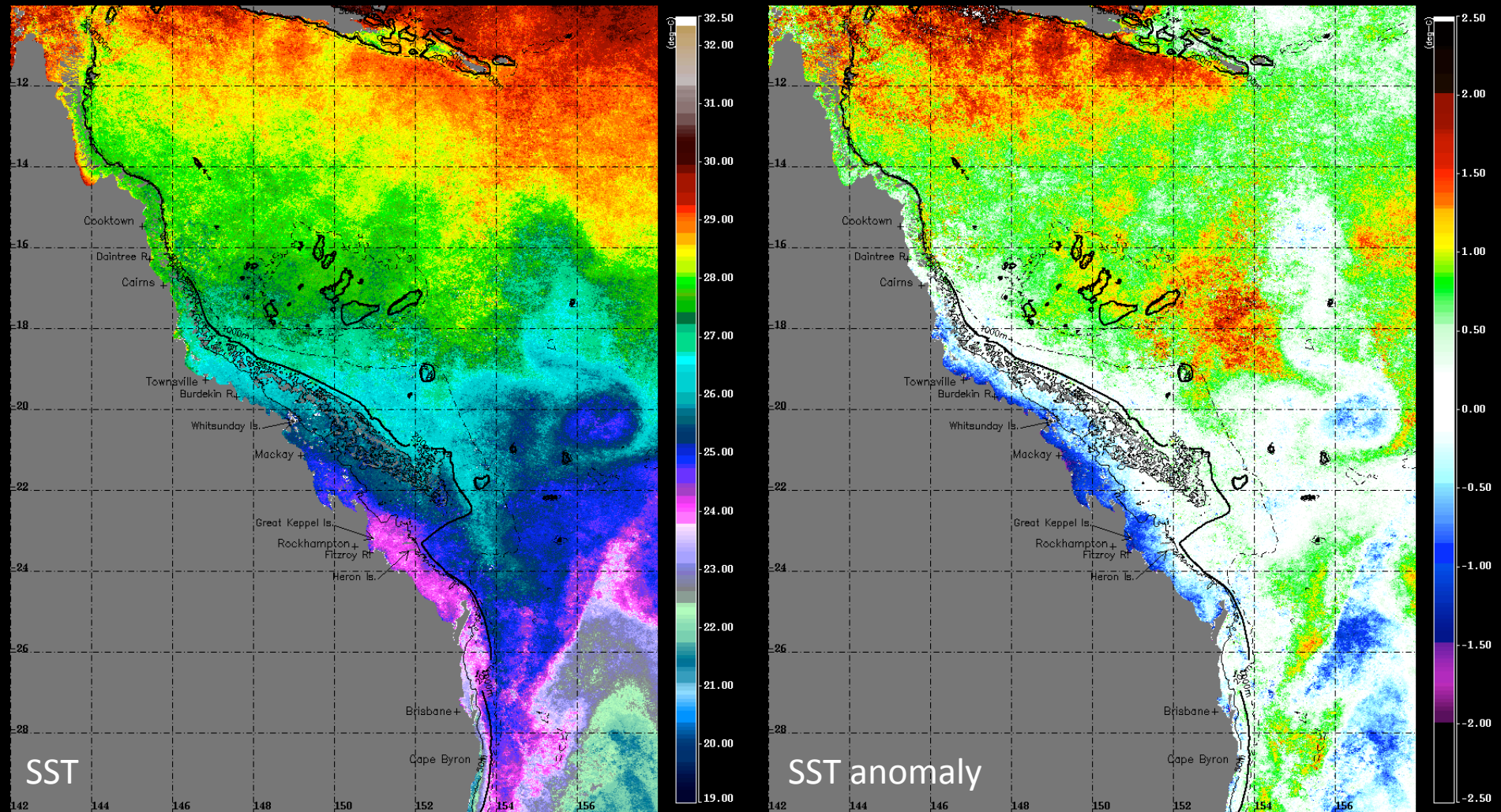


# GBR environmental conditions report

by Ana Redondo, PhD candidate – [a.rodriguez@uq.edu.au](mailto:a.rodriguez@uq.edu.au)  
work supervised by Dr. Scarla Weeks

**UQ OceanSpace Group**

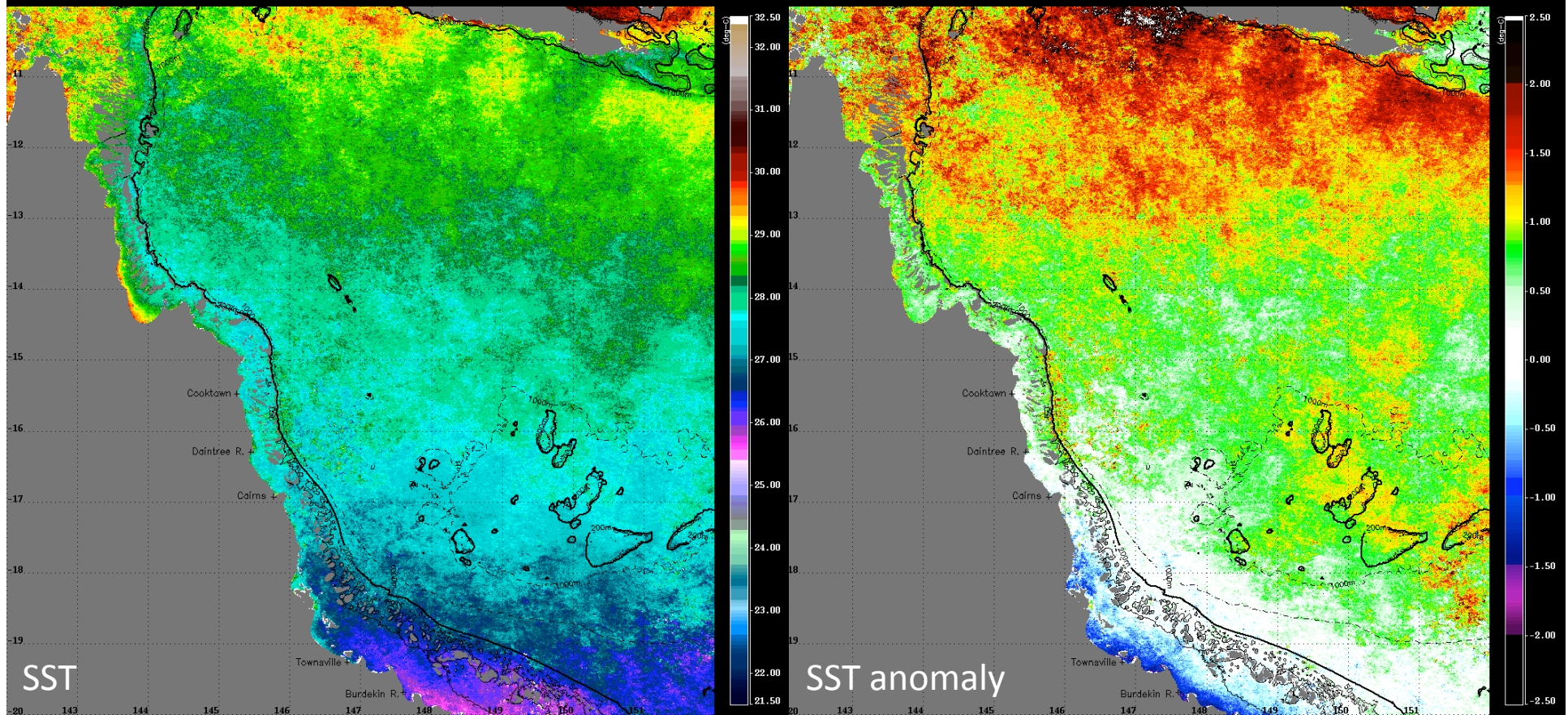
# Modis SST (day+night): November 2010



## Note:

- Notable cloud contamination during November
- The positive anomalies present in the N-GBR are still present during November, although less intense.
- South of  $\sim 17^{\circ}\text{S}$ , the positive anomalies have dissipated, with negative anomalies present in the inner reefs.
- EAC strengthening adjacent to the shelf

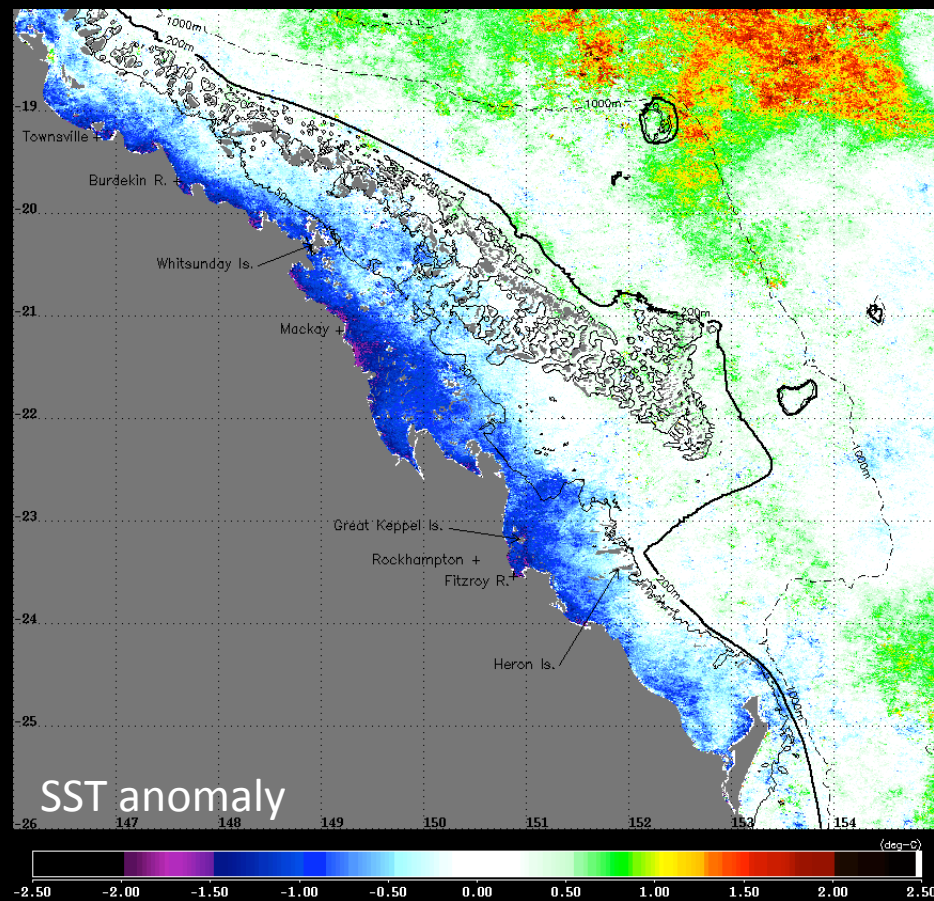
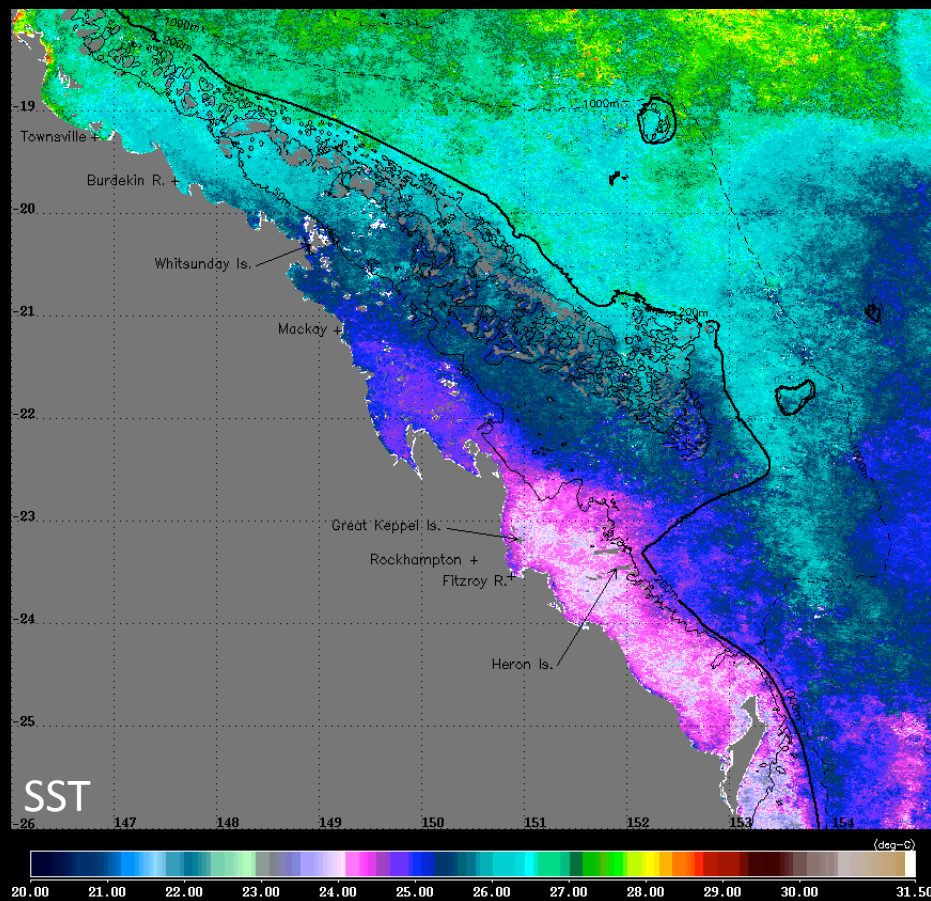
# Northern GBR SST: November 2010



## Note:

- Notable cloud contamination during November
- Positive anomalies remained in the N-GBR in November, although less intense than the previous month.
- Negative anomalies in the inshore areas south of ~17 deg S

# Southern GBR SST: November 2010

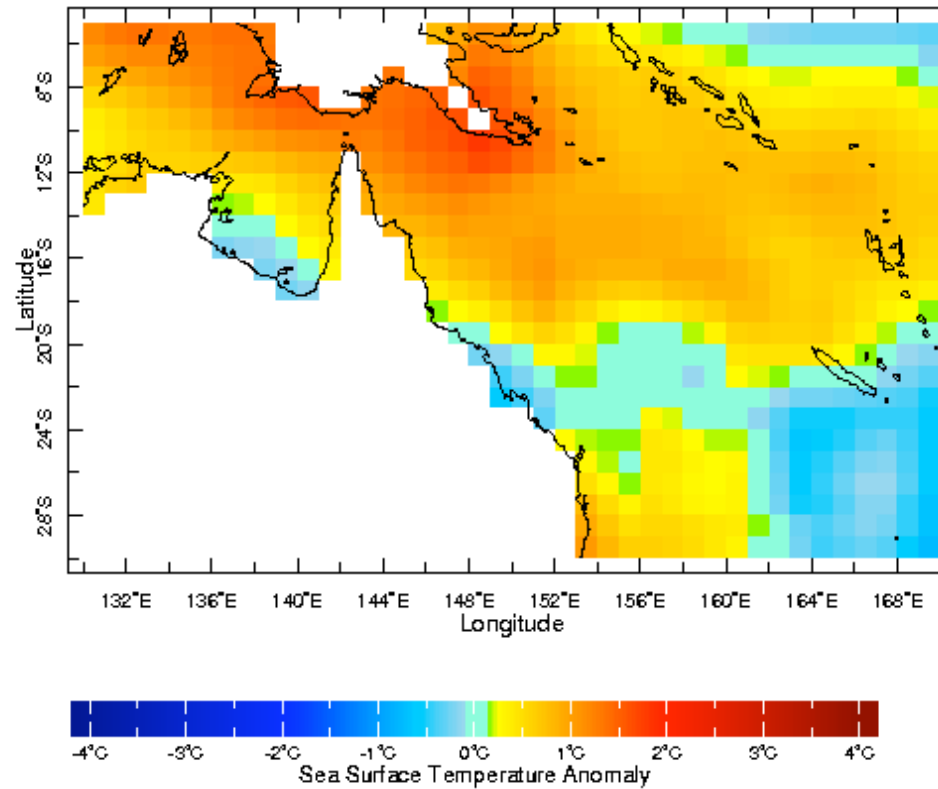


## Note:

- Notable cloud contamination during November
- Close to average conditions for the S-GBR offshore reefs
- Negative anomalies throughout S-GBR inshore reef areas.

# NOAA NCEP EMC CMB GLOBAL Reyn\_SmithOlv2 monthly SSTA: Sea Surface Temperature Anomaly data

November 2010



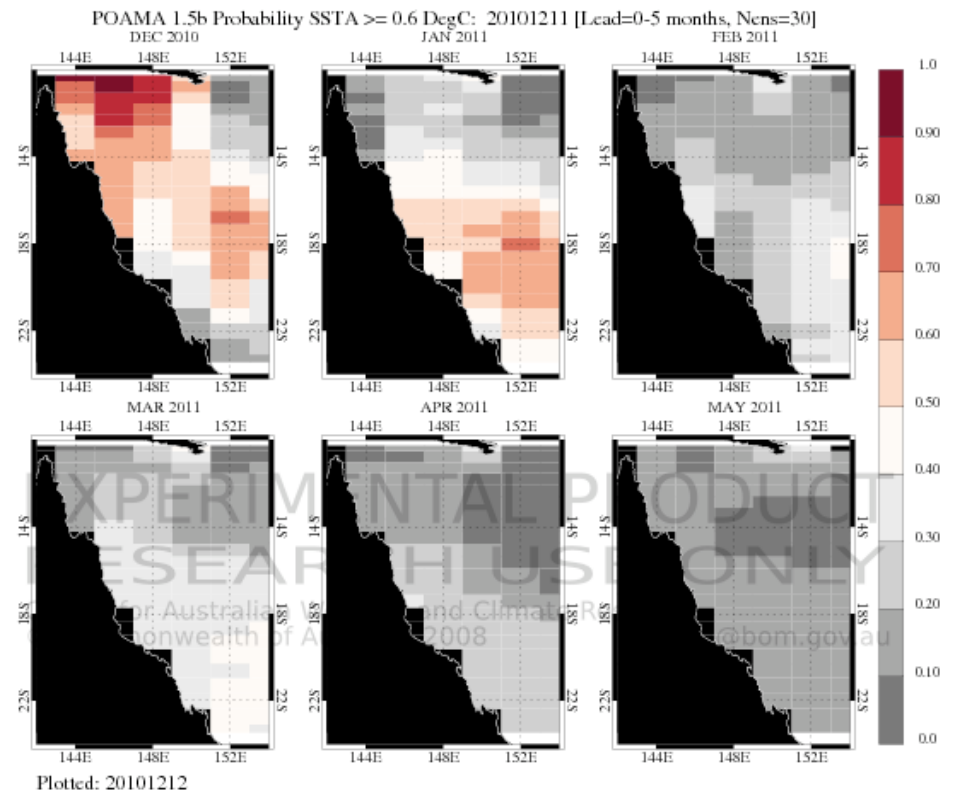
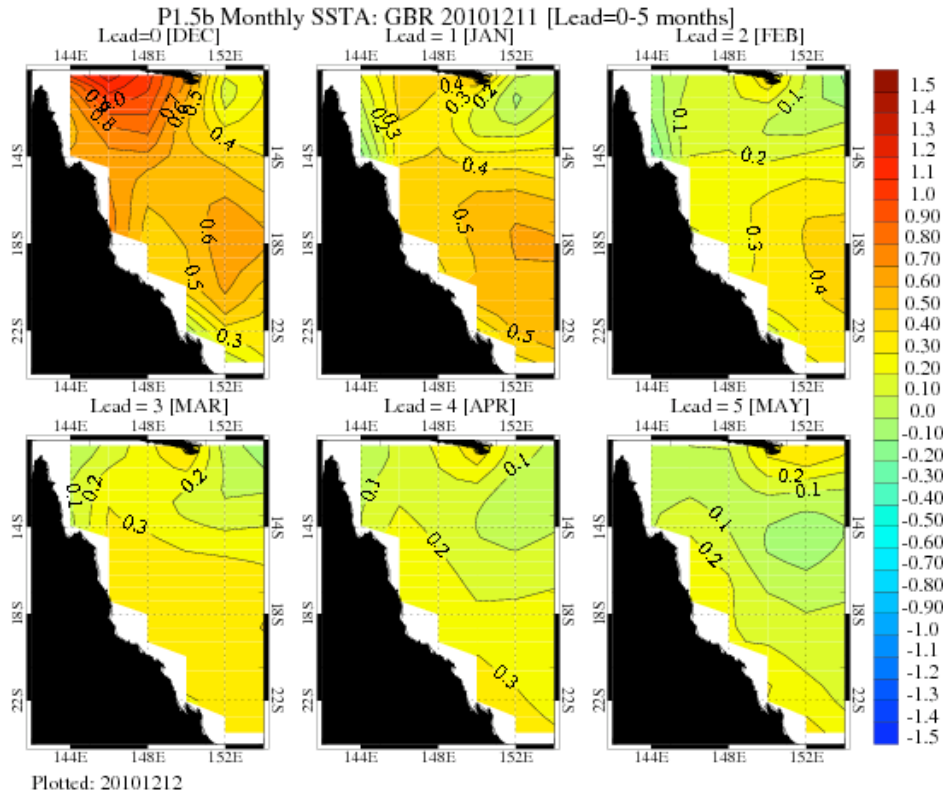
Note:

- Coincident with the MODIS SST data, Reynolds SST anomaly data show positive anomalies over the N-GBR, and negative anomalies in the inshore area south of ~18S

# Experimental Great Barrier Reef SST Anomaly Forecasts (POAMA)

POAMA SST anomalies forecast for the following 6 months.

New POAMA product highlighting the probability of SST anomalies greater than 0.6 deg C for the following 6 months.



Note:

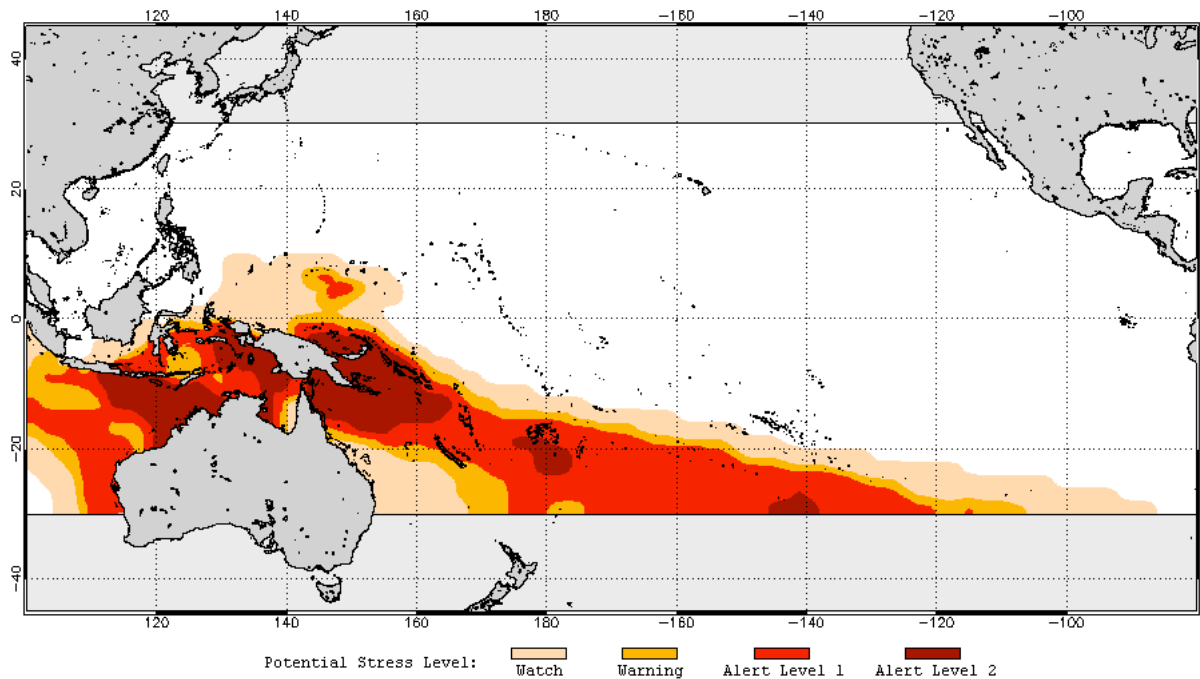
- POAMA forecast positive anomalies that will remain strong in December in the N-GBR, but start to dissipate at the beginning of 2011 with a much lower probability of SST anomalies exceeding 0.6 deg C for February throughout the region.

# NOAA Coral Reef Watch

## Coral Bleaching Thermal Stress Outlook (Version 2, experimental)

### Outlook for December 2010 to March 2011

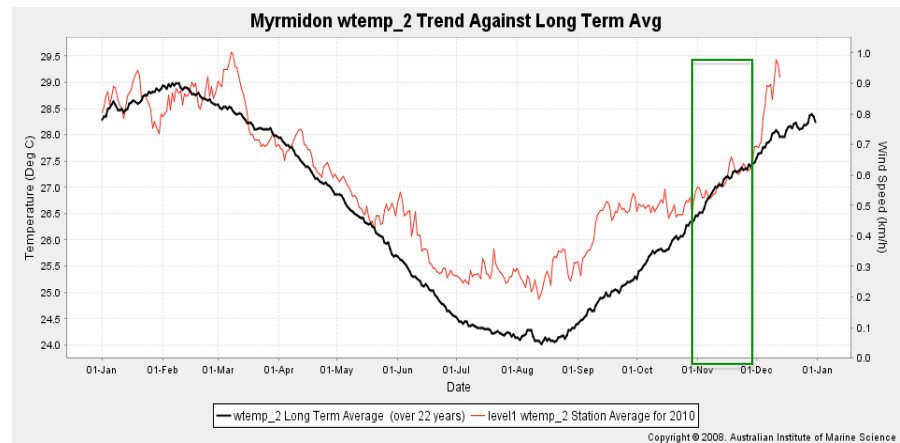
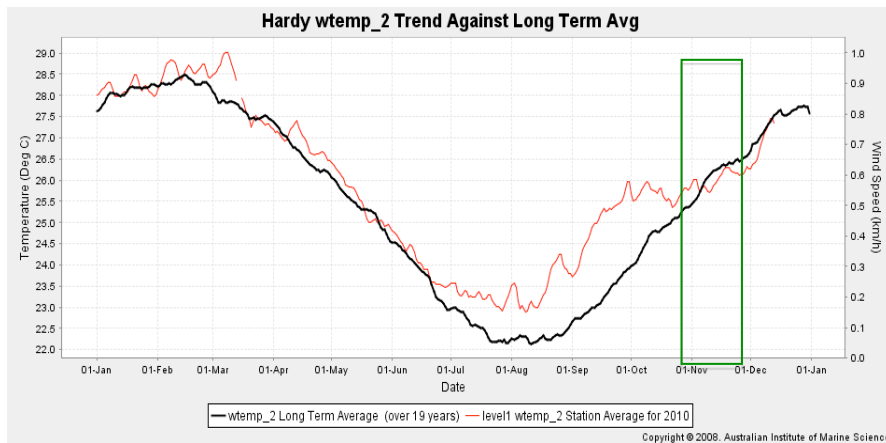
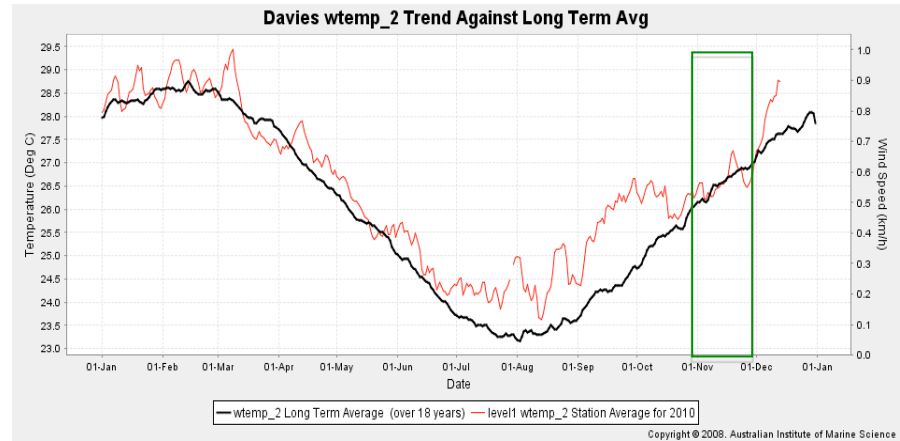
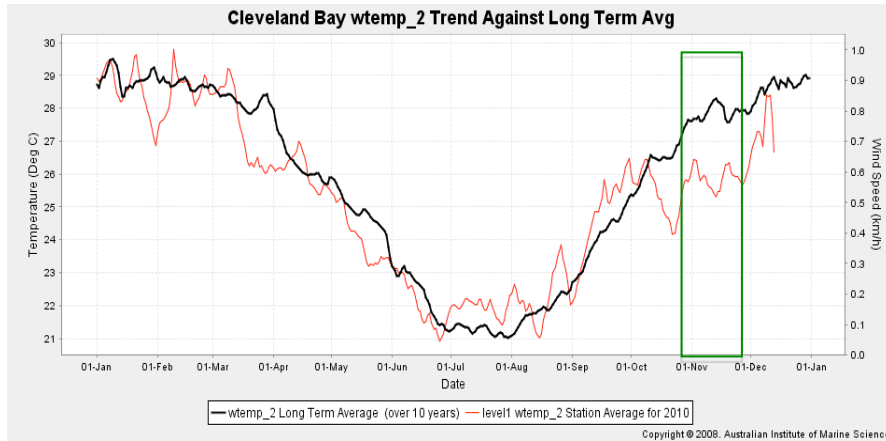
2010 Dec 07 NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook for Dec-Mar 2011  
(Version 2, Experimental)



Note:

- NOAA thermal Stress Outlook shows Alert levels 1 to 2 for the Northern and central GBR, with Warning and Watch levels for for the S-GBR

# Weather Observing System: AIMS Data Centre



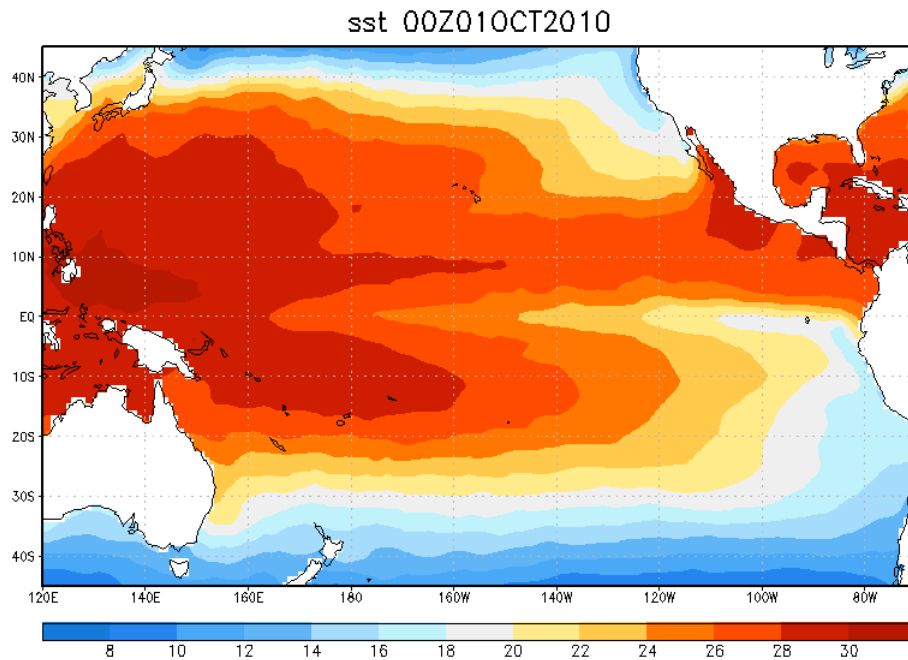
**Note:**

- The weather stations located on the outer reefs show temperatures close to average for November.
- Cleveland Bay (located inshore), on the other hand, shows temperatures below average throughout November.

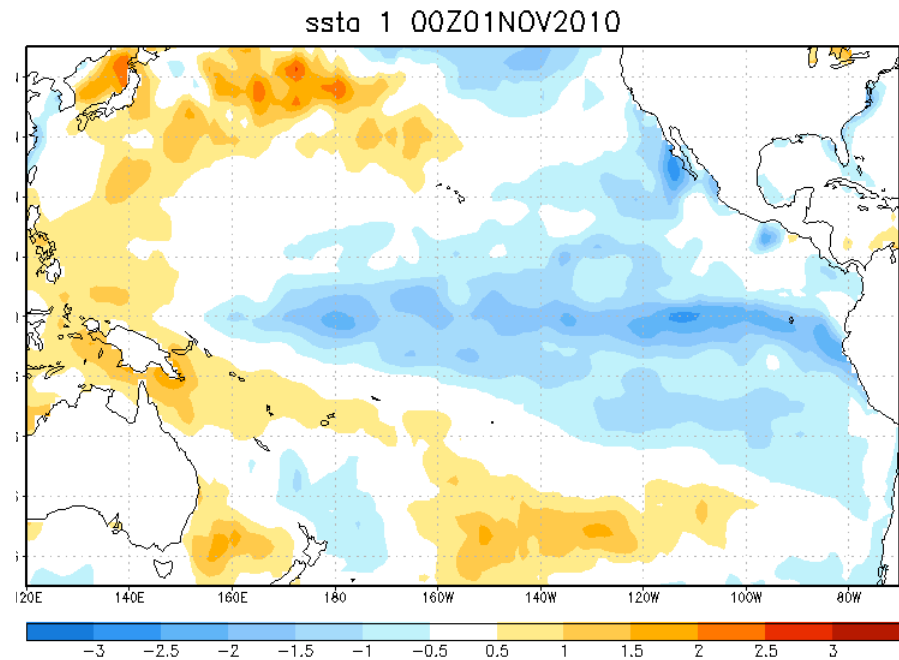


# NOAA Optimum Interpolation Sea Surface Temperature Analysis:

OI SST: NOVEMBER 2010



OI SST ANOMALY: NOVEMBER 2010

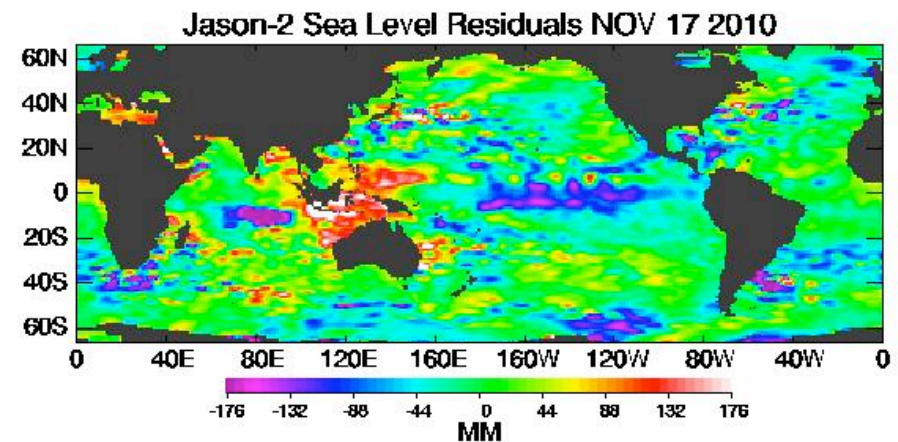
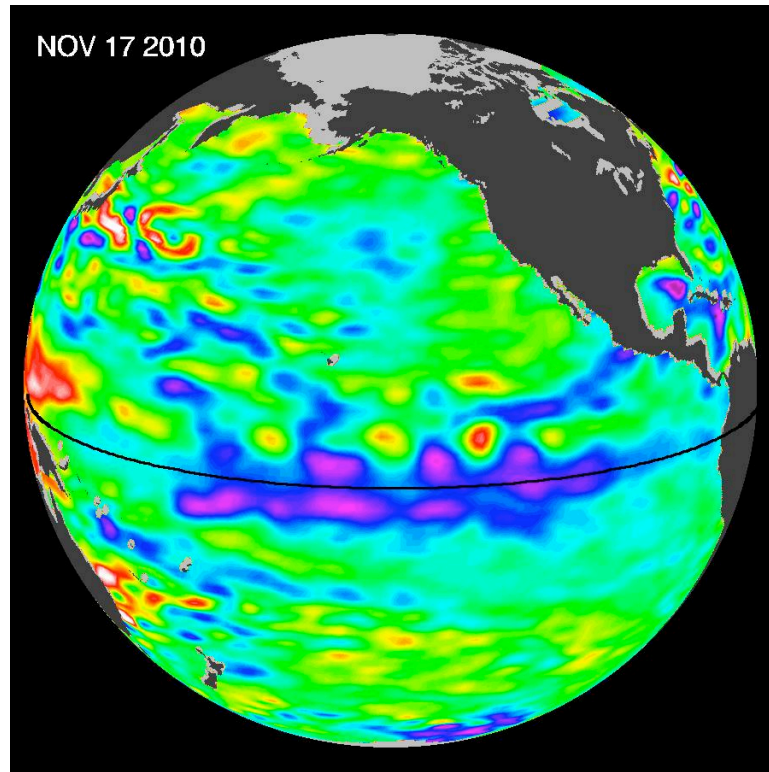


Note:

- The negative anomalies present in the equatorial Pacific continue, with a typical pattern of negative anomalies persisting in the central and eastern equatorial Pacific and positive anomalies in the west to form the shape of a horseshoe.

# Sea surface height anomalies from Ocean Surface Topography: Jason-1 and Jason-2 (NASA/French)

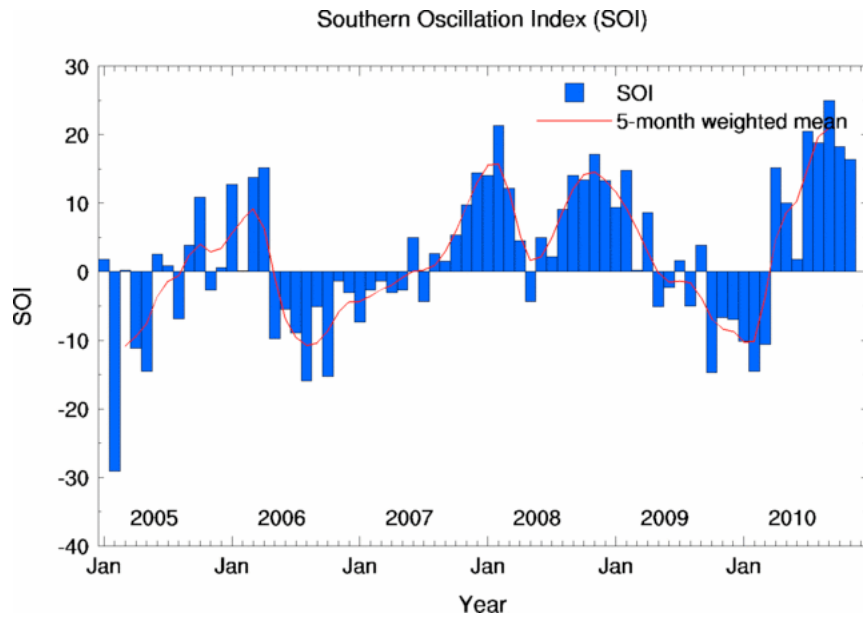
10-day data cycle centered around NOVEMBER, 2010.



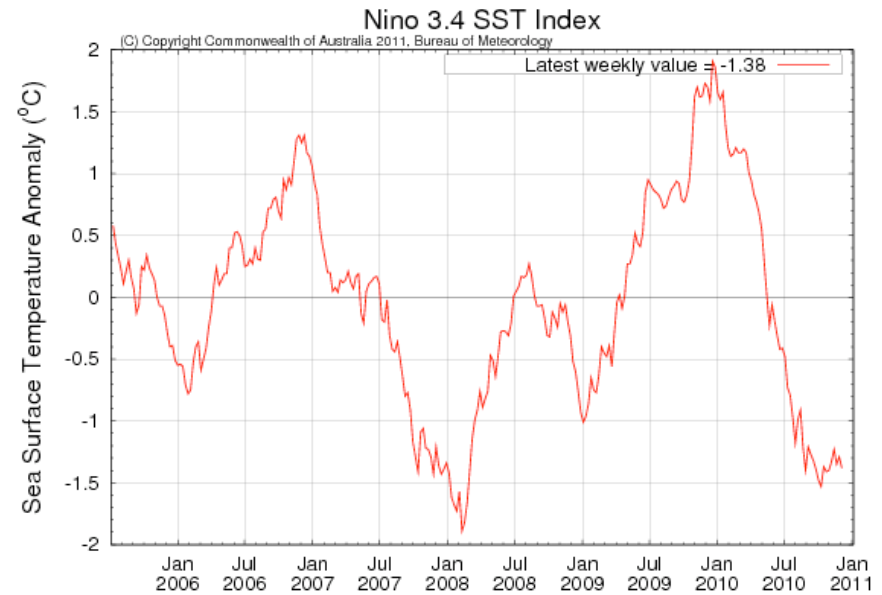
Note:

- Satellite imagery shows clear negative SSH anomalies located in the equatorial Pacific, related to the developing La Niña, which is characterized by lower SSH in the central and eastern equatorial Pacific and an increase in SSH over the WPWP. La Niña conditions generally coincide with an increase in the thermocline tilt along the equator and enhanced upwelling in the east.

# ENSO index



Positive SOI = La Niña



Negative Nino 3.4 index= La Niña

Note:

- La Niña conditions continue, with small changes in the ENSO indices. La Niña is expected to peak during November to January and to continue over the next months.