



MIKE DRAKE : Director, Marine Operations - DPA

South West Pacific Operations Update

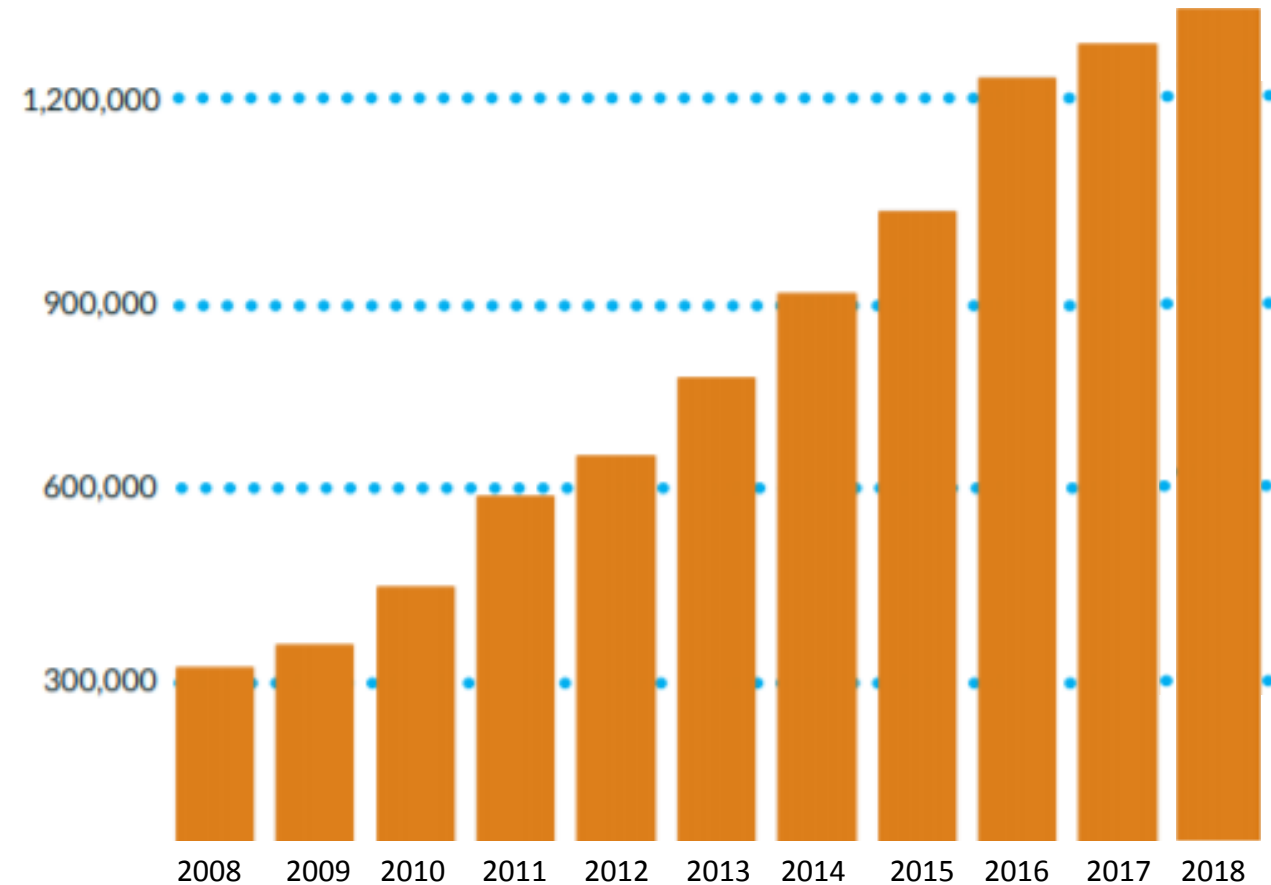
Objective Today

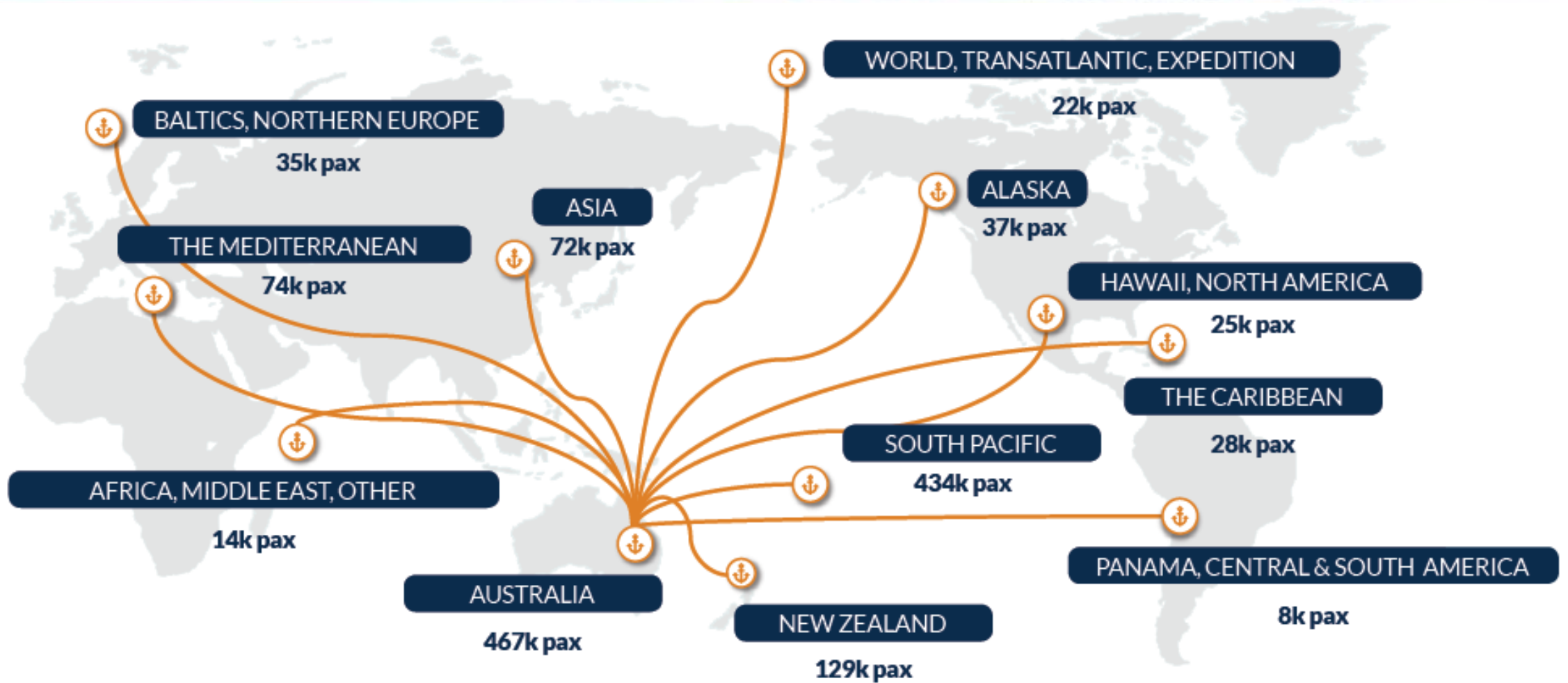
- Provide some “end user “feedback on charting within the region
- Brief update on the evolution of cruise industry in the region
- Developments with P&O Cruises, Australia Fleet – transition to larger ships
- P&O Cruises, Australia related activities update 2019
- Areas for hydrographic & chart improvements (aspirational new destinations and navigational safety)
- “End User” perspective on ENC usability

1 in 17 Australians Cruised in 2018

A total of 1.35 million Australians took a cruise last year, an increase of 0.9 per cent over 2017. Though positive, the rate of growth was down from the 4.4 per cent shown in 2017, placing Australia behind other large cruise markets such as North America (up 9.4 per cent) and Europe (up 3.3 per cent).

This was mainly the result of lower growth in local cruising (up just 0.1 per cent), due to well-publicised infrastructure constraints and their impact on cruise lines' ability to position new capacity in this region.





Pacific Aria : Departing the Fleet in April 2021



- Built 1993
- Length 219m
- Draft 7.3m
- GRT 55,877 T
- Lower Pax 1260
- Crew 600
- Flag UK

Pacific Dawn : Departing the Fleet in February 2021



- Built 1991
- Length 245m
- Draft 8.5m
- GRT 70,300 T
- Lower Pax 1596
- Crew 700
- Flag UK

Pacific Explorer : A Larger Ship.. Here to Stay !



- Built 1997
- Length 262m
- Draft 8.0m
- GRT 77,441 T
- Lower Pax 1998
- Crew 850
- Flag UK

P&O Cruises, Australia Fleet 2016



The Future Fleet : Much Larger Vessels !

Pacific Adventure (2020)

- Built 2000
- Length 289m
- Draft 9.0m
- GRT 108,865 T
- Lower Pax 2636
- Crew 1060
- Flag UK



Pacific Encounter (2021)

- Built 1999
- Length 289m
- Draft 9.0m
- GRT 108,977 T
- Lower Pax 2600
- Crew 1060
- Flag UK

AREA OF OPERATION



2019 Activities (P&O Cruises, Australia)

Australian & New Zealand Port Pilotage project (Pilotage on Government safety watch list) – part of this requires better ENC coverage in many ports; in many cases high density band 6 ENC. (PPU=ECDIS).

“Shared mental model”

Port Vila Harbour: Survey of both wharf areas and approaches to enable safe berthing of larger ships (to enable production of IHO recommended scale ENC).

EDEN : Maiden call to berth by “Pacific Explorer” 15 September 2019; three additional unscheduled ports calls by P&O ships in support of bushfire damaged Sapphire coast communities.

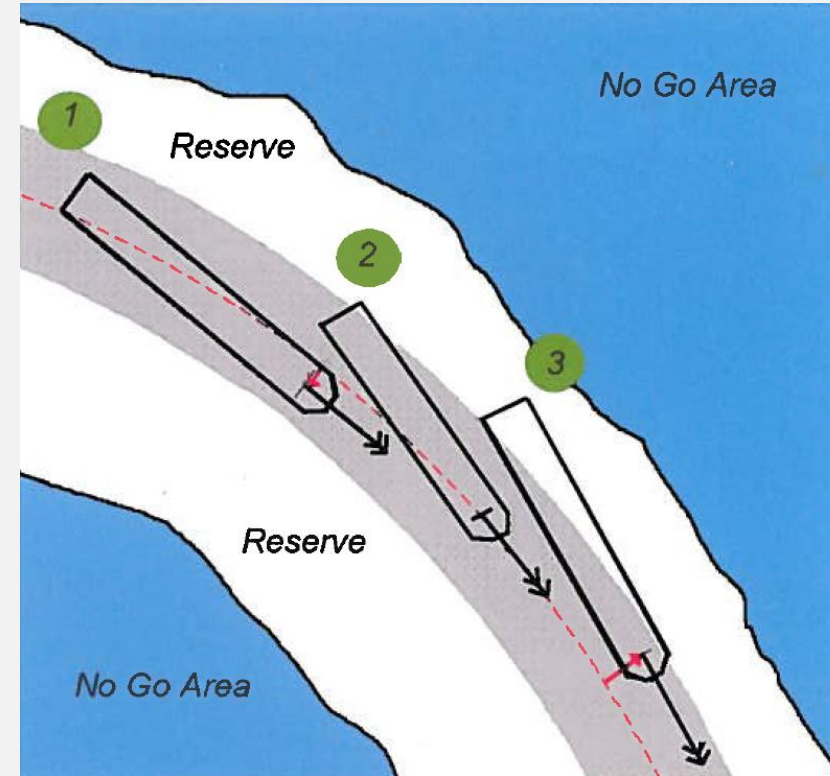
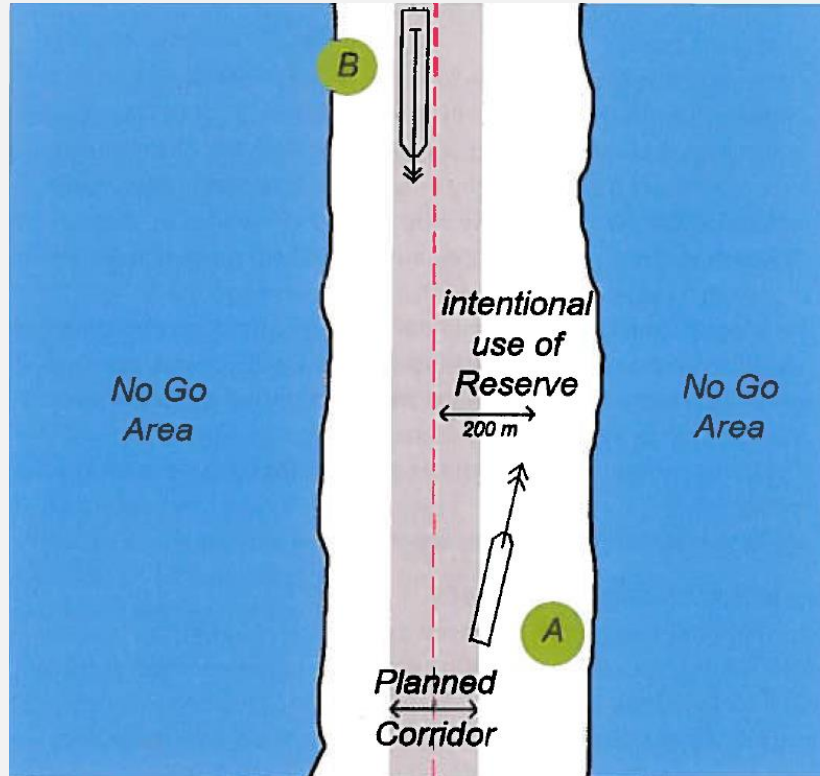
Continue to work closely with DFAT and Australian, NZ & British High Commission in regards to economic benefit to SW Pacific region.

Developing an in house “ENC usability” app to encourage more feedback from our Fleet & ultimately to hydrographic offices.

Portable Pilot Unit (PPU) chart *should* use ENC to = ECDIS



Port Pilotage Plan require high density ENC's



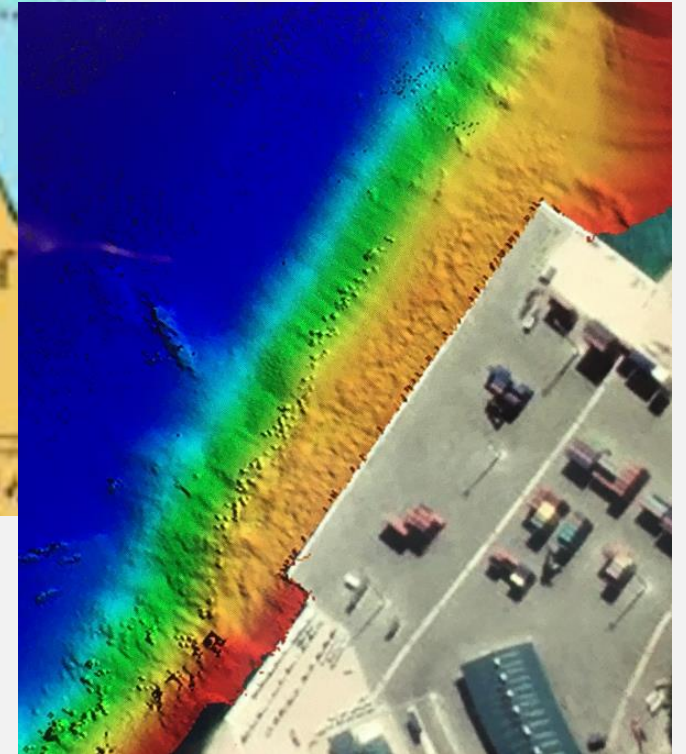
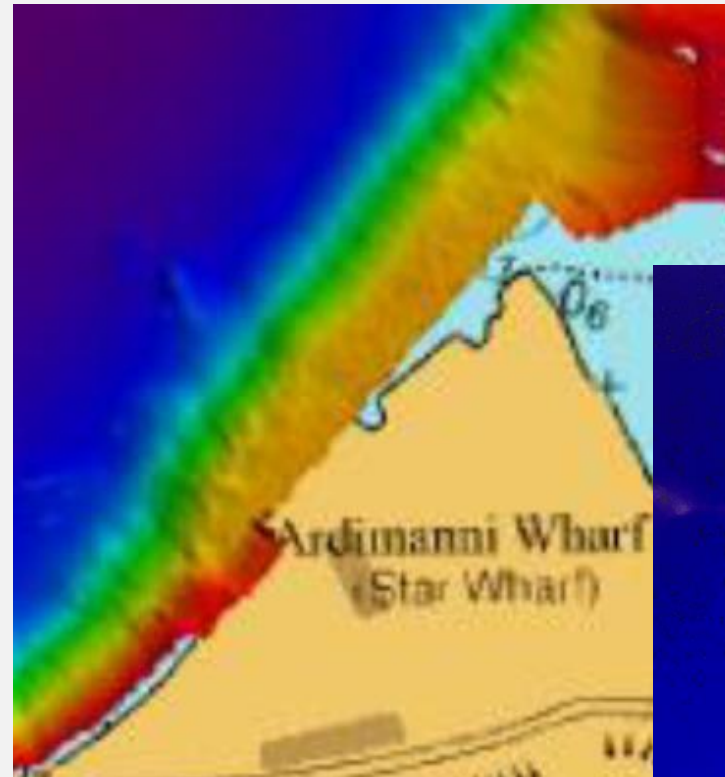
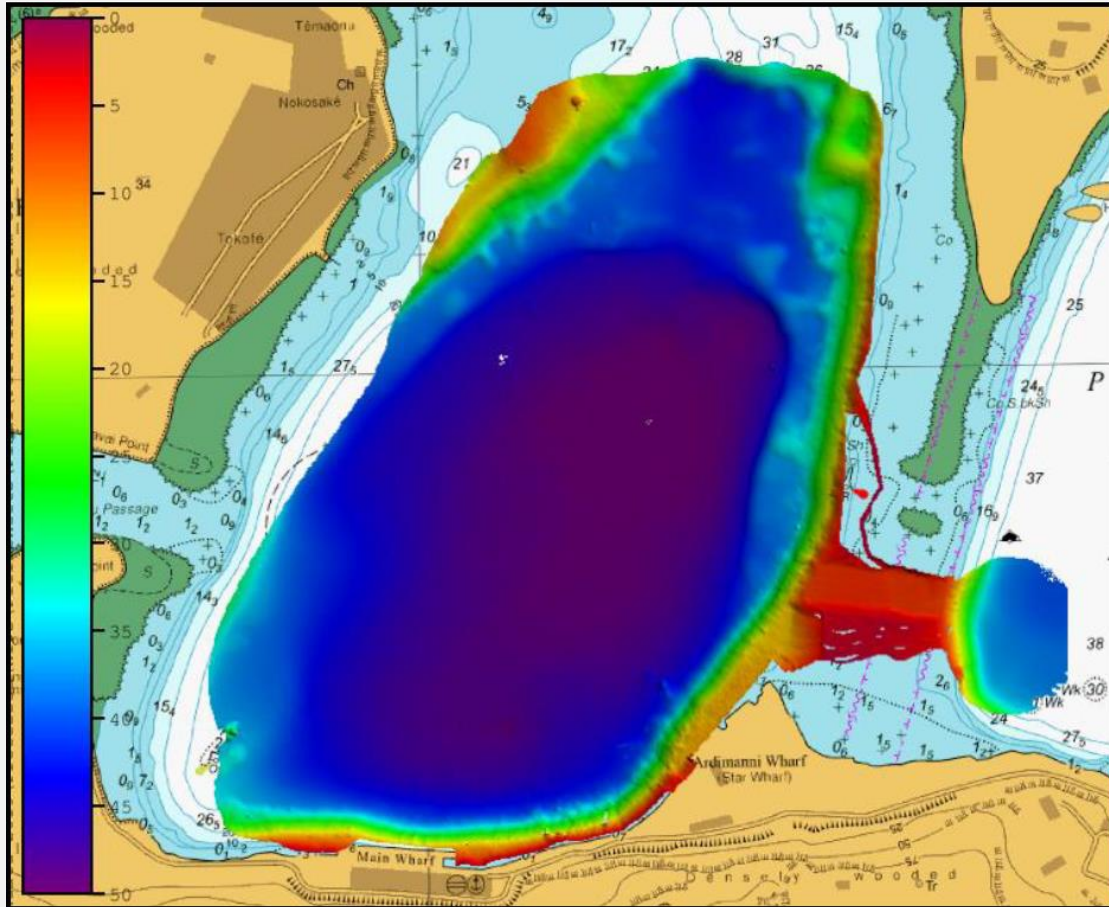
There is less risk involved when a ship is kept strictly to the intended track by increasing or decreasing its rate of turn in response to the influences of factors such as tide and wind

Port Pilotage -ENC coverage observations

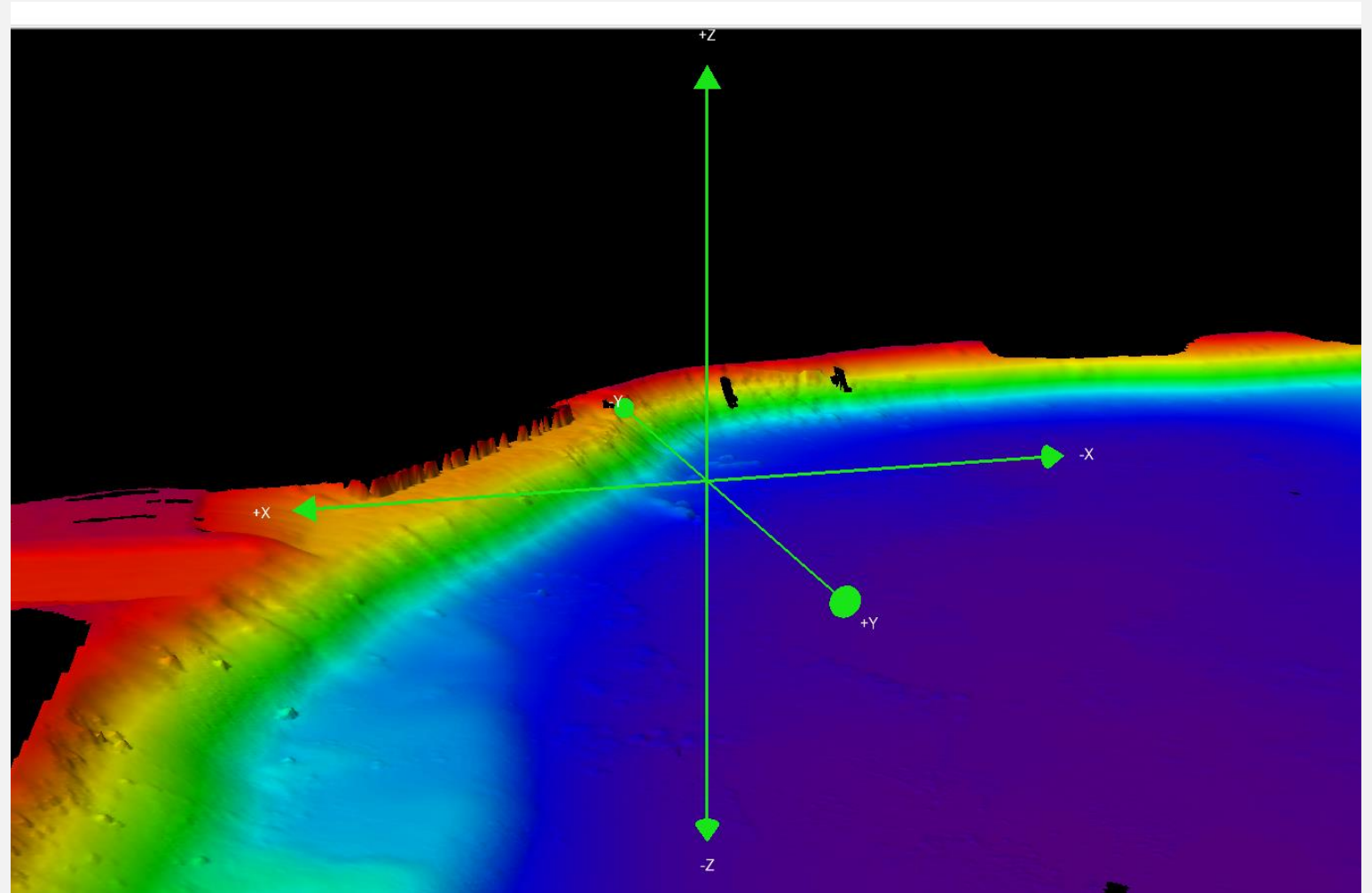
- The correct process for updating ENC within ports is not well understood
- Old datum's persist and contribute to above
- Pilot's perceive the process to be slow and therefore often adopt private vector software solutions in their PPU
- Harbour Master's often lack awareness of ENC & ECDIS use- technology leap
- Some of the benefits of real time electronic navigation and positioning are therefore being lost (e.g. RTK, Oceanstar positioning in combination with highly accurate picture of available space)
- Big ship small space increasingly requires above

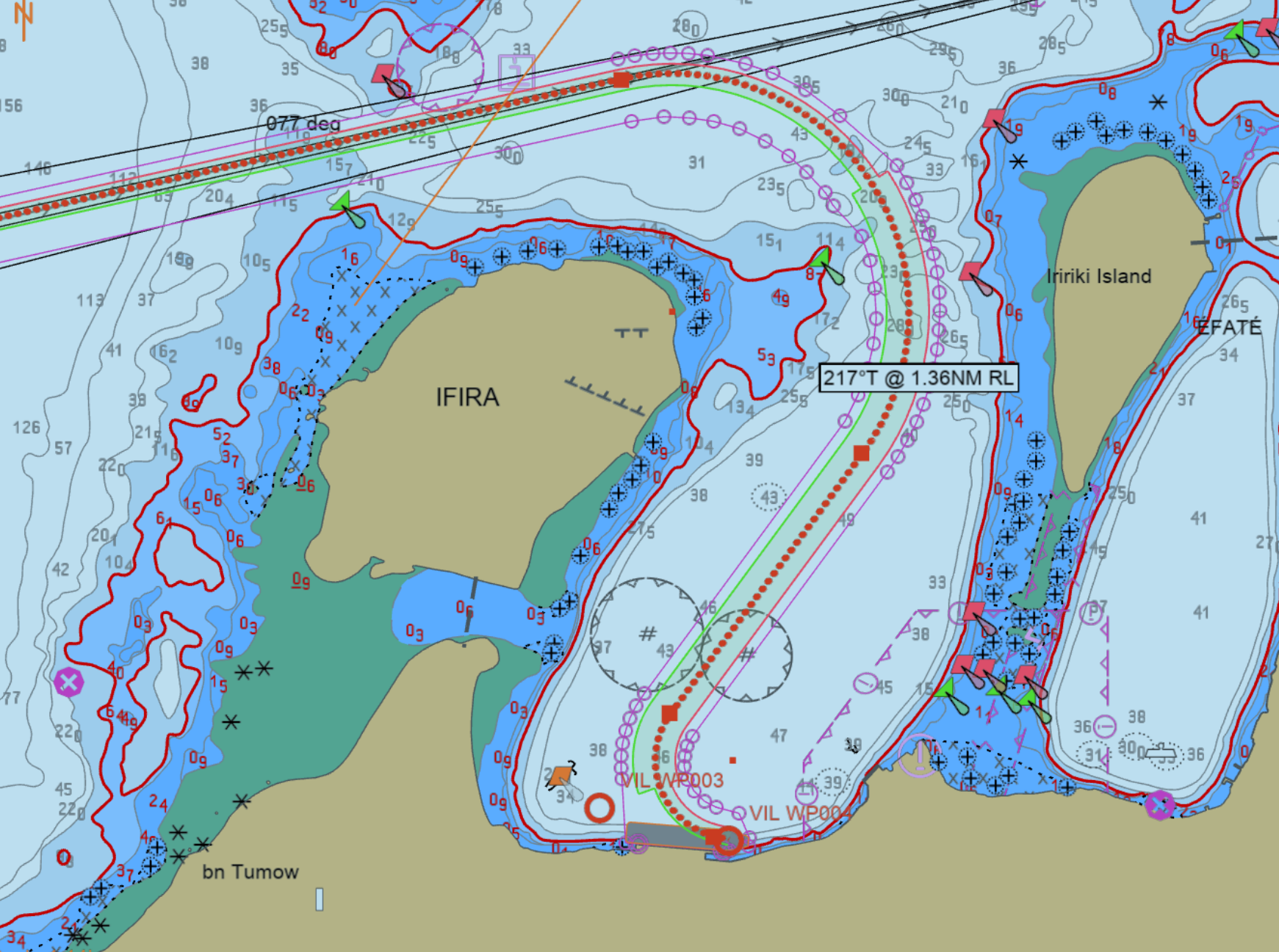


Port Vila Survey Including Container Berth



Tides and Berths in 3D





Port Vila Container Berth



IHO Recommended ENC Scales

Navigational Purpose	Name	Scale Range
1	Overview	<1:1 499 999
2	General	1:350 000 – 1:1 499 999
3	Coastal	1:90 000 – 1:349 999
4	Approach	1:22 000 – 1:89 999
5	Harbour	1:4 000 – 1:21 999
6	Berthing	> 1:4 000

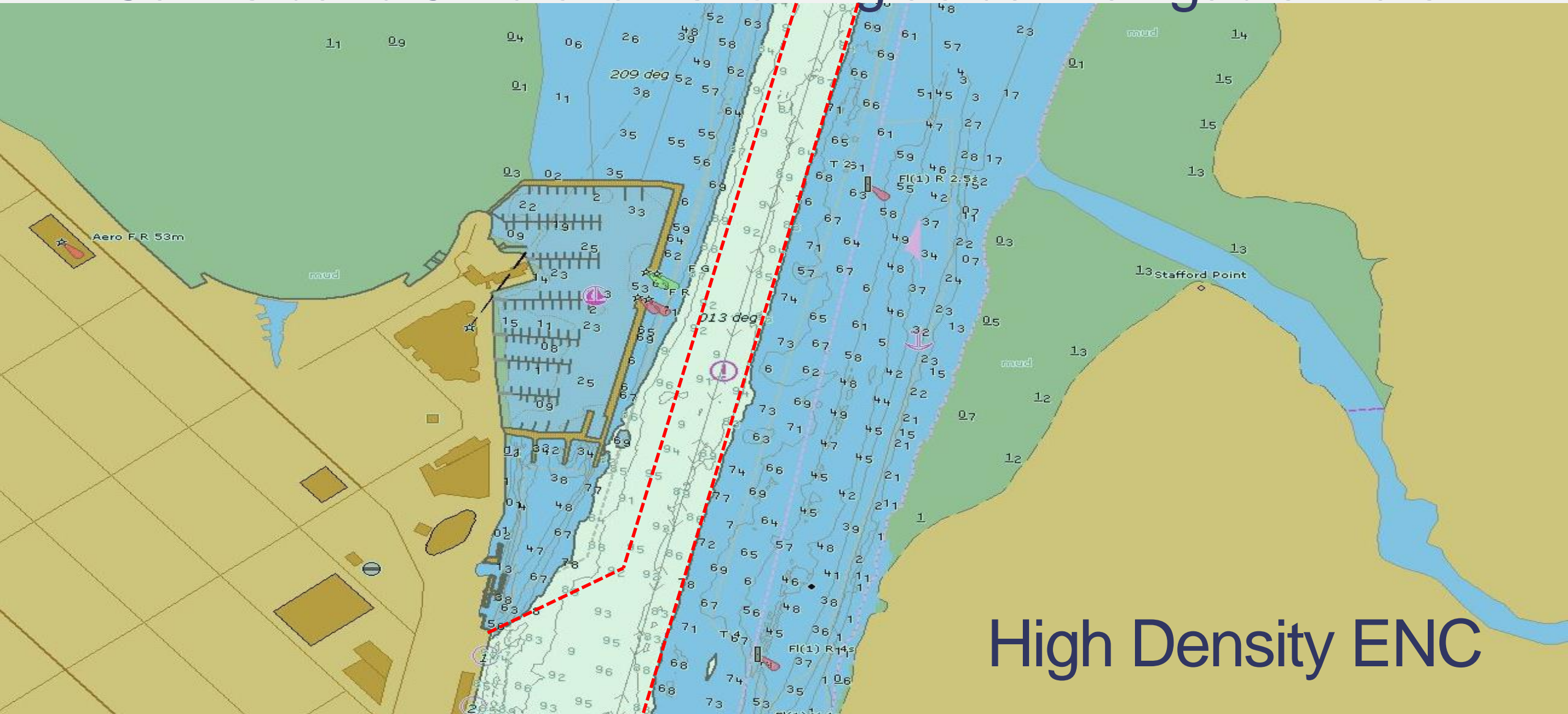
Ships are getting bigger yet the ports remain the same size.

IHO recommended scales are now a critical piece of infrastructure in order to accommodate safe navigation.

Selectable Range	Standard scale (rounded)
200 NM	1:3 000 000
96 NM	1:1 500 000
48 NM	1:700 000
24NM	1:350 000
12 NM	1:180 000
6 NM	1:90 000
3 NM	1:45 000
1.5 NM	1:22 000
0.75NM	1:12 000
0.5 NM	1:8 000
0.25 NM	1:4 000

Large vessels also rely on Radar or other technologies to berth in a precise position and this requires further consideration of the ENC scale in relation to the Radar range in use.

Cairns band 6 Hd chart showing actual Navigable Water



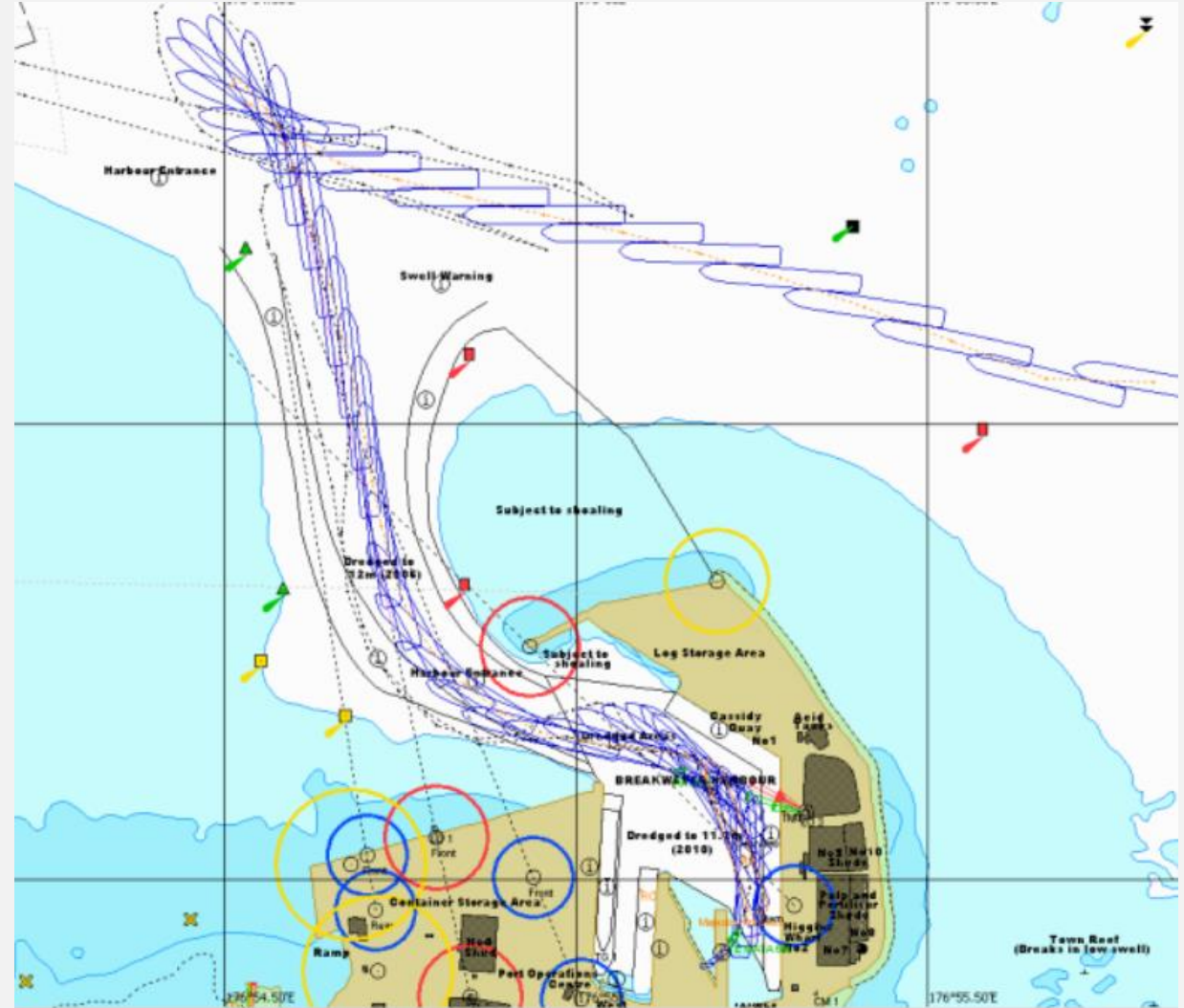
High Density ENC

Queen Elizabeth –first large ship into Cairns 28 February 2020



Some example Ports that would benefit from hdENC (with 1m contours)

- Noumea (Petite Rade)
- Port Vila
- Suva
- Tuvalu (Funafuti)
- Surabaya
- Eden
- Auckland
- Napier
- Tauranga

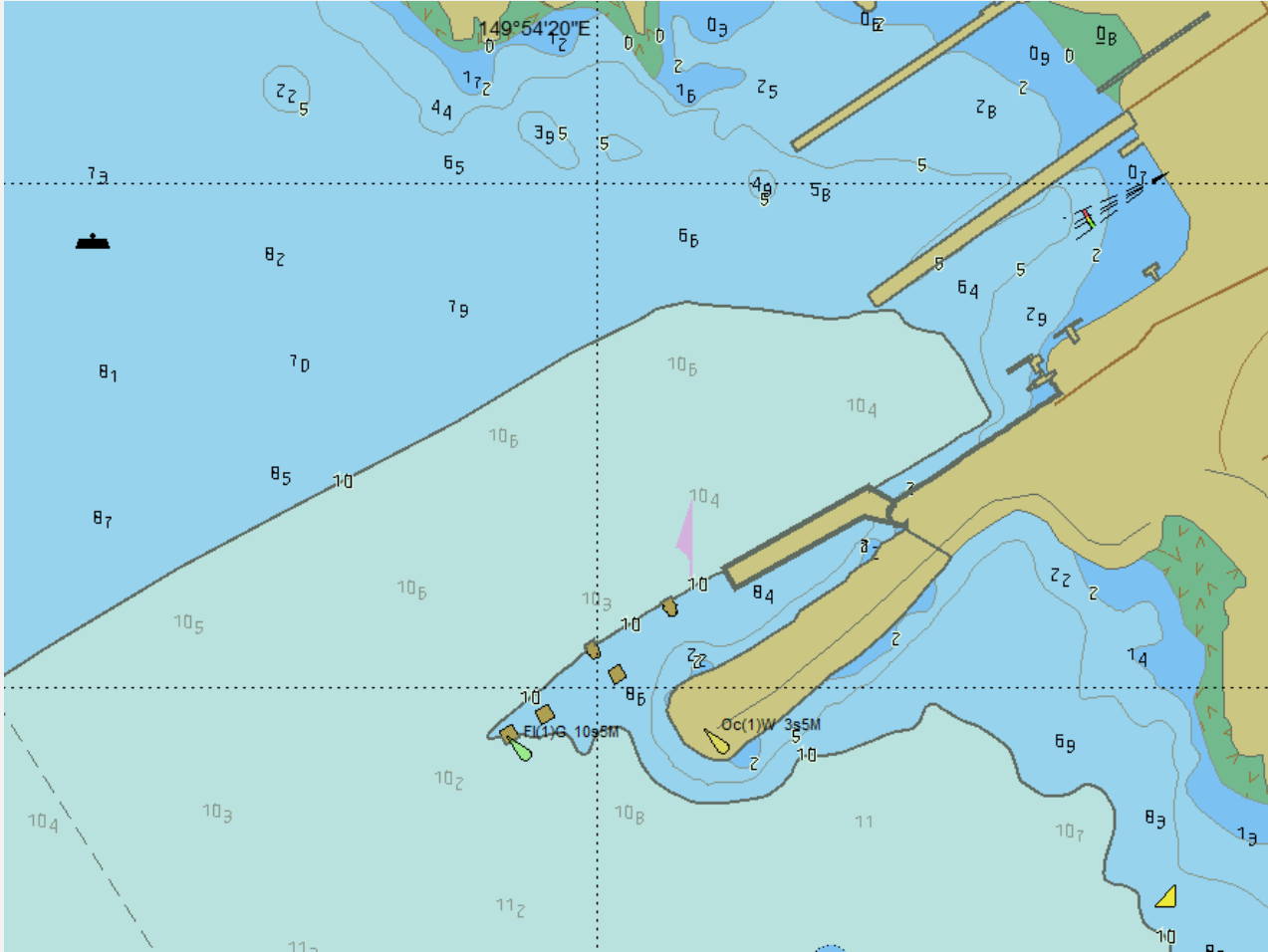


South Pacific partnerships

- Australian Department of Foreign Affairs and Trade (DFAT), Australian Aid collaboration particularly in Vanuatu.
- Ni Vanuatu crew member employment- increasing shipboard numbers.
- “Save the Children” partnership Solomon Islands & Vanuatu.
- Post disaster support/ship visits
- Cyclone Pam (Port Vila)
- Cyclone Debbie (Whitsunday Islands)
- Bushfire relief (Mallacoota)
- Post bushfire tourism support (Eden)



Eden : Regional Economic Impact



The additional commercial activity has a significant direct economic benefit.

Recent bushfires have impacted tourism numbers.

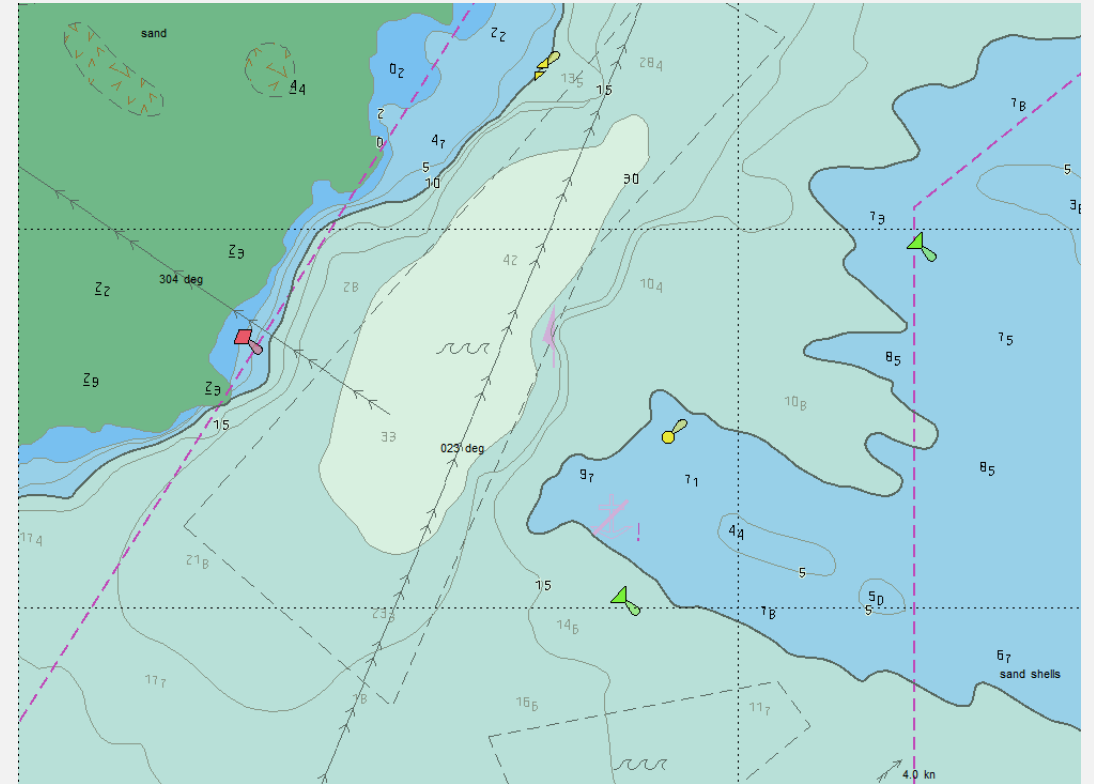
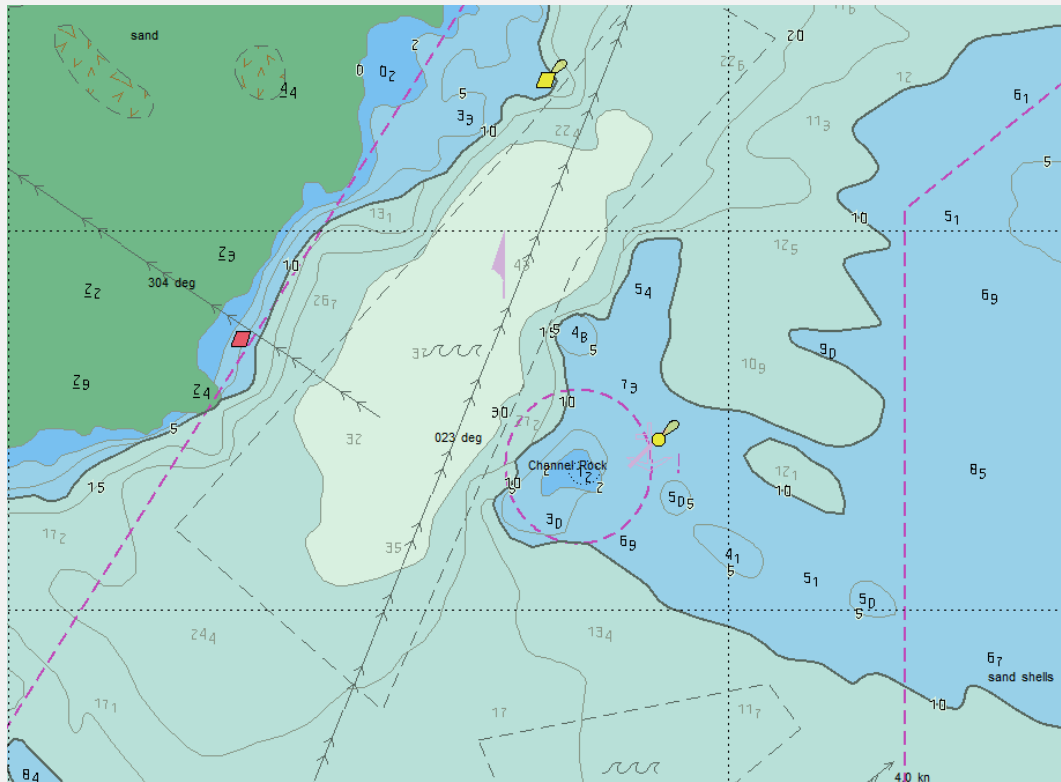
To support local and surrounding businesses, P&O Cruises have added 3 additional calls to boost the economic recovery.

A cell with 1m contours will further aid navigation decisions in marginal weather conditions.

Broome : Regional Economic Impact

Old v New ENC showing additional manoeuvring space

post dredging which has resulted in eradication of rock and provides more navigable water

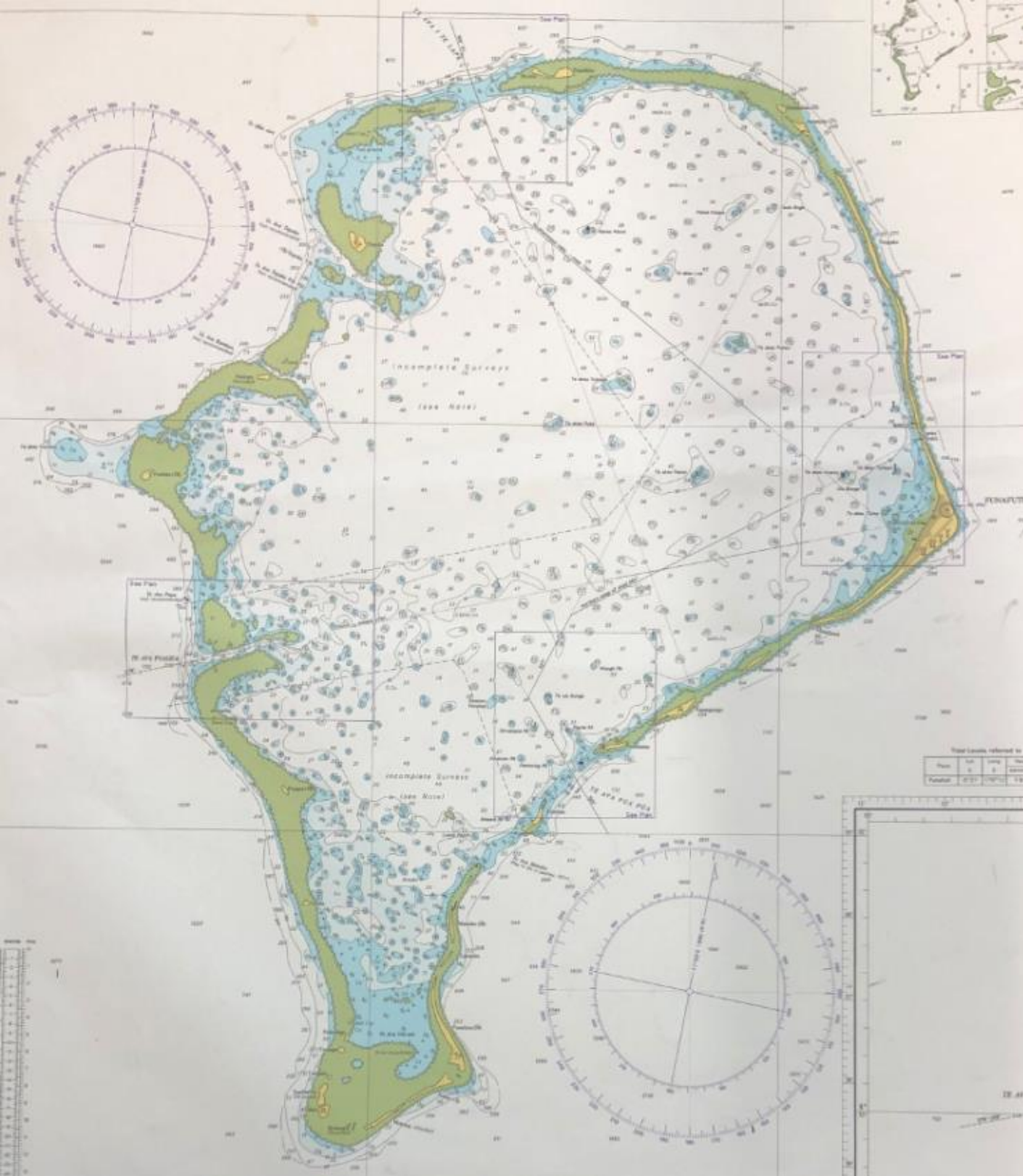


Missed opportunity

Government of Tuvalu requested in 2018 we deploy a ship to Funafuti to accommodate delegates as part of the SIDS 2019 conference.

Had the chart and AtoN coverage been better we would have seriously considered.

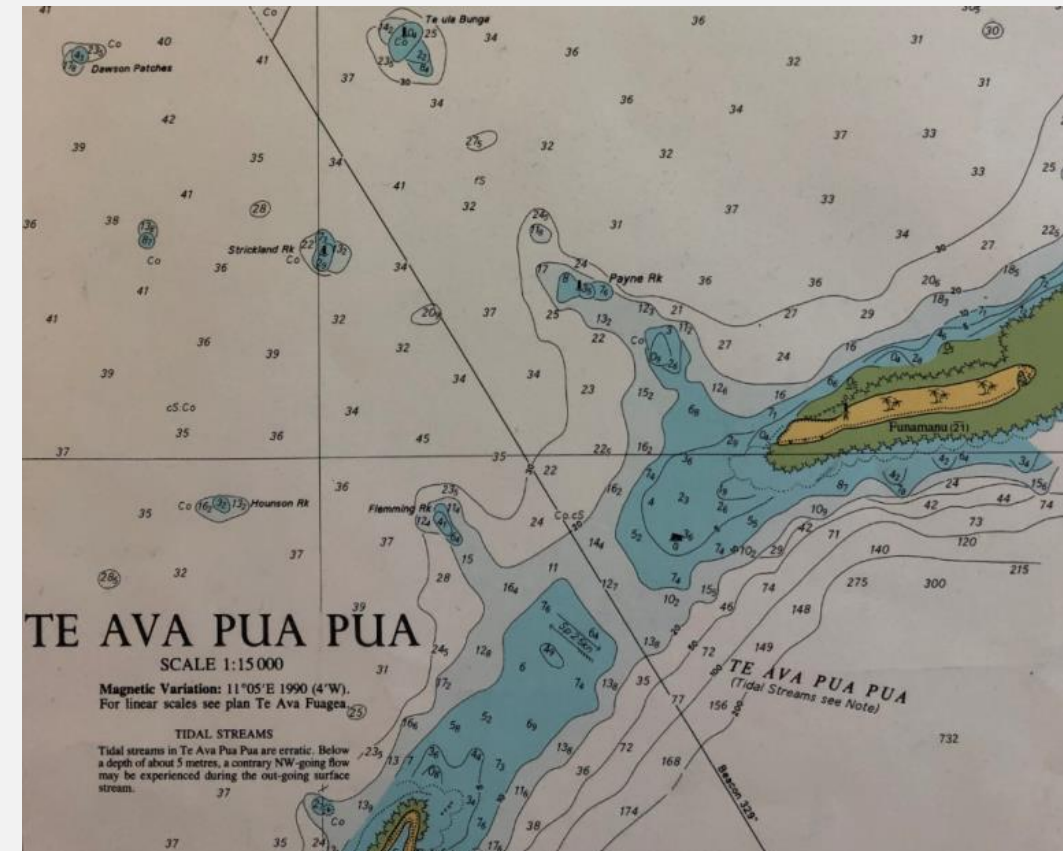
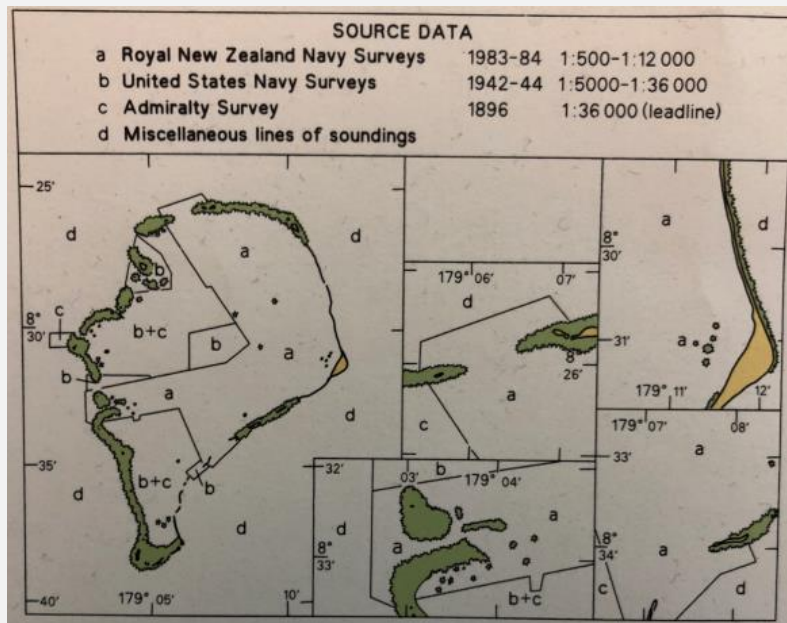
P&O advised Tuvalu Govt. in 2018 they might approach UKHO (PCA) for consideration in the Commonwealth Marine Economies (CME) programme.



Tuvalu is possible on certain itineraries out of Auckland- **providing** Yasawa i Ra Ra & Funafuti (Tuvalu) was appropriately charted to permit safe access.

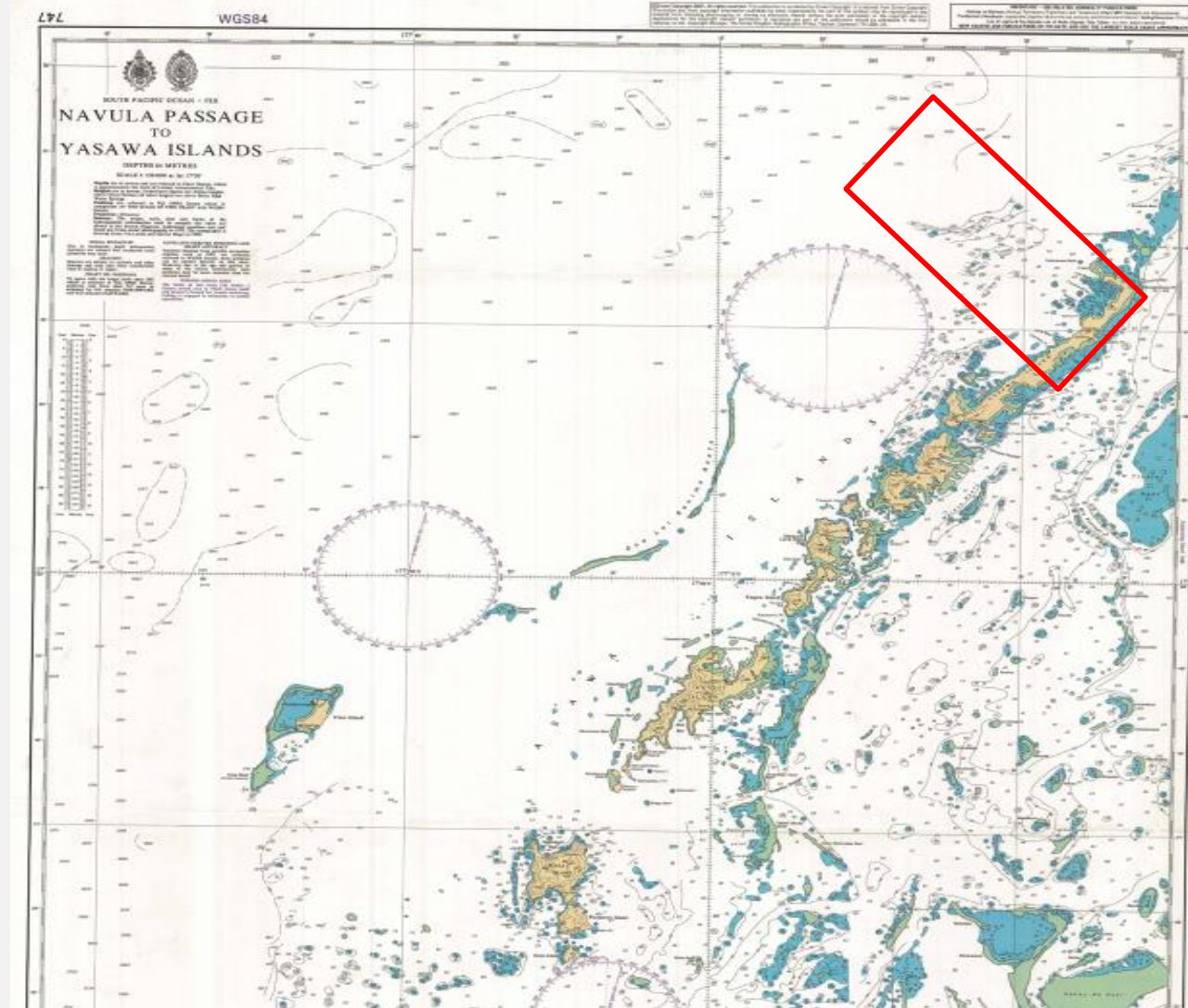
That could also lead to cruise ship calls to Rotuma which lies en route to Tuvalu from Yasawa i Ra Ra.

This in turn will lead to more calls in Suva & Lautoka with the associated economic benefit.



“Would If we could” (safely) ; aspirational destinations

- Rotuma (Fiji)
- Funafuti (Tuvalu)
- Happai Group (Tonga)
- Torres Islands (Vanuatu)
- **Lepatasi Wharf Port Vila (Vanuatu)**
- Bouganville (PNG)
- Spice Islands (Indonesia)
- Savaii (Samoa)
- Yasawa I Ra Ra (Fiji)
- **Labuan Bajo (Indonesia)**



Feedback on ENC Usability

- Appropriate scale of ENC for the navigational task in hand (Harbour, berthing etc.)
- Ensure the contours are sufficient to allow proper use of safety settings in ECDIS (NP 231). Five metre contours are often insufficient in many cases since it means setting the safety alert too conservatively or too aggressively
- Symbology improvements are desirable; boundary delineation and use of isolated danger symbol



- Territorial Sea Baseline marked & “alarm enabled” on ENC would make a significant contribution to environmental stewardship of the Oceans.
- End User input into ENC presentation and symbology in ENC working group
(Captain Antonio Di Lieto, CSmart Netherlands)

“Boundary delineation” on ENC remains a problem

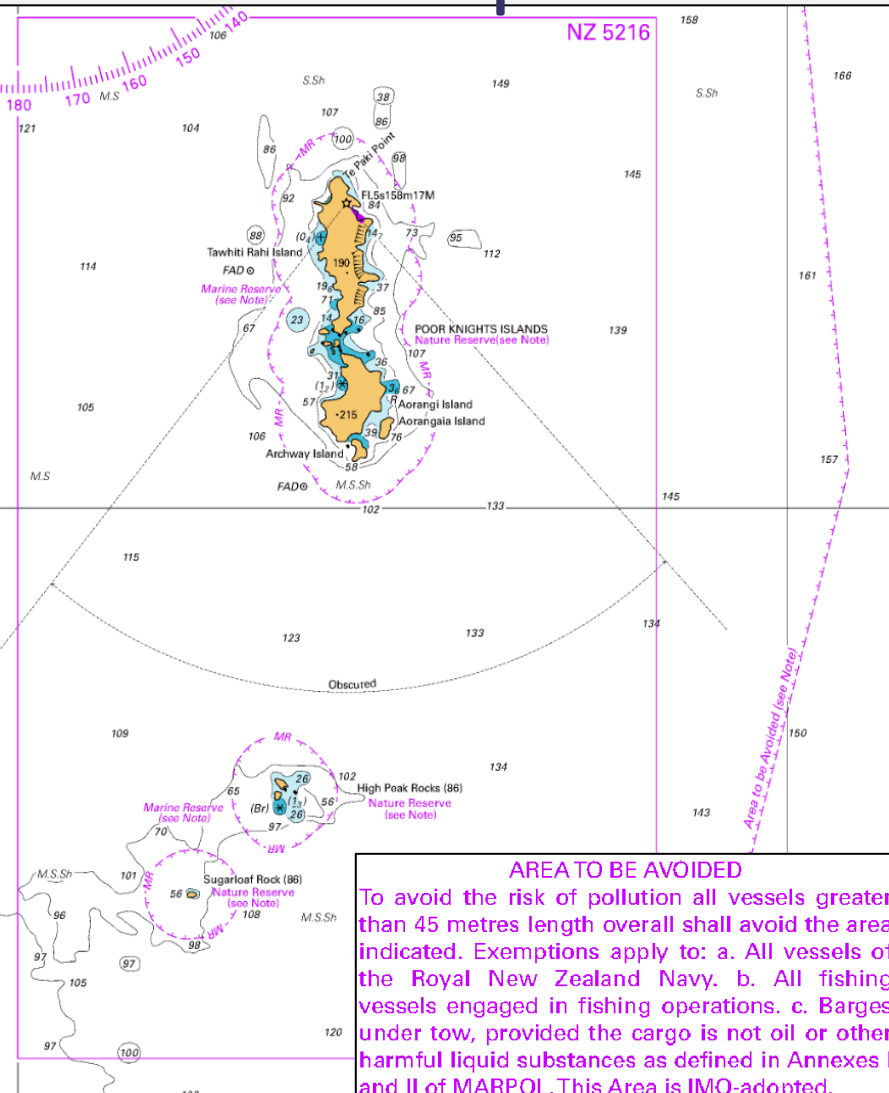
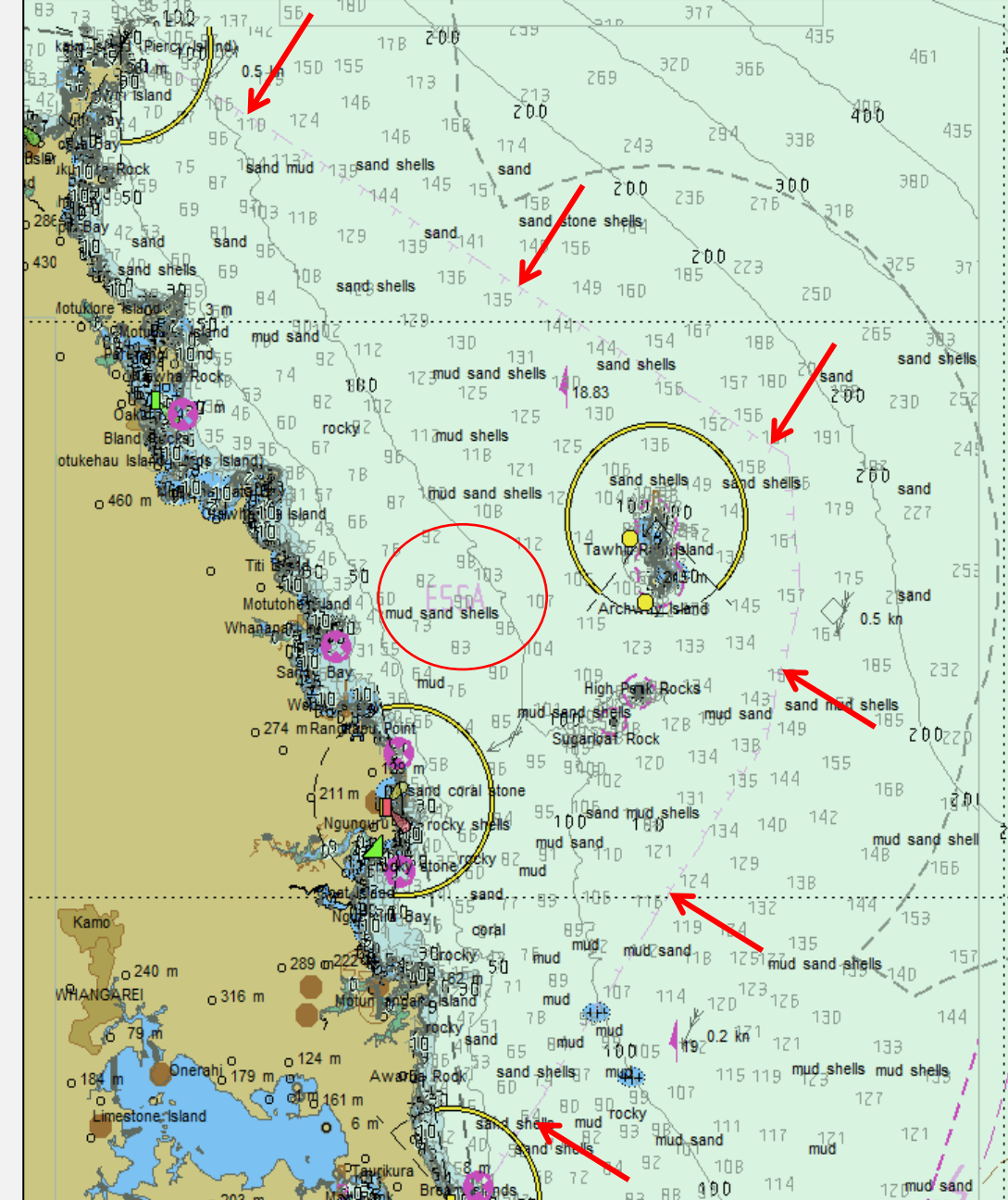


CHART
PRESENTATION

ATBA v ESSA

Paper v ENC

Less labels on ENC



THANK YOU

