



National Environmental  
Research Program

TROPICAL ECOSYSTEMS *hub*

# Keeping an eye on the reefs of Torres Strait

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Forum Title: What does the future hold for Torres Strait and its Indigenous People?



## RELEVANCE OF WORK

- Bleaching in shallow water in early 2010 demonstrated the risk to reefs in Torres Strait





## ACTIVITIES

### Predicting and detecting potential bleaching conditions

- Predicting sea surface temperatures from remote sensing
- Real time sensors for sea surface temperature and weather
- Sea temperature loggers

### Monitoring the condition of reefs of Torres Strait

- Biodiversity surveys of some reefs of Torres Strait
- Monitoring reef condition using Eye on The Reef – Reef Health & Impact Surveys (RHIS) and manta tows



## Temperature loggers



**Loggers deployed at 12 sites (2 per site) in Oct 2012**

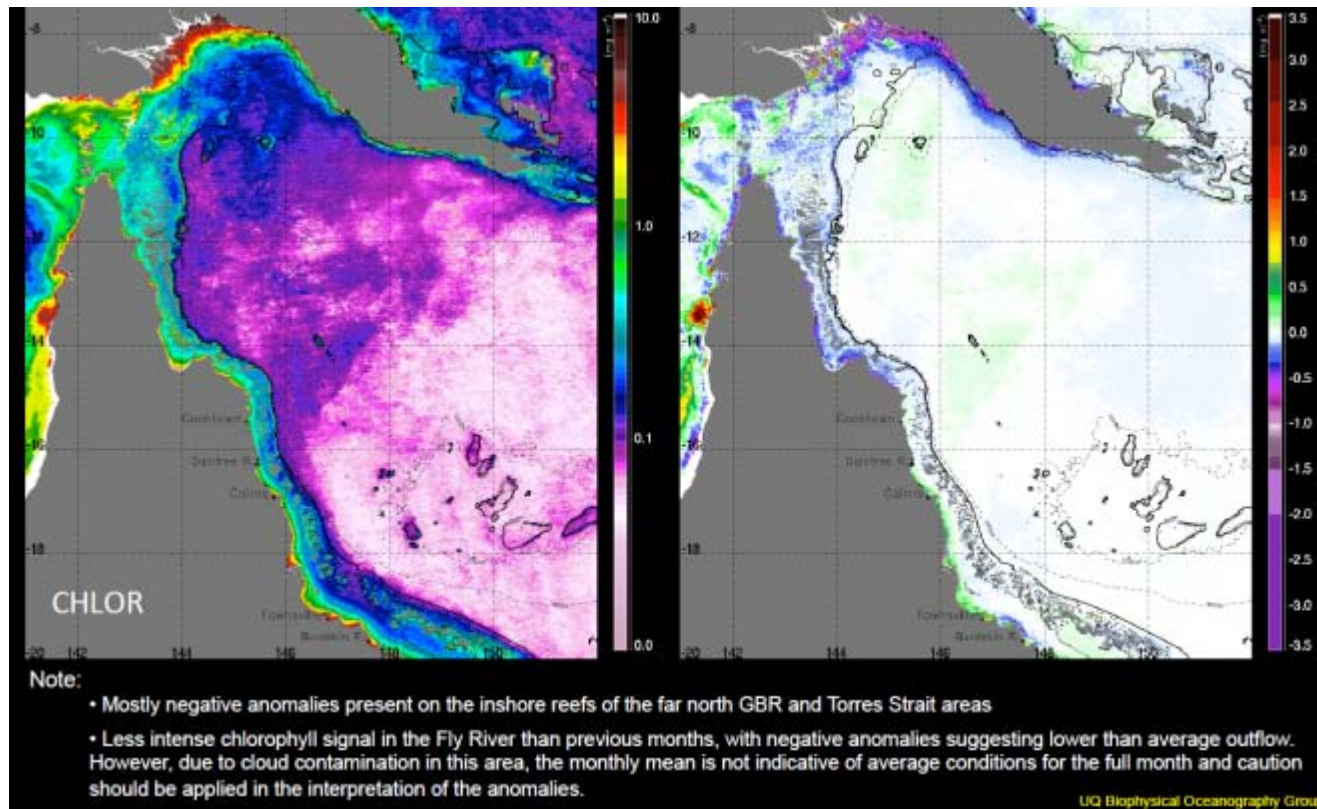
**Additional loggers at Erub, Warrior Reef and Orman Reef as logistics allow**

**First changeover of Bramble Reef loggers in Dec 12 – data archived**

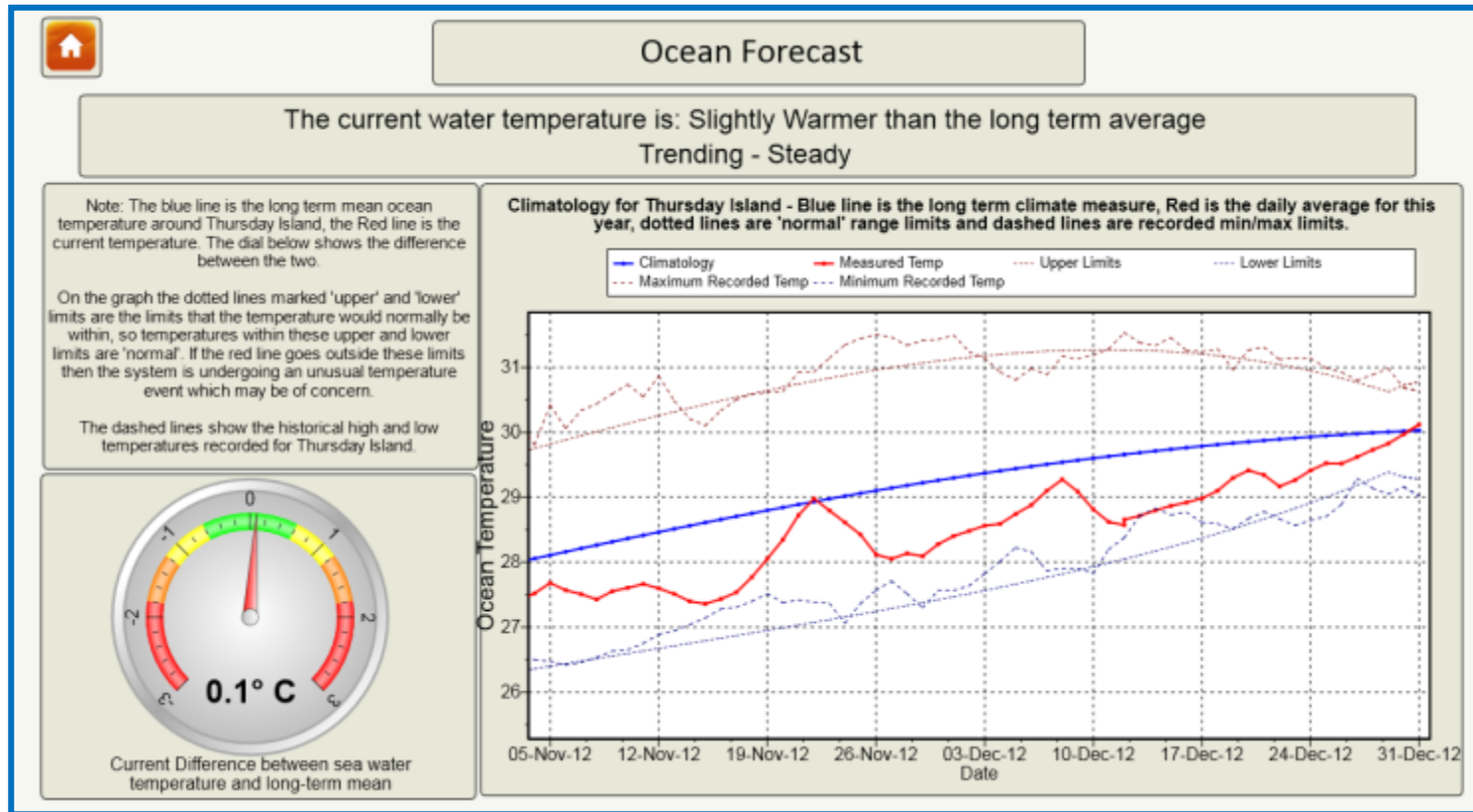
**Changed over at inhabited islands in March 13 by rangers, other sites due in Oct - Dec 13**



## Current Condition Reports



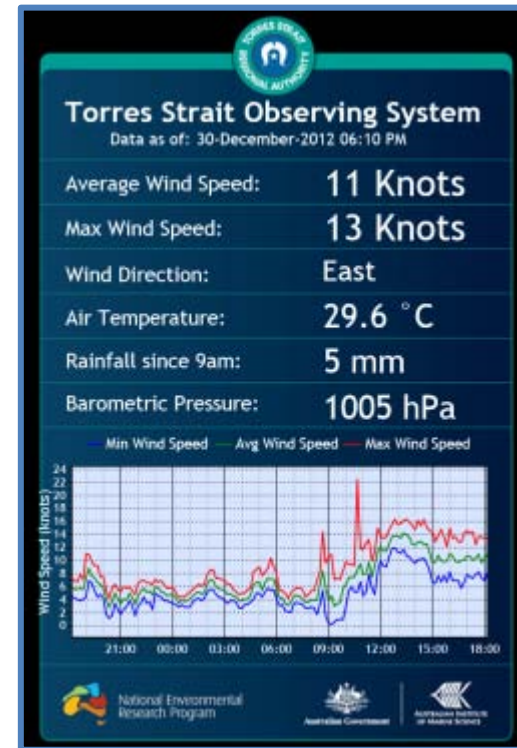
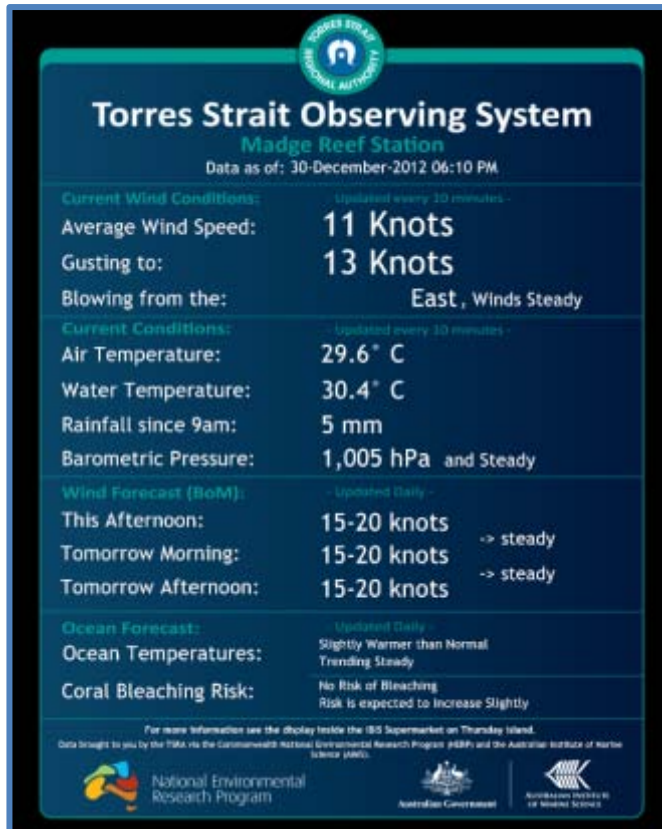
- Extra task of extending the MODIS satellite view over TS completed
- Extended view now includes Fly River area which showed large negative Chl a anomalies for Nov and Dec showed less sediment outflow than the 12-yr average



- Real time station serviced in October, site survey for a potential second station at Masig Island completed (depends on remaining funds);
- Climatology based on existing AIMS logger data developed;
- TSRA Data Display updated to include measure of real time data against the climatology as a measure of the current in-water temperature trend;
- Bleaching risk based on days at or above set thresholds developed and displayed on the TSRA Data Display.



# Real Time Stations



- Web site for the local radio station (4MW) developed including real time weather data and ocean temperature trends and current coral bleaching risk
- iPad based display purchased and installed in the radio station;
- System to be commissioned in late January and will allow for the broadcasting of real time weather and environmental conditions;
- Second 'boaties' web site developed optimized for smartphones.



## SURVEY SITES - FEBRUARY 2013





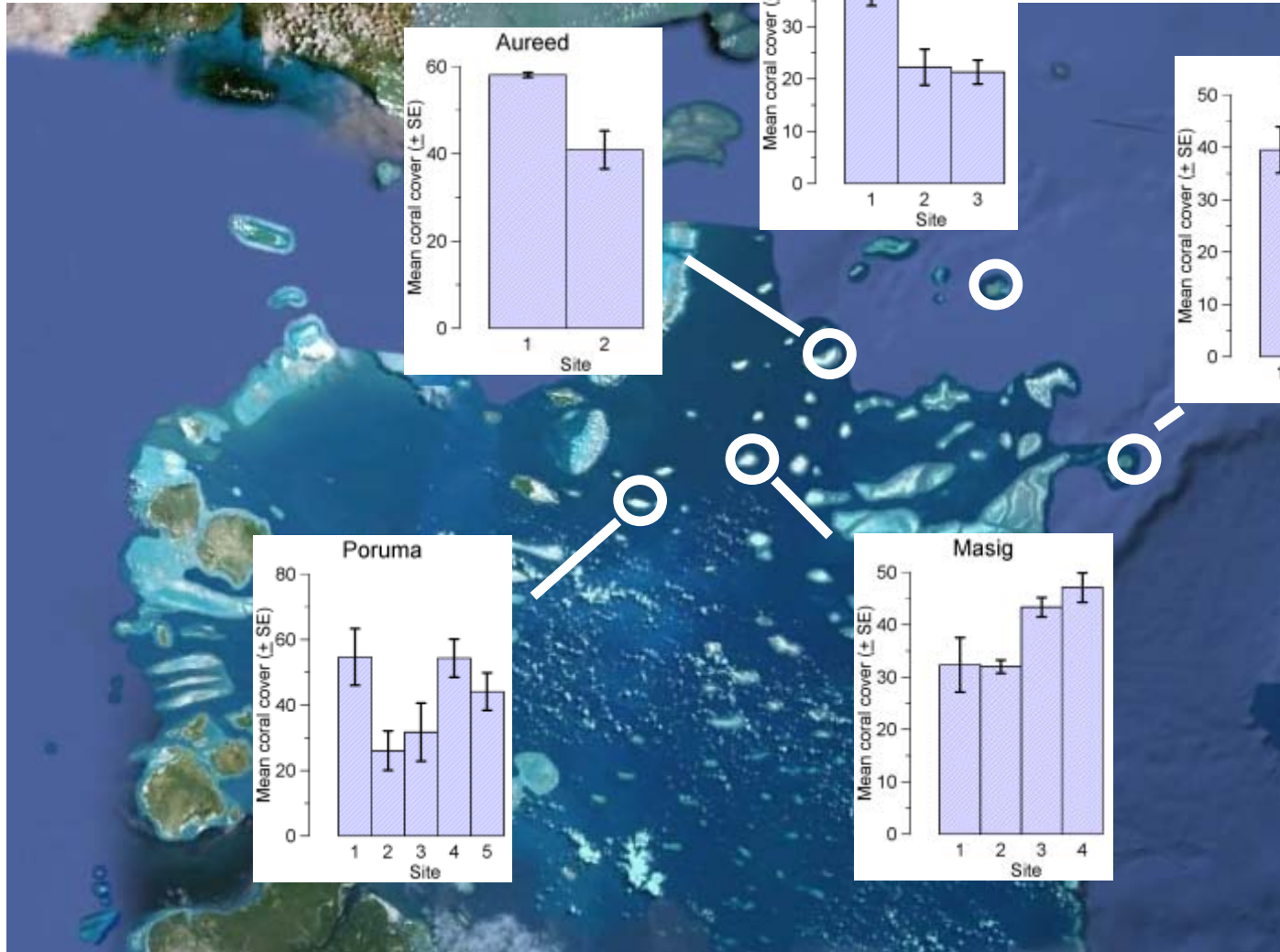


## SURVEYS - FEBRUARY 2013



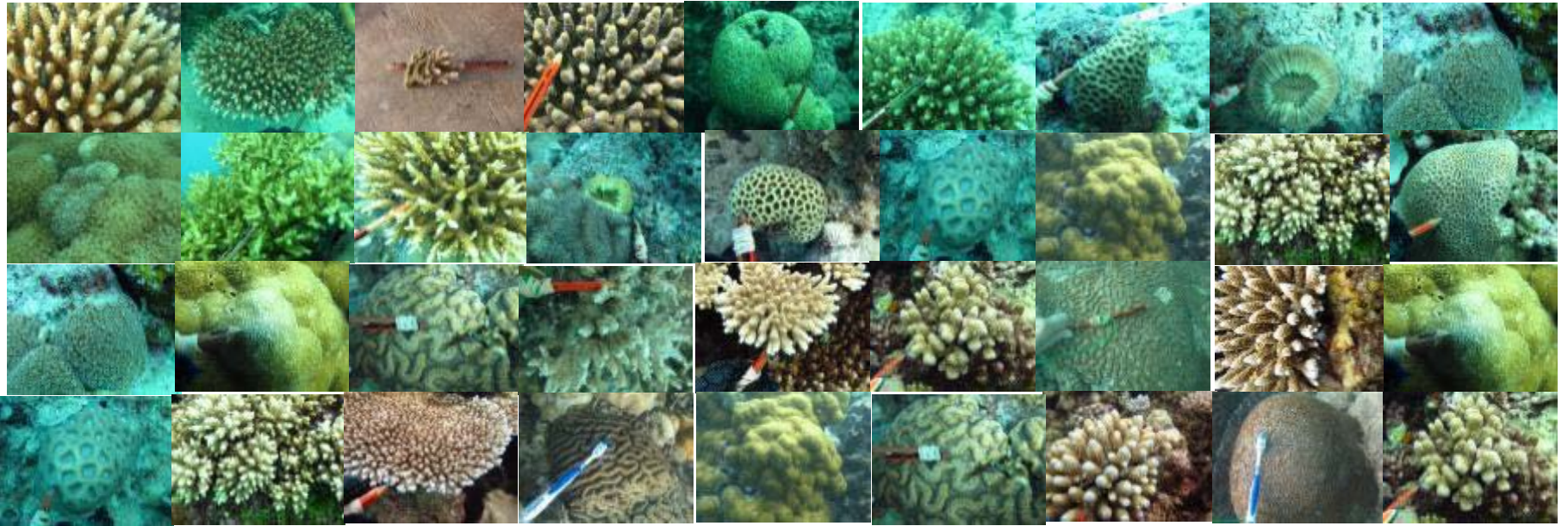


# CORAL COVER



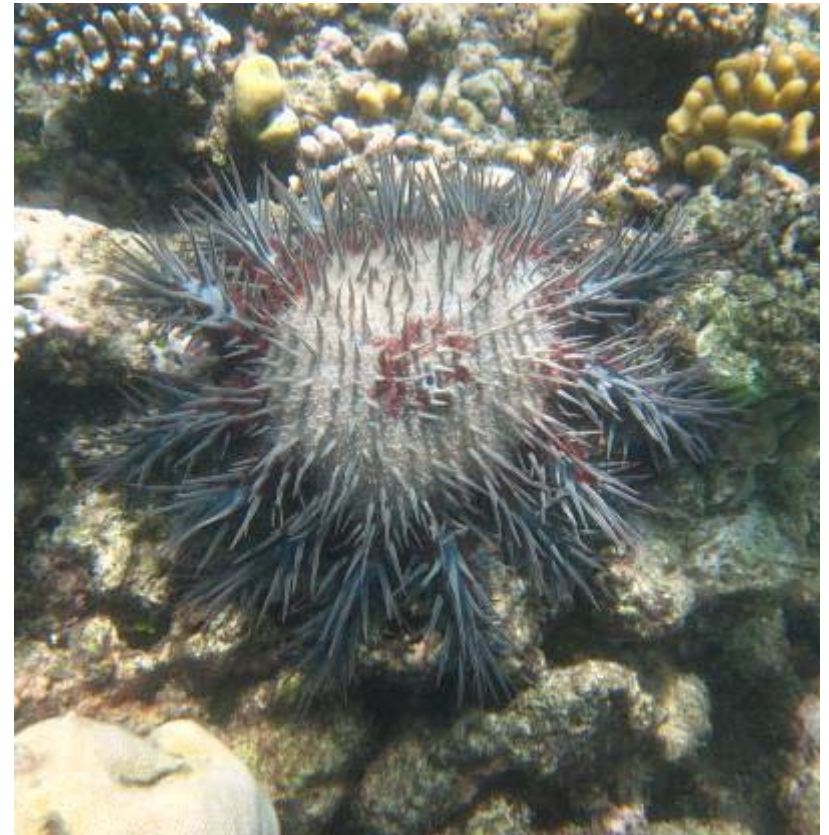


# CORAL DIVERSITY SURVEYS





## CROWN-OF-THORNS AT AUREED & DAUER





## FUTURE DIRECTIONS

- Maintain and possibly expand sea surface temperature monitoring
- Increase community access – display units
- Repeat and expand reef monitoring
- Development of Climate, Coral Bleaching and Oceanography educational units for the Tagai State College, Thursday Island – contestable funds?



## THANK YOU

Ray Berkelmans, Scott Bainbridge, Hugh Sweatman – AIMS

Scarla Weeks, Ana Redondo – Univ of Qld

Frank Loban, Stan Lui, Ron Fujii, Troy Stow, Amos Sipi, Laura Pearson, Aaron Ketchell,  
David Bargud – TSRA

Many thanks to Fiona Merida & Emily Smart - GBRMPA