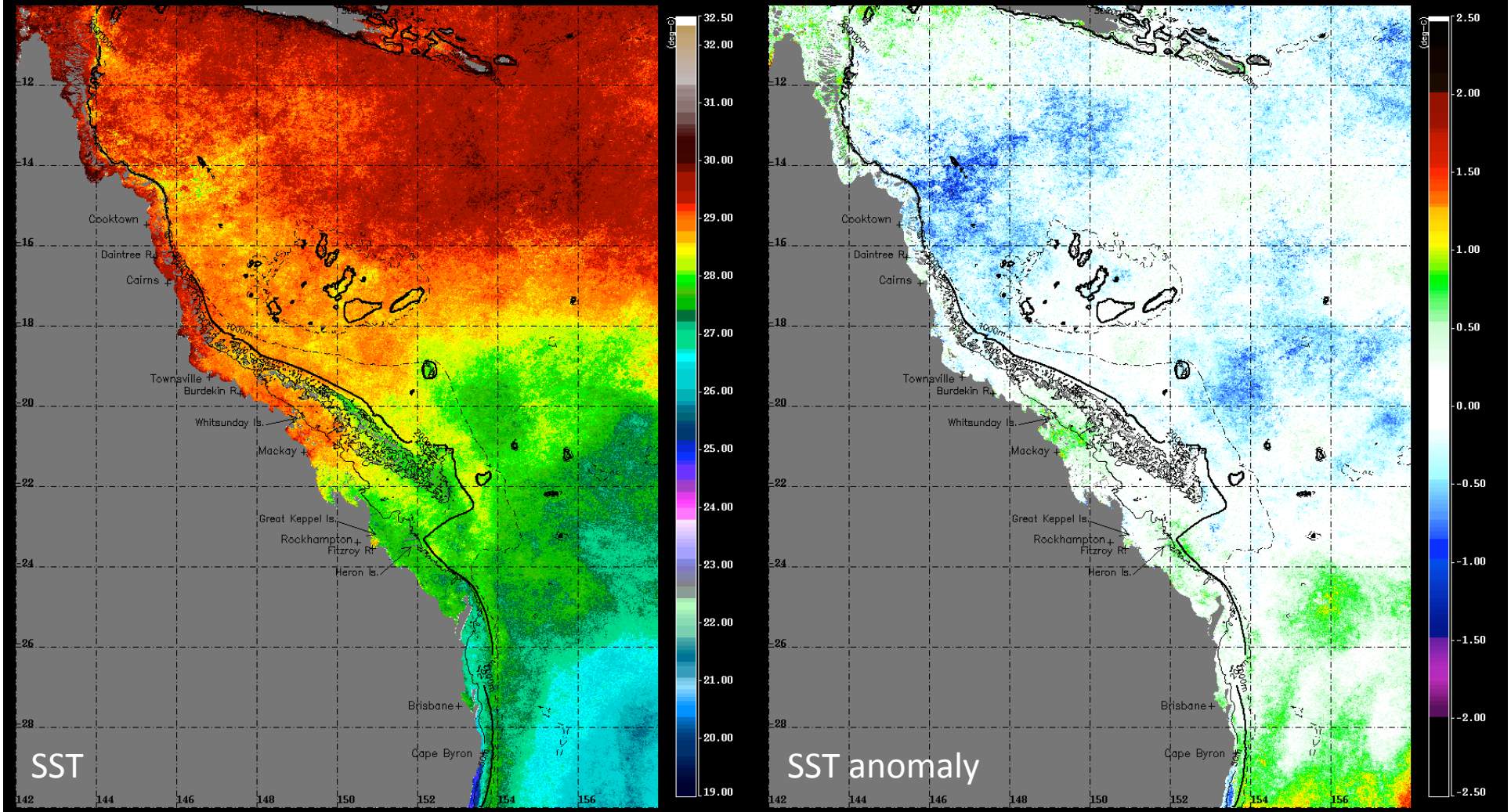
# Modis SST (day+night): February 2009

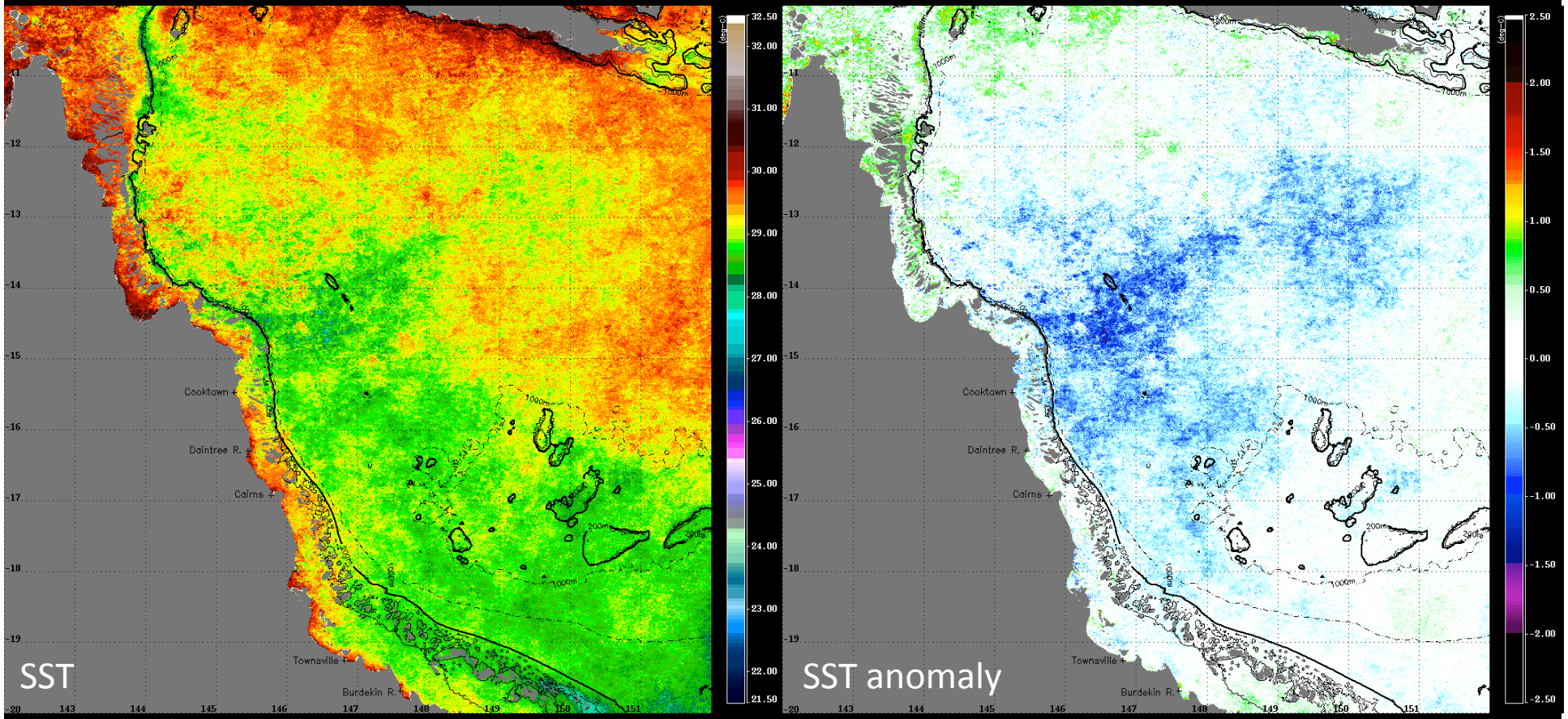



Note:

- Weak negative anomalies remain in the N-GBR, with weak positive anomalies still present in the Capricorn Bunker & Whitsunday Groups

Weak positive anomalies have developed in the far north

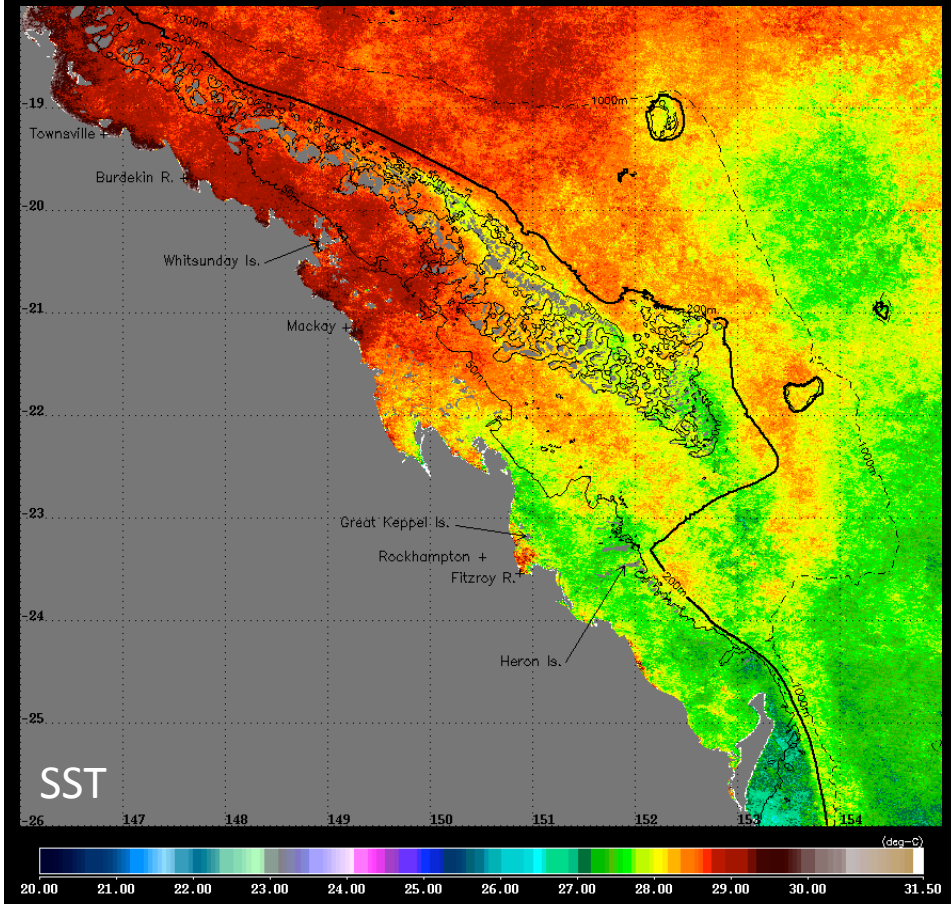
# Northern GBR SST: February 2009

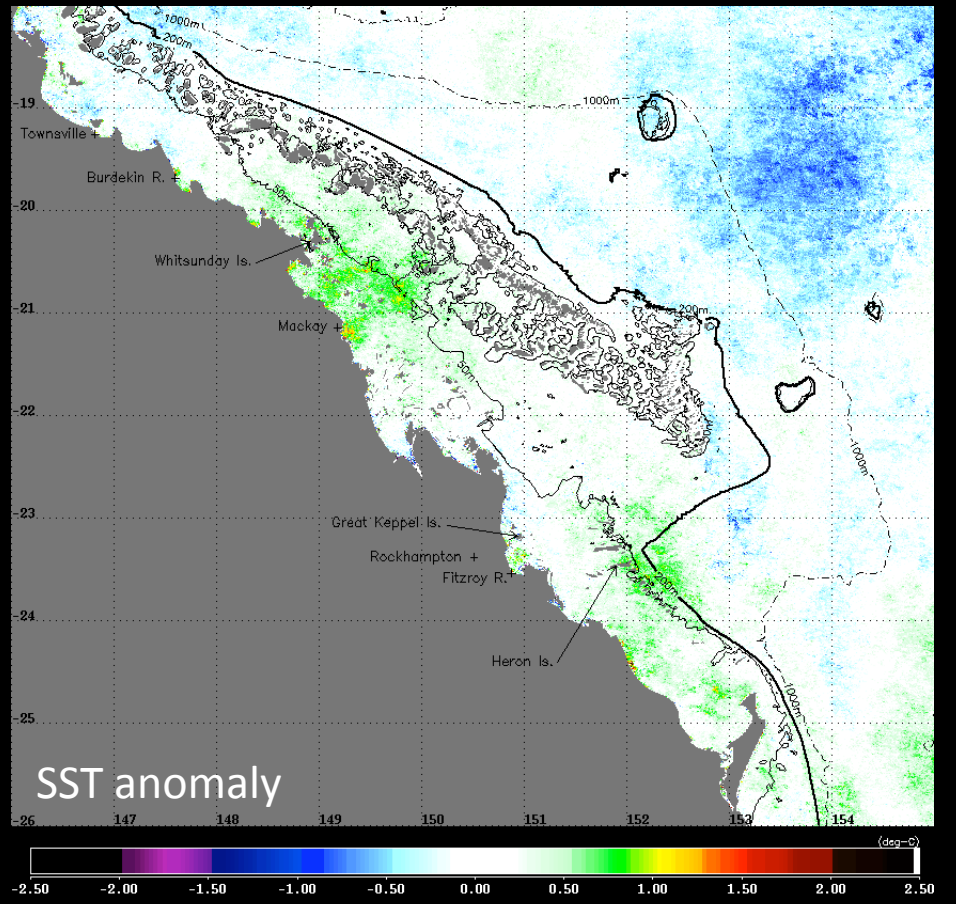



Note:

- The far N-GBR presents close to average or weak positive anomalies.
- Weak negative anomalies elsewhere

# Southern GBR SST: February 2009

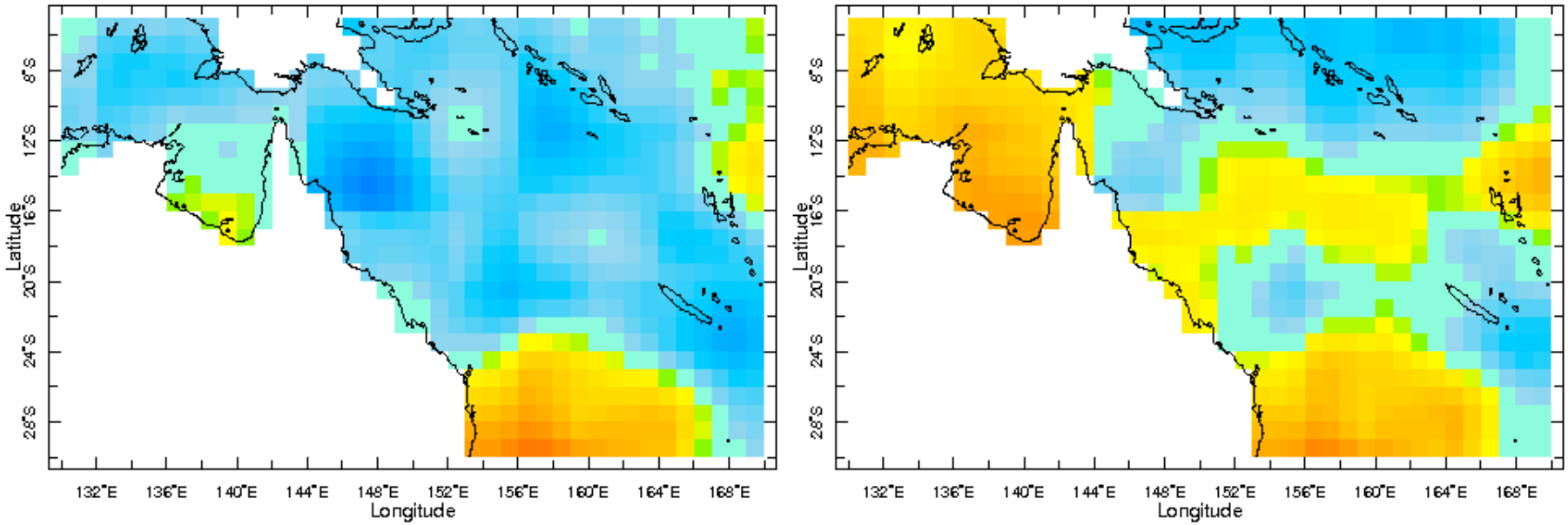



Note:

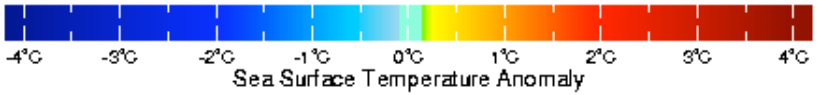
- Slightly positive anomalies are still present in the S-GBR, primarily in the Capricorn Bunker & Whitsunday Groups

# NOAA NCEP EMC CMB GLOBAL Reyn_SmithOIv2 weekly ssta: Sea Surface Temperature Anomaly data




31 Jan – 06 Feb 2010

07 – 13 Feb 2010

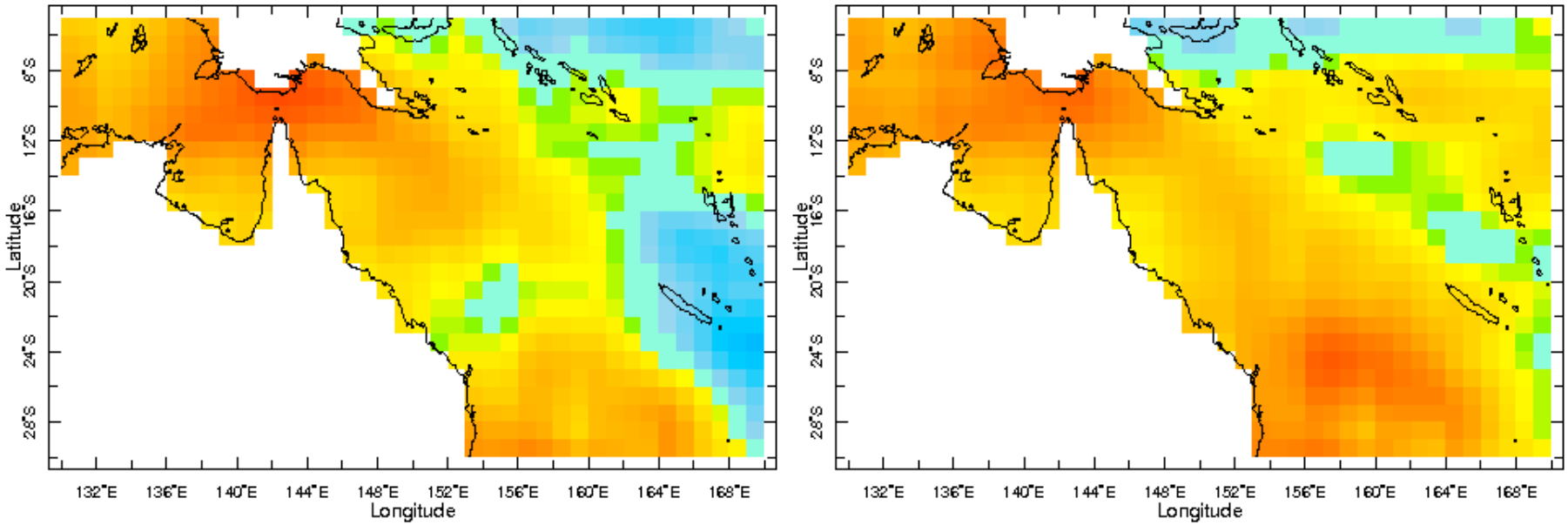



Note:

- February started with negative anomalies over most of the GBR.

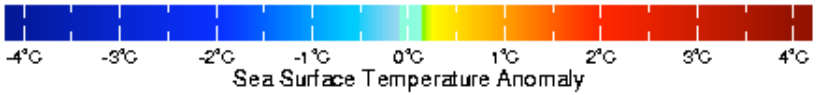
http://iridl.ldeo.columbia.edu/SOURCES/.NOAA/.NCEP/.EMC/.CMB/.GLOBAL/.Reyn_SmithOIv2/.weekly/.ssta/

# NOAA NCEP EMC CMB GLOBAL Reyn_SmithOIv2 weekly ssta: Sea Surface Temperature Anomaly data




14 – 20 Feb 2010

21 – 27 Feb 2010



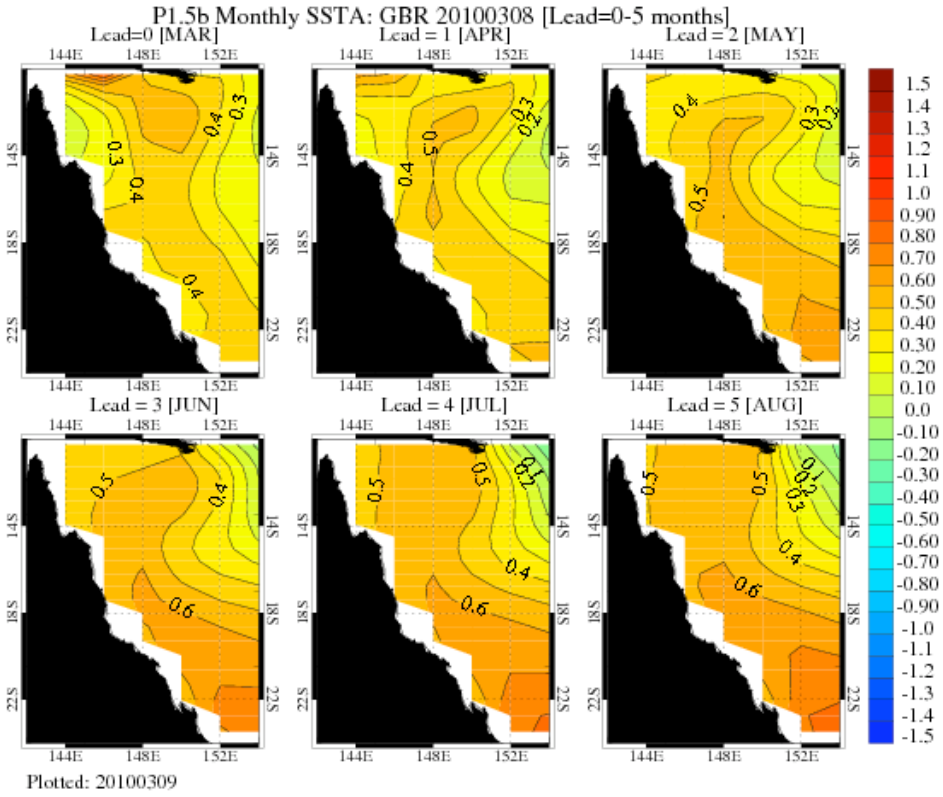

Note:

- By the end of the month NOAA Reynolds SST anomaly product shows a shift towards positive anomalies over the GBR.

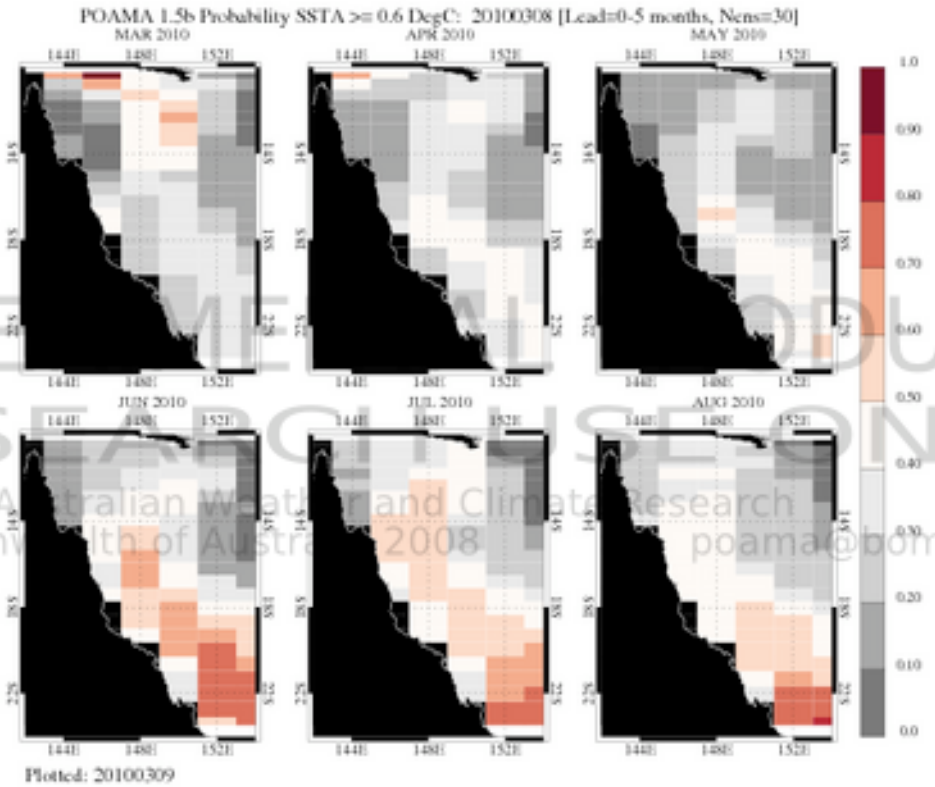
http://iridl.ldeo.columbia.edu/SOURCES/.NOAA/.NCEP/.EMC/.CMB/.GLOBAL/.Reyn_SmithOIv2/.weekly/.ssta/

# 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 predicts temperature anomalies for the GBR to be less that 0.6 degrees until June. (about two months later than the previous forecast)

http://poama.bom.gov.au/experimental/poama15/sp_gbr.htm

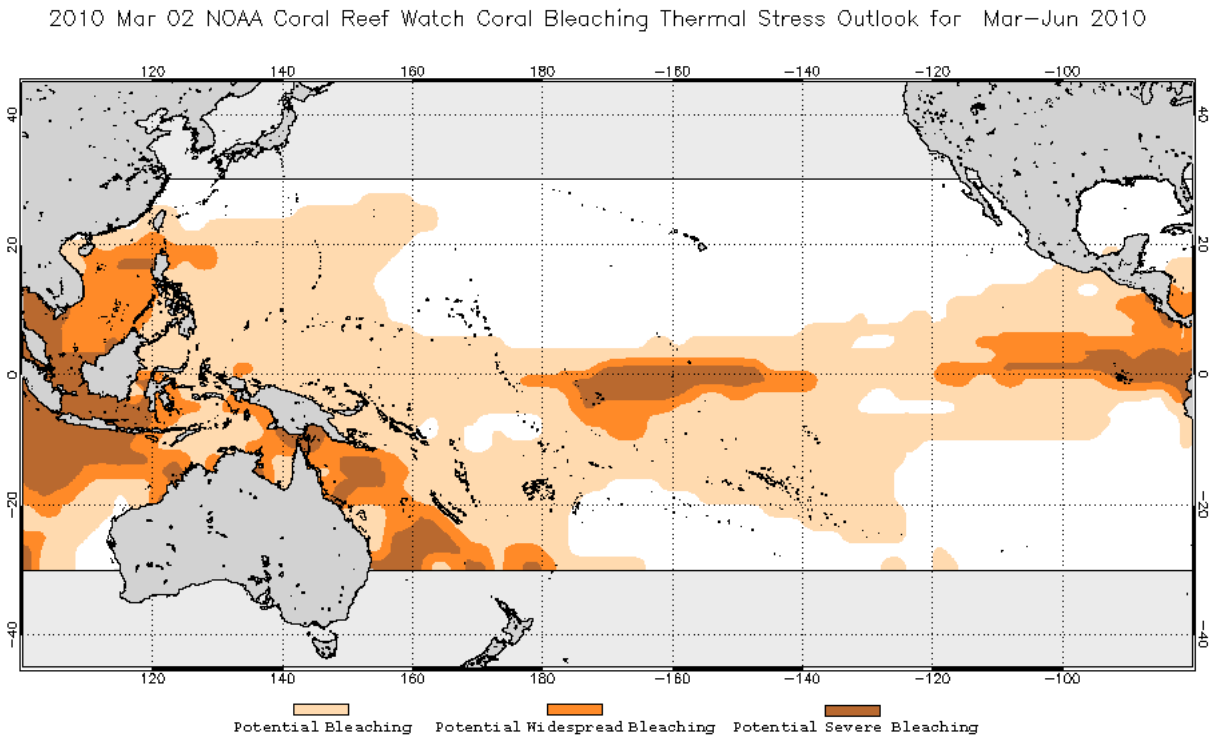
UQ_ OceanSpace group

# NOAA Coral Reef Watch

## Seasonal Coral Bleaching Thermal Stress Outlook

(Experimental product, 2x2 degree spatial resolution)

## Outlook for March To June 2010



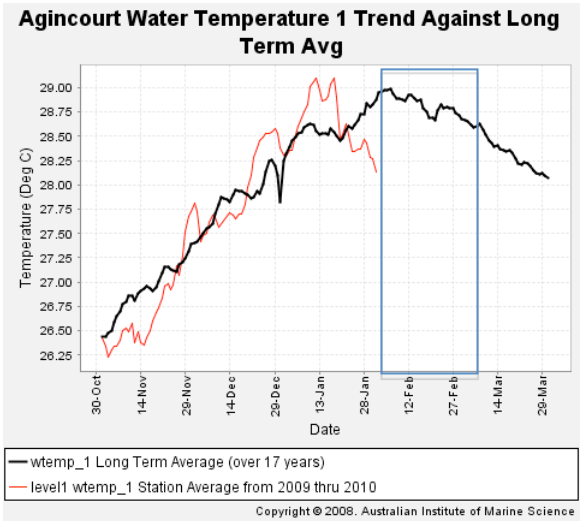

Note:

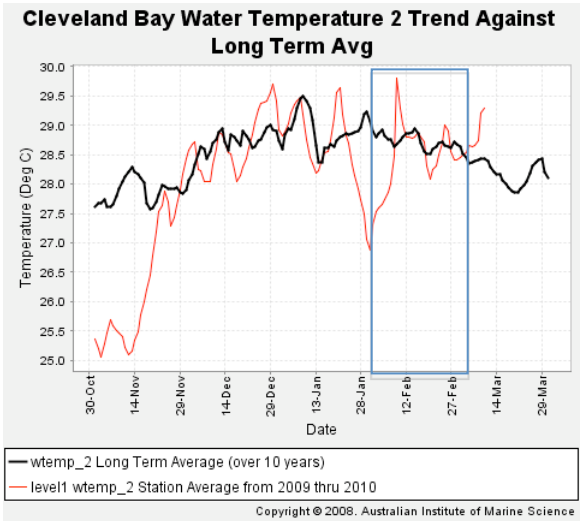
- NOAA thermal stress Outlook for March to June predicts potential widespread (or even severe) bleaching for most of the GBR, except the southern GBR.

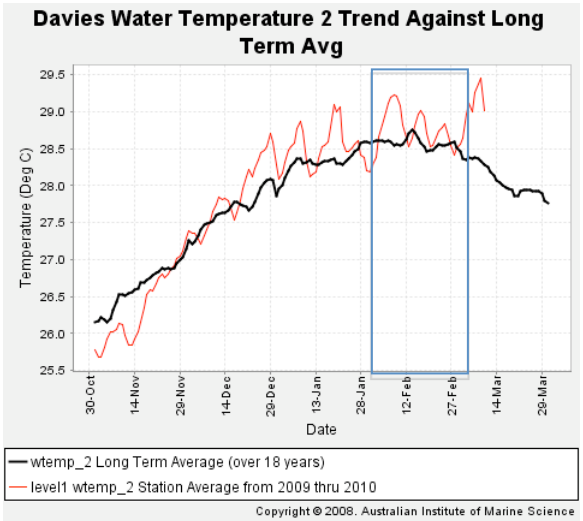
http://coralreefwatch.noaa.gov/satellite/bleachingoutlook/

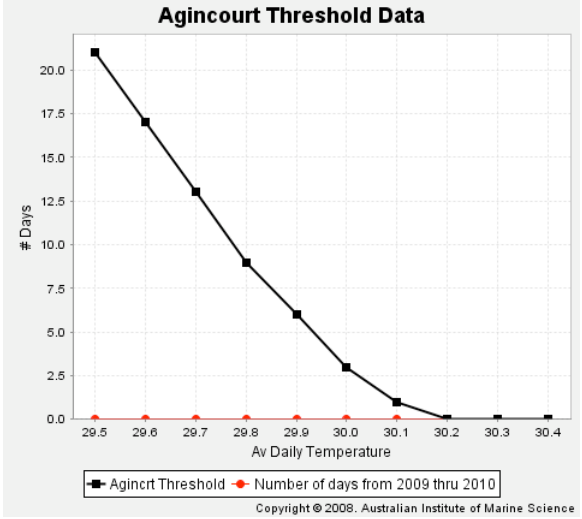
UQ_ OceanSpace group

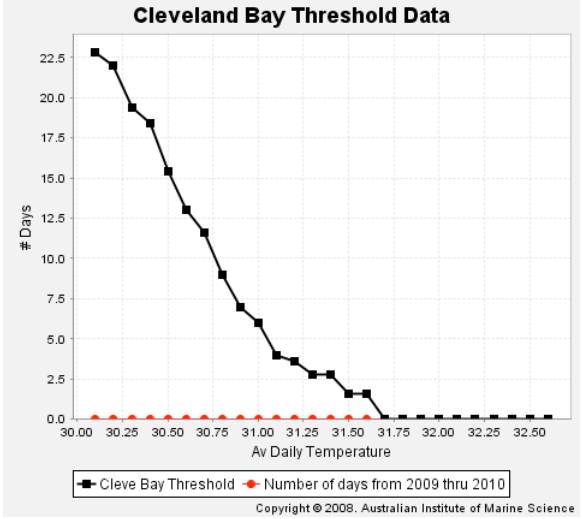
# Weather Observing System: AIMS Data Centre

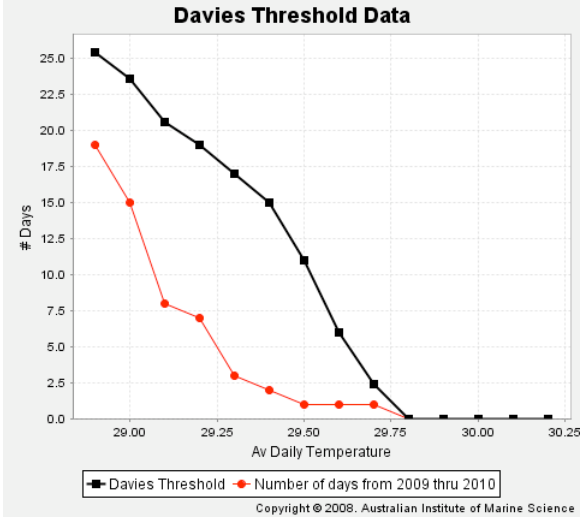


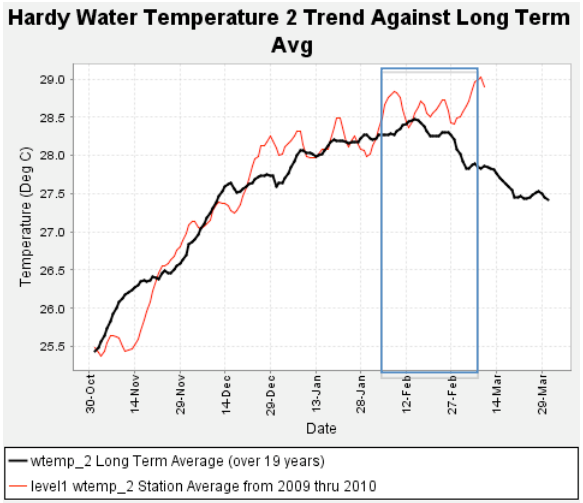



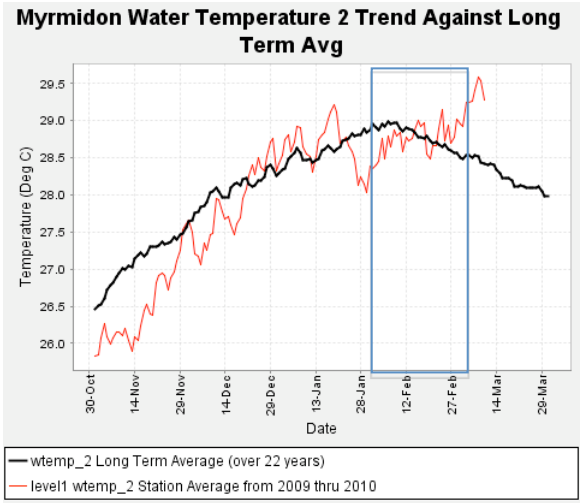



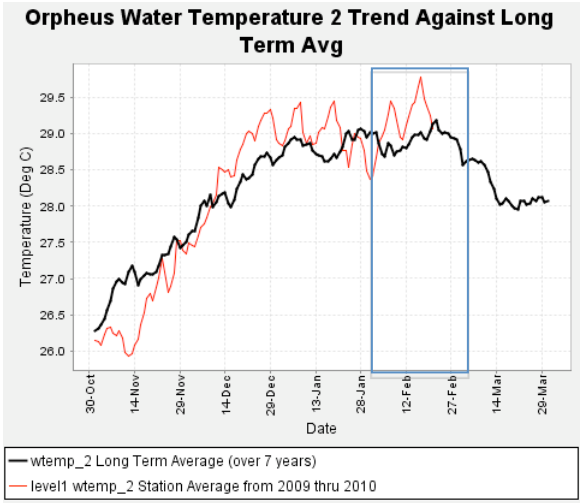



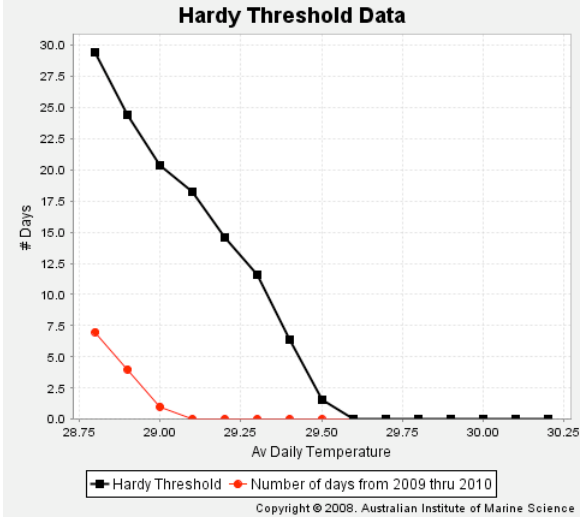

•The graphs in the upper panels show the trends of average daily temperatures against the long-term average. The number of years of data used in calculating the long-term average is shown in the legend.
•The graphs in the lower panels show the number of days exposure to temperatures at or above those indicated on the x-axis and how they compare to bleaching thresholds. Bleaching thresholds are site-specific and are an interpolation of SST and exposure times between warmest non-bleaching summers and coolest bleaching summers. When the time-temperature curve exceeds the predicted bleaching threshold, sensitive corals are in danger of bleaching.

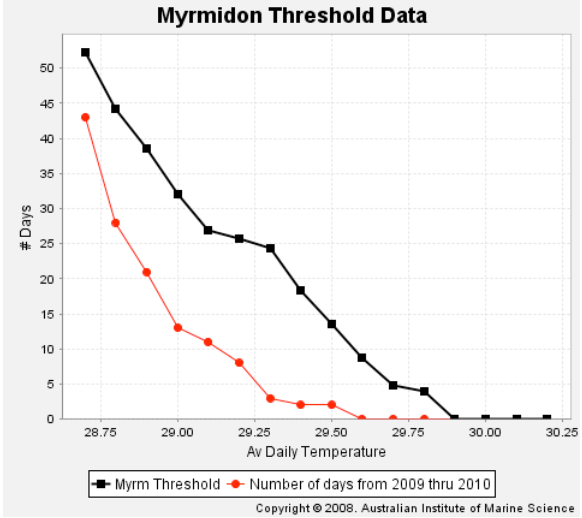
# Weather Observing System: AIMS Data Centre

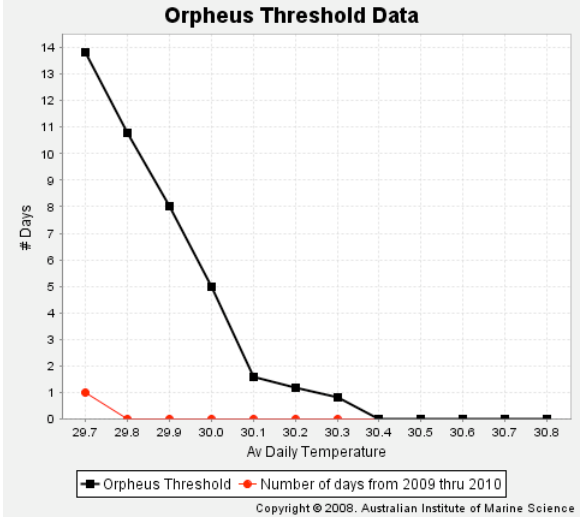


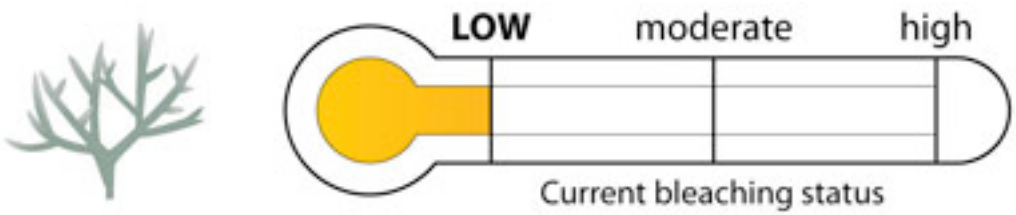




Note:

- Davies and Myrmidon reefs are close to reaching the predicted bleaching threshold for each reef, as temperatures rise in late February/early March.

# Current bleaching status (GBRMPA)

## February 2010




"Overall, reports from the BleachWatch network indicate that the current levels of coral bleaching across the entire Great Barrier Reef are LOW.

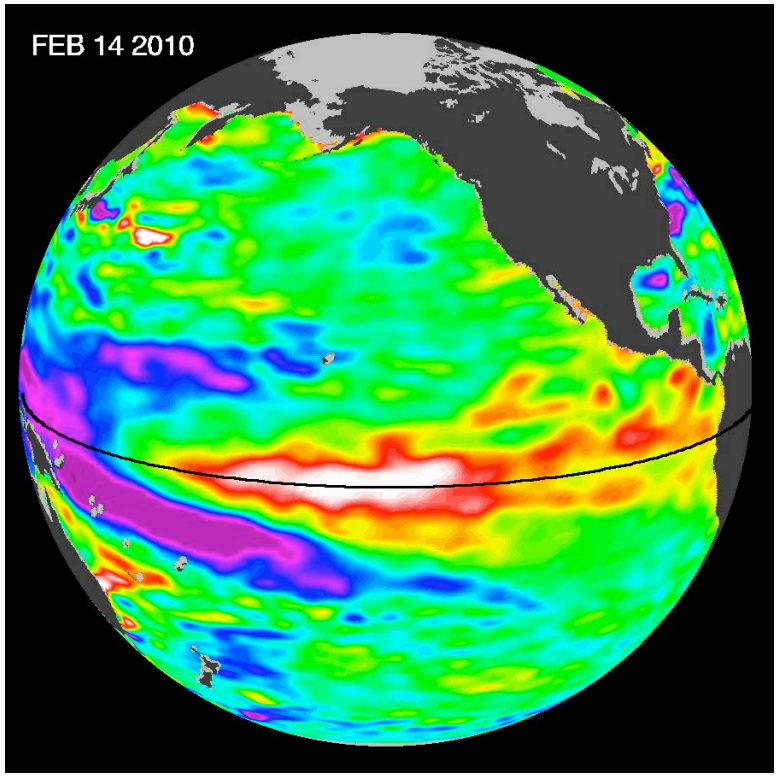
Each summer, the Great Barrier Reef Marine Park Authority works with the BleachWatch network of volunteers to detect any early signs of coral bleaching on the Reef. A total of 393 BleachWatch reports have been received so far this summer. The majority (86 per cent) of the reports record no bleaching. Of the remainder, 12 per cent show minor seasonal bleaching (paling), and two percent show moderate bleaching. Follow up investigations of the bleaching reports has indicated that moderate bleaching has generally been concentrated on shallow reefs that have been exposed as a result of the late January/ February king tides.

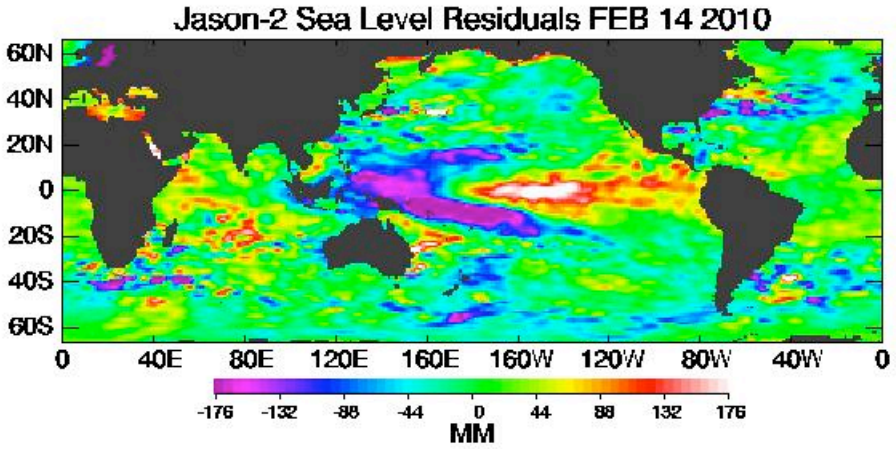
For more information on BleachWatch program contact the BleachWatch coordinator at bleachwatch@gbrmpa.gov.au" .

*Extracted from http://www.gbrmpa.gov.au/corp_site/key_issues/climate_change/management_responses/coral_bleaching_status*

# Sea surface height anomalies from Ocean Surface Topography: Jason-1 and Jason-22 (NASA/French)

10-day data cycle centered around February 2010.



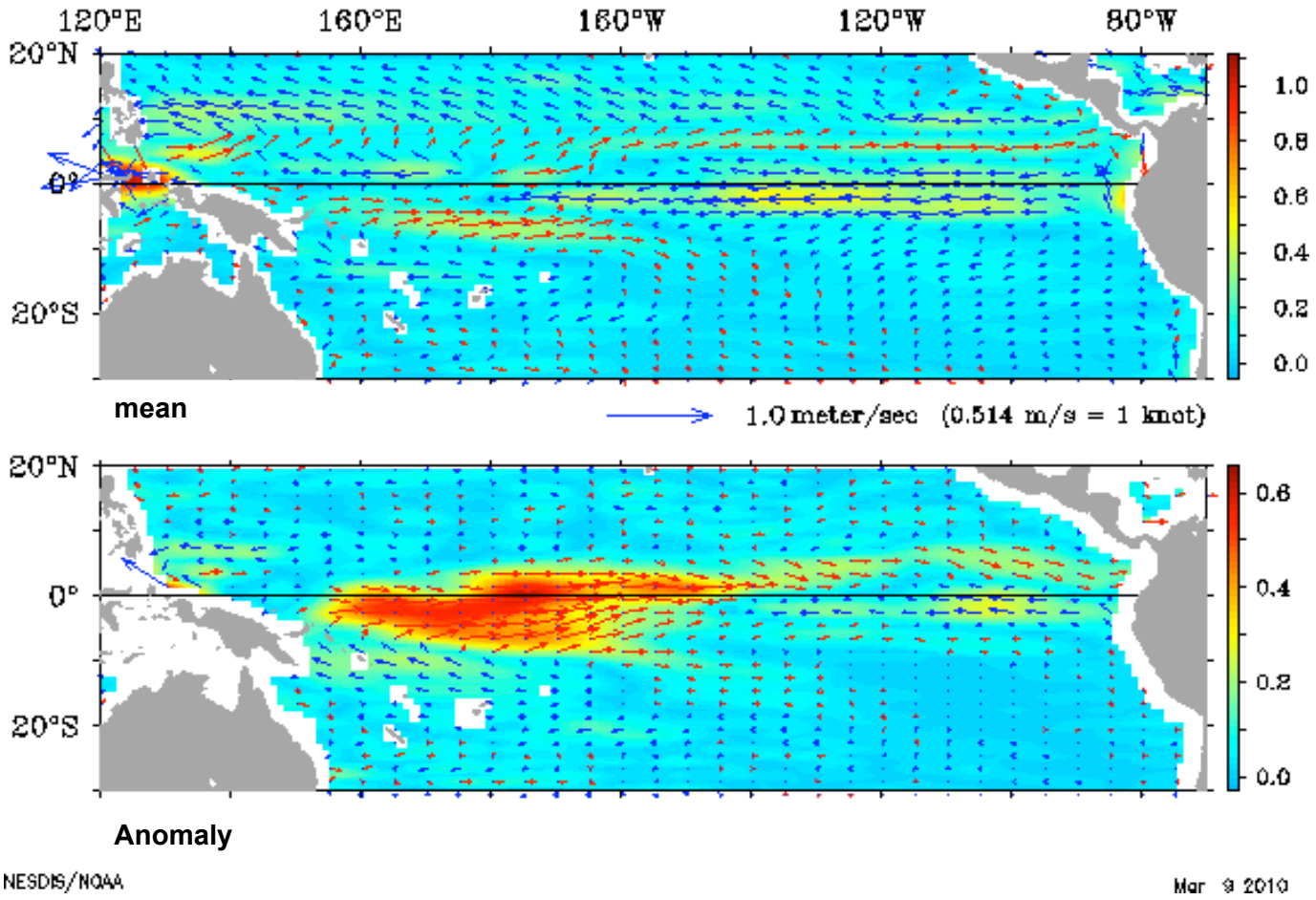

Note:

•The SSH shows a series of positive anomalies along the equator, associated with Kelvin waves travelling towards the east. This waves were triggered in early February and are related to the El Niño phenomenon.

http://sealevel.jpl.nasa.gov/science/jason1-quick-look/

# OSCAR: Ocean Surface Current Analysis - Real time

## February 2010: monthly mean vs anomaly

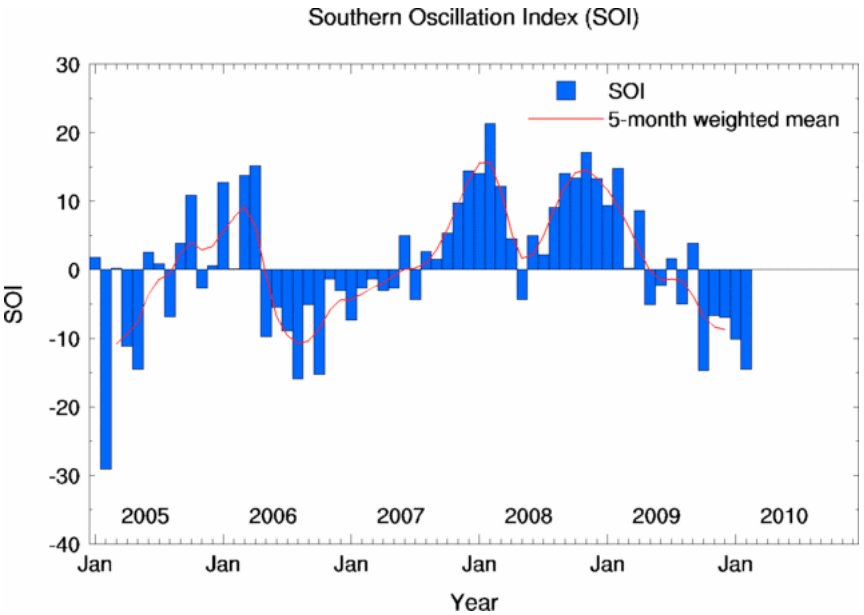


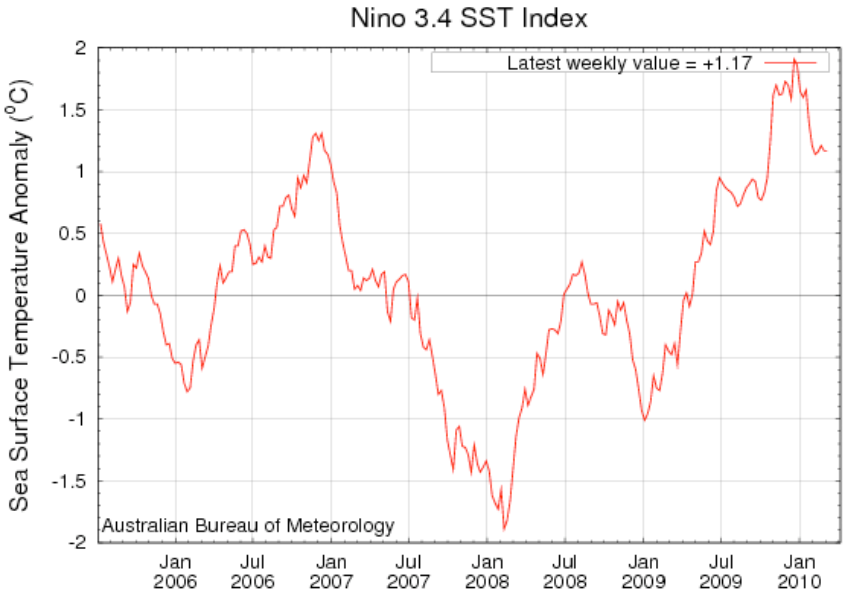

Note:

- The SEC shows strong positive anomalies towards the east, characteristic of an El Niño event.

http://www.oscar.noaa.gov/datadisplay/

# ENSO index




Negative SOI = El Niño

Positive Nino 3.4 index= El Niño

Note:

- Both indices still show an El Niño event.
- Models are in disagreement in predicting when El Niño will dissipate and what may follow. While some models advocate for a termination of the El Niño event within 4 months to neutral or La Niña conditions, others predict a continuation of a weak El Niño.