

NERP

Torres Strait / GBR environmental conditions report:

Recent status and predictions

10 October 2012

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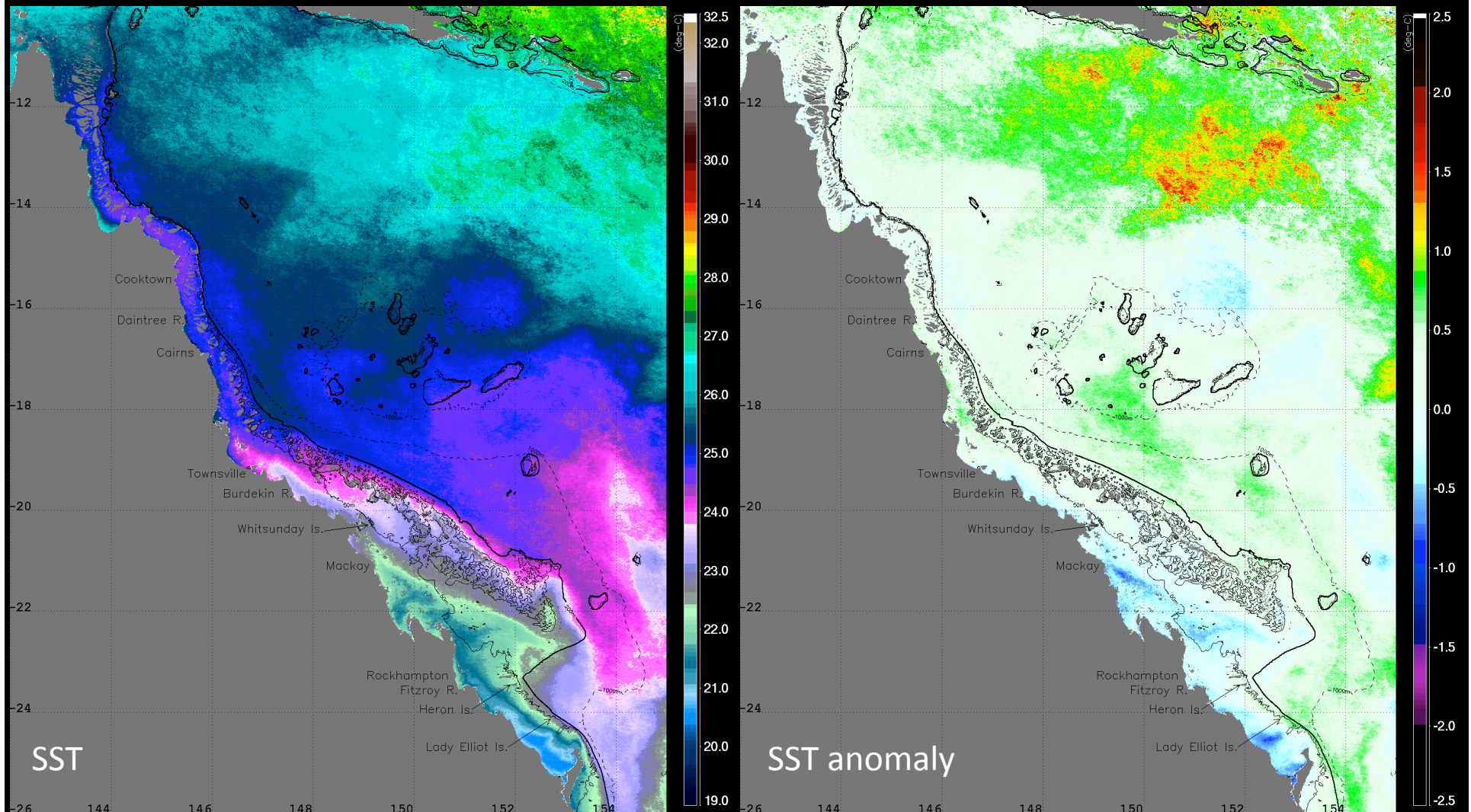
Outline

- 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 average SST conditions along the length of the GBR in September.
- Forecast of close to neutral SST anomalies along the GBR and Torres Strait for the upcoming months.
- No bleaching alert forecasts for the GBR and Torres Strait until January.
- El Niño expected to develop in the upcoming months, but it is likely to be a very weak event.

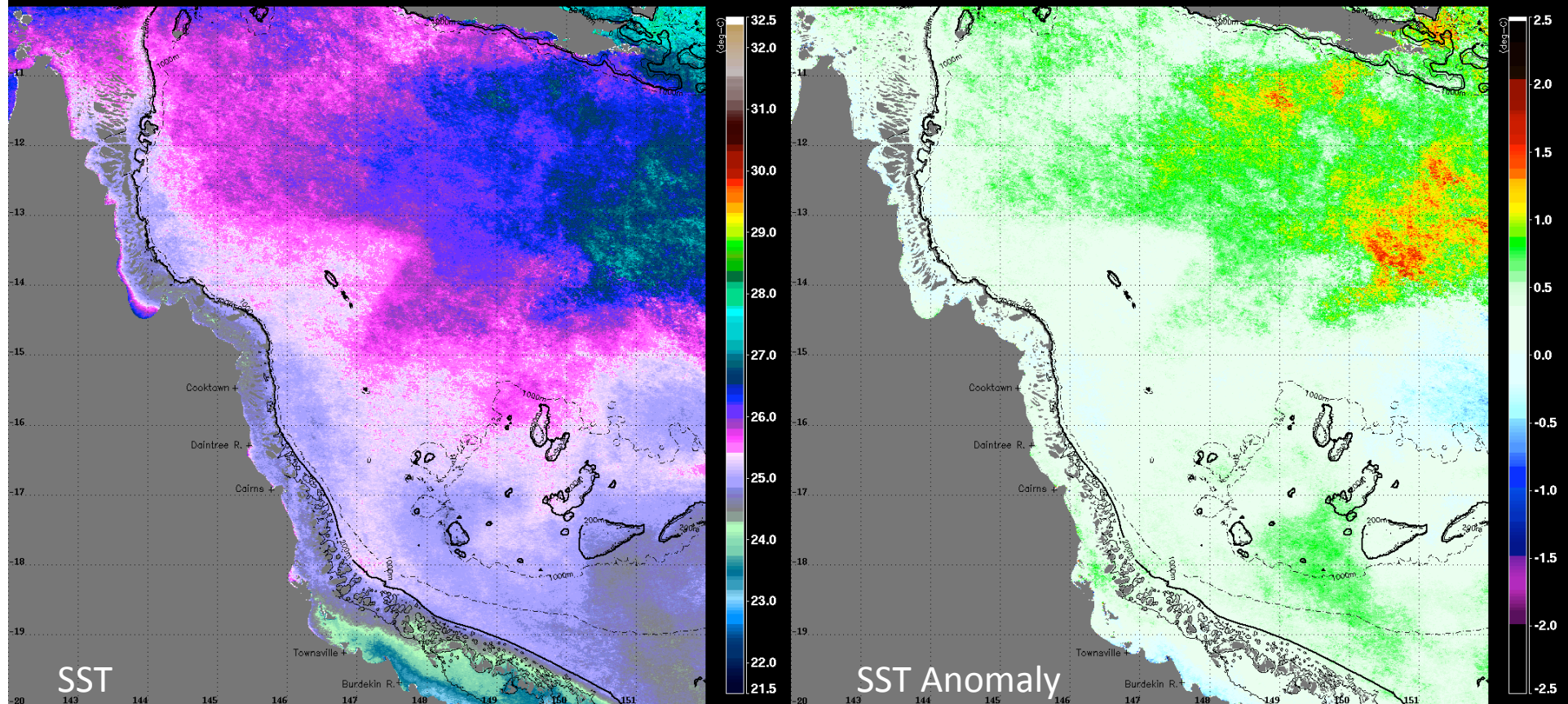
Modis SST (day+night): September 2012



Note:

- Mostly average conditions along the length of the GBR as the EAC strengthened during September
- The strong negative anomalies that were present on the central and S-GBR in previous months dissipated during September.

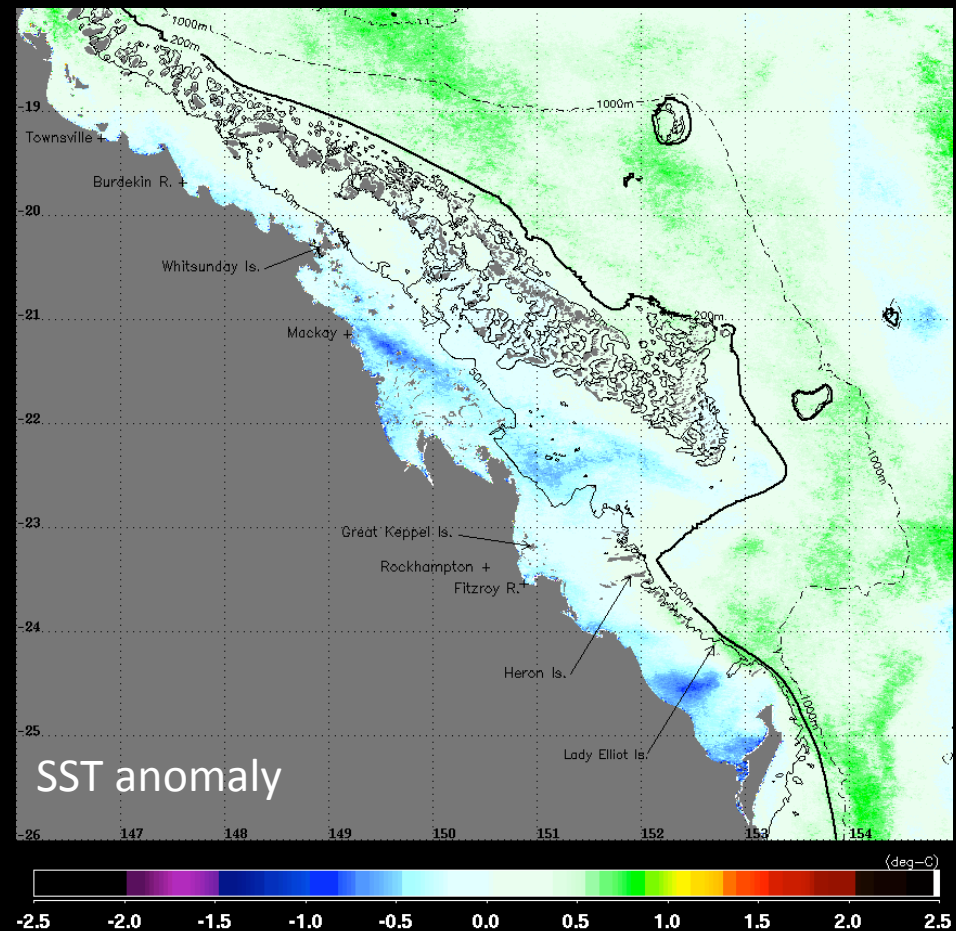
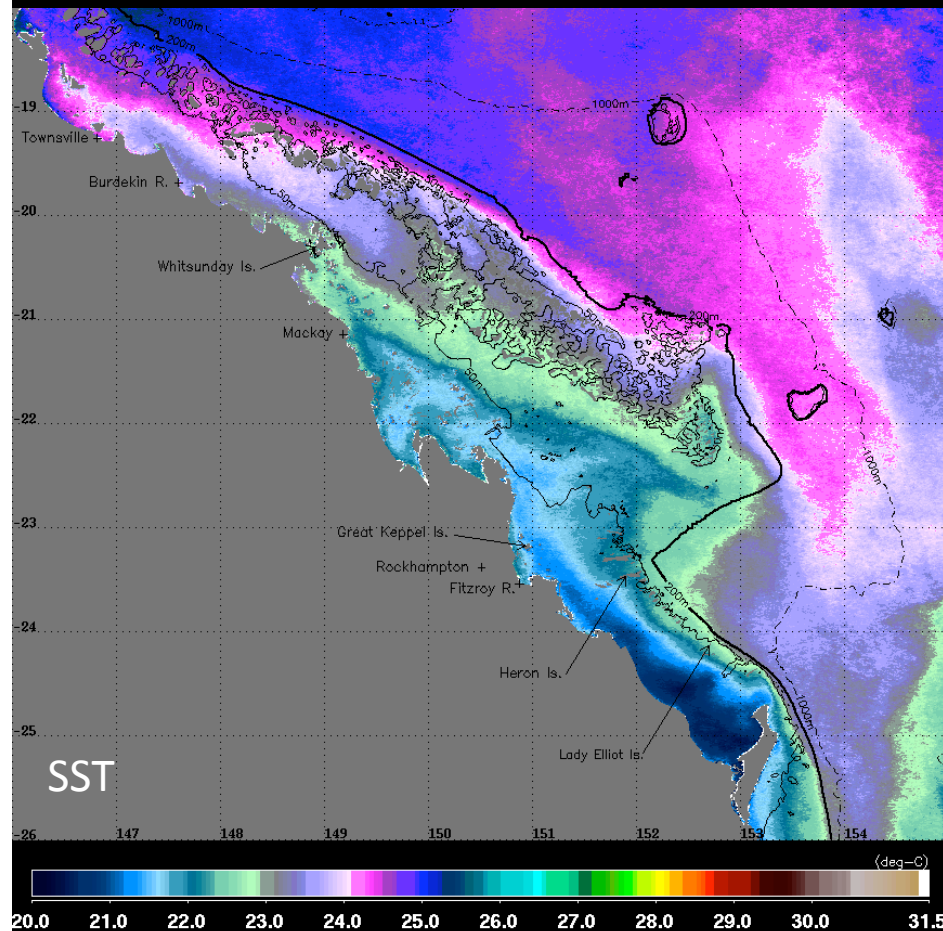
Torres Strait / northern GBR MODIS SST: September 2012



Note:

- Average conditions continued during September for the Torres Strait and N-GBR areas.
- In contrast to August, no negative anomalies were present in the inshore reefs areas in September.
- Moderate positive anomalies in the Coral Sea

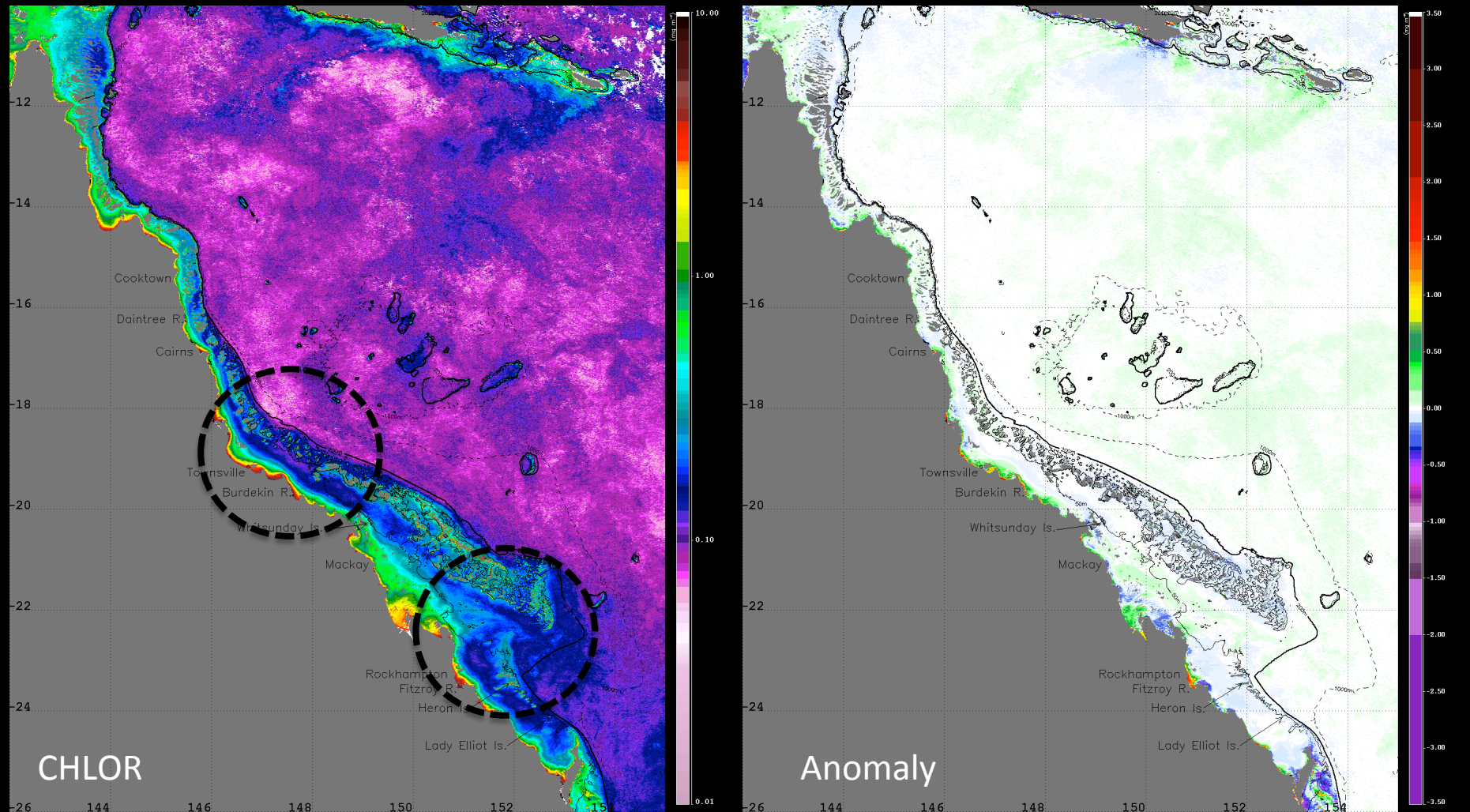
Southern GBR MODIS SST: September 2012



Note:

- The negative anomalies present on the inner reefs during August dissipated during September, leaving mostly average conditions for the S-GBR.
- Moderate positive anomalies offshore along the path of the EAC

MODIS Chlorophyll-*a* concentration: September 2012



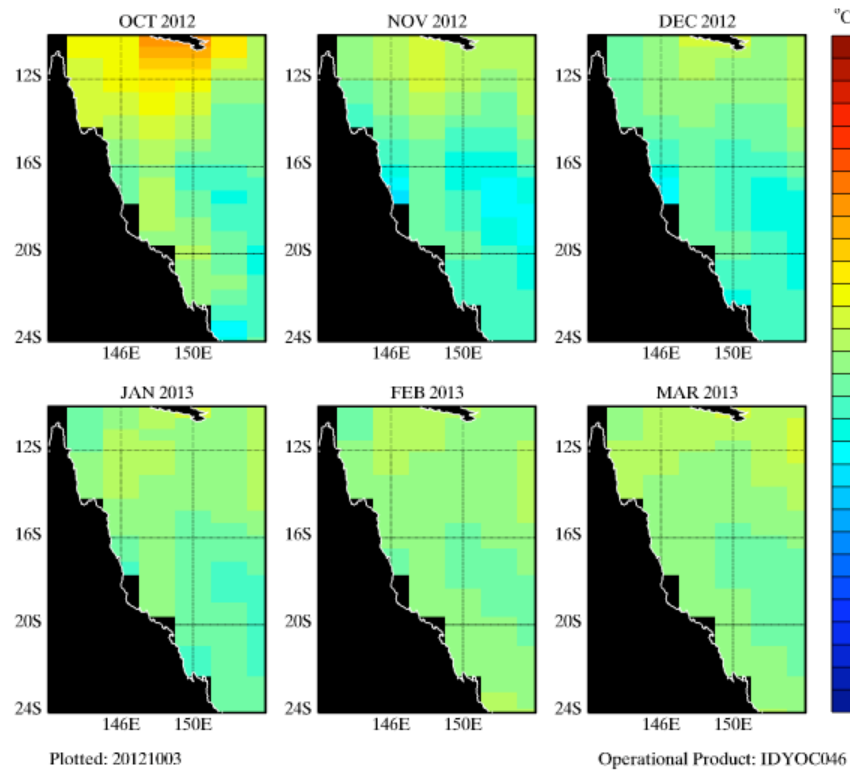
Note:

- Mostly average conditions along the length of the GBR
- Intrusions of low chlorophyll EAC waters into the central GBR, and into the Capricorn & Curtis Channels from the south

Great Barrier Reef SST Anomaly Forecast (POAMA-2)

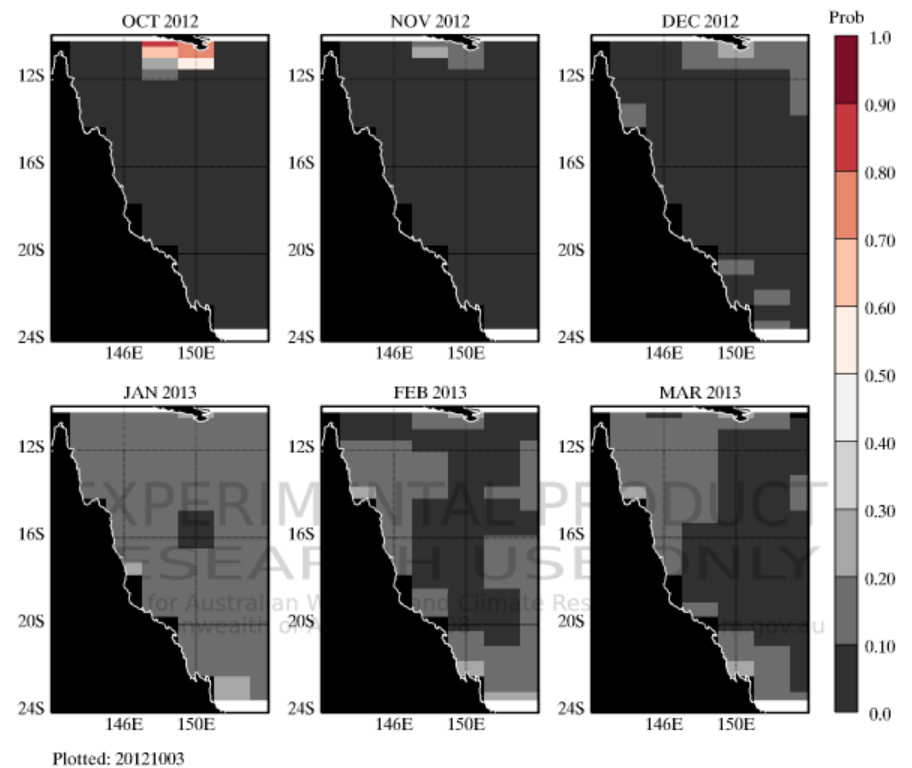
POAMA SST anomaly forecast for the next 6 months
(Operational)

P2.4abc Monthly SSTA: GBR 20121001 [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 $\geq 0.6^\circ\text{C}$: 20121001 [Lead=0-5 months, Nens=30]



Note:

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

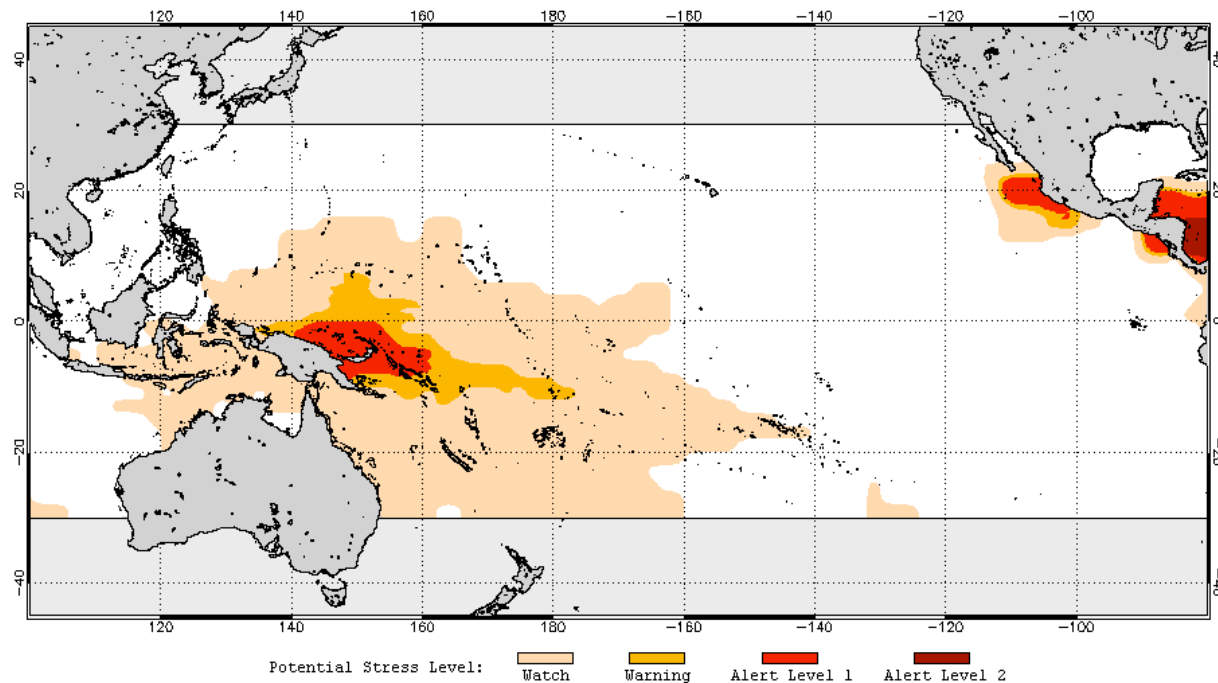
NOAA Coral Reef Watch

Coral Bleaching Thermal Stress Outlook

(Version 2, experimental)

Outlook for October 2012 to January 2013

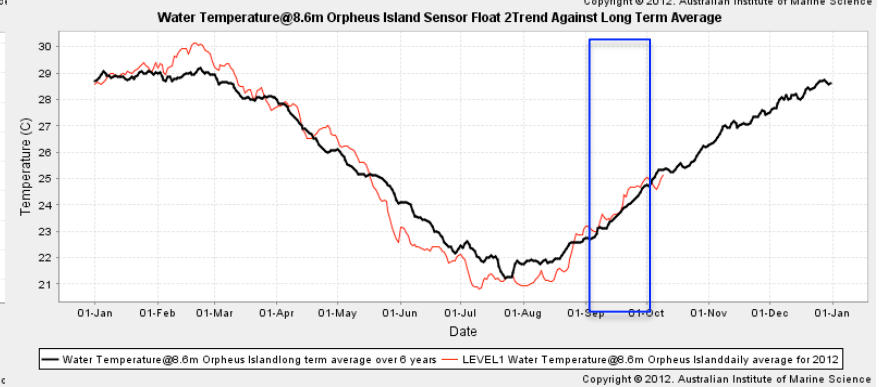
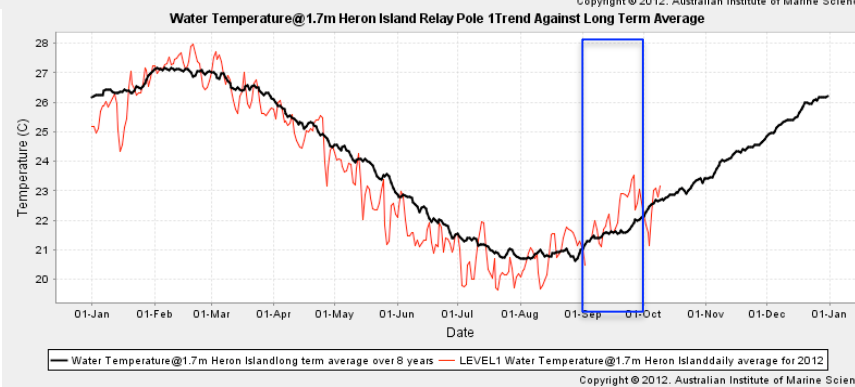
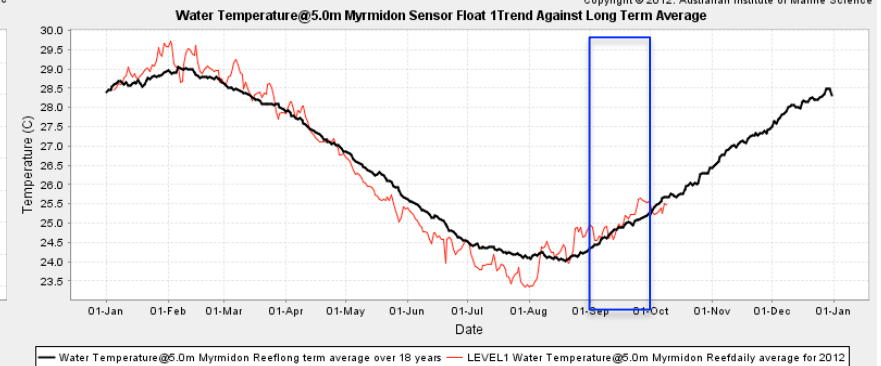
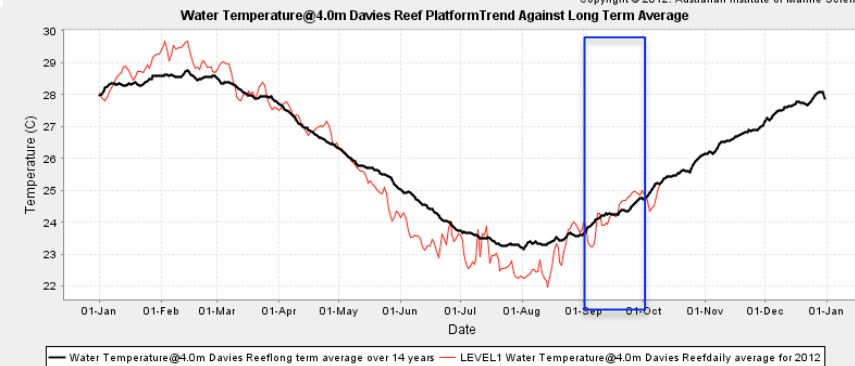
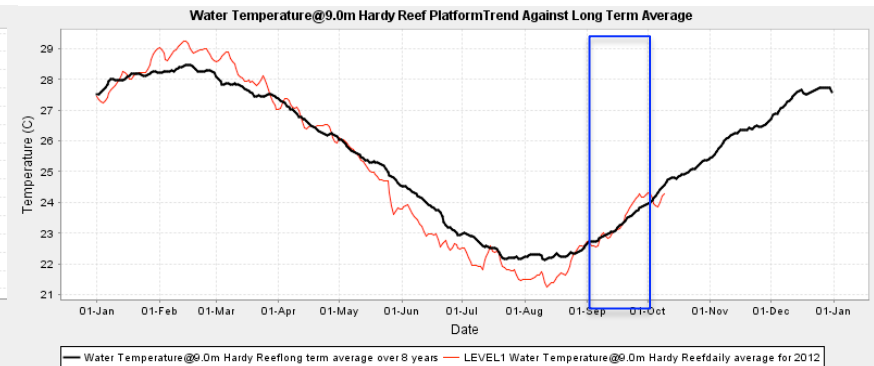
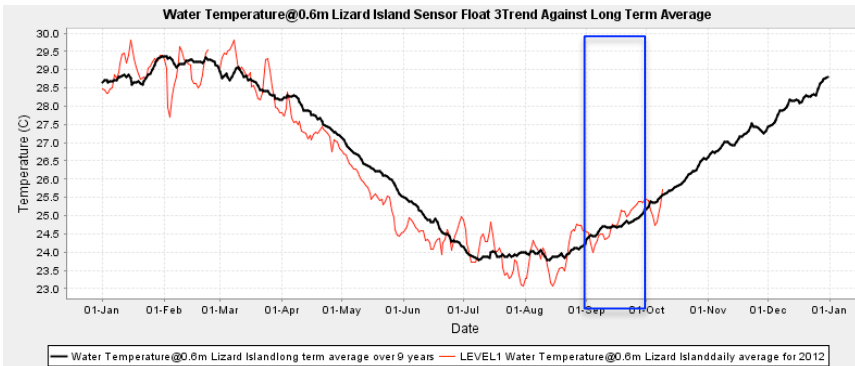
2012 Oct 09 NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook for Oct-Jan 2013
(Version 2, Experimental)



Note:

- The NOAA Coral Reef Watch forecast continues suggesting 'Watch' south of PNG, including the whole Torres Strait and GBR regions.

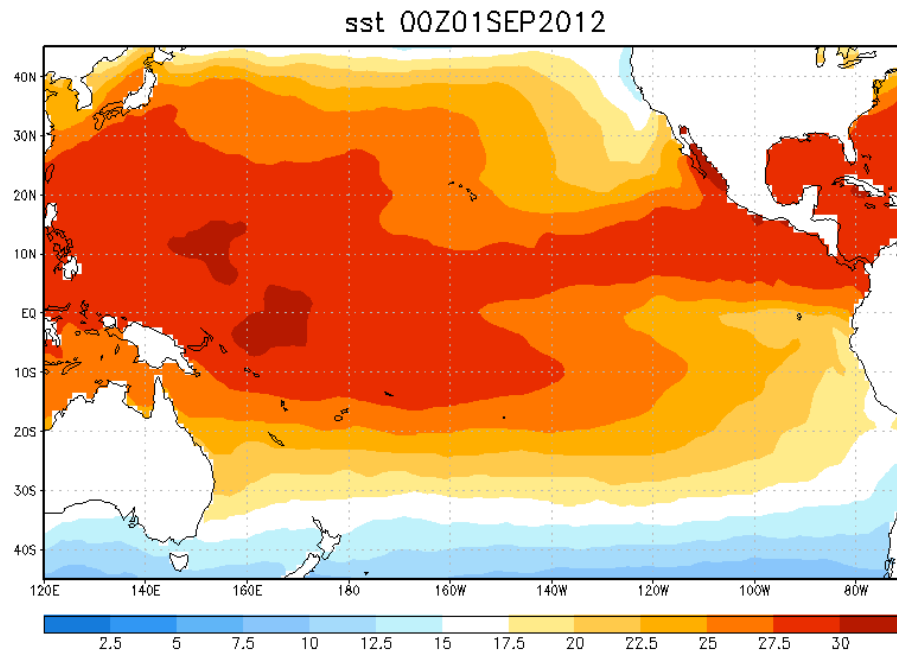
Weather Observing System: AIMS Data Centre



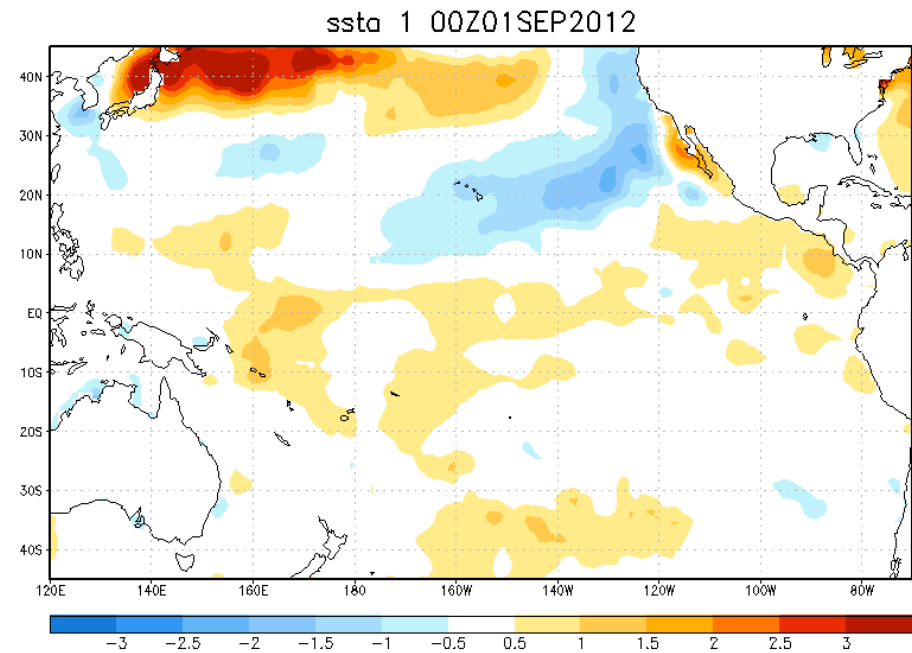
All the AIMS weather stations show average/below average temperatures for September.

NOAA Optimum Interpolation Sea Surface Temperature Analysis:

OI SST: SEPTEMBER 2012



OI SST ANOMALY: SEPTEMBER 2012



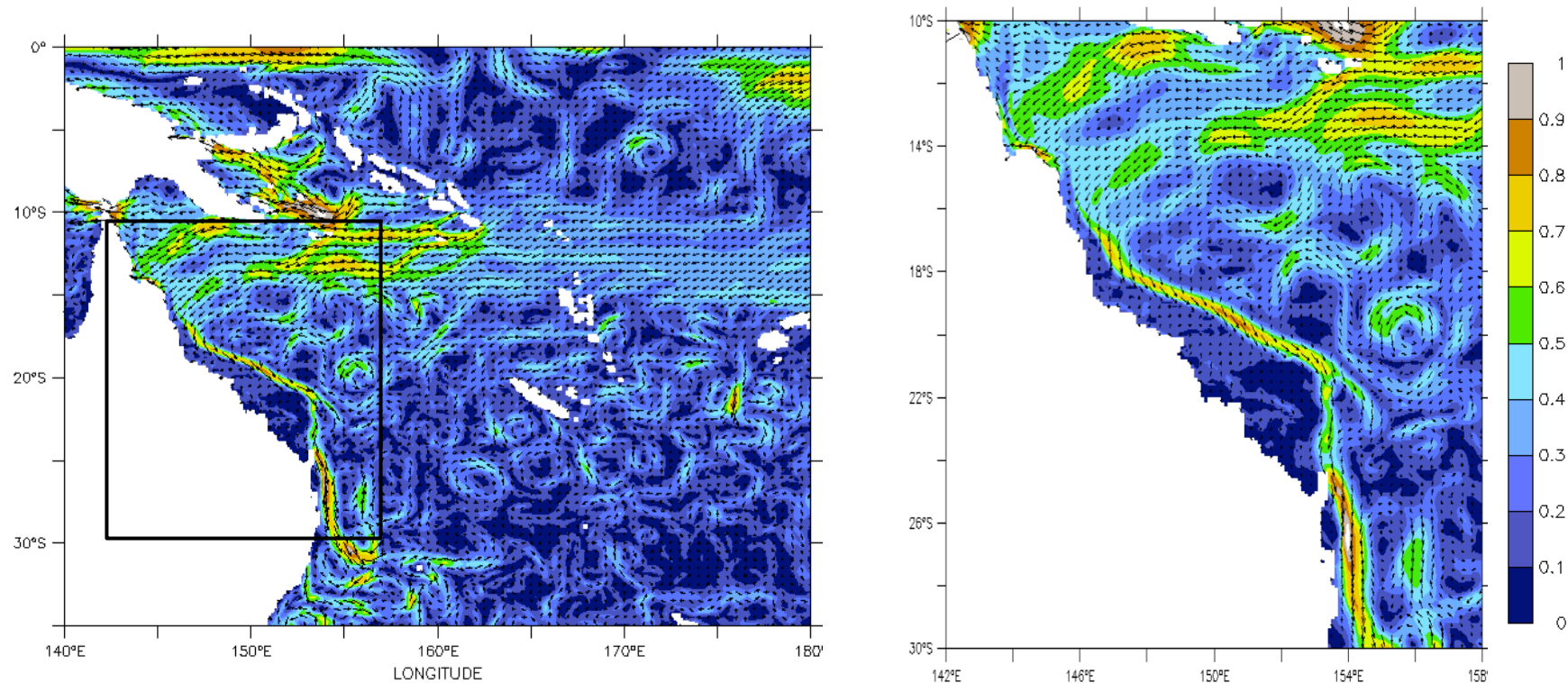
Note:

- Positive SST anomalies remained along the equatorial Pacific during September, although less intense than the previous month.

OceanMAPS 15m Depth-Average Currents

September 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.

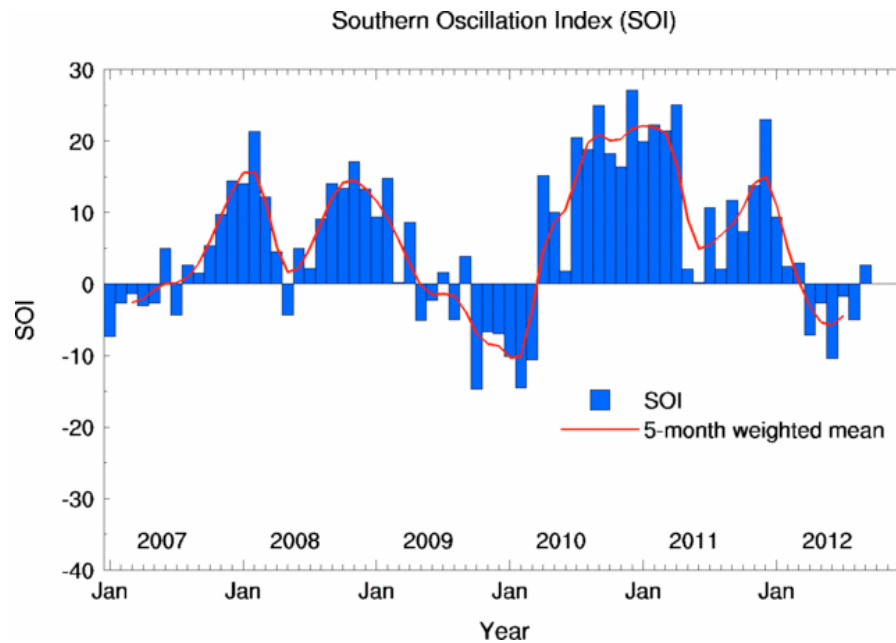


Behind Real Time analysis
15 m Depth-Averaged Currents (m/s).

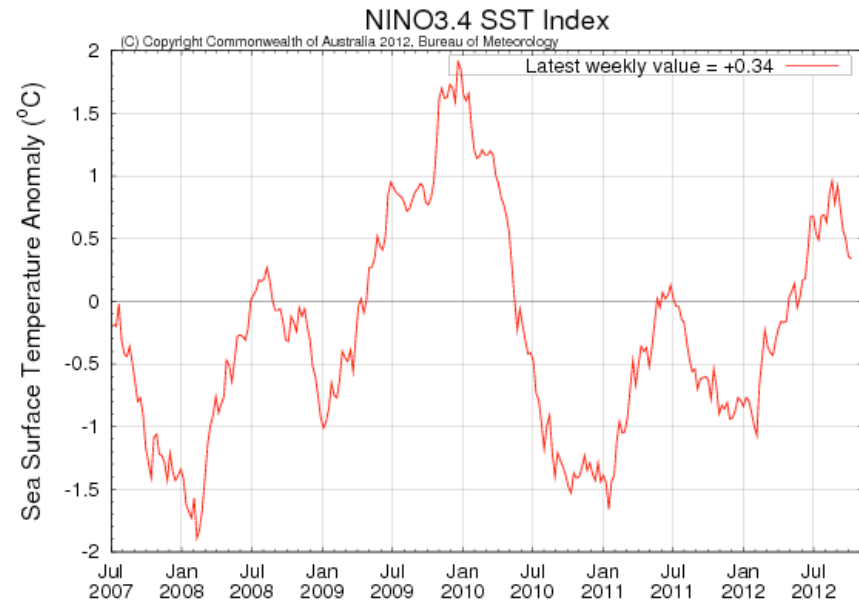
Note:

- Strong inflow of SEC waters impacting the N-GBR region.
- A very strong EAC clearly apparent along the GBR shelf-edge south of ~17°S, becoming particularly intense just south of Fraser Is.

ENSO index



Negative SOI = El Niño



Positive Nino 3.4 index= El Niño

Note:

- El Niño-like conditions less apparent during September: weaker SST anomalies for the equatorial Pacific, a neutral SOI and a decrease in the El Niño 3.4 index
- Although El Niño conditions are expected to develop in the following months, it is likely to be a very weak event.