



Sunset over Fergusson Island, 'Oiatabu left and Mt. Maybole right and Goodenough Island far right from Losuia, Trobriand Island

dkm

A return stint of field work was made to the outer Kiriwina islands in November-December. As this involved a 900km round trip in an open 23' dinghy with 40HP outboard it had to be made in the best weather possible. Even though we carry life jackets an iPERB, sat phone we never intend to have to use them. The SE Wind season that usually disipates after the full moon in October however didn't. It has been unusual weather with ongoing days of sun, showers, sun and some thunderstorms making it muggy with very high humidity, which makes being out in it a bit oppressive. It seems that there is no 'normal' year any more, with greater unpredictability. As from the pictures here it can be seen that when the sun is low in the sky that the colours are often spectacular. Possibly due to volcanic ash and aerosols from the multiple eruptions in November of the Lewotobi Laki-laki volcano on Flores Island, Indonesia. Whilst in the higher latitudes of Australasia ongoing *Aurora australis*, the southern lights have also been quite something for people there. This field work was essentially every day sun and rain and we were constantly wet, but that's the way it goes

sometimes. When we apply for funds from donors understandably there are milestones to reach and a timeline to meet, but that is very much dependent on the local situation as it pans out. This can lead to pressure when travel is delayed and no-cost extensions that become an administrative concern.

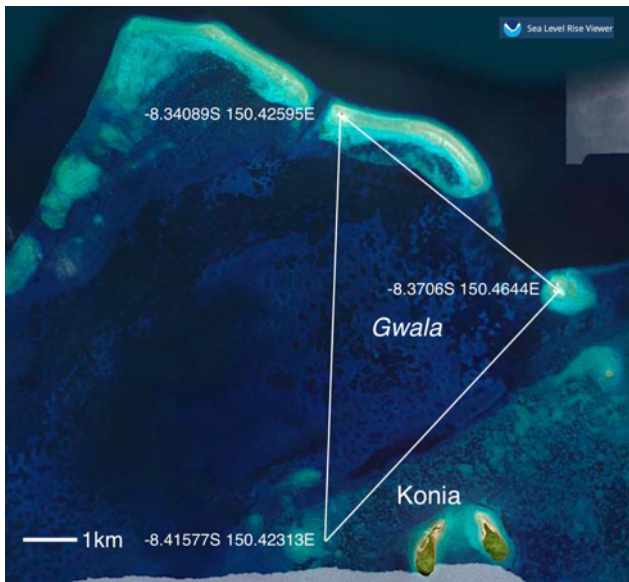
Despite all this, much usually is achieved. We found though in working within climate change projects it is often assumed that village people and even school teachers have an understaning of the causes, impacts and potential projected future impacts of climate change, but usually this is not so, they don't. Therefore a basic outline of these relevant to the local situation is a need that we outline in the schools and with a diversity of leaders. Some of this is outlined in another article in the newsletter.

Also encouragingly, following on from the showing of 'Gwala Rising' during the previous visits to this area many leaders with their communities had discussed the value of trying 'gwala' customary closure on a section of their own reefs/magroves as a part of sustainable natural resource management.



Sunrise over Wagalasu Island from the adjoining Konia (Simsim) Island

em



The most interesting of these was the 18km² gwala triangle that joined the dots of sand cays and a rock within the tenure rights area of the Konia Island community. This community had a 'gwala' on a coconut grove on the previous visit and applying the same principle on the reef was a matter of community commitment and consensus as to the usefulness of doing this.

With the interest of the community, we video recorded the thinking behind the placement of the gwala that people had. We also surveyed the reef health as per 'Coral Watch' from the University of Queensland along with video transect in which we saw schools of fishes within the gwala area. It was suggested to the community that the uninhabited islands to east also could have a gwala placed on them as a boundary mark of their marine tenure rights area.



School of fusiliers in the gwala customary closed area st & stopping by eastern islands of Simsimla. dkm

Letter From the Director

Welcome to this our seventeenth ECA newsletter for Eco Custodian Advocates.

We finished the year with a lot of travelling around the province. To the north-west corner of the Lusancays and to the south-west corner of Kololona and the sunken barrier reef, some 1200km in an open 23' dinghy on these two voyages alone.

The articles in this Newsletter are a mix of gwala customary closure and fishing, whilst raising the issue of fishing rights and the area of this jurisdiction based on custom and formal governance.

Some monitoring under the water and in front of a screen.

Some awareness in communities and around Alotau.

This is interspersed with the history of things, though with an eye to the present and the future.

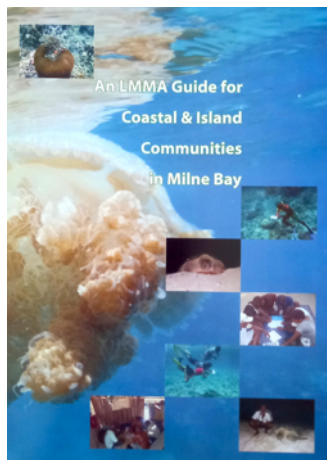


David K Mitchell

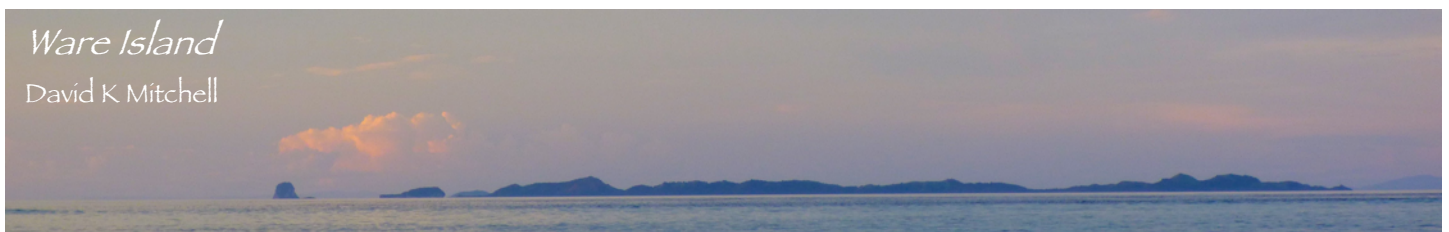


Awareness on the benefits and *gwala* and LMMAs was made by ECA over 2 days of the Kenu & Kundu Festival in Alotau on the 1st and 2nd of November. A stall was prepared as an initiative between Huhu RLLG, the Provincial Fisheries and Marine Resources Division and Eco Custodian Advocates to disseminate vital information to local communities on customary closure *gwala* and on Inshore Fish Aggregating Devices (IFADs). The LMMA (Local Marine Management Area) for Milne Bay Communities booklet, Steps to 'Gwala' and Village court booklet and Reef Monitoring brochures, were put on display and copies were given out. A carton of 100+ copies of these were snapped up.

A good number of fishers; men and women, students and government officers came through the stall to gather information.



The chairman for fisheries, agriculture, livestock & forestry, Hon Liliuna Yaune, member for Gibara ward, Huhu RLLG came by the stall. We discussed the idea of *gwala* and IFADs suggesting that *gwala* be recognised within the jurisdiction of Huhu Local Level Govt. through a resolution from all ward members in an assembly meeting. He was impressed about the idea and said to look forward to putting a policy paper for such endorsement in the last Assembly for the year in December.



Bell Rock and Ware from the SW

dkm

Teste (Ware) Islanders had seen Captain Moresby anchor in 1873 and crisscross the island, Rev. McFarlane and teachers landed in 1877, a pause, then in 1884 a series of blackbirding vessels sailed through picking up local lads as translators followed closely by Commodore James Elphinstone Erskine who raised the Union Jack proclaiming the Protectorate. This was then followed by a rush of copra traders [Kissack] and beche-de-mer divers [Nick the Greek] and others. Our visit in encouraging *gwala* customary marine management and training in marine monitoring came some 150 years on from this contact.

Moresby wrote of '*jawbone bracelets and small ugly figures carved on [lime?] sticks and bowls..of great power.. that were in keeping with the women, with whom we found it impossible to trade. And skulls hung up in numbers in the village*'. There is no sign of these now. Then just four years after this contact, the missionary Rev. McFarlane in 1877 '*located*' two of the (Lifu) Loyalty Island teachers Waunaea and Chatchma '*amongst the maritime and cannibal native of Teste Island where they were kindly received*' taking them out of the LMS missions of the malarious Baxter River and Saibai. Now there are 4 United Church churches on the island and one just recently, that had a *gwala* placed on reefs for the opening celebrations.

At annexation in 1884 '*the man-of-war anchored off the north shore ...and a detachment of blue jackets, marines and a large number of officers....picturesque and fitting ... a gathering of astonished natives close by... the strains of the national anthem rang out as a royal salute greeted the hoisting of the flag at which the sound of the guns*

of the Nelson reverberated among the hills and to the honour of her most gracious Majesty Queen Victoria .. three hearty cheers.' Now on school days the PNG flag flies, the national anthem is sung, the pledge recited and a morning devotional sung and its many students are taught in English continuing in the legacy of others who have left the island to work outside.

When the blackbirding ships came and sailed on it was 'for the most part Teste Island boys who were employed as interpreters'; Lizzie 1st Jan 1884, 14th March, the Caera 30th March, and the Hopeful 11th May.



Bell rock seabird rookery near Ware Island. dkm

'The remarkable Bell Rock was as it is seen at the best of times, massive high, weatherbeaten and bleak and moaning as the waves burst at its cavernous base', was penned by the Sydney Morning Herald correspondent on the Victoria during the return of blackbirded sugarcane labour in 1885 whilst at Ware Island.

As for traders there are a few trade stores on the island and when the season for diving sea cucumbers is opened by the National Fisheries Authority the young lads dive for sea cucumbers on the many extensive reefs, cutting 10 tonnes of fuelwood to process and dry every tonne of beche-de-mer.



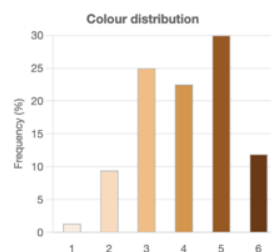
Kissacks trading canoe 1885. Lindt.



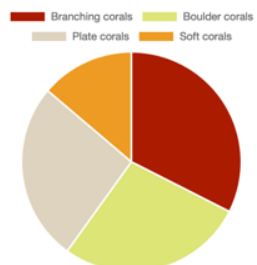
2024 the beach that has been eroded some 20m+ over the last century jk



Ware youth monitoring reef using coral health chart st



This graph shows the frequency of ALL coral colours at this location.

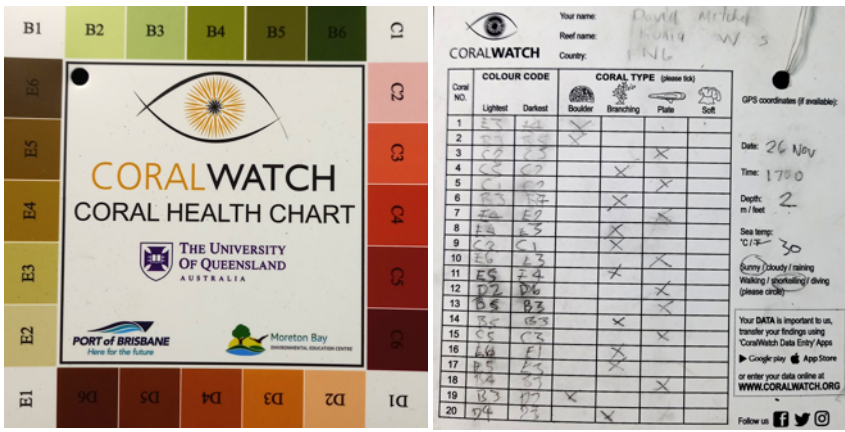


This graph shows the coral type composition for all surveys at this location.

Map of survey area and results from CoralWatch

Reef health monitoring training was done with youth on Ware Island. 6 boys and 5 girls. This was using a random survey method that was put together by the Centre for Marine Science, University of Queensland that uses a reef colour chart with results recorded on a purpose underwater slate.

This is a straightfroward recording technique with results that can be interpreted locally or from being input into a database that goes onto the Atlas of Living Australia ALA. In this the results are graphed making



it easier to understand them When reef colour is 3 and above the corals are healthy, below 3 they are under stress and at 1 they are bleached.

How to do a survey transect line using a tape measure for selected fin fish and shellfish was also taught. This is to determine the presence of the types of fish/shell fish that the local fishers were interested in. The boys naming the fish in local language and girls the shellfish. It is

Underwater chart and recording slate

important that the resource 'owning' line, girls work together with their brothers who are 'managers' on their clans behalf under their matrilineal custom.

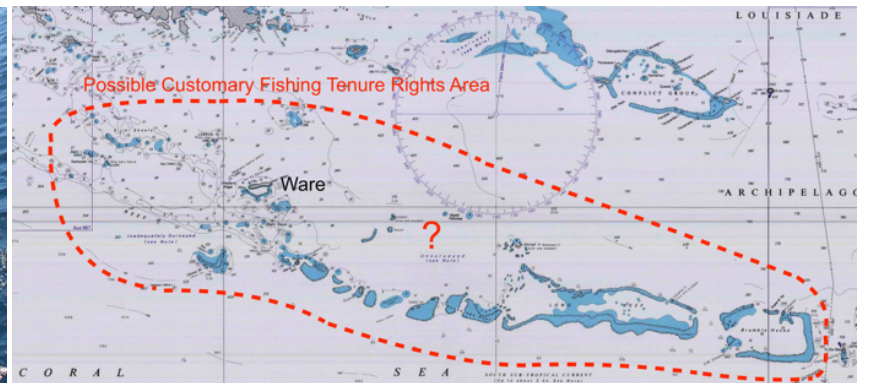
During their school break Bessy Taugopi and Joslee Kiluma took part in this training and monitoring at Ware and adjoining islands. Camping out on uninhabited islands without a well or water supply means you carry your water for drinking and after a day of snorkel monitoring, a salt water wash in the sea as right in the potential *gwala* area.



'Mr Minion [passenger] told them that while here [Ware] the air was literally darkened by millions of birds who were engaged in catching the fish that in immense shoals inhabited the deep blue water beneath them'. The voyage of the *Loelia* Oct 1877. Now it seems that when a flock of a hundred sea birds it seems like a lot. Has the situation really changed so much in the last 150 years?



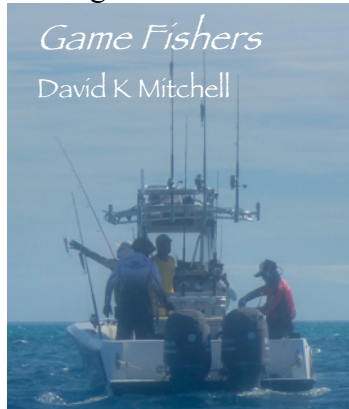
Bonito Skipjack Tuna jk



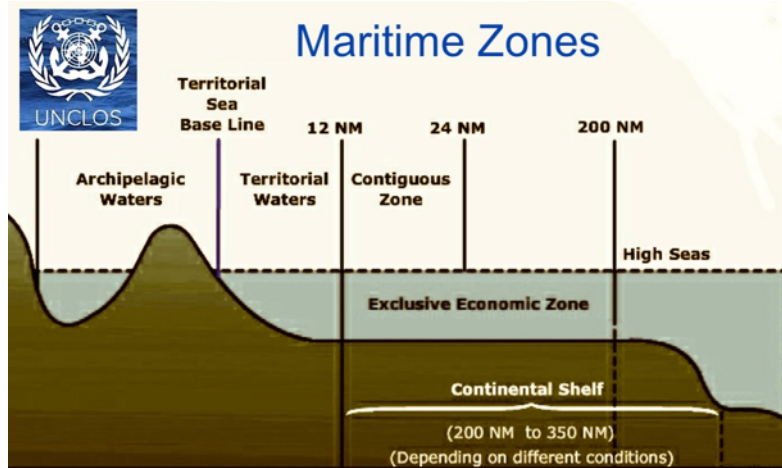
Tentative Ware Marine tenure rights area

From these waters around Ware, fishers catch pelagic species from trawling from an open dinghy. For eating or for market in the provincial centre Alotau, where a piece of smoked fish steak sells for 7-12 Kina or frozen Mackerel in the supermarket for 18 Kina/kg. These fishers rely on their extensive customary marine tenure rights area, however with the socialisation of UNCLOS the UN Convention on the Law of the Sea and defining the PNG international maritime baseline and EEZ (Exclusive Economic Zone), there has been a lack of effort in defining zones within which customary rights exist.

In the recent past territorial sea rights around a country were defined by the Canon Shot rule, *terrae dominum finitur, ubi finitur armorum vis* (the dominion of the land ends where the range of weapons ends). The range of coastal canon in the 17th Century was roughly 3 nautical miles and thus set the 3 nautical mile limit. More recently this rule has been used to delineate the extent of 'customary fishing grounds', but the origin of this rule has nothing to do with this.



Whilst we were over the horizon, but still in sight of Ware Island travelling out to see the current status of Kololona and Mampina cays, we chanced upon two dinghies of game fishers. The main vessel apparently is a leisure craft of a PNG company that has an establishment just out of Alotau. The Ware Ward Development Committee, chairman of fisheries who was with us asked them to move on as he had no knowledge of them asking permission to run this business voyage in the Ware marine tenure area that needs to be respected.

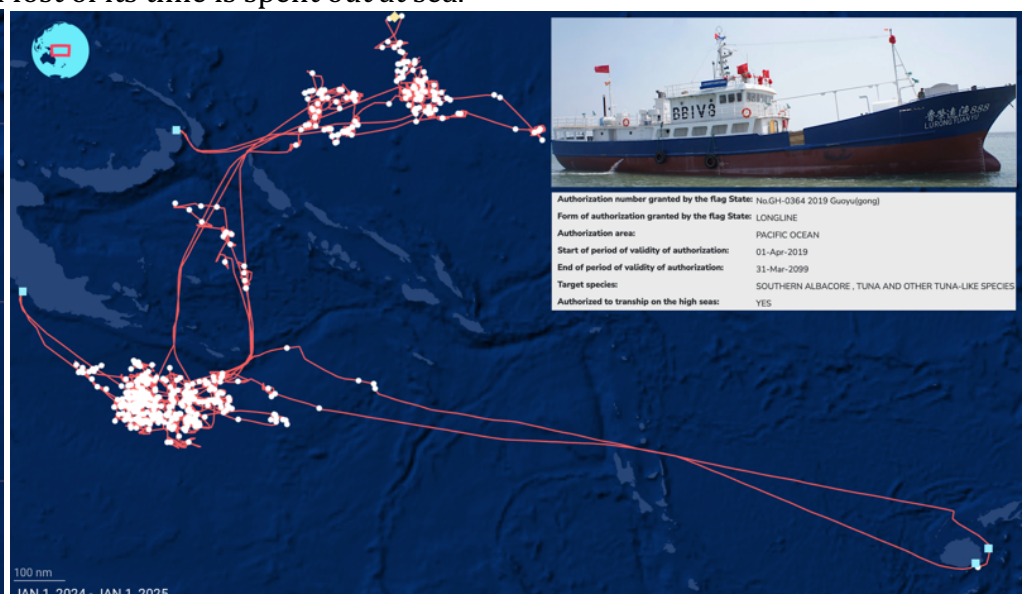
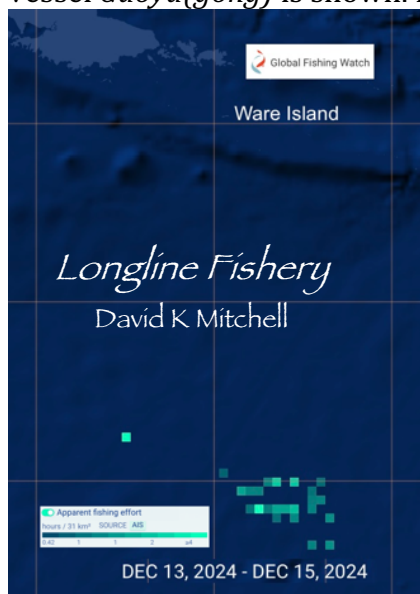


UNCLOS, is an international treaty that establishes rules over the use of the world's seas and oceans which was adopted in 1982 and came into force in 1994. PNG Signed Dec 19th 1982, Ratification, and deposited the Agreement, Accession Jan 14th 1997. One aspect of this treaty relates to defined Maritime Zones.

The PNG Fisheries Authority issues fishing licences beyond Territorial Waters under the *Fisheries Management (Amendment) Act 2015*. I ask where does the jurisdiction of the Local level government extend to? In any case fish are mobile and does

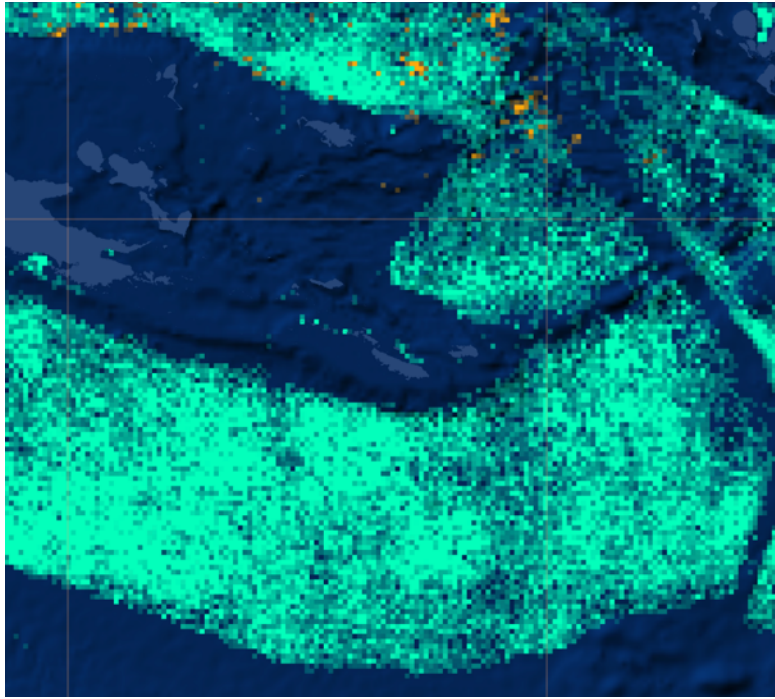
commercial long lining impact pelagic stocks that island communities' fish?

During this stint of field work licenced longliners were fishing south of the Sunken Papuan Barrier Reef. This information can be researched from Global Fishing Watch which aims for a sustainable ocean through increased transparency using map visualizations, data and analysis. The fishing data of a single longline vessel *Guoyu(gong)* is shown. Most of its time is spent out at sea.



If we look at all fishing effort from the Territorial Sea to the boundary of Milne Bay Province and also the PNG EEZ over the last 12 months shown on the map of fishing effort, it can be seen that this is quite substantial. Which also raises the question, where does the jurisdiction of the Province extend to in regards

to its law making powers, such as s44.(1) fishing and fisheries of the *Organic Law on Provincial Governments and Local-level Government* (1998).



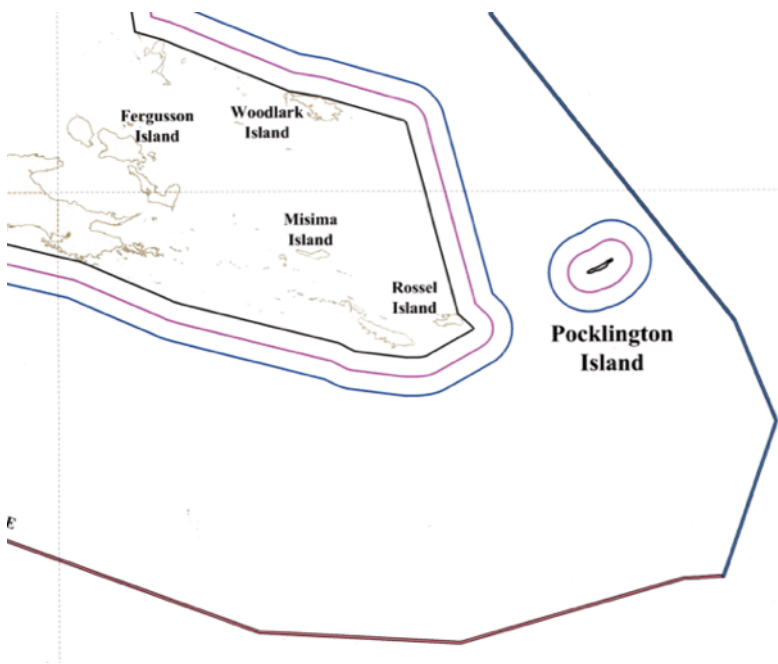
Commercial Fishing 01 Jan 2024- 15 Dec 2024



Archipelagic Baseline Claim based on Act 7/1977

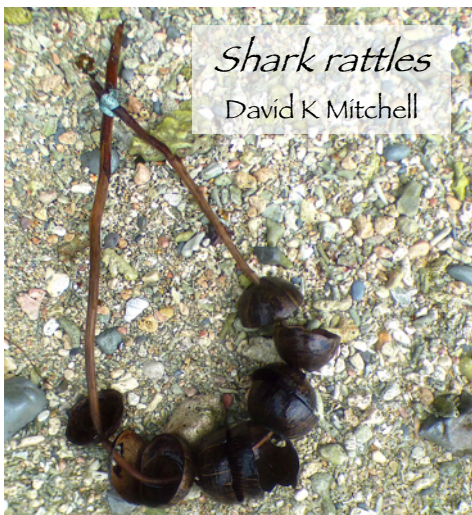


Archipelagic & Territorial Sea baseline PNGMBDP 2015/2 MZN.164.2024 based on PNG MZA 47/2015



The commercial fishery effort is across the EEZ green, whilst the Archipelagic waters and Territorial waters showing blue seabed floor of unfished area. The boundary with the Solomon Islands also is blue, not fished and to the south in the Australian sector of the Coral Sea which is designated the Coral Sea Marine Park CSMP. The CSMP is almost 1 million km² and is a zoned area with different IUCN protected area categories II, IV & VI.

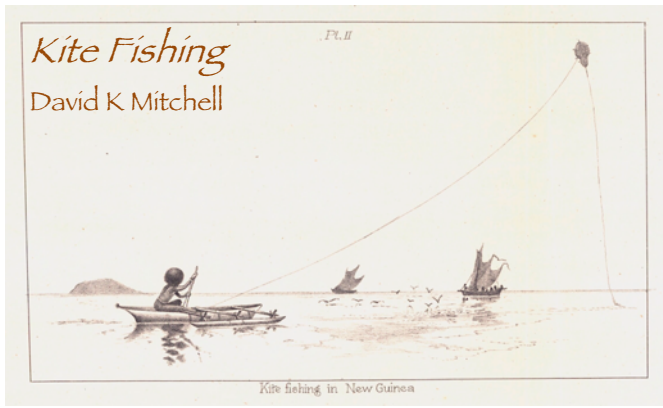
The Milne Bay Solomon-Coral Sea Marine area nominally as shown on the left is about half the size of the CSMP but would benefit greatly from its own zone management plan combining custom such as *gwala* and different protection and use areas.



When we went ashore at Kawa Island of the Lusuncay Islands there were several coconut-shell 'rattles' that are used for shark fishing on the beach. I also saw this at Gawa Island in the Marshall Bennett islands some 200km to the east over 20 years ago. In the 1890's This was also practiced in the Santa Cruz of Vanuatu and 'copied' by the Makira Islands of the Solomon Islands. There is use of coconut rattles and shark calling in New Ireland. Though in Milne Bay there was traditionally magic for fishing, I did not ask if they call shark, or if the use of rattles is custom or was also 'copied'. Eating of shark on Trobriand Island was *tabu*.

Now fishers around the province use floaters and large baited hooks to catch shark for the fins which are dried and sold, fetching good prices.

In Kiribati they used to have dolphin callers. There is much to learn.

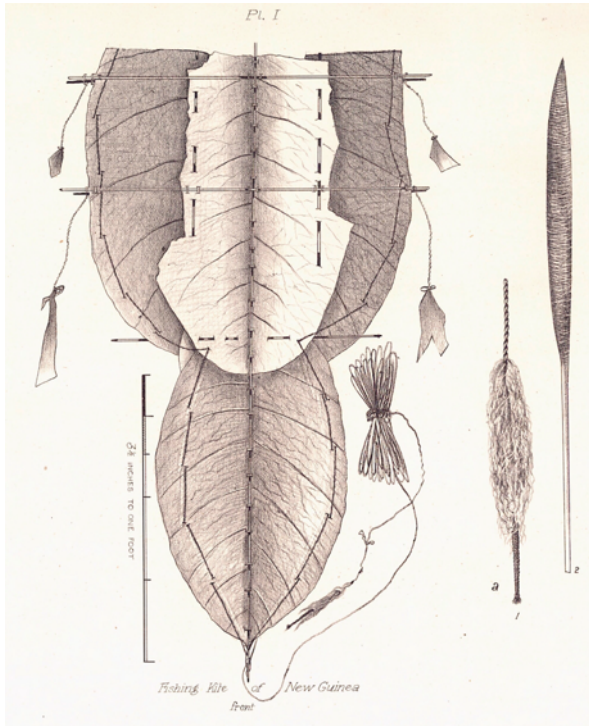


FISHING KITE USED BY NATIVES OF DOBU.

The Kite represented in Plate I is constructed of several leaves of a tree, determined by the Government Botanist to be *Morinda Citrifolia*, sewn together and supported by a frame-work of the nervules of a palm leaf. It is raised by a very light and strong flight-line and is furnished with a "sail" of the same structure and length. This sail ends below in a tassel of dense cobweb (Plate I, fig. 1) which is allowed to touch the surface of the water; fish attracted by it seize the bait and, unable to dislodge it from their teeth, are captured.

Plate II shows imaginatively the mode of using the kite from a canoe. Plate I fig. II is a carrier of cane, round which the cobweb is collected and stored for use.

Kite fishing Dobu Island



Above; Dobu fishing Kite South Australian Museum
 Left; Drawing of Dobu fishing kite *British New Guinea Annual Report 1898*



Makira Solomon Islands

In my travels around Milne Bay over the last 40 years I've never come across anyone kite fishing for garfish any more.

Though like using coconut shell rattles for shark fishing, kite fishing was practiced by different island peoples of Melanesia.

Having similar ways of doing the same thing.

Included here are pictures of fishing kites collected in the 19th century i.e. late 1800's from the Solomon Islands and Vanuatu. They really are quite technically innovative. And are works of art. The spider web which is the 'net' to entangle jumping garfish are often found strung across bush tracks here and they are very strong being made by large spiders



Banks Island Vanuatu

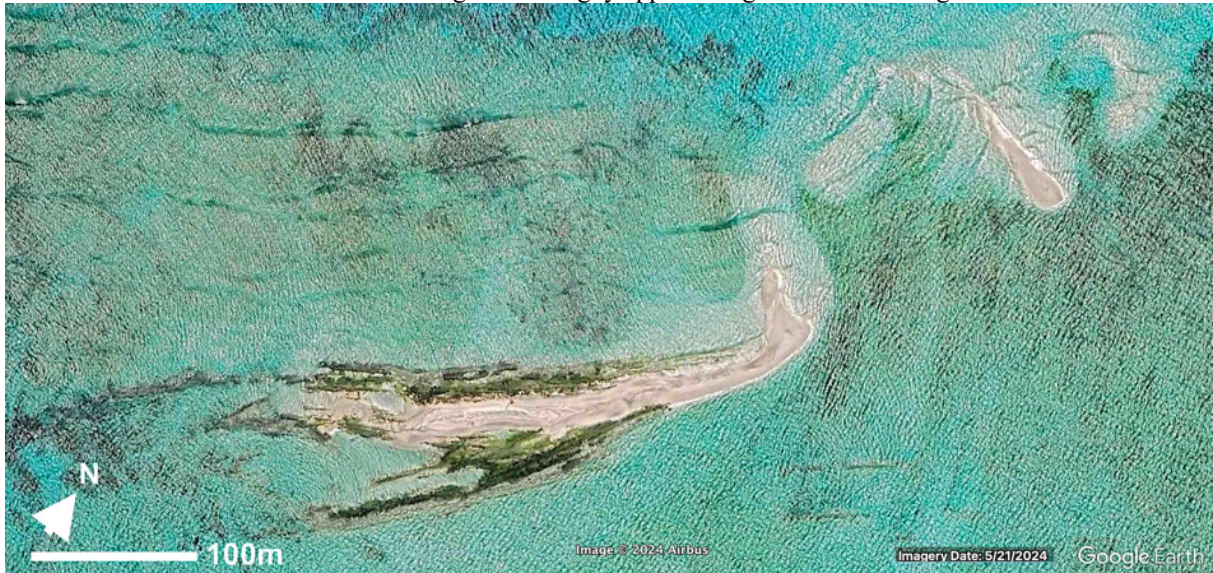




Kololona Dec 2017 drone image from the west low tide



Kololona Dec 2024 image from dinghy approaching from the west high tide dkm



Kololona from recent satellite image mid 2024 showing sand on rock Google Earth

It was a bit shocking to see the changes in Kololona in the 7 years since we had been there. The total loss of vegetation and apparent decrease in sand above the high tide mark along with the impact that this has now on the viability of turtle nests, which are intruded by salt water.



Sat tagged Cynthia 6 Dec 2017 Kololona



25 turtle nest pits and tracks 15 December 2024.

It was from Kololona that 2 green female turtles which came up to lay eggs were satellite tagged Cynthia CTI3311/CTI3312 6 December 2017 and Salauni CTI3313/CTI3314, 7th December 2017 named after the ECA marine biologist Noel Wangunu's daughter and a young girl on the survey team from Ware Island. Both of these green turtles tracked along the Papuan sunken barrier reef and across the Gulf of Papua to their foraging ground

in the Torres Strait. Salauni leaving first on the 21st February and Cynthia departed just over a week later on the 2nd March ending up between Badu and Moa Islands. See ECA Newsletters 2 & 3.

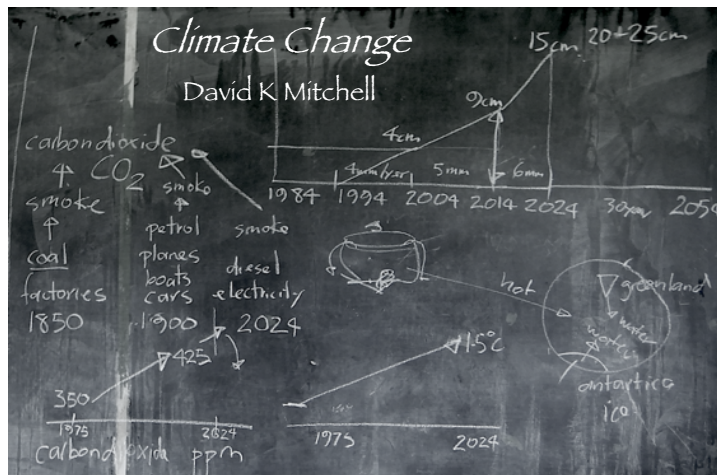
Unless caught and eaten these mature female turtles will return to their natal beach of Kololona to lay eggs in future, however the nests will likely no longer be viable with the high tide inundating the eggs in the nest.



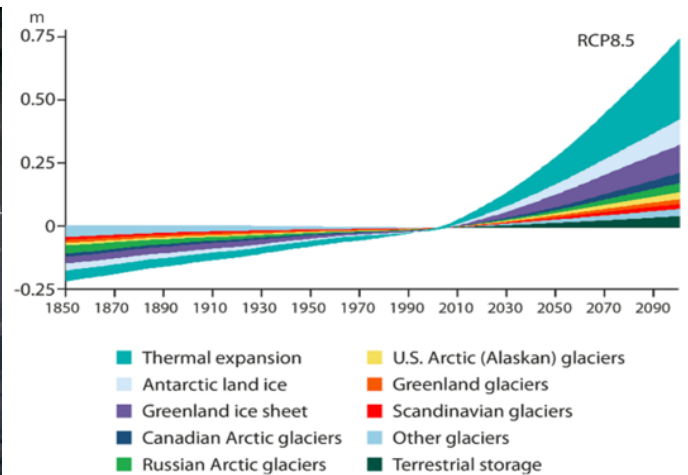
Gumawana

As we do field work around the province we see more and more villages impacted. This is a very visible and disruptive effect of climate change, as more and more village communities are having to move. Gumawana Island village is on a narrow strip of land with a cliff rising behind it. Houses are on land that has dry stone seawalls that are rebuilt each year during the NW wind season. But in the pictures it can be seen that these are now overtopped during high tides.

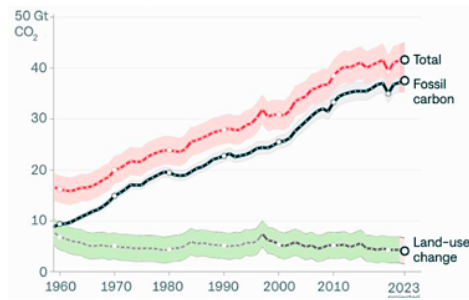
In describing the increases of GHG Green House Gases such as CO₂ Carbon dioxide 'smoke', increases in temperature and increasing sea levels I came to realise that an awareness booklet is needed not just to explain this, but to indicate to communities how much more the sea level is projected to rise in the next generation ie out to 2050. No one seems to be advising people of the future that they have to plan towards.



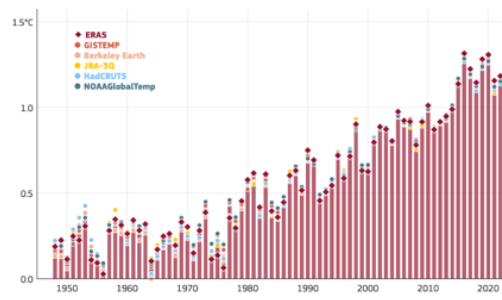
Kitava, explanation of CO₂, temperature & sea level rise



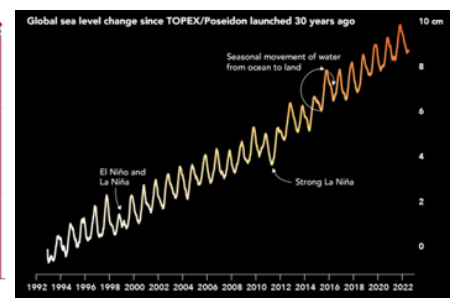
Contributing factors of sea level rise 2006 taken as zero point



1960-2023 CO₂ emissions Gt

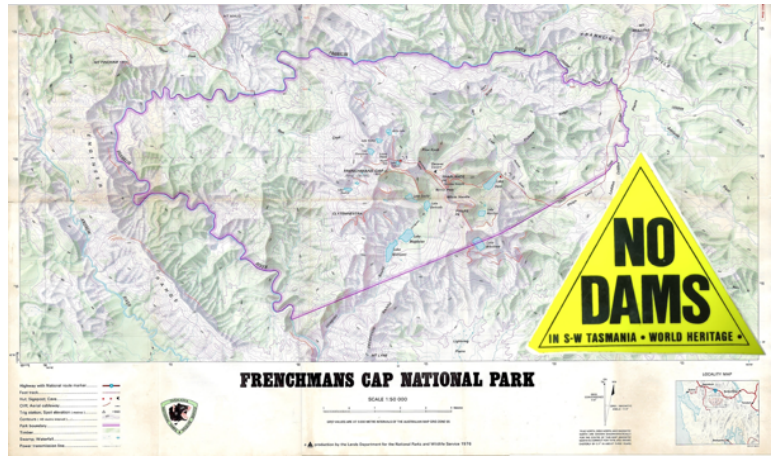


1940-2024 world temperature °C



1992-2022 Sea level rise cm

From the blackboard timeline; coal fueled industrial revolution, added to by hydrocarbon fuelled transport and electricity leads to increasing levels of CO₂ Carbon Dioxide ('smoke'), temperature increase and sea level rise. This rise is from a combination of; thermal expansion (like water boiling in a pot takes up more space), and land ice melting into the sea, especially off Greenland and Antarctica, but also glaciers that are receding around the world. Such as the fast disappearing Carstensz Glacier on Puncak Jaya in Papua Province of New Guinean Indonesia poised to disappear by next year 2026!



In going through my things from Australia I came across a **NO DAMS: IN S-W TASMANIA WORLD HERITAGE** sticker which was part of an ongoing campaign against a proposed hydro-electricity dam after the 1981 referendum to dam either the Gordon below Franklin River OR Gordon above Olga.

Delving further into my stuff I found the map of the Frenchman's Cap National Park, the northern and western boundaries of which follow the upper reaches of the Franklin River, along with a picture of a flying fox used then to get across the river onto the start of the track that I trekked by myself in 1979 to climb the Frenchman's Cap peak, 1446m. The incredible walk in, 'swimming' in a lake with ice floating on the surface and the spectacular view from the peak, vivid memories. The proposed hydro-dam options went to a referendum in December 1981 with an initial count of informal that included 114,060 ballot papers with NO DAMS written on it or 44.89% of

the vote, but with legal advice it was adjusted to total ballot papers endorsed 'No Dams' from all sources 84,514 33.25%. So, was the dam built?

Due to anti-dam protests that continued, blocking bulldozers on site and being arrested, and other protests (I took part in a pretty insignificant placarding of the Tasmanian Tourism Bureau in Adelaide), then UNESCO declaring the Tasmanian Wilderness World Heritage Area, it all built up to a landmark high court ruling in support of the Federal Government in 1983. The dam did not go ahead, the river runs.

I write this, to in part, show the power of environmentalism back then, the values people had. It is not really clear on how many significant hydro-power dams there are in PNG, but it looks there are at least 8 and plans to build more, but with what impact? Mino-hydros too of an unknown number produce power and potential is there for more.



Based on the assessment I did on the development plan for the Loani Agro-Forest project see summary in the last ECA Newsletter the PNG ACTNOW picked it up and put out a briefing paper. They also hosted a one-day FCA Logging Scandal Seminar in November in which I was invited as a panellist. A broad spectrum of stakeholders attended.

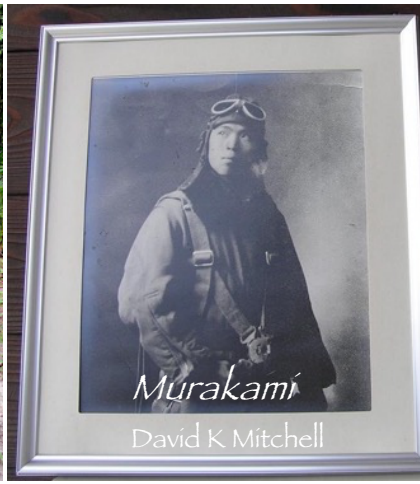


Prior to the seminar there was further awareness in a one-hour FM100 talkback show on local Pt Moresby radio.

The logging continues on Sideia Island and the landowners, the clan leaders, and Local level Government leaders to determine where they want this to go.

The poster right is by Hunterwasser who in 1990 was concerned with the cutting down of rainforest

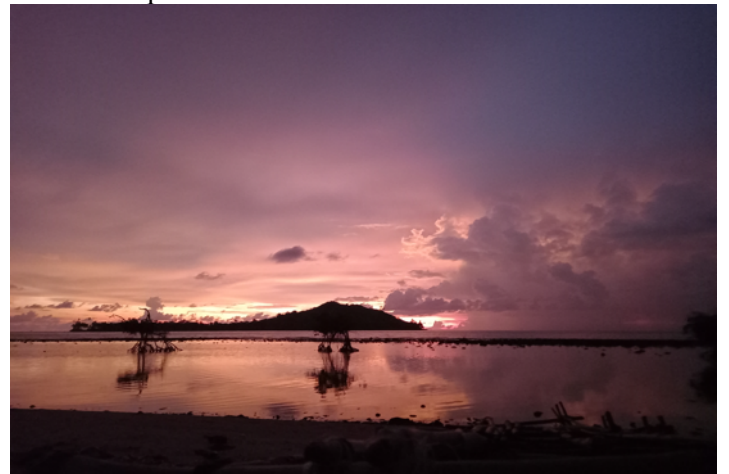
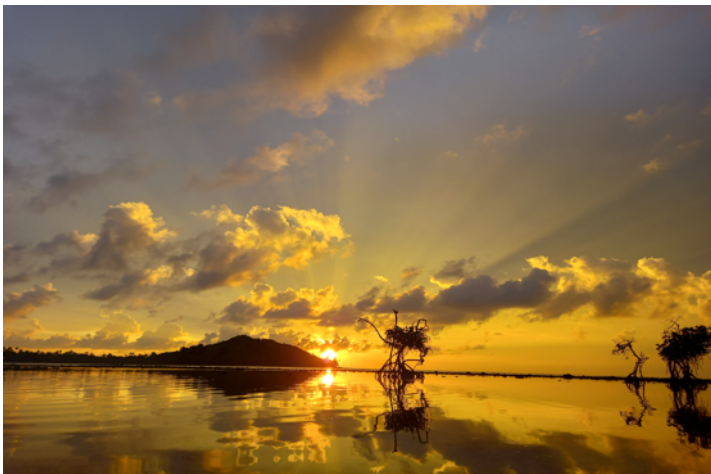




Grave on Kitava. dkm. Photo of Shigejiro Murakami and striped ebony carving of yam house of Kiriwina at his brother's home in Japan hs. Harumi Sakaguchi with islander holding a piece of aluminium (used as a scraper) possibly from Murakami's Zero drop tank

On Kitava Island just in off the beach from the reef *gwala* there is the grave which I visited, of a Japanese pilot Shigejiro Murakami who on the 11th of September 1942 became lost whilst returning to the then Japanese held Rabaul after an attack on Guadalcanal. Running out of fuel he ditched into the sea somewhere on the return journey. He floated with the Zero's fuel drop tank for something like 4 days, ending up washed up on Gawa Island. He asked to be taken by the islanders to the west in an attempt to rejoin the Japanese forces. So started a series of island hops by canoe to nearby Kwaiawata Island, the uninhabited Dugumeru Island and Iwa where he got stuck for some time, eventually reaching Kitava. It appears that two coast watchers who were on Kitava were alerted and the day after he arrived went down the main track on Kitava to the beach and confronted him to surrender, to which he responded with shots from his pistol, upon which he was shot. Surprisingly after all his

time drifting and travelling he still carried a map, documents and his diary that were translated by a newly established Allied Translator and Interpreter Section, for the South West Pacific Area. On the same day he ditched, the Imperial Japanese Navy's Mutsuki-class destroyer *Yayoi* was bombed and sank near Iwa with many of the crew drifting to Normanby Island, but that's another story. This was all intensively researched by the war historian Richard Dunn, adapted here. Harumi Sakaguchi whose 2004 pictures are above, was the UNDP Resident Representative during the GEF Community-based Coastal and Marine Conservation Project in Milne Bay during the stages of final write up, approval and initial implementation. In recently recontacting him and upon his watching of '*Gwala Rising*' he mentioned that it reminded him of Elinor Ostrom's *Beyond Markets and States: Polycentric Governance of Complex Economic Systems* lecture, Nobel Prize for Economic Sciences in 2009. Impressive .



If you thought the sunrise from Konia was speckie on the front cover, take a look at these taken on different days. All-natural colour, as also the front cover pic without any alteration at all from the original photos. It was hard to choose just which one to use so we finish this newsletter with these.

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