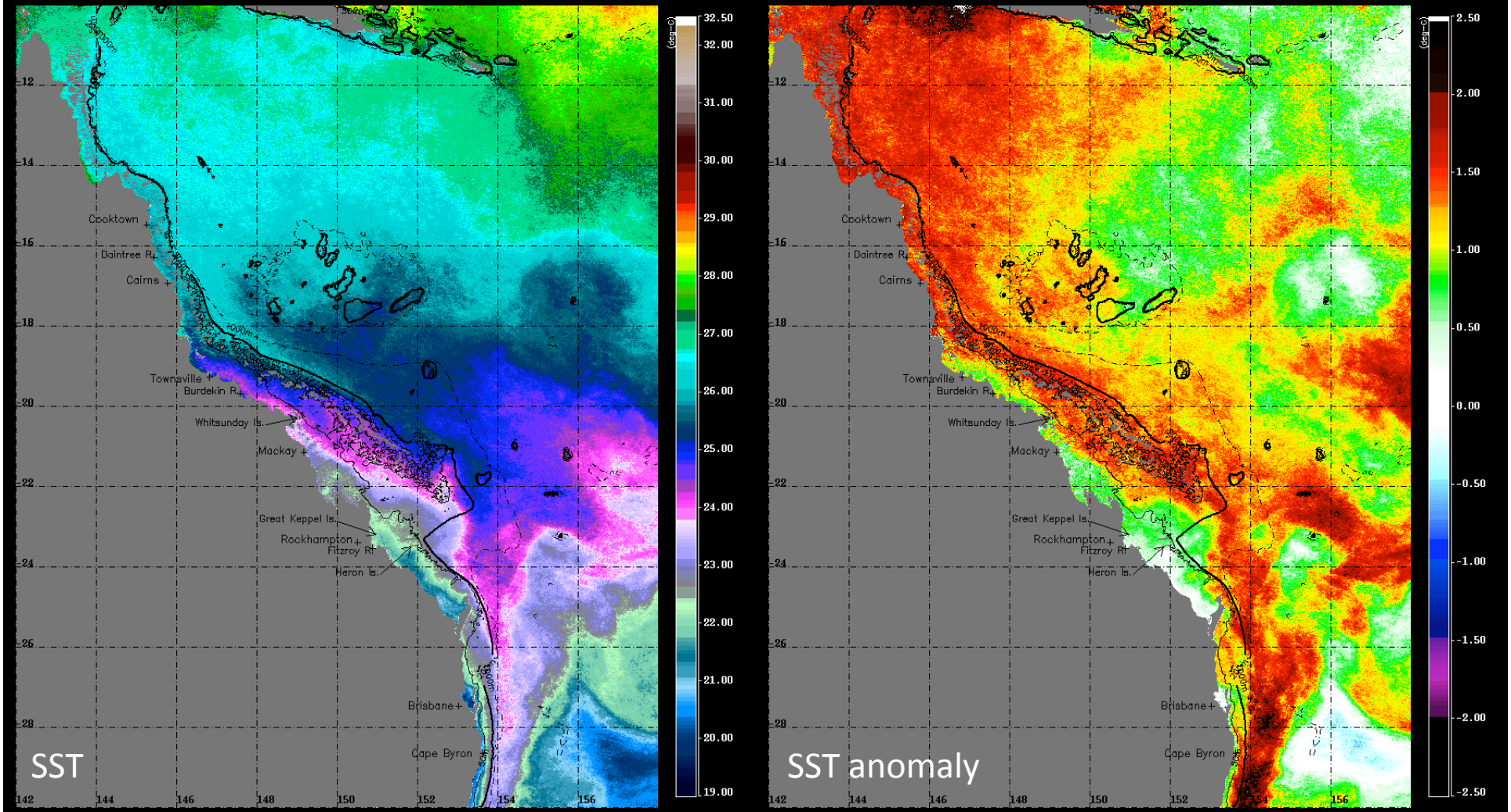
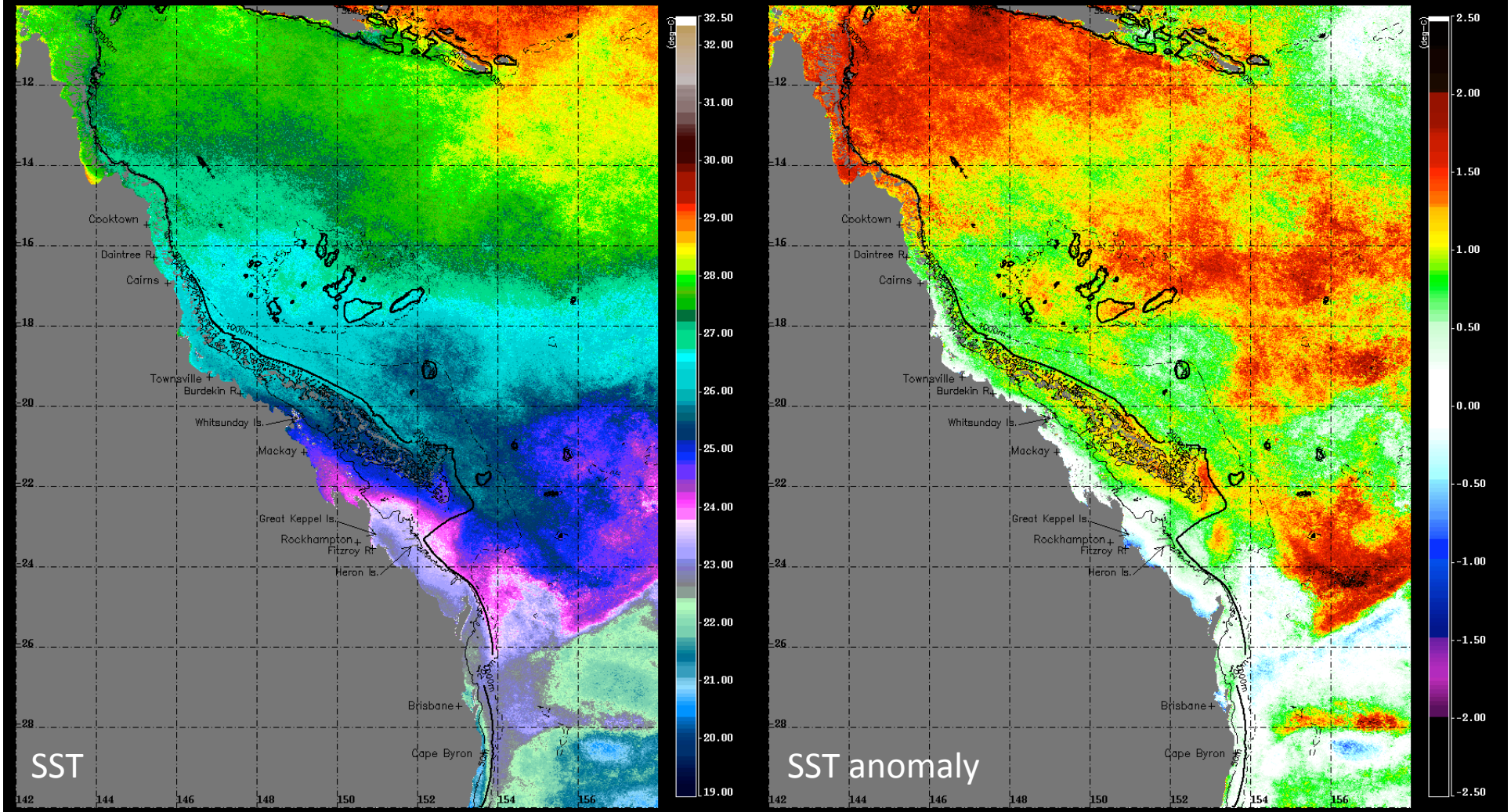
Modis SST (day+night): September 2010



Note:

- September presented very strong positive anomalies along the GBR, with an anomalously strong SEC flow adjacent to the shelf

Modis SST (day+night): October 2010



Note:

- During October, the strong positive anomalies were maintained in the N-GBR & Coral Sea, with somewhat less intense anomalies in the S-GBR offshore reefs. Anomalous conditions dissipated over inshore southern reefs & south of ~24 S
- Note cyclonic eddy (cold-core) north of Lord Howe Island limiting southward extent of intense warm anomalies

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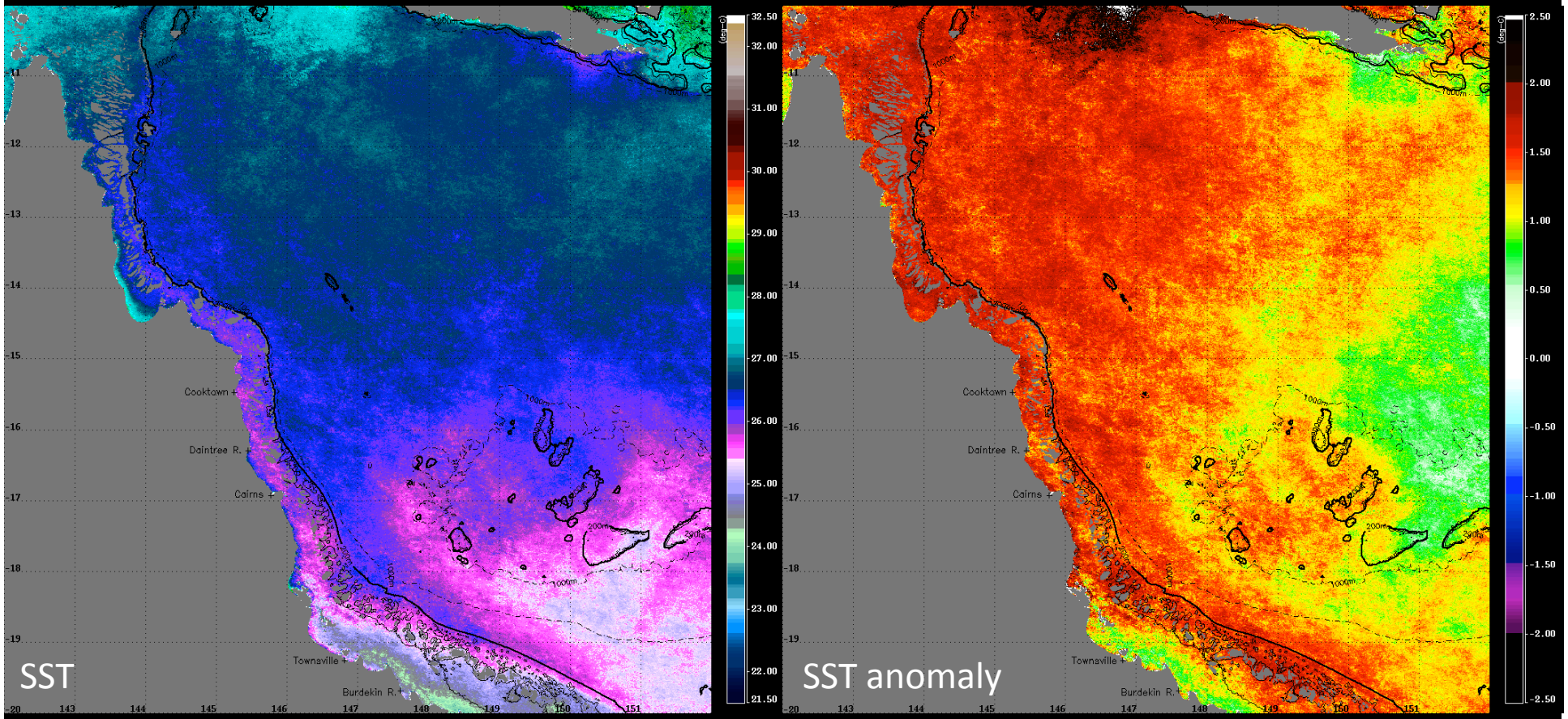
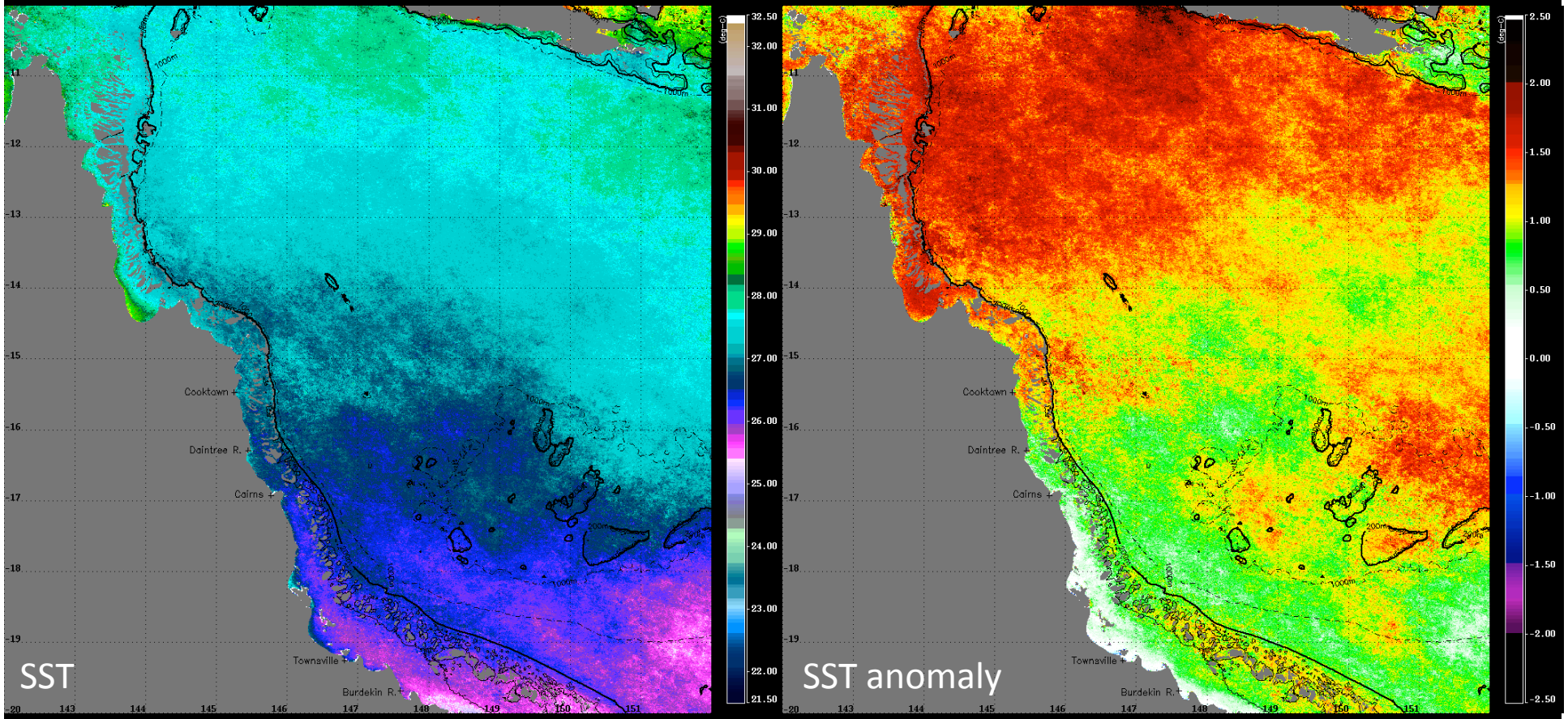
Northern GBR SST: September 2010



Note:

- The positive anomalies presented in winter strengthened through September for the whole N_GBR area.

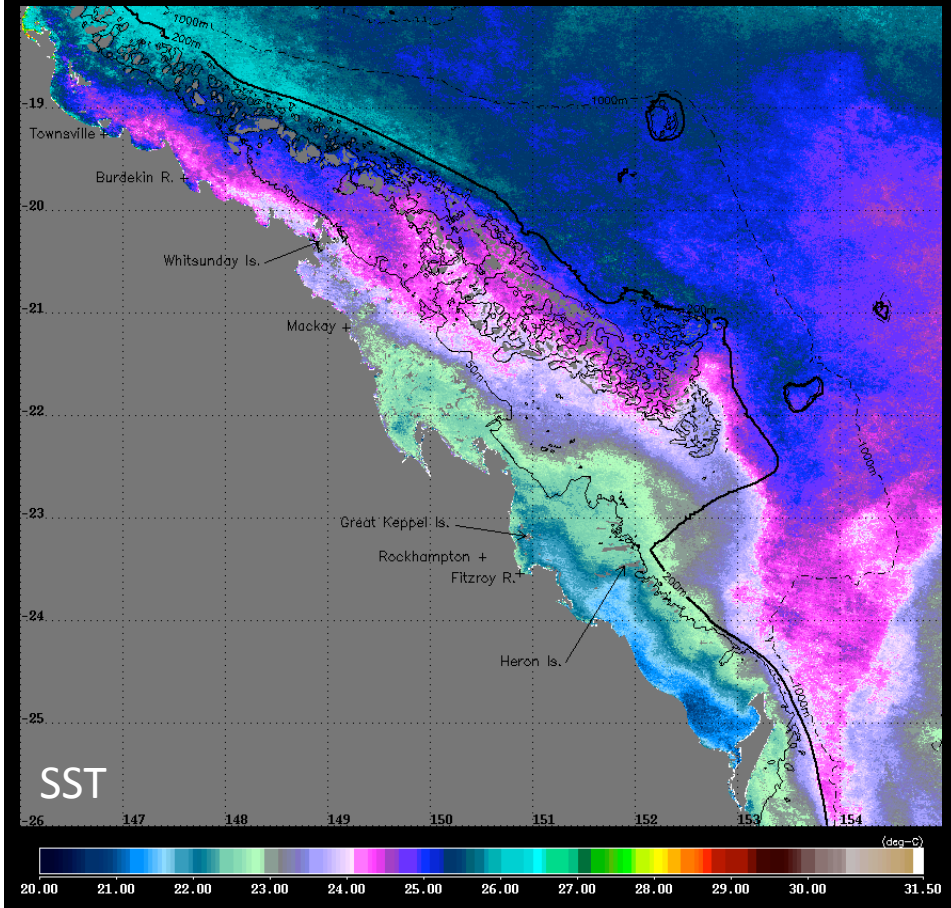
Northern GBR SST: October 2010

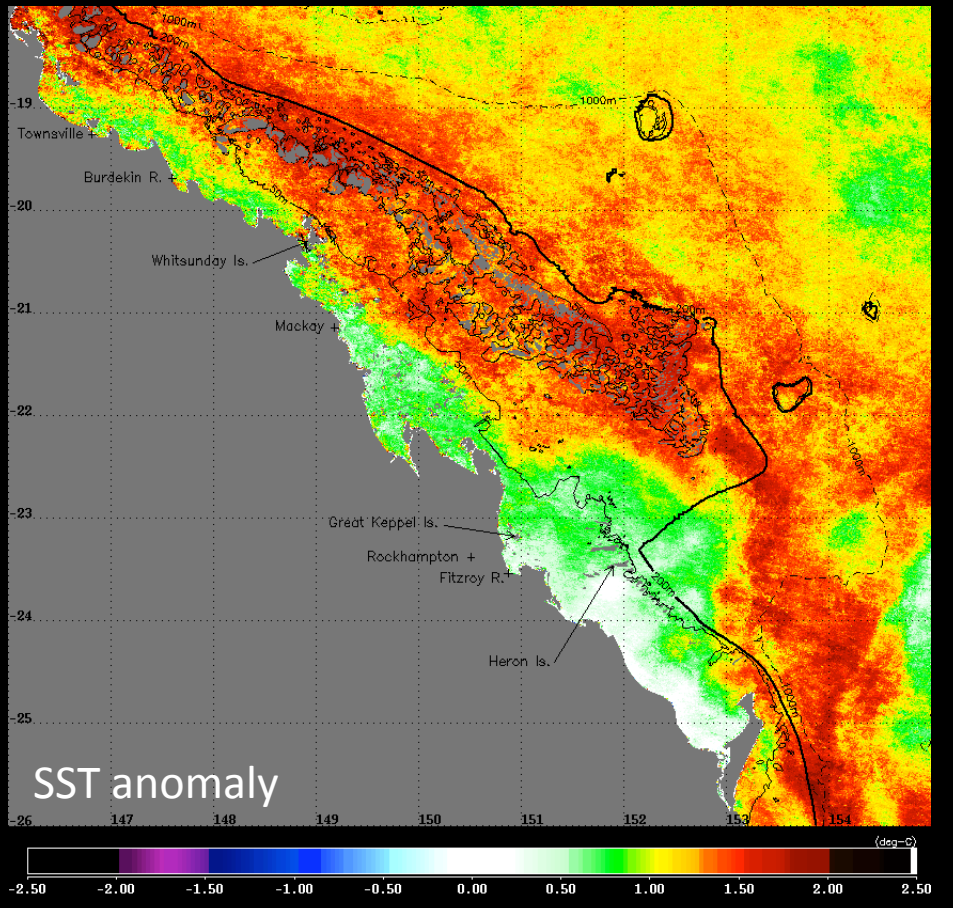


Note:

- Positive anomalies remained in the N-GBR in October, although less intense than the previous month.
- Close to average condition in the inshore areas south of ~17 deg S

Southern GBR SST: September 2010

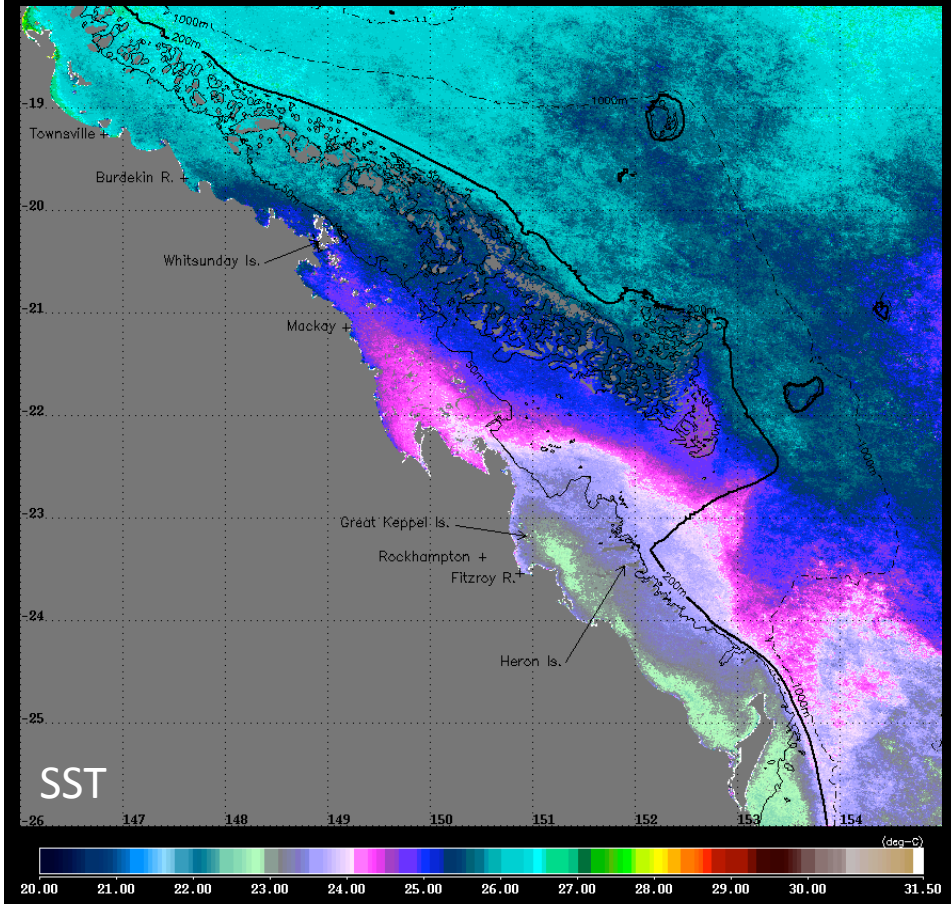


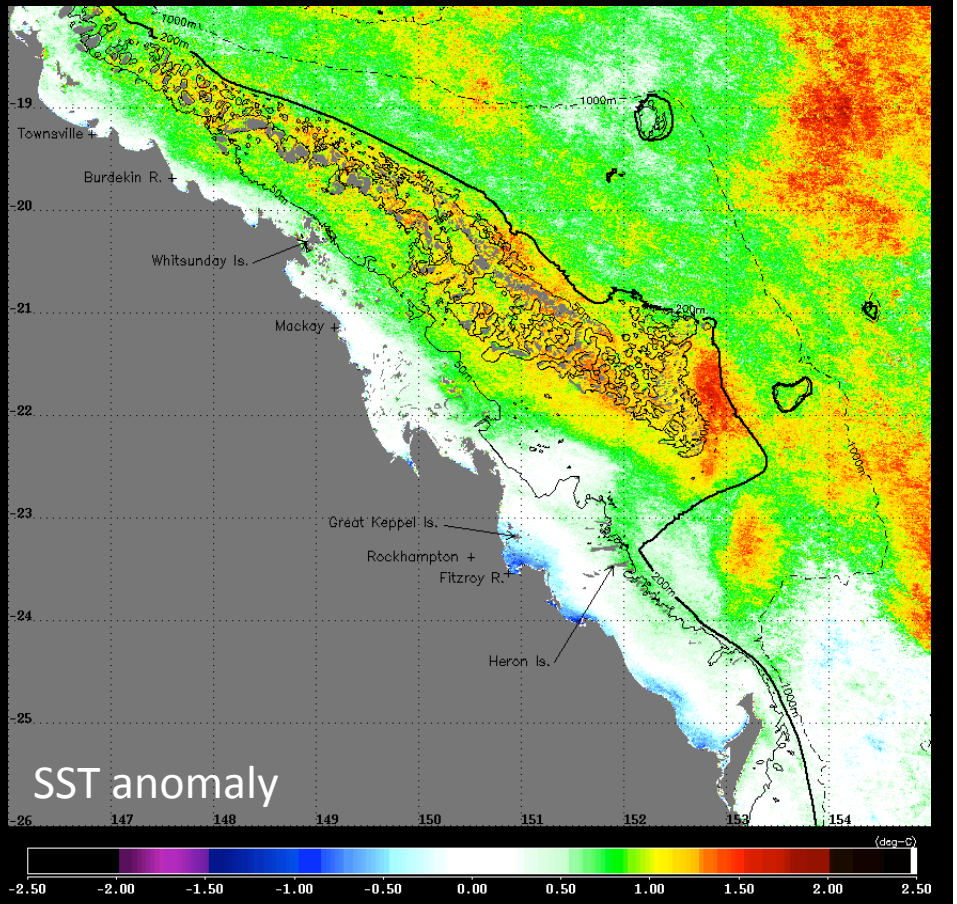


Note:

- Clear pattern of the SEC flowing southward along the shelf, cool northward flow inshore from Fraser Is
- anomalously warm water over the outer southern reefs, and southward.

Southern GBR SST: October 2010

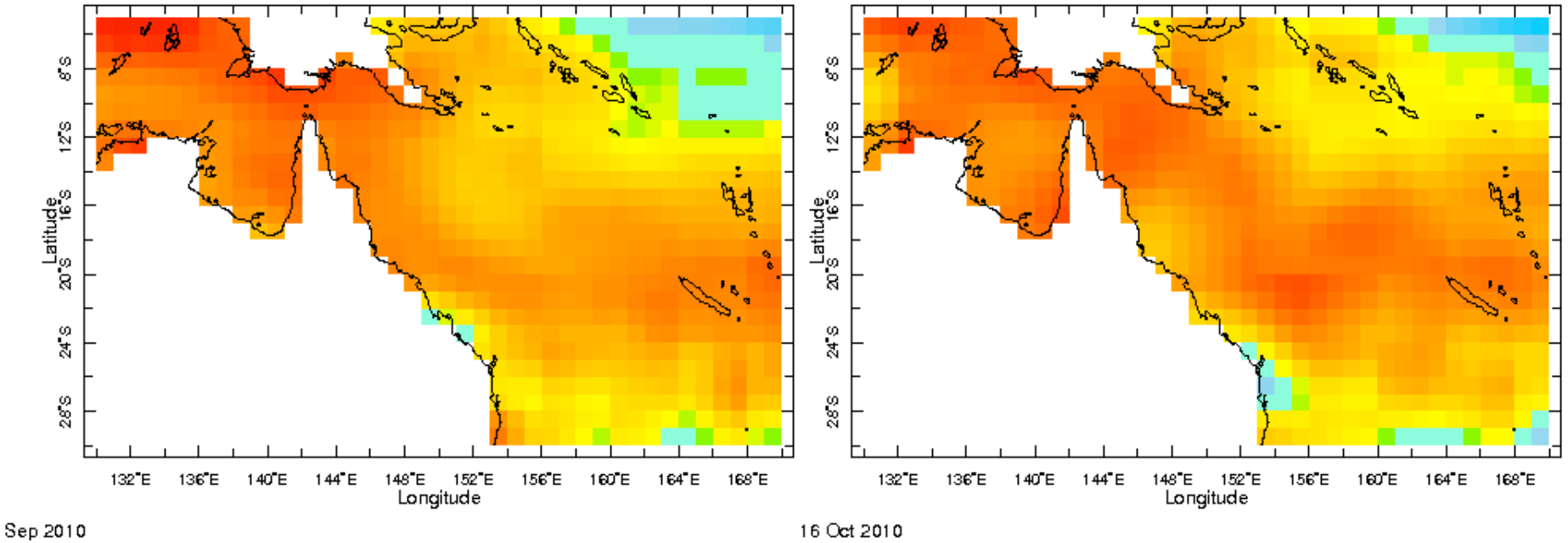




Note:

- Anomalies somewhat less intense during October in the S-GBR offshore reef
- Inshore northward flow of cooler waters from Fraser Is, & resultant dissipation of anomalous conditions over inshore southern reefs

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



September 2010

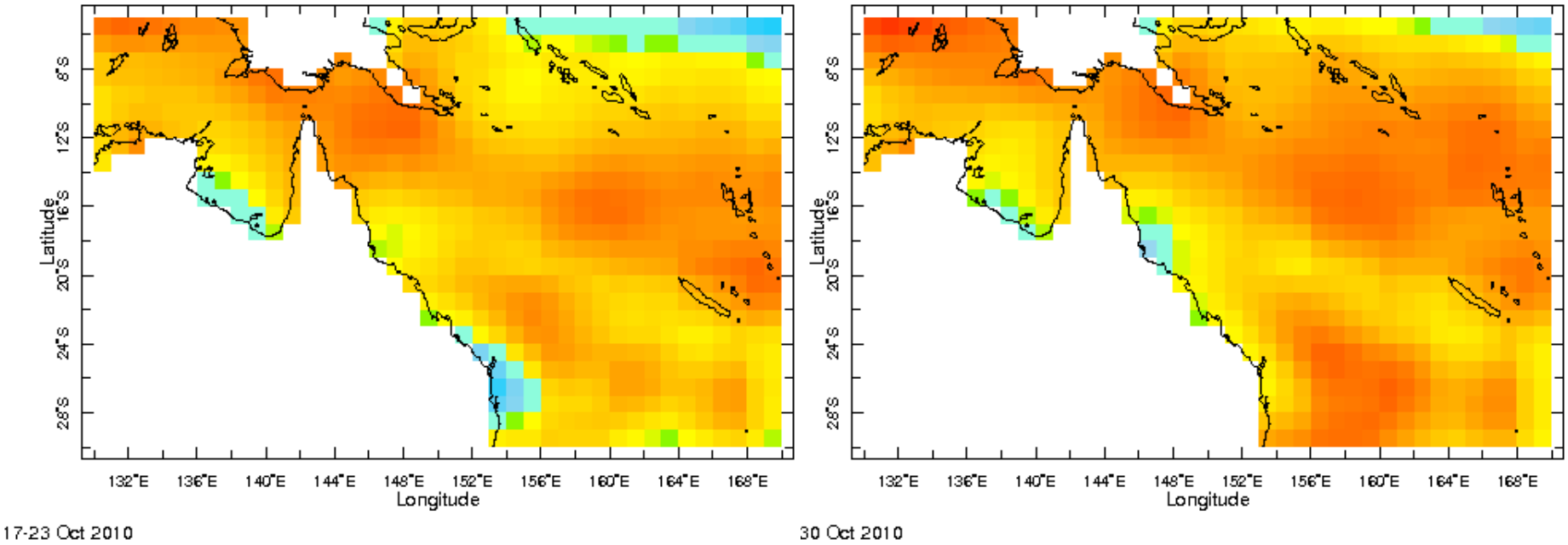
10 – 16 Oct 2010

Note:

- Coincident with the MODIS imagery, the NOAA Raynolds SST anomalies show strong positive anomalies for the GBR and coral sea in September

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

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



17 – 23 Oct 2010

24 – 30 Oct 2010

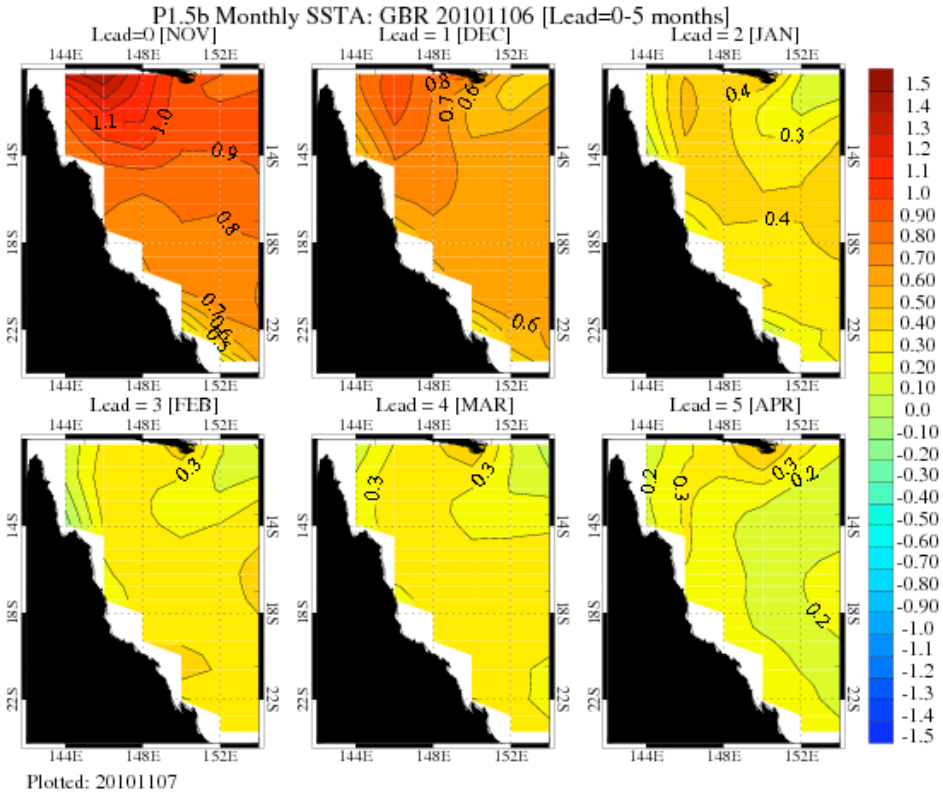
Note:

- The positive anomalies continue in October, with cooler waters inshore located in Moreton Bay to Fraser Island region, and off Townsville in the last week of Oct.

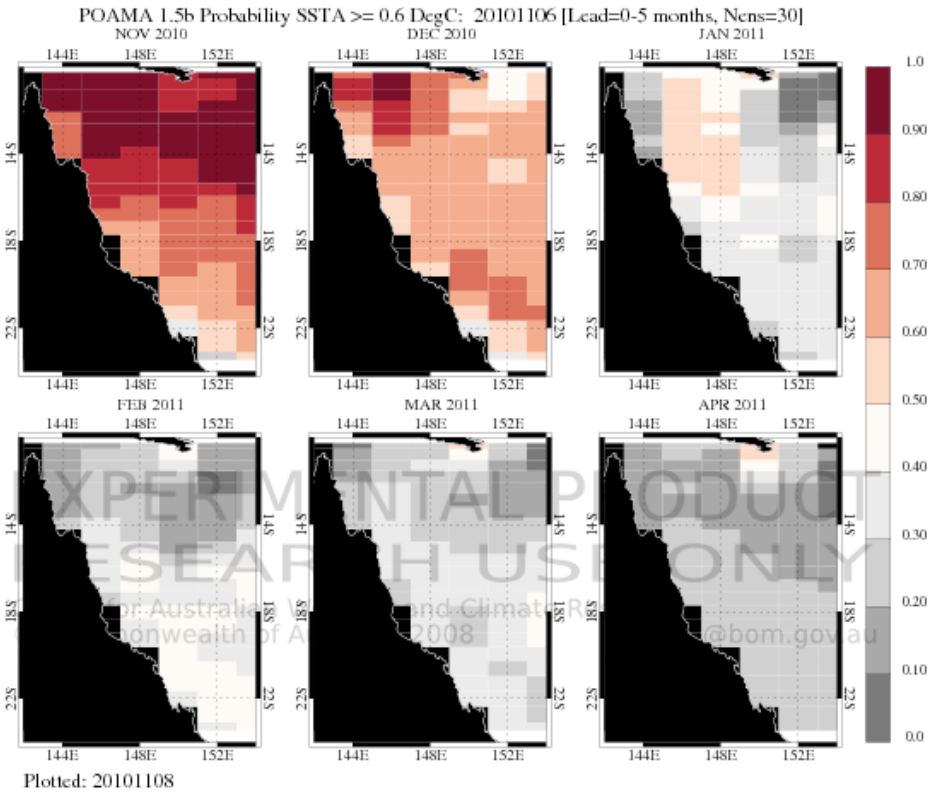
http://iridl.ldeo.columbia.edu/SOURCES/.NOAA/.NCEP/.EMC/.CMB/.GLOBAL/.Reyn_SmithOIv2/.weekly/.ssta/

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 forecast positive anomalies that will remain very strong until December, but start to dissipate at the beginning of 2011 with a much lower probability of SST anomalies exceeding 0.6 deg C for January.

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

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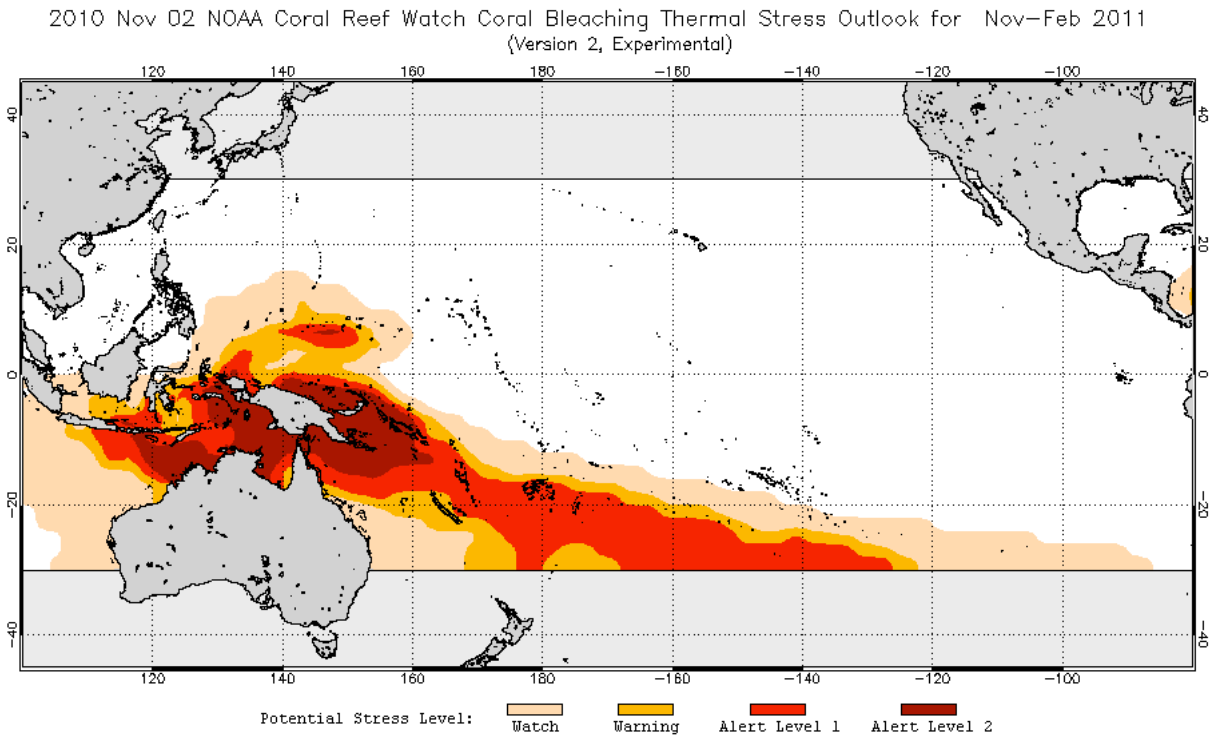
NOAA Coral Reef Watch

Seasonal Coral Bleaching Thermal Stress Outlook

(Experimental product, 2x2 degree spatial resolution)

Outlook for November to February 2010



Note:

- As we head into summer, NOAA thermal Stress Outlook shows Alert Levels 1 to 2 for the northern and central GBR, with Warning and Watch Levels for the S-GBR

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

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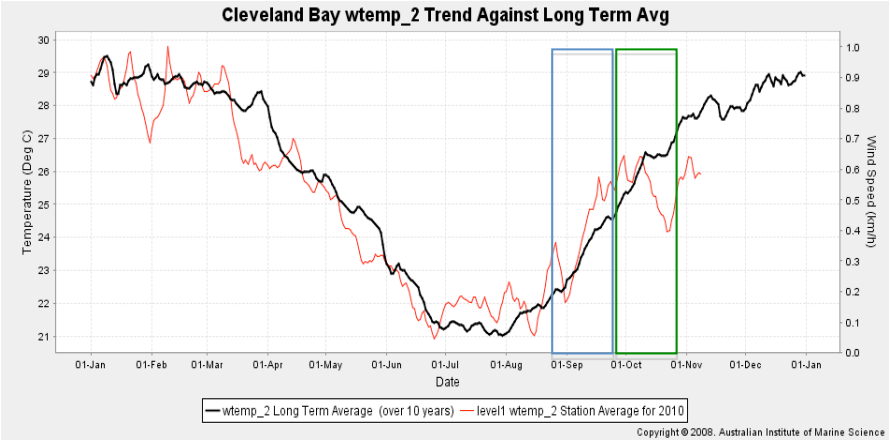
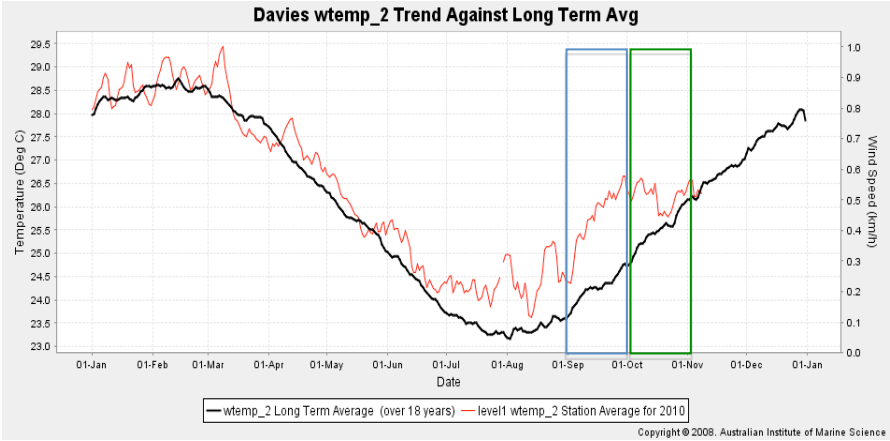
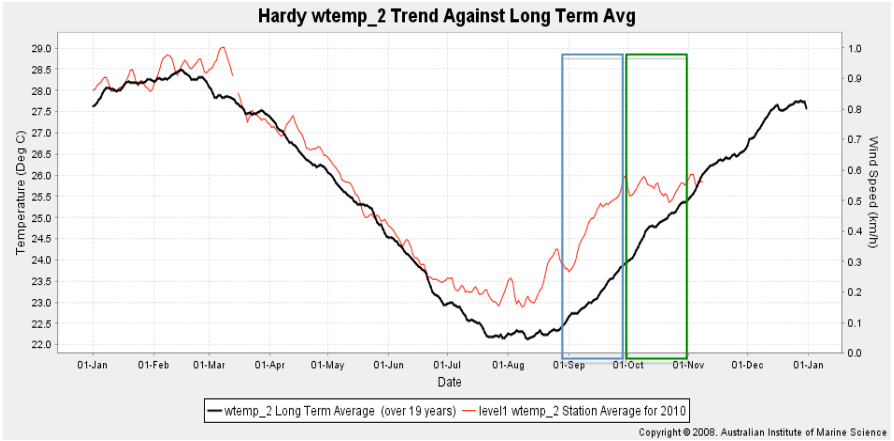
Weather Observing System: AIMS Data Centre





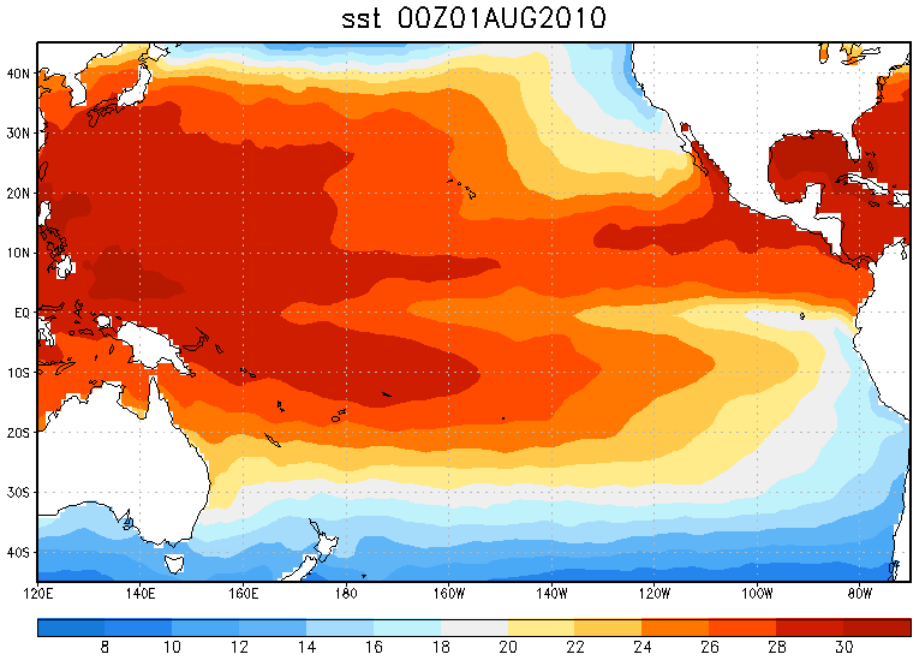


Note:

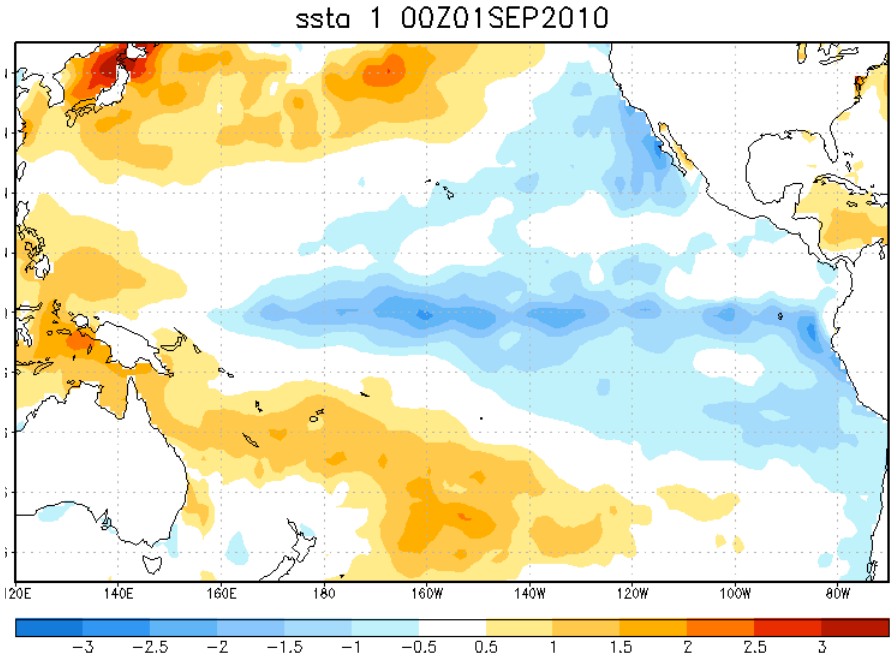
- The weather stations located on the outer reefs show an increase of temperatures above the average from August till the end of October.
- Cleveland Bay (located inshore), on the other hand, shows temperatures close to average from August till mid-October with a decrease in temperatures to below the average at the end of October.

NOAA Optimum Interpolation Sea Surface Temperature Analysis:

OI SST: SEPTEMBER 2010



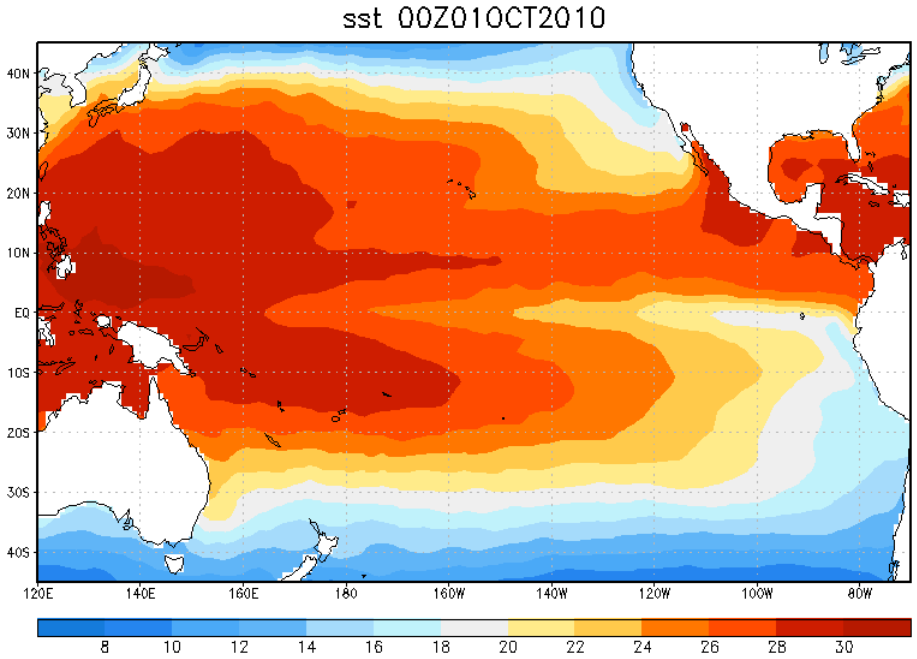
OI SST ANOMALY: SEPTEMBER 2010



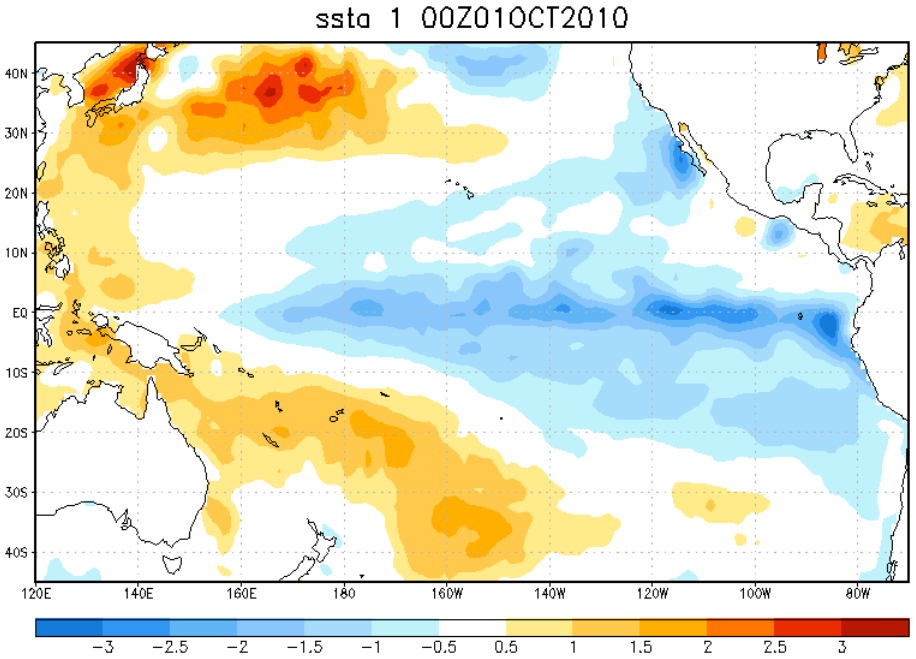
http://www.emc.ncep.noaa.gov/research/cmb/sst_analysis/

NOAA Optimum Interpolation Sea Surface Temperature Analysis:

OI SST: OCTOBER 2010



OI SST ANOMALY: OCTOBER 2010



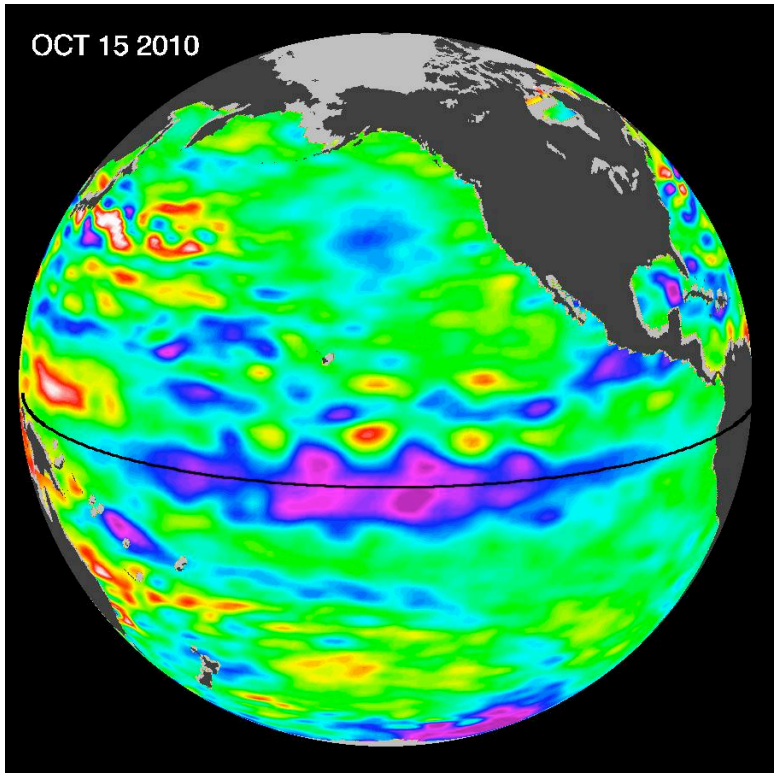
Note:

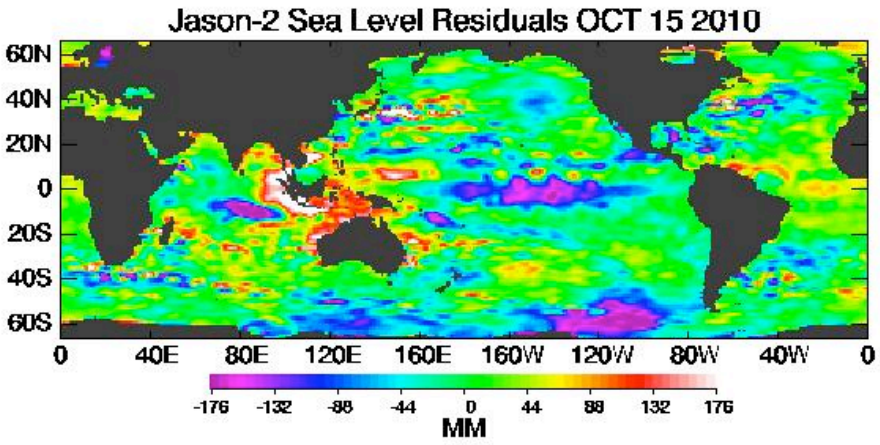
- The negative anomalies present in the equatorial Pacific have increased since July as the la Niña continues to develop, with a typical pattern of negative anomalies in the central and eastern equatorial Pacific and positive anomalies in the west to form the shape of a horseshoe.

http://www.emc.ncep.noaa.gov/research/cmb/sst_analysis/

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

10-day data cycle centered around OCT, 2009.



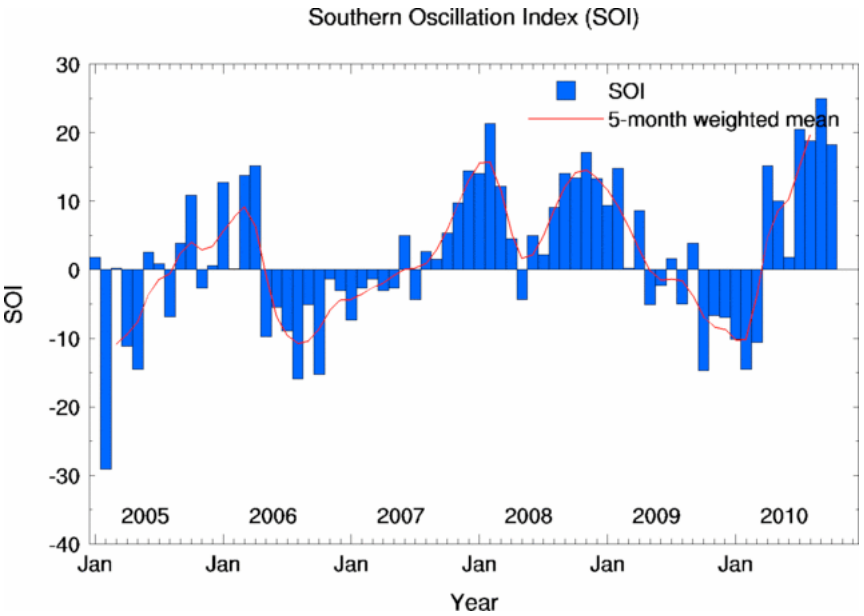


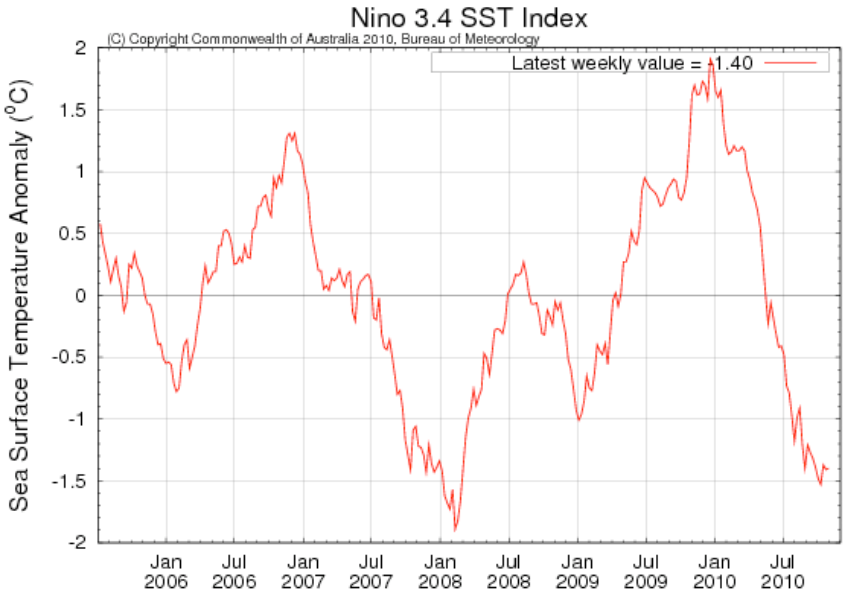
Note:

• 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.

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

ENSO index





Positive SOI = La Niña

Negative Nino 3.4 index= La Niña

Note:

- La Niña conditions continue, and are expected to last at least till February. Most of the models also predict La Niña to be a strong episode by then.