

NERP

Torres Strait / GBR environmental conditions report:

Recent status and predictions

10 September 2012

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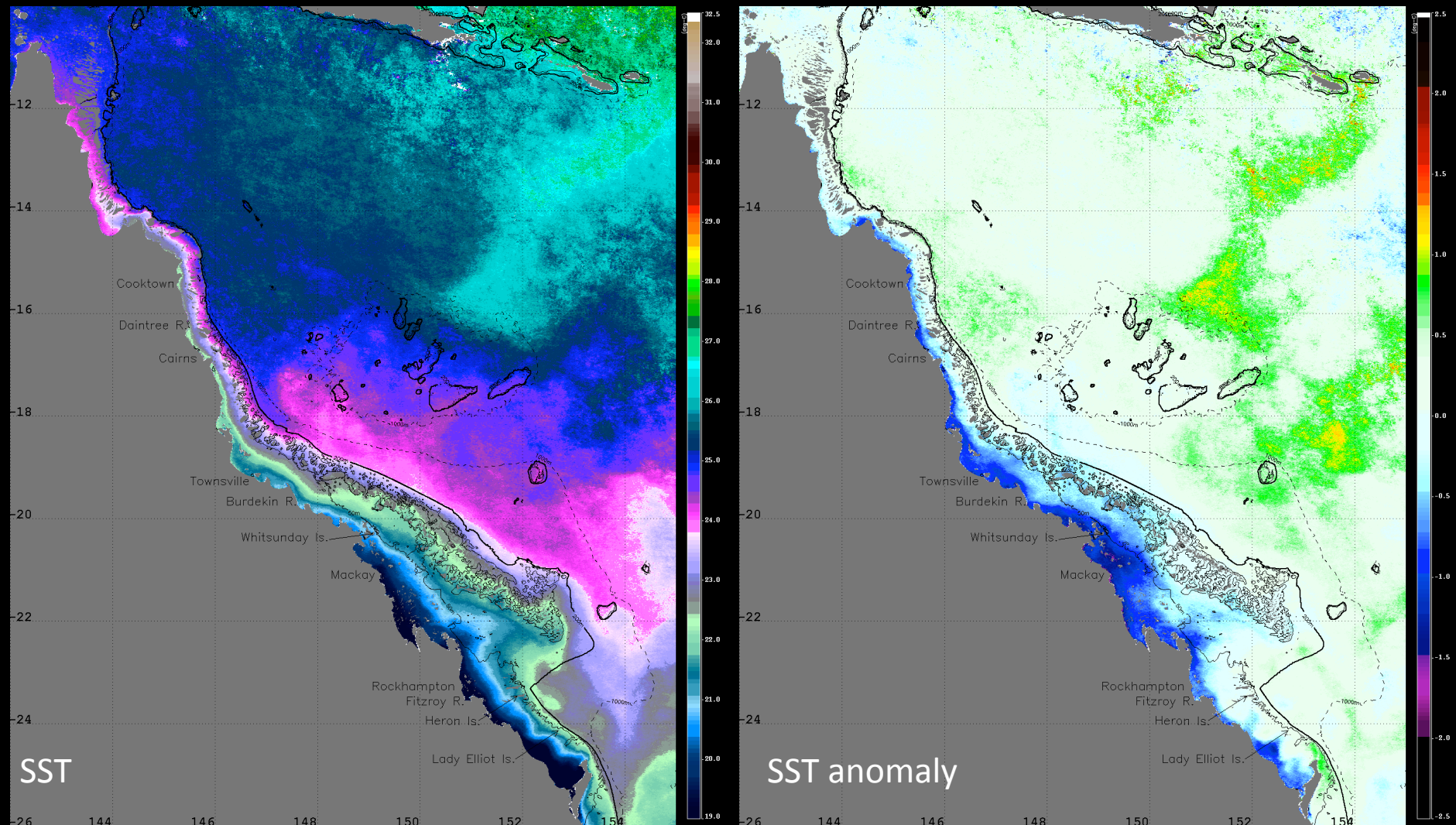
Outline

- Overview
- Recent SST and in situ Temperature evolution
- GBR SST forecast (POAMA)
- Coral Bleaching Outlook (NOAA:CRW)
- Surface conditions in the tropical Pacific
- ENSO evolution and predictions

Overview

- Mostly neutral SST in Torres Strait and northern GBR for August.
- Negative SST anomalies in the inshore areas of the central and southern GBR
- Forecast of close to neutral SST anomalies along the GBR and Torres Strait areas for the upcoming months.
- No bleaching alert for GBR and Torres Strait corresponding with the spring season.
- El Niño expected to develop in the upcoming months.

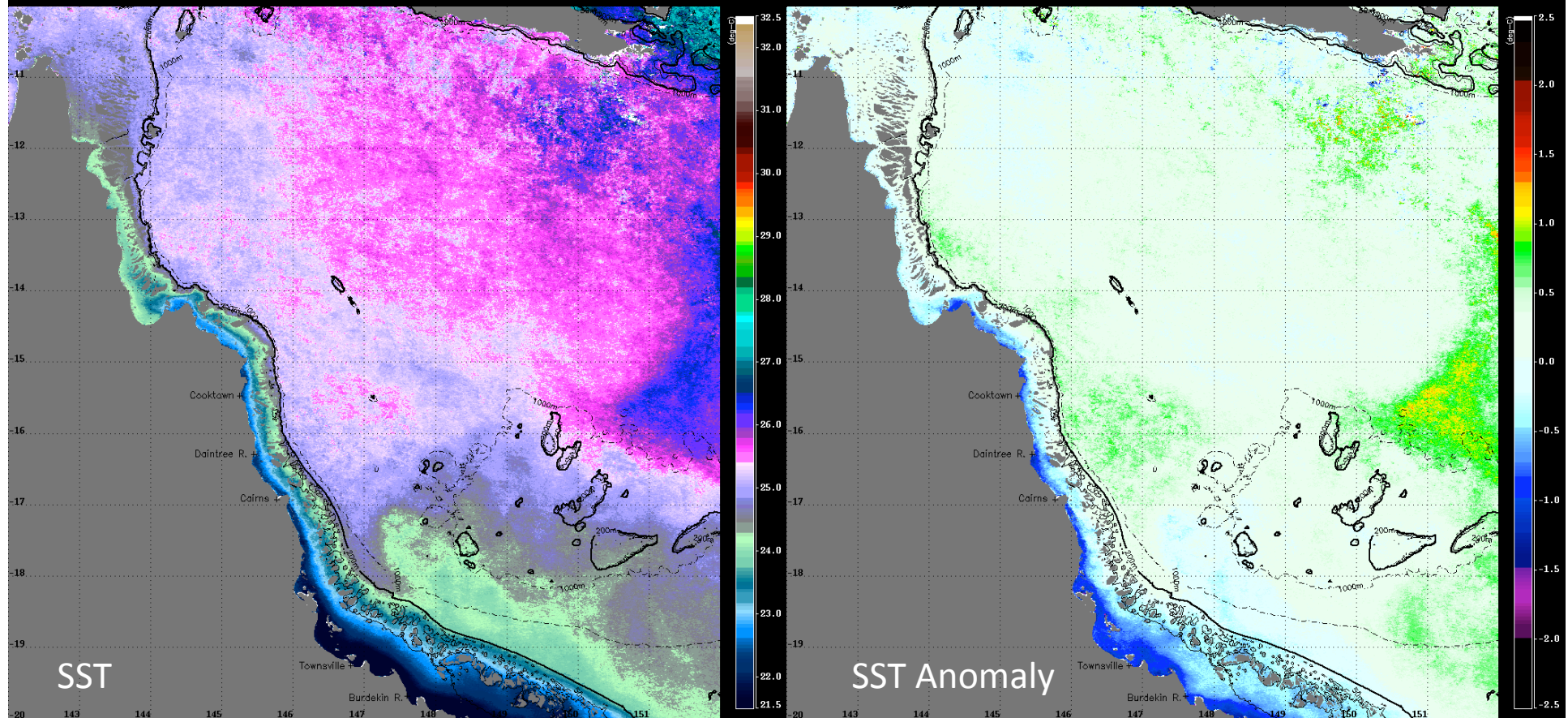
Modis SST (day+night): August 2012



Note:

- Average conditions continued during August for the Torres Strait and N-GBR.
- Strong negative anomalies prevalent on the inshore reefs of central and S-GBR areas.

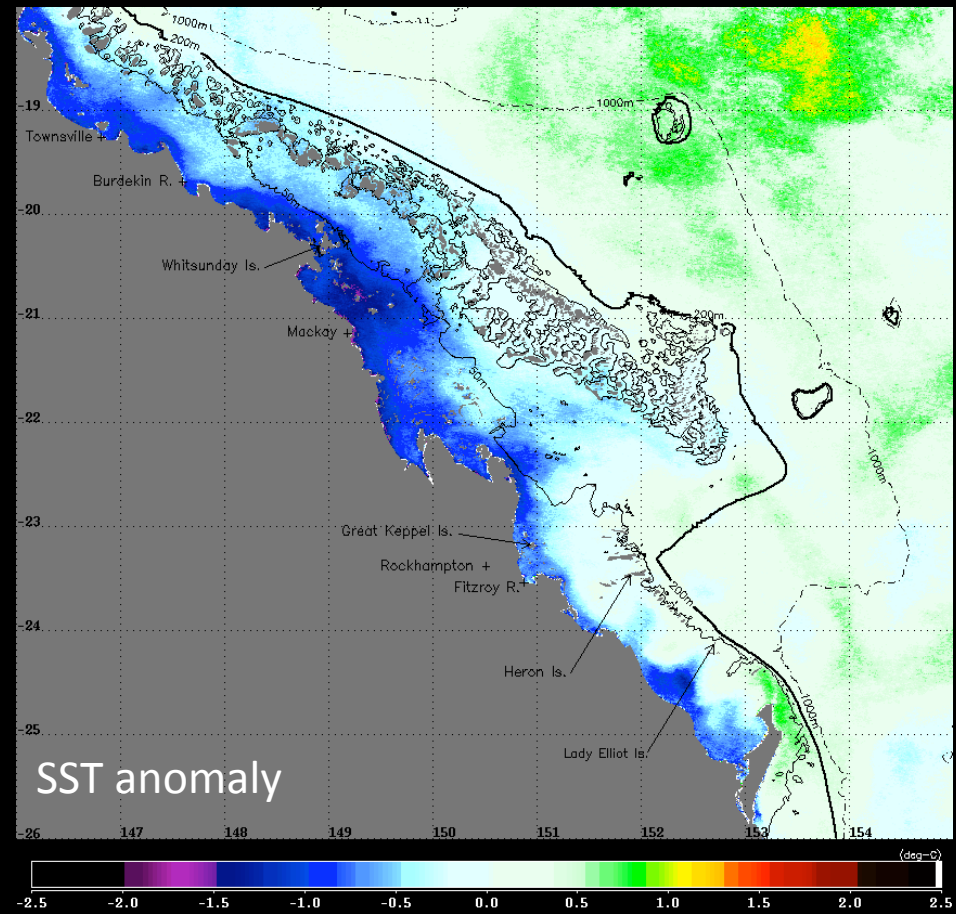
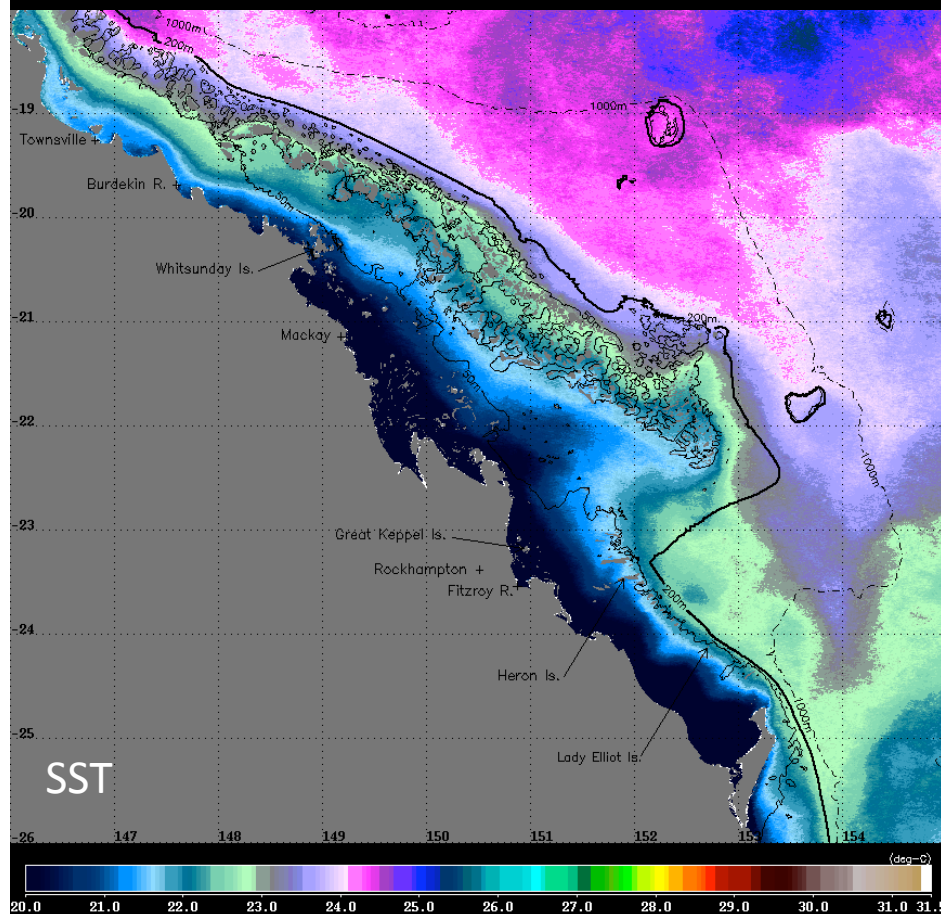
Torres Strait / northern GBR MODIS SST: August 2012



Note:

- Average conditions continued during August for the Torres Strait and N-GBR areas.
- Negative anomalies strengthening in the inshore reefs areas.

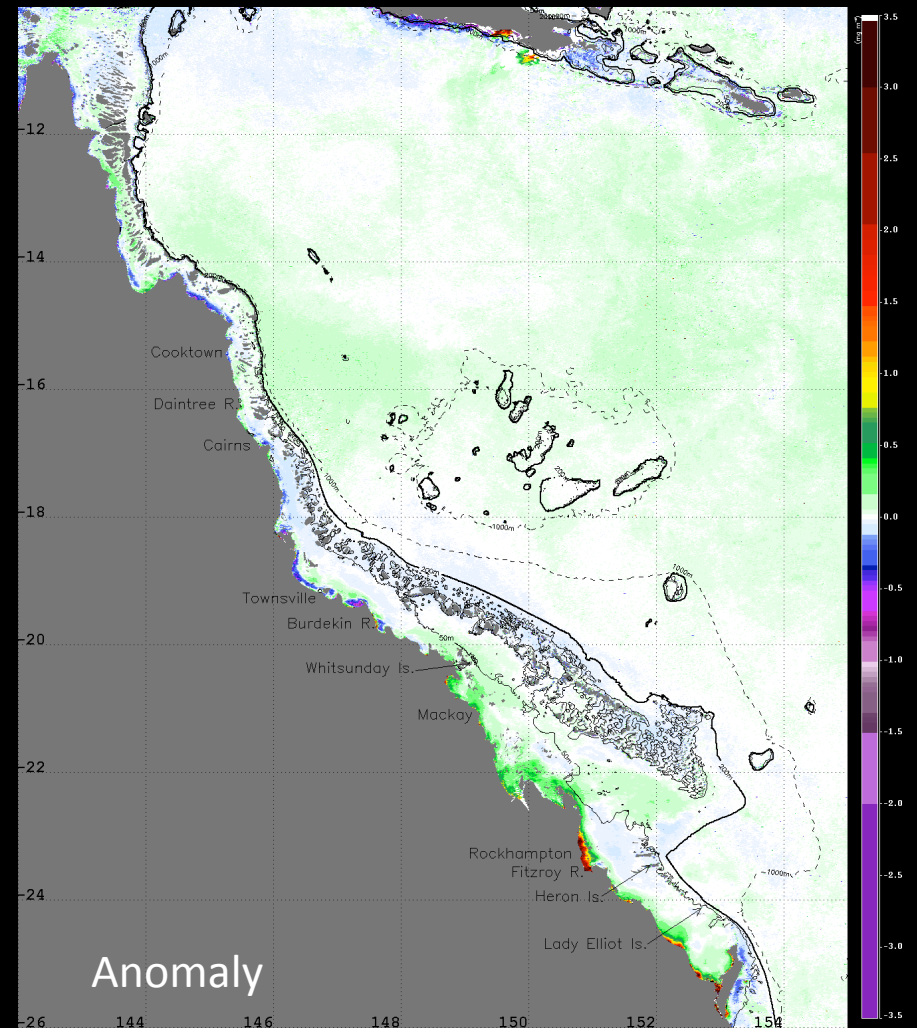
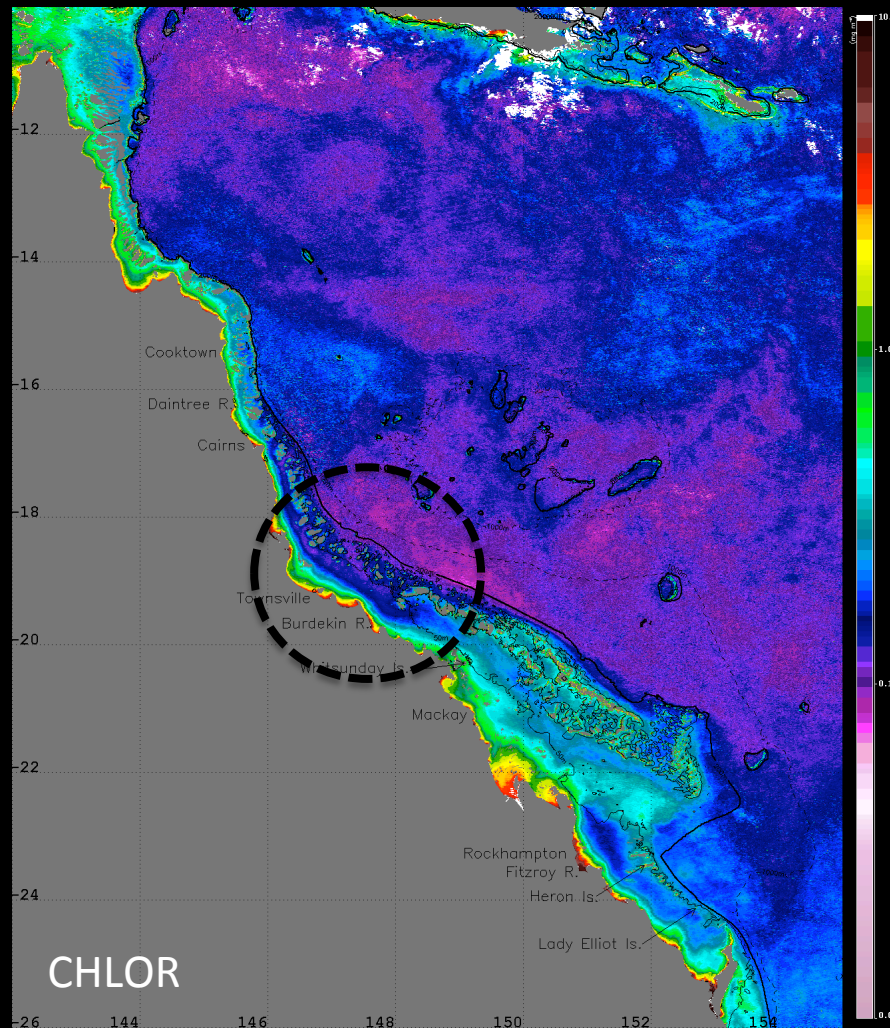
Southern GBR MODIS SST: August 2012



Note:

- Negative anomalies generally strengthening in the S-GBR inner reefs.
- Average SST for the Capricorn-Bunker Reefs.

MODIS Chlorophyll-*a* concentration: August 2012 (CHLOR)



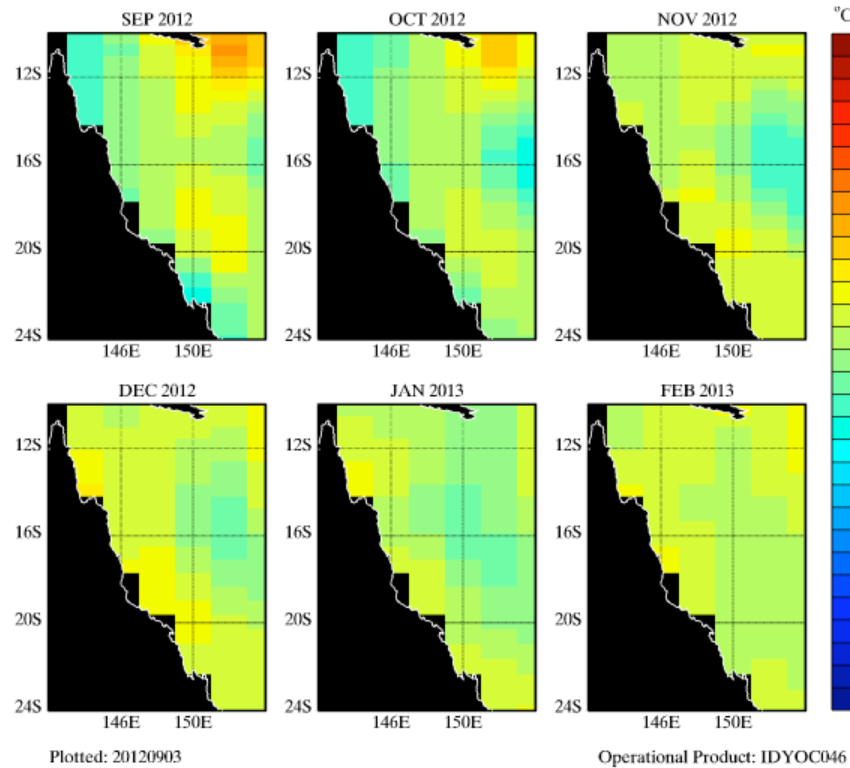
Note:

- Weaker positive chlorophyll anomalies remain over inshore reefs in southern GBR, especially in the Fitzroy River area
- Note intrusions of low chlorophyll EAC waters in the central GBR somewhat stronger than in July

Great Barrier Reef SST Anomaly Forecast (POAMA-2)

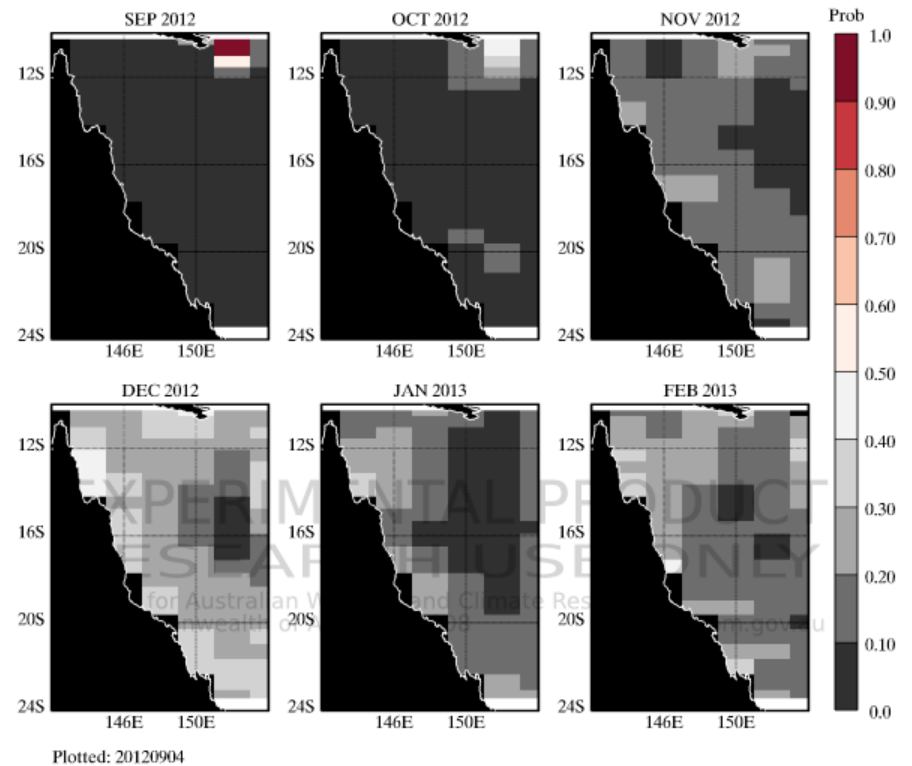
POAMA SST anomaly forecast for the next 6 months
(Operational)

P2.4abc Monthly SSTA: GBR 20120901 [Lead=0-5 months, Nens=30]



Probabilities of SST anomalies greater than 0.6°C for the
next 6 months (Experimental)

POAMA 2.4abc Probability SSTA $\geq 0.6^\circ\text{C}$: 20120901 [Lead=0-5 months, Nens=30]



Note:

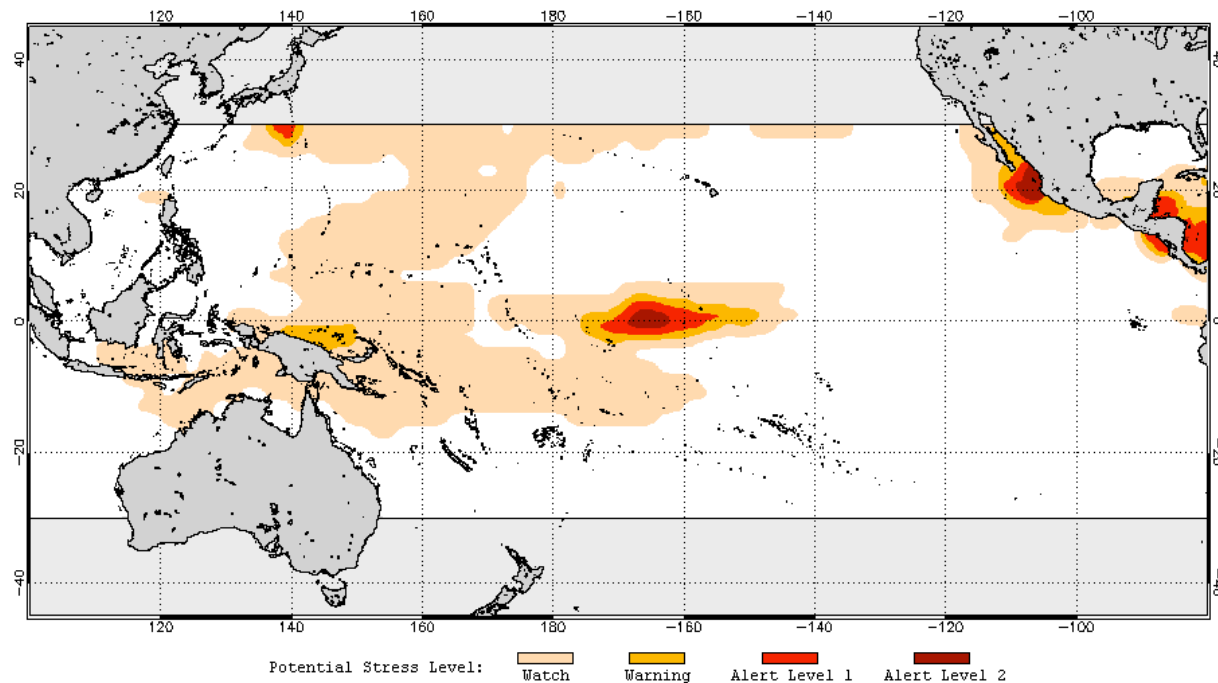
- As per previous months, POAMA is currently forecasting mostly average/below average conditions until February 2012

NOAA Coral Reef Watch

Coral Bleaching Thermal Stress Outlook (Version 2, experimental)

Outlook for September 2012 to December 2012

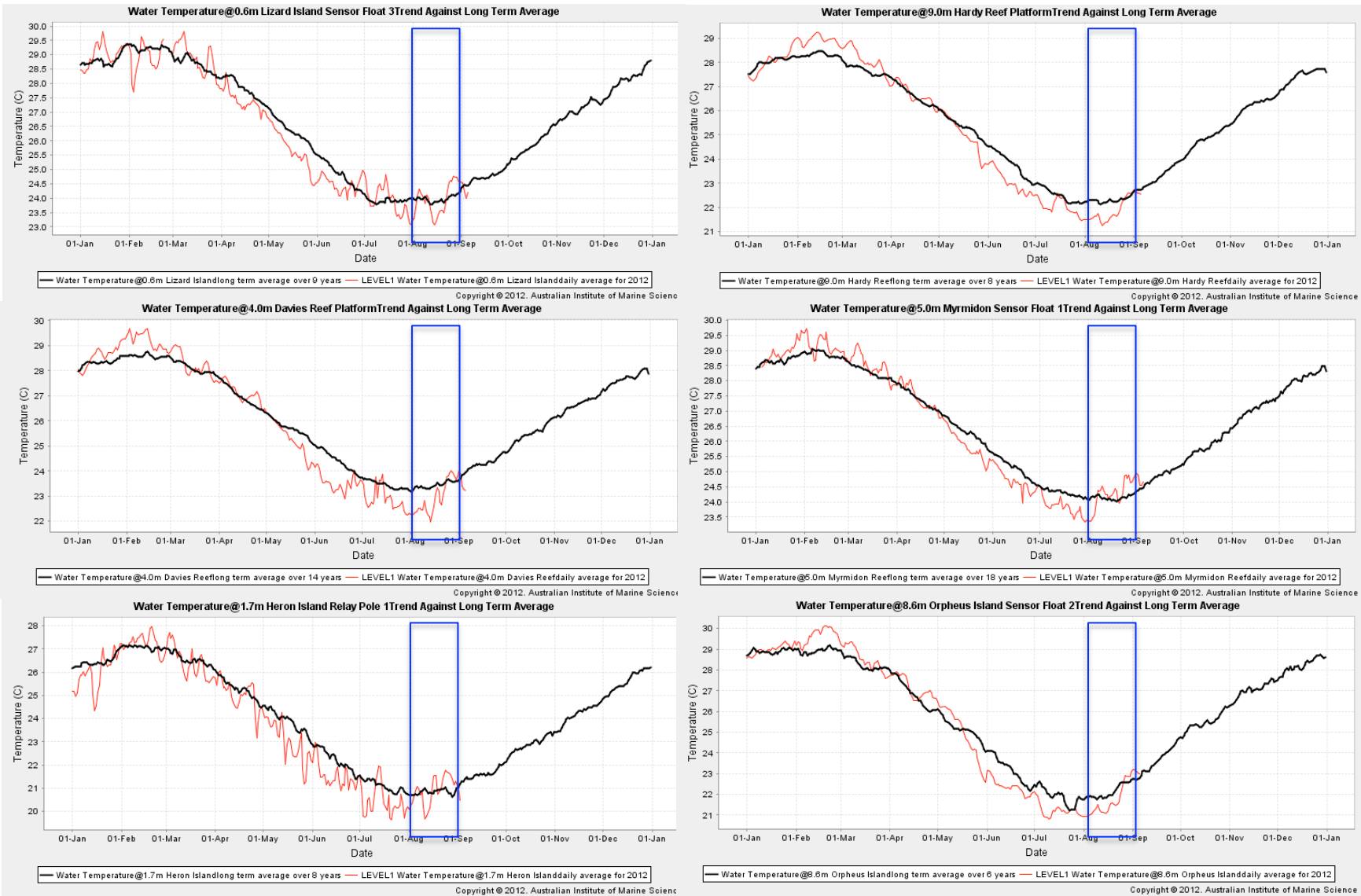
2012 Sep 04 NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook for Sep-Dec 2012
(Version 2, Experimental)



Note:

- The NOAA Coral Reef Watch forecast suggests 'Watch' south of PNG, including the Torres Strait area, as we head into summer.

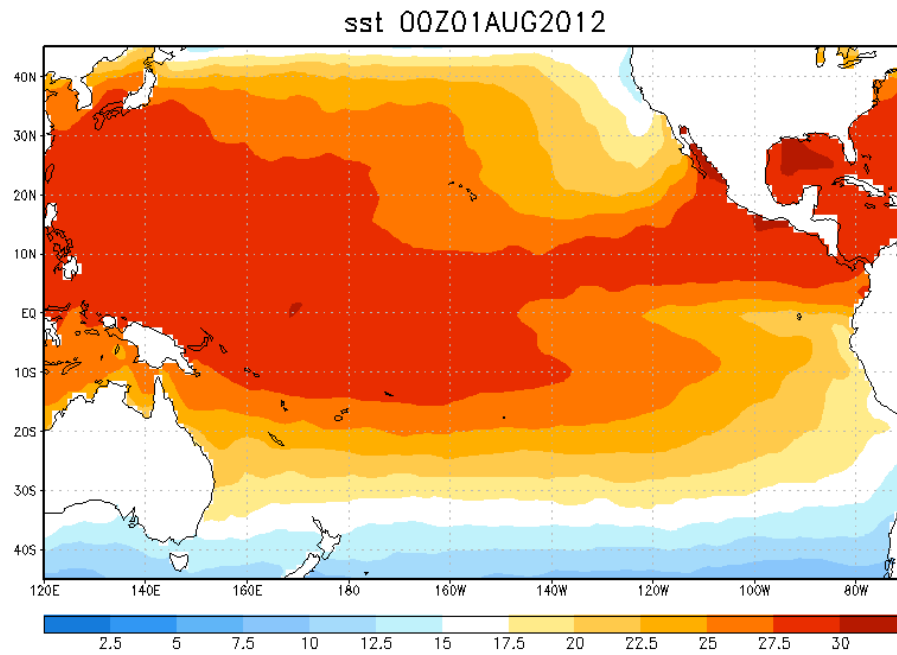
Weather Observing System: AIMS Data Centre



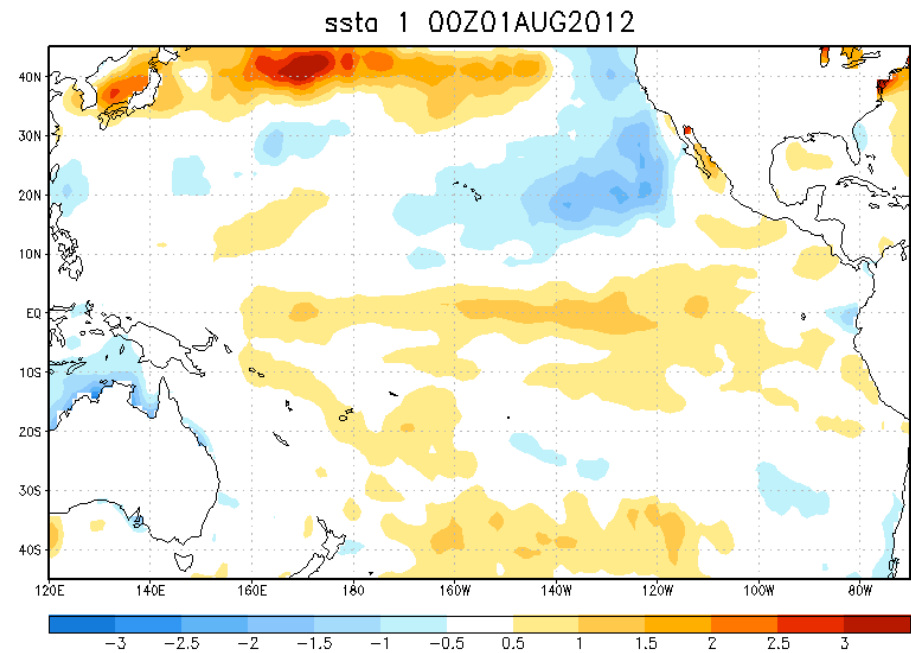
All the AIMS weather stations show average/below average temperatures for August.

NOAA Optimum Interpolation Sea Surface Temperature Analysis:

OI SST: AUGUST 2012



OI SST ANOMALY: AUGUST 2012



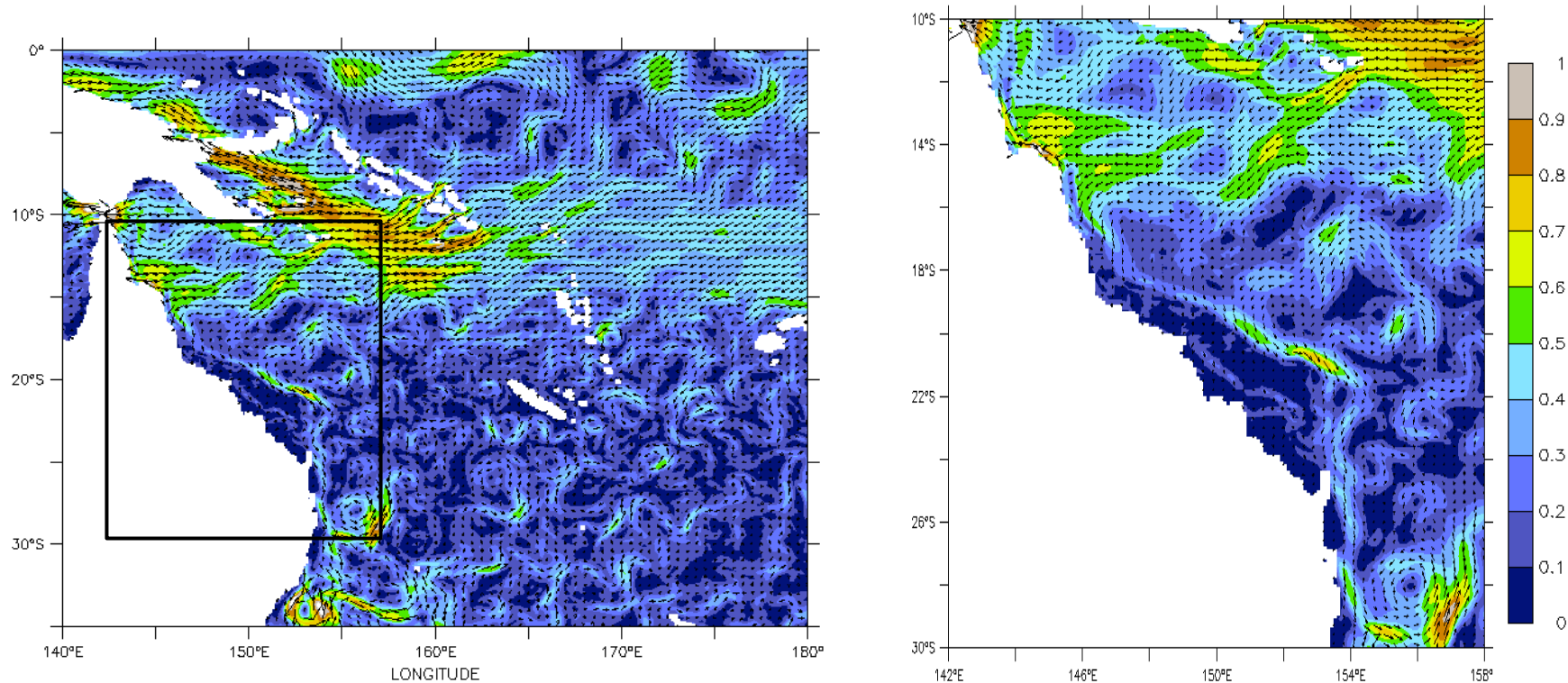
Note:

- Positive SST anomalies extending across central Equatorial Pacific, resembling an El Niño Modoki (central Pacific El Niño) pattern

OceanMAPS 15m Depth-Average Currents

August 2012

OceanMAPS Ocean Modeling, Analysis and Prediction System was developed at CSIRO Marine and Atmospheric Research and the Bureau of Meteorology and it is part of the **Bluelink** project.

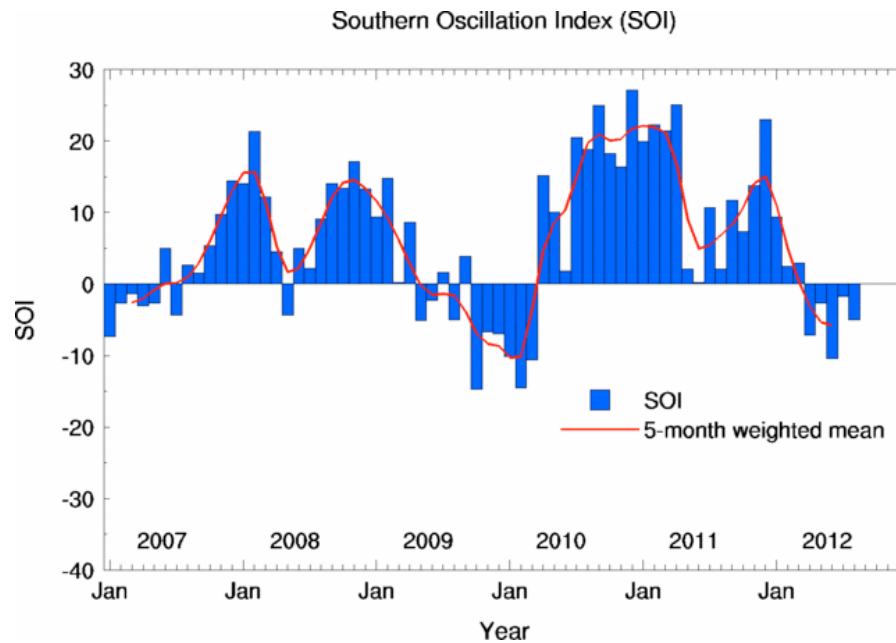


Behind Real Time analysis
15 m Depth-Averaged Currents (m/s).

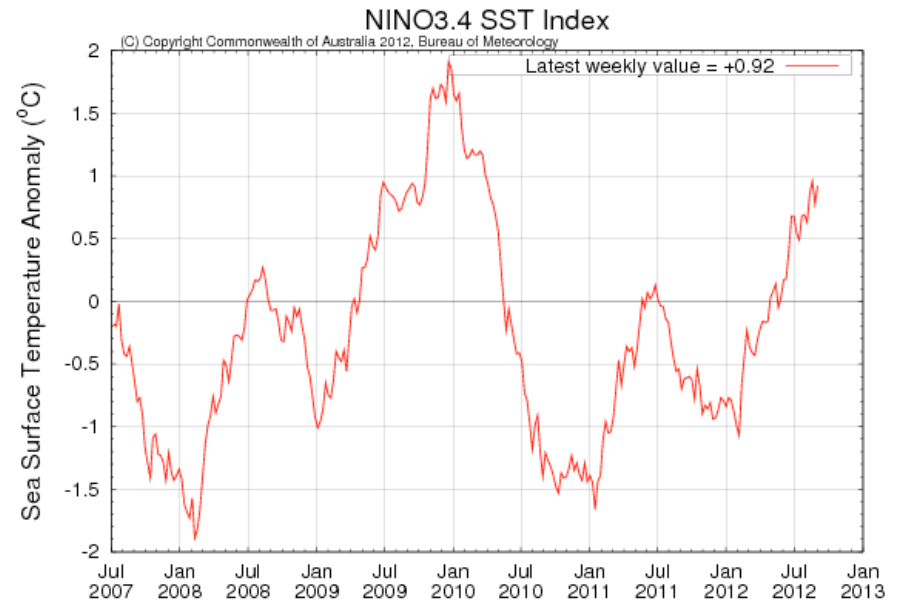
Note:

- Strong inflow of SEC waters onto N-GBR.
- Narrow EAC clearly apparent along the GBR south of ~20°S
- (an intense cyclonic eddy is located off Cape Byron)

ENSO index



Negative SOI = El Niño



Positive Nino 3.4 index= El Niño

Note:

- ENSO neutral conditions continue, although El Niño 3.4 SST index is above 0.5°C , consistent with the positive SST anomalies observed in the central equatorial Pacific.
- El Niño is expected to develop in the following months, with weak to moderate strength.