bowen Basin and New England Orogen)

Roberts, J. & B.A. Engel (1980)- Carboniferous palaeogeography of the Yarrol and New England orogens, eastern Australia. *J. Geological Society of Australia* 27, p. 167-186.

(During Carboniferous Yarrol and New England Orogens comprised active depositional margin E of cratonised parts of Australia)

Roberts, J., P.J. Jones & T.B.H. Jenkins (1993)- Revised correlations for Carboniferous marine invertebrate zones of eastern Australia. *Alcheringa* 17, 4, p. 353-376.

(Update of E Australian faunal zonations and chronostratigraphy of Carboniferous. Gondwanan assemblages succeeding E Carboniferous cosmopolitan faunas cannot be readily correlated with N Hemisphere biozones)

Rosenbaum, G. (2018)- The Tasmanides: Phanerozoic tectonic evolution of eastern Australia. *Annual Review Earth Planetary Sciences* 46, p. 291–325.

(online at: <https://www.annualreviews.org/content/journals/10.1146/annurev-earth-082517-010146>)

(Extensive review of Tasmanides orogenic belt, which occupies eastern third of Australia and provide extensive record of evolution of the eastern Gondwanan convergent plate boundary from Cambrian-Triassic)

Rosenbaum, G., A. Babaahmadi, S. Glorie & W.P. Schellart (2025)- Development of arc curvature by asymmetric migration: Evidence from Permian–Triassic granitoids in the New England Orogen (eastern Australia). *Earth Planetary Science Letters* 653, 119209, p. 1-9.

(online at: <https://www.sciencedirect.com/science/article/pii/S0012821X25000081>)

(Permian–Triassic magmatic arc in E Australia: magmatism was episodic, with peak activity at ~252 Ma, followed by ~7 Myr magmatic lull. Onset of contractional HunterBowen orogeny at 269–252 Ma accompanied by landward arc migration, but rates of arc advance variable along strike, creating prominent curve in arc. Subsequent phase of subduction rollback and/or slab steepening, at 240–235 Ma accompanied by trenchward arc migration and the development of new non-curved arc. Arc curvature likely the consequence of along-strike changes in slab dip angle, with arc advance response to flattening of subducting slab. Etc.)

Rosenbaum, G., P. Li & D. Rubatto (2012)- The contorted New England Orogen (eastern Australia): new evidence from U-Pb geochronology of early Permian granitoids. *Tectonics* 31, TC1006, p. 1-14.

(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2011TC002960>)

(Sharp bends (oroclines) in Paleozoic- E Mesozoic New England Orogen of E Australia, obscured by voluminous magmatism (E Permian granitoids zircon U-Pb ages 296-288 Ma). Phase of younger magmatism (<260 Ma) postdates orocline development. Tectonic model involves early stage of subduction curvature during slab rollback at 300-285 Ma, followed by bending associated with dextral transpression and final tightening possibly by E-W shortening during Late Permian- Triassic (265-230 Ma) Hunter-Bowen orogeny)

Schellart, W.P., B.L.N. Kennett, W. Spakman & M. Amaru (2009)- Plate reconstructions and tomography reveal a fossil lower mantle slab below the Tasman Sea. *Earth Planetary Science Letters* 278, p. 143-151.

(New P-wave and S-wave mantle tomography models from SW Pacific identify flat-lying high-velocity anomaly below Tasman Sea at ~1100 km depth that cannot be linked to Pacific subduction. Strike NW-SE and ~2200 x

600-900 km in lateral extent. Can be interpreted as middle Cenozoic single NE-dipping New Caledonia fossil subduction zone)

Seton, M., N. Flament & R.D. Muller (2012)- Subduction history in the Melanesian Borderlands region, SW Pacific. In: Eastern Australian Basins Symposium IV (EABS IV), Brisbane 2012, p. 1-12. (online at: www.earthbyte.org/Resources/Pdf/Seton_Melanesian_borderlands_subduction_history_EABS4_2012.pdf)
(Plate kinematic model of E Coral Sea area developed from comparison with seismic tomography. Subduction history in E Coral Sea works well for latest Cenozoic but fails to predict seismically fast material (indicative of cold, subducted material) in lower mantle imaged in seismic tomography models)

Seton, M., N. Flament, J. Whittaker, R.D. Muller, M. Gurnis & D.J. Bower (2015)- Ridge subduction sparked reorganization of the Pacific plate-mantle system 60-50 million years ago. *Geophysical Research Letters* 42, 6, p. 1732-1740.
(online at: <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2015GL063057>)
(Pacific plate reorganization at ~53-47 mainly driven by complete subduction of the Izanagi plate and margin-wide slab detachment)

Seton, M., N. Mortimer, S. Williams, P. Quilty, P. Gans, S. Meffre, S. Micklethwaite, S. Zahirovic, J. Moore & K.J. Matthews (2016)- Melanesian back-arc basin and arc development: constraints from the eastern Coral Sea. *Gondwana Research* 39, p. 77-95.
(E Coral Sea in NE corner of Australian Plate, where interaction between Pacific and Australian plate boundaries, and accretion of Ontong Java Plateau resulted in complex assemblage of back-arc basins, island arcs, continental plateaus and volcanic products. Start of opening of Santa Cruz Basin and S Rennell Trough at ~48 Ma and termination at 25-28 Ma. Simultaneous opening of Melanesian Basin/ Solomon Sea further N suggests single >2000 km long back-arc basin, with triple junction landward of Melanesian subduction zone from Eocene-Oligocene. Cessation of spreading corresponds with reorganization of plate boundaries and initial soft collision of Ontong Java Plateau)

Shaanan, U. & G. Rosenbaum (2018)- Detrital zircons as palaeodrainage indicators: insights into southeastern Gondwana from Permian basins in eastern Australia. *Basin Research* 30, Suppl. 1, p. 36-47.
(U-Pb ages from detrital zircon grains from E Permian sediments (~290-297 Ma) in southern New England Orogen. Over 80% of ages Late Carboniferous, from adjacent forearc sediments. Pre-Devonian detritus from SE Gondwanan craton, with peaks of 2000-1500 Ma, 1200-900 Ma (Grenvillian) and 620-480 Ma)

Shaanan, U., G. Rosenbaum, D. Hoy & N. Mortimer (2018)- Late Paleozoic geology of the Queensland Plateau (offshore northeastern Australia). *Australian J. Earth Sciences* 65, 3, p. 357-366.
(Queensland Plateau (off NE Australia) submerged continental block. Detrital zircons from two drill cores that penetrated Paleozoic metasedimentary strata (ODP Leg 133) provide maximum depositional ages of ~319 and 299 Ma. Queensland Plateau probably formed in backarc basin, NE continuation of New England Orogen and/or E Australian Rift System)

Shaw, S.E. & R.H. Flood (1981)- The New England Batholith, Eastern Australia: geochemical variations in time and space. *J. of Geophysical Research* 86, p. 10530-10544.

Sheps, K. (2004)- Quantitative paleoenvironmental analysis of carbonate platform sediments on the Marion Plateau (NE Australia, ODP Leg 194). M.Sc. Thesis, College of Marine Science, University Southern Florida, p. 1-105.
(online at: www.etd.fcla.edu/SF/SFE0000546/kshepstthesis.pdf)
(Paleoenvironmental distribution of Large Benthic Foraminifera, etc. of offshore Marion Plateau)

Sircombe, K.N. (1999)- Tracing provenance through the isotope ages of littoral and sedimentary detrital zircon, eastern Australia. *Sedimentary Geology* 124, p. 47-67.
(Provenance of detrital zircons in 19 littoral and sedimentary deposits in E Australia four age groups: (1) 100-175 Ma = Jurassic-Cretaceous volcanism along E Australian margin; (2) 225-350 Ma = New England Orogen;

(3) 350-500 Ma correlated with magmatism in Lachlan Orogen. Ultimate source of Pacific-Gondwana 500-700 Ma ages tentatively identified as Neoproterozoic orogeny along E Antarctic margin. Lachlan Orogen age grouping stronger in S, New England Orogen age grouping stronger in N)

Sivell, W.J. & J.B. Waterhouse (1988)- Petrogenesis of Gympie Group volcanics: evidence for remnants of an Early Permian volcanic arc in eastern Australia. *Lithos* 21, 2, p. 81-95.

(Gympie Group, SE Queensland, tectonomorphically anomalous Lower Permian submarine volcanic sequence composed of mafic basalt- basaltic andesites, breccias and subordinate lavas, with dacitic tuffs and glassy flows. Gympie suite represents immature submarine tholeiitic stage of portion of major intra-oceanic arc that bordered Gondwana, but was fragmented by opening of Tasman Sea)

Smart, J., K.G. Grimes, H.F. Douth & J. Pinchin (1980)- The Mesozoic Carpentaria and Cainozoic Karumba Basins, North Queensland. Bureau Mineral Resources Geology Geophysics, Bull. 202, p. 1-73.

(online at: www.ga.gov.au/corporate_data/53/Bull_202.pdf)

(Mesozoic Carpentaria Basin shallow, saucer-shaped, intra-cratonic downwarp of ~560 000 km² with up to ~1200 m of M Jurassic -Albian sediments, underlying most of Gulf of Carpentaria, Cape York Peninsula, and area south of Gulf. E Cretaceous transgression from N caused change to shallow marine conditions, with widespread 5-20m thick low-grade oil shale of mid-Albian Toolebuc Fm)

Smart, J. & B.R. Senior (1980)- Jurassic-Cretaceous basins of northeastern Australia. In: R.A. Henderson & J.P. Stephenson. (eds.) *The geology and geophysics of Northeastern Australia*, Third Australian Geological Convention, Townsville, Geological Society Australia, p. 315-328.

(On Carpentaria, Laura basins in N Queensland)

Sommacal, S., L. Pryer, J. Blevin et al. (2008)- Clarence-Moreton SEEBASE TM and Structural GIS Project. FrOG Tech Pty Ltd. Report to NSW DPI, p. 1-37.

(online at: www.dpi.nsw.gov.au/_data/assets/pdf_file/0007/244339/MR707-Clarence-Moreton-SEEBASE-structural-GIS-project.pdf)

(Clarence-Moreton Basin, with non-marine Late Triassic- E Cretaceous section, formed on basement of probable tightly folded pre-Permian forearc and accretionary wedge material with granitoid intrusions. M-L Triassic early basin deposits include Nymboida and Ipswich coals. Also M Jurassic coal in sag phase across much of basin)

Spampinato, G.P.T., P.G. Betts, L. Ailleres & R.J. Armit (2015)- Early tectonic evolution of the Thomson Orogen in Queensland inferred from constrained magnetic and gravity data. *Tectonophysics* 651-652, p. 99-120.

SRK Consulting (2010)- Gunnedah Bowen Study. Report to NSW DPI, p. 1-97.

(Online at: www.dpi.nsw.gov.au/minerals/resources/petroleum/reports)

(Major study on coal-bearing Permian-Triassic Gunnedah, Sydney and Bowen Basins, which developed mostly W of the N-trending suture between the Lachlan Foldbelt and New England foldbelts)

Stratford, J.M.C. & J.C. Aitchison (1996)- Devonian intra-oceanic arc rift sedimentation- facies development in the Gamilaroi terrane, New England orogen, eastern Australia. *Sedimentary Geology* 101, p. 173-192.

(Silurian-Devonian rocks in Gamilaroi terrane of New England orogen example of intra-oceanic arc rift, with volcanoclastics deposited by debris flows and turbidity currents. Subordinate facies include limestones, crystal-rich volcanoclastic sandstones, volcanic breccias and olistostromes. Felsic volcanics at base of section represent part of original arc and are overlain by volcanoclastic sandstones and mudstones deposited within an arc basin. Lower Devonian (Emsian) limestones. Thick pillow basalts at top of succession)

Struckmeyer, H.I.M. & P.A. Symonds (1997)- Tectonostratigraphic evolution of the Townsville Basin, Townsville Trough, offshore northeast Australia. *Australian J. Earth Sciences* 44, p. 799-817.

(Townsville Basin is E-W extensional half-graben, separating Marion and Queensland Plateaus, off NE Australia. No direct control on stratigraphy; timing interpreted from regional context. Up to ~6.5 km sediment in two megasequences: (1) probably Cretaceous synrift in fault-controlled depocenters up to 4 km thick; (2) Tertiary sag-phase up to 3.8 km thick. Half-grabens contain several rotational blocks. Compartmentalised into

sub-basins by NNW-NW trending transverse zones, which may represent pre-existing basement structures. Two extensional events. Structuring event during early sag-phase followed by multiple reactivation in ?Late Miocene- E Pliocene. Townsville Basin part of complex rift system of probable Late Jurassic-E Cretaceous age, formed as result of oblique extension that utilised pre-existing Paleozoic structural trends. Comparison with trends of adjacent Queensland Trough suggests formation of both basins independent of (Late Cretaceous-Paleocene) sea-floor spreading in Tasman and Coral Sea Basins)

Symonds, P.A., J. Fritsch & H. Schluter (1984)- Continental margin around the western Coral Sea Basin: structural elements, seismic sequences and petroleum geological aspects. In: S.T. Watson (ed.) Transactions Third Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1982, AAPG, p. 243-252.
(Coral Sea opposing margins of Queensland and Papuan Plateaus underlain by (Late Cretaceous-Paleocene) rift zone which would have been up to 80 km wide before continental break up. Outer basement highs, with low angle contacts with oceanic crust, in oceanward part of rift zone on both sides of Coral Sea Basin and under lower slope of Eastern Plateau, N Queensland Trough and Osprey Embayment. N Queensland Trough and W margin of Eastern Plateau underlain by grabens with up to 5 km of sediments, part of which may be Mesozoic deltaic sequence similar to that intersected in Anchor Cay 1 well, or deeper water equivalent)

Symonds, P.A., J.B. Colwell, H.I. Struckmeyer, J.B. Willcox & P.J. Hill (1996)- Mesozoic rift basin development off eastern Australia, Geological Society Australia Bull. 43, p. 528-542.

Taylor, L. & D. Falvey (1977)- Queensland Plateau and Coral Sea Basin: stratigraphy, structure and tectonics. The Australian Petroleum Exploration Assoc. (APEA) Journal 17, 1, p. 13-29.
(Seismic and gravity show up to 3km thick U Cretaceous-Paleogene rift-valley sequences under offshore NE Australia Queensland and Townsville Troughs)

Totterdell, J.M., J. Moloney, R.J. Korsch & A.A. Krassay (2009)- Sequence stratigraphy of the Bowen-Gunnedah and Surat Basins in New South Wales. Australian J. Earth Sciences 56, 3, p. 433-459.

Tulloch, A., J. Ramezani, K. Faure & A. Allibone (2010)- Early Cretaceous magmatism in New Zealand and Queensland: intra-plate or intra-arc origin?. In: S. Buckman & P.L. Blevin (eds.) Proc. Conf. New England Orogen 2010 (NEO 2010), Armidale, p. 332-335.
(Mesozoic magmatism in New Zealand dominated by 800+km-long subduction-related Median Batholith. Main phase of magmatism 170-105 Ma, broadly subdivided into 130-105 Ma inboard belt (adakitic) and 170-130 Ma outboard belt. E Cretaceous magmatism in E Australia dominated by Whitsunday Volcanic Province with high-silica rhyolite and bimodal basalt and coeval isolated granitic plutons (mainly 134-120, some 100 Ma), comparable to that of Median Batholith. Apparent absence of Cretaceous subduction zone suggests formation in extensional intra-plate environment (but too old for 84-55 Ma Tasman Sea spreading?))

Uysal, I.T., M. Glikson, S.D. Golding & F. Audsley (2000)- The thermal history of the Bowen Basin, Queensland, Australia: vitrinite reflectance and clay mineralogy of Late Permian coal measures. Tectonophysics 323, 1, p. 105-129.
(Vitrinite Reflectance values from 0.45% Ro in S Bowen Basin to >3.5% Ro in N Bowen Basin. Maximum temperatures of organic maturation of Bowen Basin coals not related to deep burial metamorphism during latest M Triassic- earliest Late Triassic, but to zone of high heat flow in latest Late Triassic)

Vaughan, A.P.M & R.A. Livermore (2005)- Episodicity of Mesozoic terrane accretion along the Pacific margin of Gondwana: implications for superplume-plate interactions. In: A.P.M. Vaughan et al. (eds.) Terrane processes at the margins of Gondwana. Geological Society, London, Special Publ. 246, p. 143-178.
*(manuscript online at: https://nora.nerc.ac.uk/id/eprint/4296/1/Episodicity_of_terrane_accretion.pdf)
(Discussion of Late Triassic- E Jurassic (202-197 Ma) and Mid-Cretaceous (~116-110 Ma) periods of coincident continental rifting and marginal collision around Paleo-Pacific. Both are times of elevated mantle heat flow and magmatism, followed by periods of high rates of continental extension (Pangea/Gondwana break-up in Late Triassic-E Jurassic; extensional core-complex formation in M Cretaceous), and times of oceanic plate reorganization and major changes in plate velocity. Possibly related to 'superplume events')*

Veevers, J.J., P.J. Conaghan & C.M. Powell (1994)- Eastern Australia. In: J.J. Veevers & C.M. Powell (eds.) Permian-Triassic Pangean basins and foldbelts along the Panthalassan margin of Gondwanaland, Geological Society of America (GSA) Memoir 184, p. 11-172.
(*Extensive overview of Tasmanides geology*)

Verard, C. & G.M. Stampfli (2013)- Geodynamic reconstructions of the Australides-1: Palaeozoic. Geosciences (MDPI) 3, 2, p. 311-330.
(*online at: www.mdpi.com/2076-3263/3/2/311*)
(*Plate reconstruction of Australides (Australia-Antarctica-proto-Pacific) system from 600-200 Ma. Most geodynamic units of Australides exotic in origin, and many tectonic events of Delamerian Cycle, Lachlan SuperCycle, and New England SuperCycle regarded as occurring offshore Gondwana*)

Verard, C. & G.M. Stampfli (2013)- Geodynamic reconstructions of the Australides-2: Mesozoic-Cainozoic. Geosciences (MDPI) 3, 2, p. 331-353.
(*online at: www.mdpi.com/2076-3263/3/2/331*)
(*Plate reconstruction model of area between Pacific, Australian and Antarctic plates since 200 Ma*)

Vos, I.M.A., F.P. Bierlein & D. Phillips (2007)- The Palaeozoic tectono-metallogenic evolution of the northern Tasman Fold Belt system, Australia: interplay of subduction rollback and accretion. Ore Geology Reviews 30, p. 277-296.

Vos, I.M.A., F.P. Bierlein & J. Webb (2006)- Geochemistry of Early- Middle Palaeozoic basalts in the Hodgkinson Province: a key to tectono-magmatic evolution of the Tasman Fold Belt System in northeastern Queensland, Australia. Int. J. Earth Sciences (Geologische Rundschau) 95, 4, p. 569-585.
(*Hodgkinson Province Late Ordovician- Devonian tholeiitic- calc-alkaline basalts interspersed with marine sedimentary rocks and limestones, metamorphosed to lower greenschist facies. Decreasing volcanic arc affinity of Silurian-Devonian MORB-type basalts. Interpreted to reflect deposition in back-arc basin setting. Onset of basin extension in Silurian, accelerated subsidence through Devonian and halted by basin inversion in Late Devonian. Basin evolution controlled by E-ward stepping subduction zone outboard of Australian Craton*)

Wartenberg, W. (2005)- The concealed Tamworth Belt (New England Orogen) - stratigraphic and geophysical observations depicting a thrust-related geometry in southern Queensland, Australia. Doct. Dissertation Rheinischen Friedrich-Wilhelms University, Bonn, p. 1-106.
(*extended abstract online at: <http://hss.ulb.uni-bonn.de/2005/0534/0534-1.pdf>*)
(*Tamworth and Yarrol Belts part of Devonian-Carboniferous fore-arc basin, partly concealed in W by Permian-Triassic Bowen and Gunnedah rift basins. Age equivalent accretionary wedge assemblages in outcrop across E part of orogeny, e.g. Tablelands Complex in NSW and Beenleigh, D'Aguilar, Wandilla and Shoalwater terranes in Queensland. Magmatic arc exposed only in N NEO (Connors and Auburn arcs)*)

Waschbusch, P., R.J. Korsch & C. Beaumont (2009)- Geodynamic modelling in aspects of the Bowen, Gunnedah, Surat and Eromanga basins from the perspective of convergent margin processes: Australian J. Earth Sciences 56, p. 309-334.
(*Geodynamic modelling of Bowen, Gunnedah, Surat and Eromanga Basins. Bowen and Gunnedah Basins subsidence in early Late Permian initial foreland phase platform tilting associated with W-directed subduction. Late Permian-E Triassic platform tilting due to foreland loading, as thrust front in New England Orogen migrated W-ward. Surat and Eromanga subsidence also dynamic platform tilting. Uplift of Eastern Highlands in mid-Cretaceous due to rebound of lithosphere after cessation of W-directed subduction*)

Waterhouse, J.B. & W.J. Sivell (1987)- Permian evidence for Trans-Tasman relationships between East Australia, New Caledonia and New Zealand. Tectonophysics 142, p. 227-240.
(*E Permian submarine volcanic sequence of Gympie Group, SE Queensland suggestive of immature submarine, tholeiitic stage of arc development on thin (oceanic) crust. M Carboniferous-Permian calc-alkaline Camboon arc to W developed on continental crust. Volcanics and overlying sediments of Gympie Group similar to*

volcanic arc and adjoining formations of Nelson-Eglinton-Takitimu areas of New Zealand. Dacitic volcanics in New Caledonia may form young part of same volcanic arc. Overlying Permian sediments further similarities between three regions. New Zealand was locus for actively spreading mid-ocean ridge (Dun Mt Ultramafics/Patuki ophiolite complex), Gympie lay towards end of mid-ocean ridge, New Caledonia close to terminus of volcanic arc and received more terrestrial sediment)

Webb, A.W. & I. McDougall (1968)- The geochronology of the igneous rocks of Eastern Queensland. J. Geological Society of Australia 15, p. 313-346.

(E Queensland phases of granite emplacement in Devonian (360 Ma), Carboniferous (310, 285Ma), Permian (265, 245, 235 Ma), Triassic (220 Ma.) and Cretaceous (125, 110 Ma). Activity moved generally E-wards with time. Igneous intrusion in Late Permian can be correlated with phases of the Hunter-Bowen Orogeny)

Webby, B.D. (1987)- Biogeographic significance of some Ordovician faunas in relation to east Australian Tasmanide suspect terranes. In: E.C. Leitch & E. Scheibner (eds.) Terrane accretion and orogenic belts, AGU Geodynamics Ser. 19, p. 103-117.

Weissel, J.K. & D.E. Hayes (1978)- Evolution of the Tasman Sea reappraised. Earth Planetary Science Letters 36, p. 77-84.

(Revised interpretations of S Tasman Sea magnetic lineations and fracture zones. Simple two-plate spreading system, active between about 82-60 Ma)

Wellman, P. (1995)- Interpretation of regional magnetic and gravity data in Cape York Peninsula, Queensland. Australian Geological Survey Organisation (AGSO) Record 1995/45, p. 1-53.

Wellman, P. (1995)- The Lakefield Basin: a new Permian basin in far North Queensland. Queensland Government Mining Journal 95, 19-23.

Wellman, P., H.I.M. Struckmeyer, P.A. Symonds, M.E. Fellows, D.L. Scott & J.J. Draper (1997)- Coral Sea region. In: J.H.C. Bain & J.J. Draper (eds.) North Queensland geology, Australian Geological Survey Organisation (AGSO) Bull. 240, p. 409-418.

Wells, A.T. & P.E. O'Brien (1994)- Lithostratigraphic framework of the Clarence-Moreton Basin. In: A.T. Wells & P.E. O'Brien (eds.) Geology and petroleum potential of the Clarence-Moreton Basin, New South Wales and Queensland, Australian Geological Survey Organisation (AGSO) Bull. 241, p. 4-47.

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(online at: <https://www.tandfonline.com/doi/full/10.1080/08120099.2024.2332273>)

(Paleozoic events along the convergent Paleo-Pacific margin of E Australia ('Terra Australis Orogen'))

Withnall, I.W., R. Bultitude, S.C. Lang, P.J. Donchak & R.L. Hammond (1987)- Geology and tectonic history of the Palaeozoic Hodgkinson and Broken River provinces, North Queensland. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, p. 495-498.

(Hodgkinson and Broken River provinces of N part of Tasman Orogen separated by Late Paleozoic igneous rocks, but probably originally continuous. Hodgkinson Province multiply deformed and composed mainly of Silurian-Devonian turbidites, mainly quartz-rich and continent-derived. With probably allochthonous limestone lenses (with E Silurian- E Devonian conodonts))

Withnall, I.W. & R.A. Henderson (2012)- Accretion on the long-lived continental margin of northeastern Australia. Episodes 35, 1, p. 166-176.

(online at: www.episodes.co.in/contents/2012/march/p166-176.pdf)

(S part of Tasman Orogenic Zone broad tract of crust, ~1000 km across, added to cratonic core of Australia. In N Queensland much smaller volume of new crust generated, expressing slow accretion. As a consequence, three large-scale, successive Paleozoic active margin igneous assemblages form largely co-located and overprinting belts with plutonic suites stitching Tasman Line and extending into craton)

Withnall, I.W., D.E. Mackenzie, T.J. Denaro, J.H.C. Bain et al. (1997)- Georgetown Region. In: J.H.C. Bain & J.J. Draper (eds.) North Queensland Geology, Australian Geological Survey Organisation (AGSO) Bull. 240, Queensland Geology 9, p. 19-116.

Zuchetto, R.G., R.A. Henderson, B.K. Davis & R. Wysoczansky (1999)- Age constraints on deformation of the eastern Hodgkinson Province, North Queensland: new perspectives on the evolution of the northern Tasman Orogenic Zone. Australian J. Earth Sciences 46, p. 105-114.

(Granitic plutons intrude Hodgkinson Fm of E Hodgkinson Province, N Queensland. Fabrics show four deformational events. Plutons two supersuites: (1) latest Devonian- earliest Carboniferous, with emplacement age of ~357 Ma (Mt Formartine Suite); (2) Early Permian Wangetti suite (majority of granites). Devonian-Carboniferous granites emplacement associated with first episode of regional orogenesis and development of penetrative fabrics in Hodgkinson-Broken River Fold Belt)