Climate and Oceans Support Program in the Pacific

COSPPac Ocean Portal

Version 0.7.2

http://cosppac.bom.gov.au/products-and-services/ocean-portal/

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Bureau of Meteorology, Melbourne, Australia

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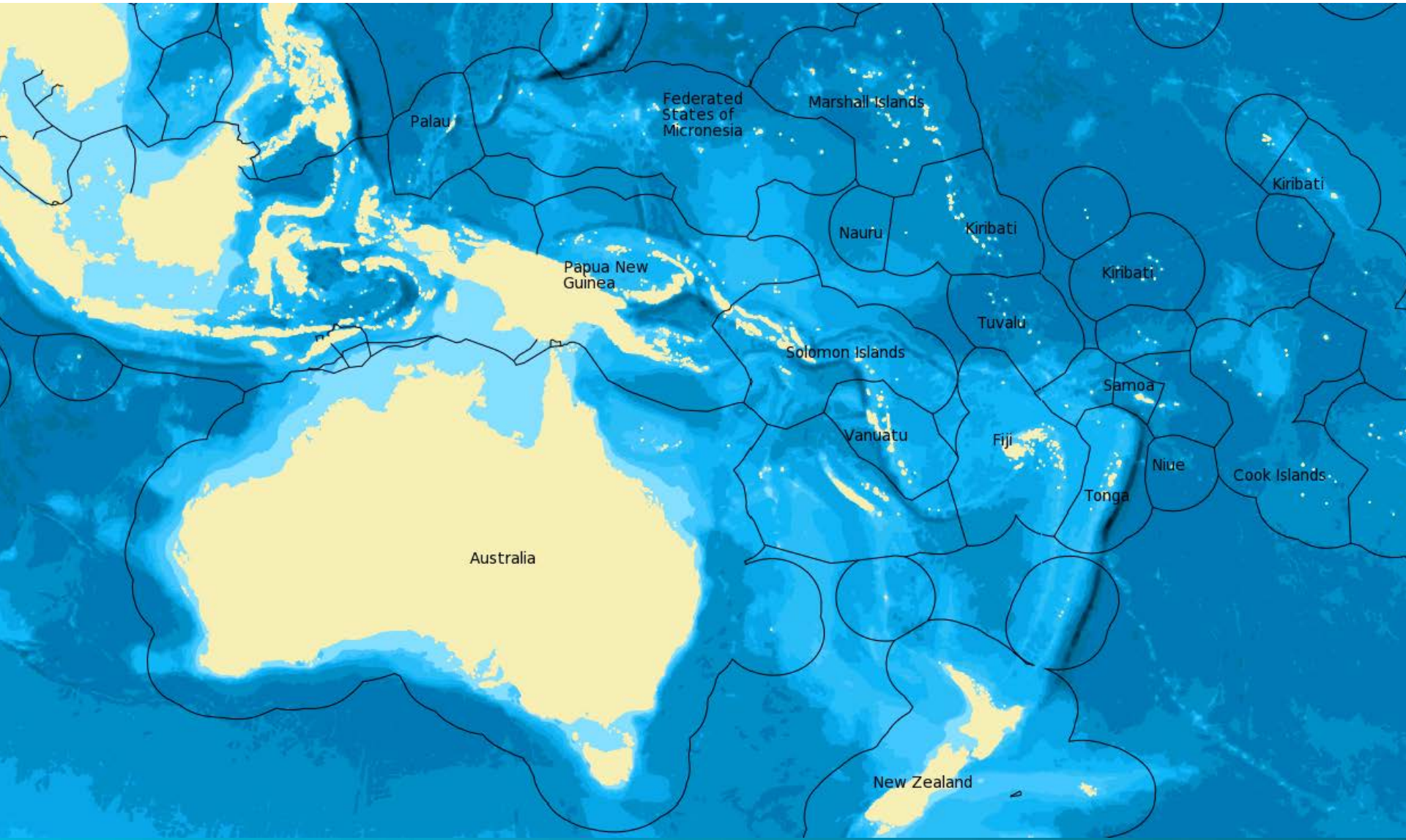
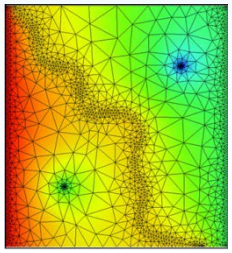
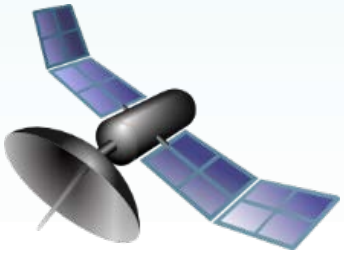
COSPPac: Background

- Enhance the capacity of Pacific Island nations to adapt and mitigate impacts of climate & ocean variability.
- AU$32 Million over 4 years (July 2012 to June 2016)
- Australian Agency for International Development - Department of Foreign Affairs and Trade(AusAID/DFAT)
- Implemented by the Australian Bureau of Meteorology, Geosciences Australia, and SOPAC Division of Secretariat for the Pacific Community (SOPAC/SPC)

COSPPac: Partner Countries

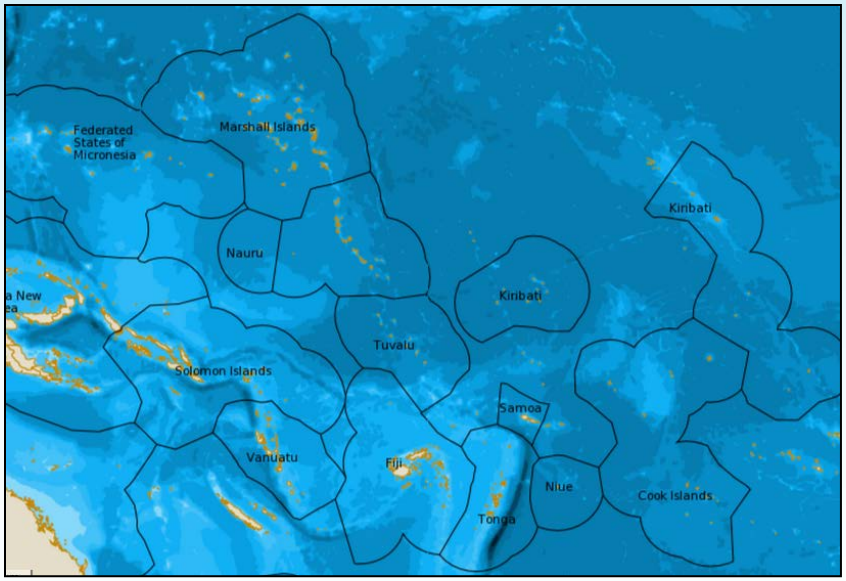


What is the COSPPac Ocean Portal

- Online web-site accessible by the world.
- Display gridded datasets (ocean information) as maps.
- Utilise both model data and remote sensing  & 
- Functional map with tools that allow zooming and scrolling (just like Google Maps).

Why is COSPPac doing this?

- **Capacity Building**: Safety, sustainability, well being, prosperity.
- **One Stop Shop** – Compilation of datasets with directly identified applications and benefits.
- **Custom maps** for each country – simple yet important.
- **Low bandwidth design**

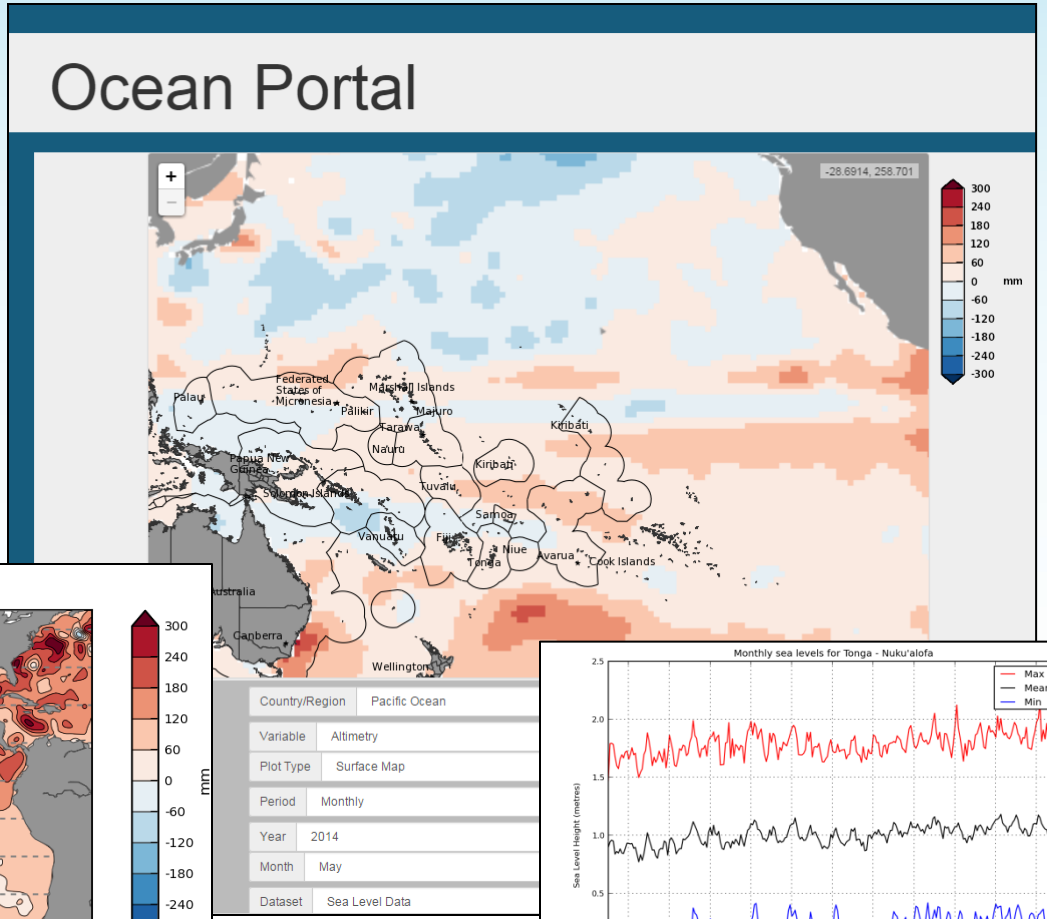


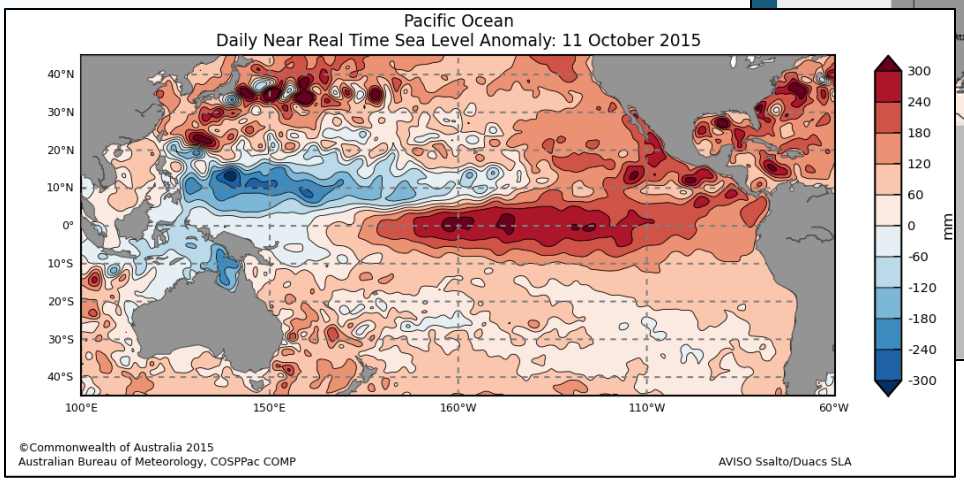
Ocean Portal - Front Page

- Tourism
- Ocean Monitoring
- Coral Reefs
- Sea Level
- Fisheries
- Shipping

Sea Level

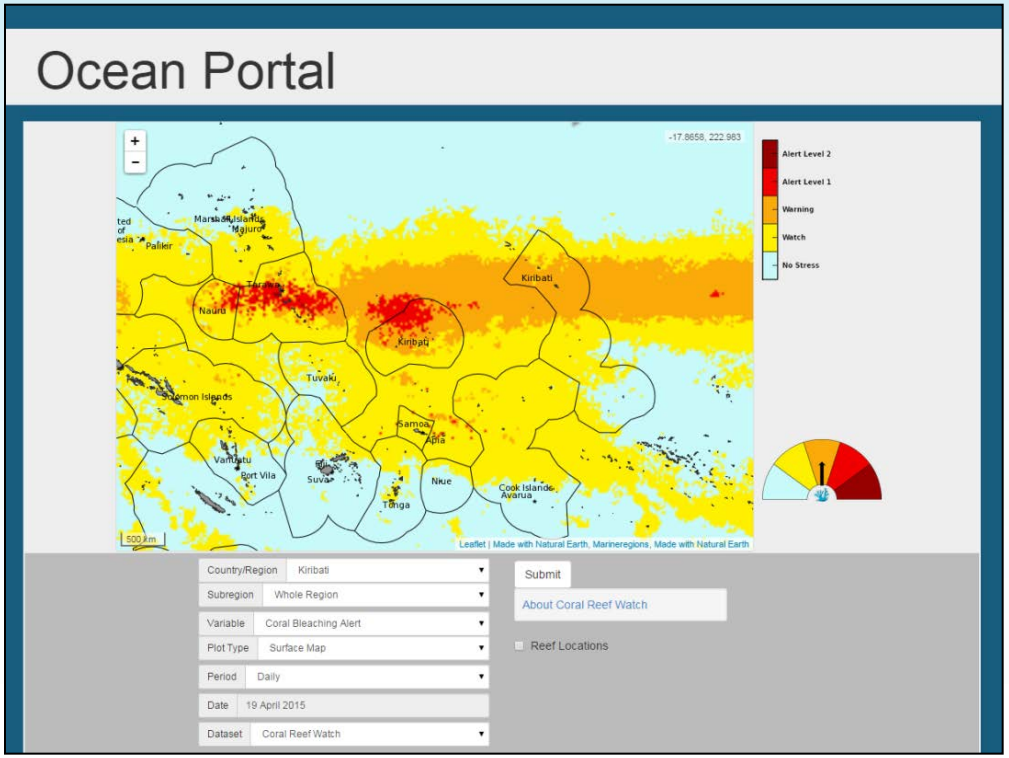
- Monthly altimetry maps dating back to 1993 from TOPEX/Poseidon, Jason-1 and Jason-2/OSTM.
- Sea level maps updated daily from AVISO, produced by Ssalto/Duacs.

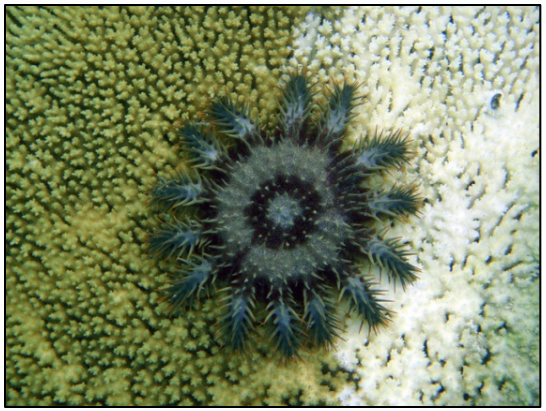


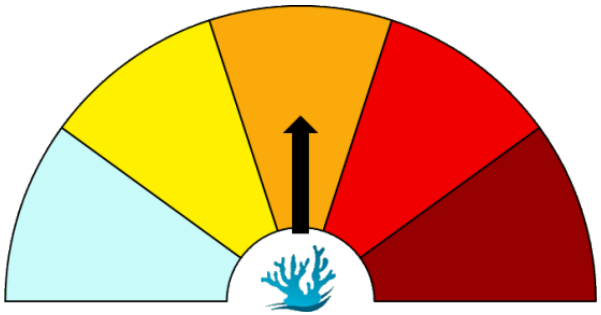


Coral Reefs

- Collaboration with NOAA Coral Reef Watch Project
  - Provides warnings in near real time and forecasts for potential coral bleaching events. Derived from satellite SST (NOAA's 5 km Geo-Polar GHRSST-L4)
- MODIS chlorophyll data to aid Crown of Thorns Starfish Management.

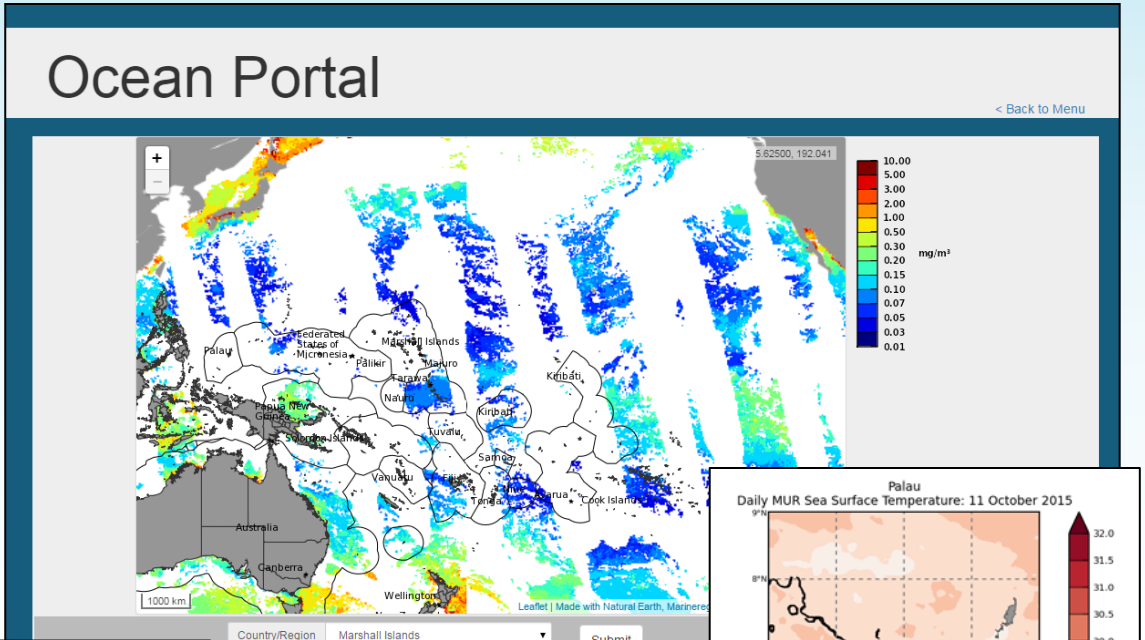


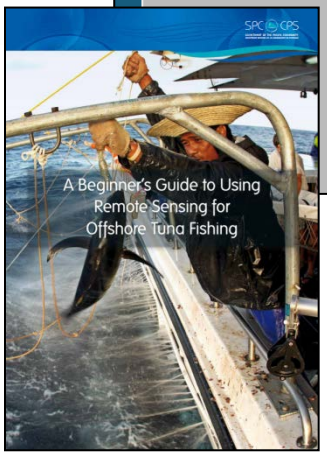


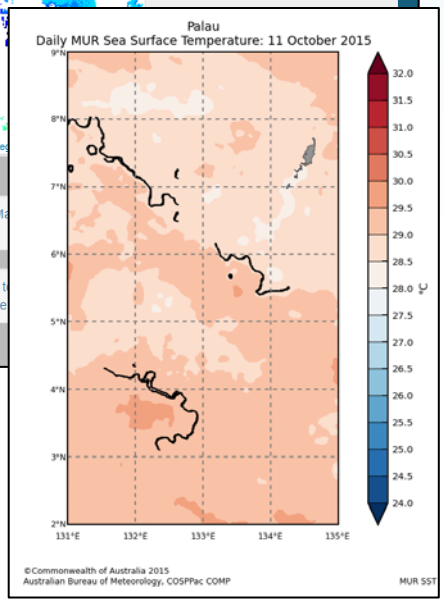


Fisheries

- Sea surface temperatures (near real time NASA's 1 km MUR GHRSST-L4).
- Front detection derived from MUR SST.
- MODIS daily Chlorophyll maps to indicate areas of high biological activity.
- Link to SPC "Guide to Using Remote Sensing for Offshore Tuna Fishing".

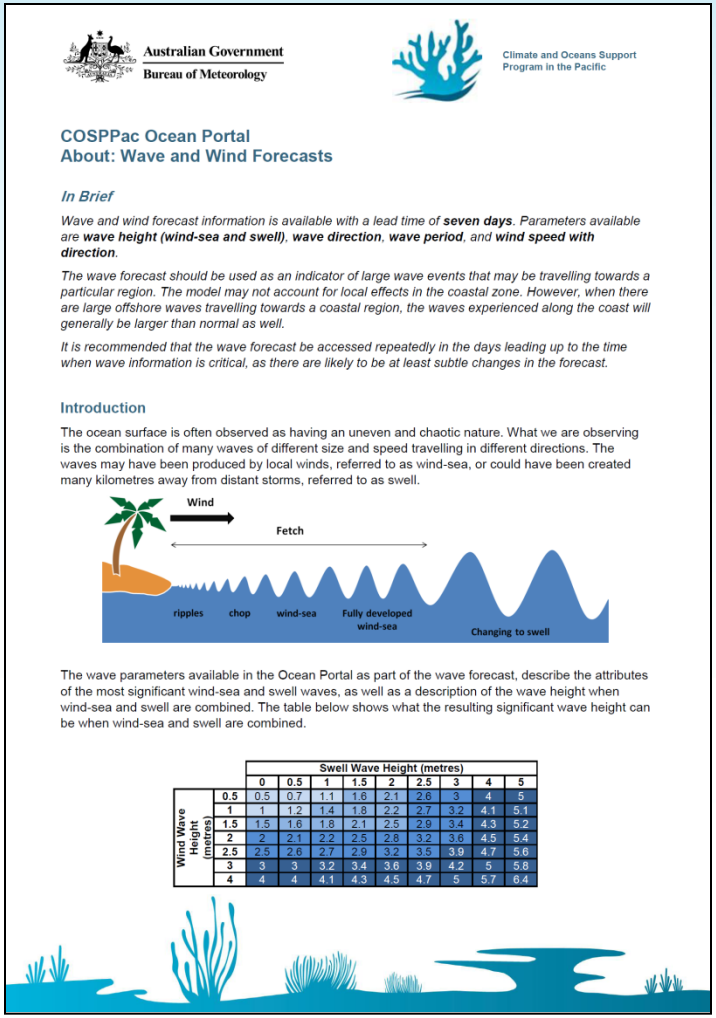






Awareness, Training, and Education

- Various models of training will occur over the remaining duration of COSPPac for Ocean component.
- In-country Workshops, attachment training, regional workshops.
- All portal products have links to downloadable help files.
- Creating awareness and capturing feedback.



Australian Government
Bureau of Meteorology

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COSPPac Ocean Portal
About: Wave and Wind Forecasts

In Brief

*Wave and wind forecast information is available with a lead time of **seven days**. Parameters available are **wave height (wind-sea and swell)**, **wave direction**, **wave period**, and **wind speed with direction**.*

The wave forecast should be used as an indicator of large wave events that may be travelling towards a particular region. The model may not account for local effects in the coastal zone. However, when there are large offshore waves travelling towards a coastal region, the waves experienced along the coast will generally be larger than normal as well.

It is recommended that the wave forecast be accessed repeatedly in the days leading up to the time when wave information is critical, as there are likely to be at least subtle changes in the forecast.

Introduction

The ocean surface is often observed as having an uneven and chaotic nature. What we are observing is the combination of many waves of different size and speed travelling in different directions. The waves may have been produced by local winds, referred to as wind-sea, or could have been created many kilometres away from distant storms, referred to as swell.

The wave parameters available in the Ocean Portal as part of the wave forecast, describe the attributes of the most significant wind-sea and swell waves, as well as a description of the wave height when wind-sea and swell are combined. The table below shows what the resulting significant wave height can be when wind-sea and swell are combined.

Wind Wave Height (metres)	Swell Wave Height (metres)									
	0	0.5	1	1.5	2	2.5	3	4	5
0.5	0.5	0.7	1.1	1.6	2.1	2.6	3	4	5
1	1	1.2	1.4	1.8	2.2	2.7	3.2	4.1	5.1
1.5	1.5	1.6	1.8	2.1	2.5	2.9	3.4	4.3	5.2
2	2	2.1	2.2	2.5	2.8	3.2	3.6	4.5	5.4
2.5	2.5	2.6	2.7	2.9	3.2	3.5	3.9	4.7	5.6
3	3	3	3.2	3.4	3.6	3.9	4.2	5	5.8
4	4	4	4.1	4.3	4.5	4.7	5	5.7	6.4