

# Project Manta

## East Australian Current (EAC) Region Oceanographic conditions report

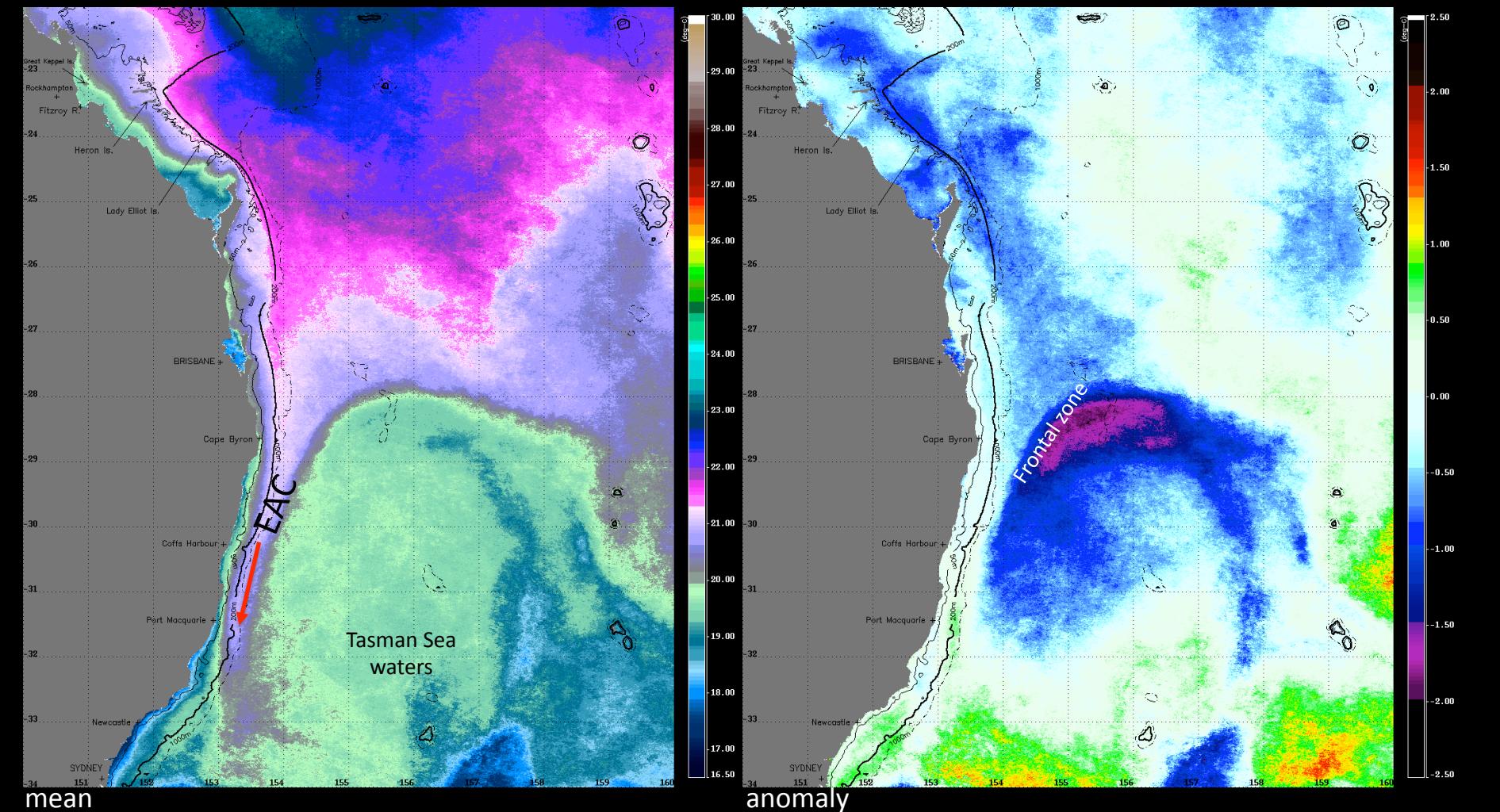
August-September 2011

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Supervised by Scarla Weeks

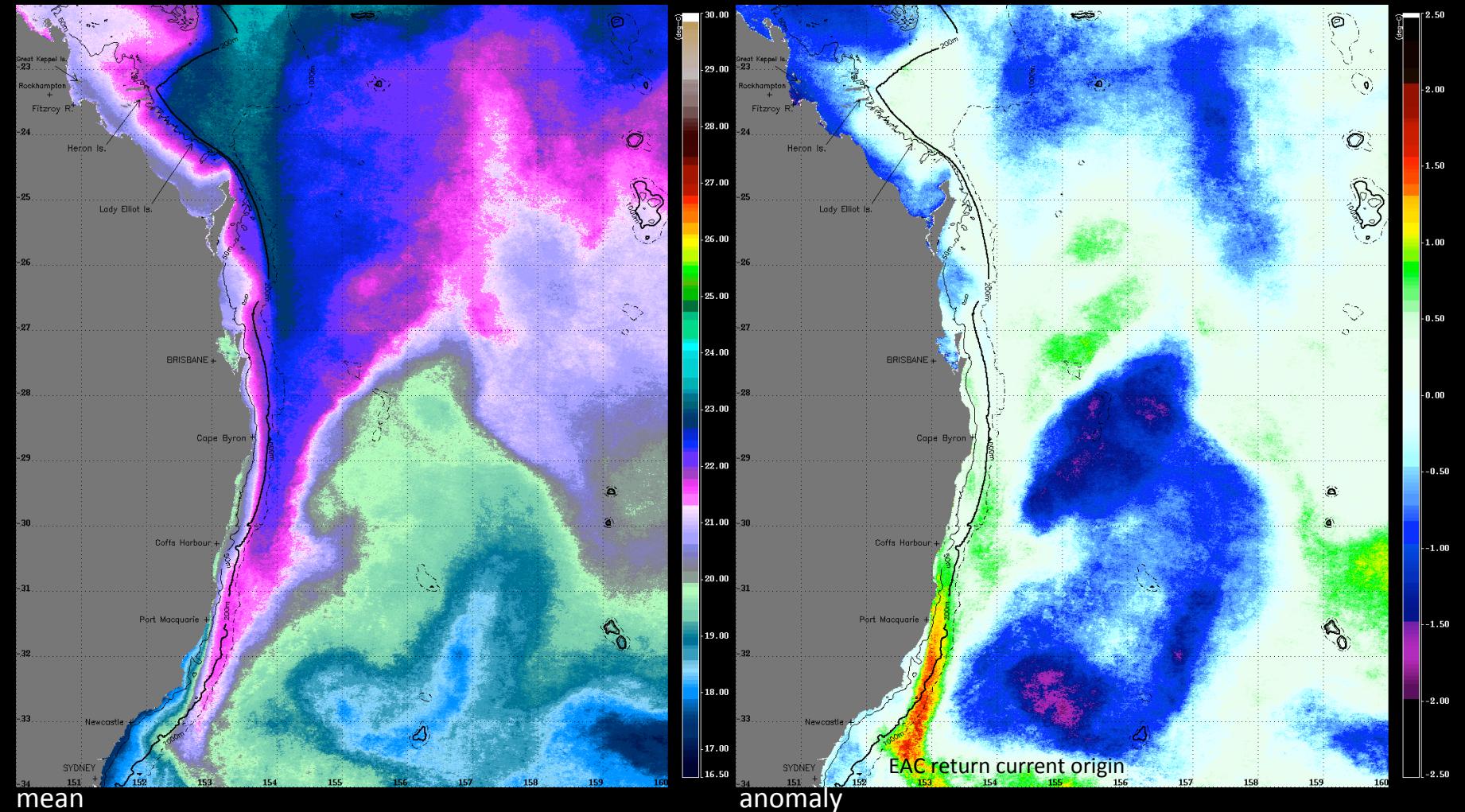
UQ-GPEM Biophysical Oceanography Group

# EAC Monthly MODIS SST (D+N): August 2011



- Intense negative anomaly offshore, south of  $\sim 27.5^{\circ}\text{S}$
- The pattern indicates the presence of a strong frontal boundary associated with the swift western boundary EAC interacting with the colder waters of the Tasman Sea

# EAC Monthly MODIS SST (D+N): September 2011



- Pronounced southward intensification of the EAC flow during September
- Intense positive anomaly close inshore south of 30°S, indicating the southern extent of EAC and retroflexion into the Tasman Sea
- The strong offshore negative anomaly south of 27°S showing a broader frontal feature relative to the previous month

# EAC 3Day means

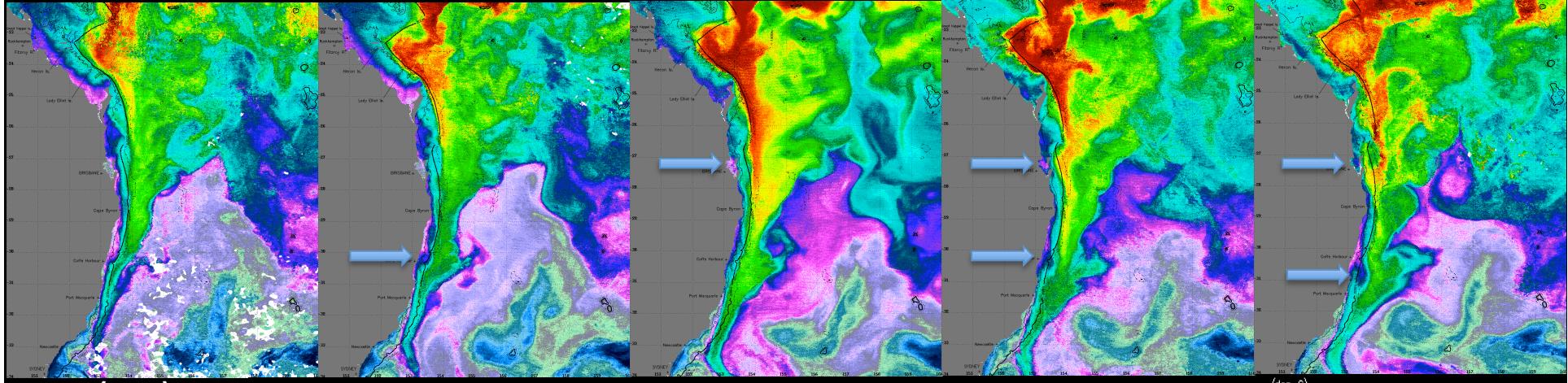
10-12 Sep

13-15 Sep

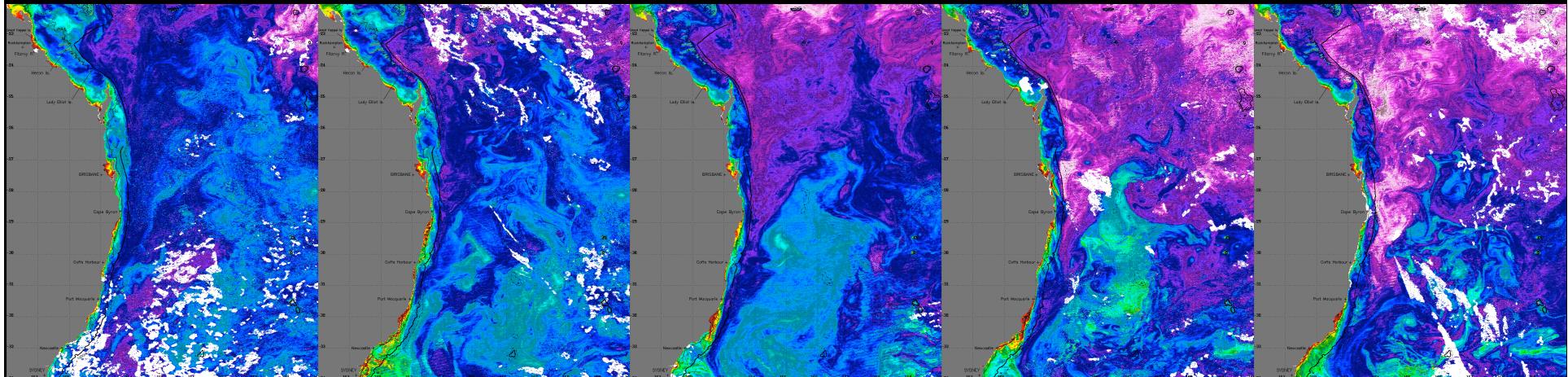
16-18 Sep

19-21 Sep

22-24 Sep



SST (D+N)

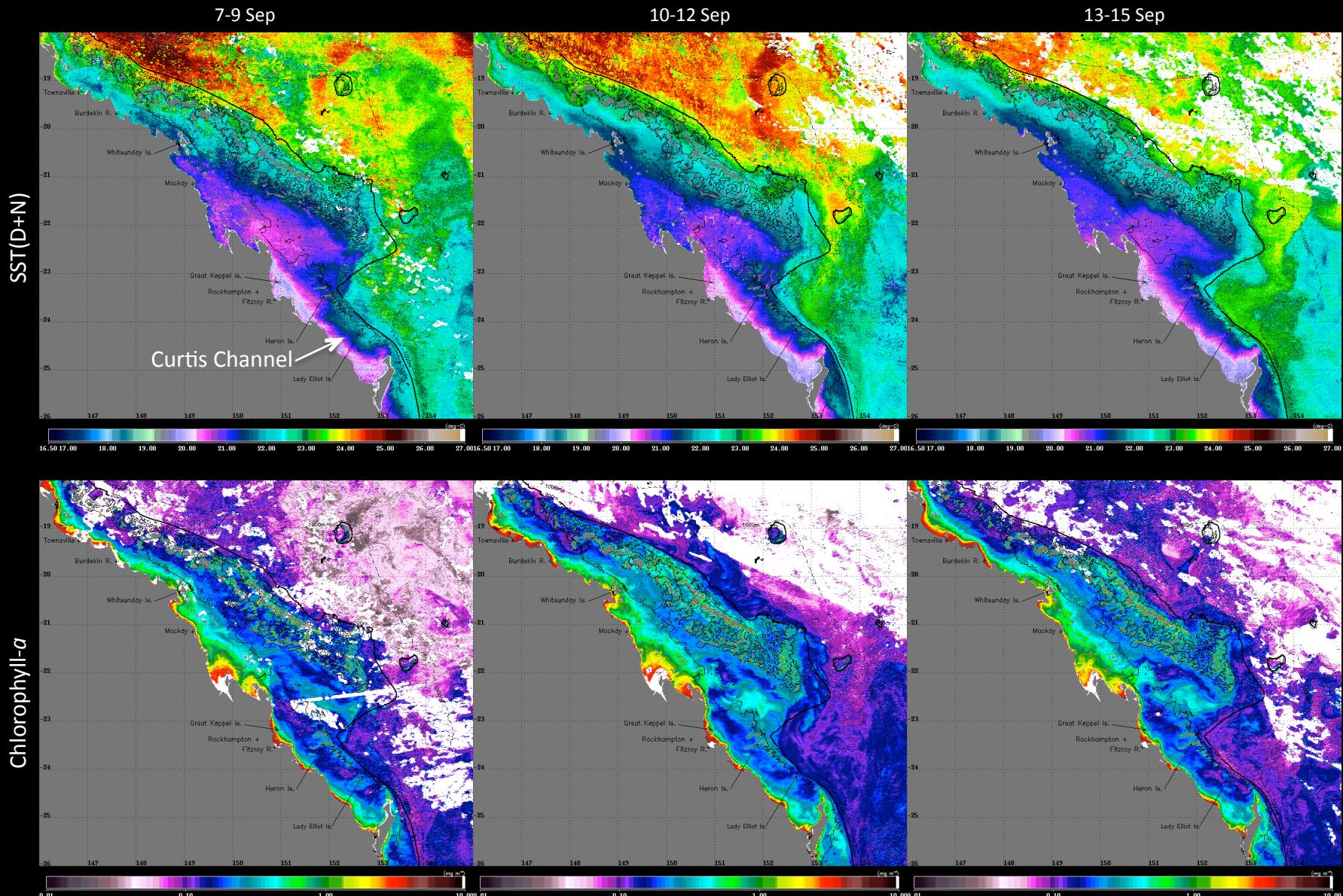


Chlorophyll- $\alpha$



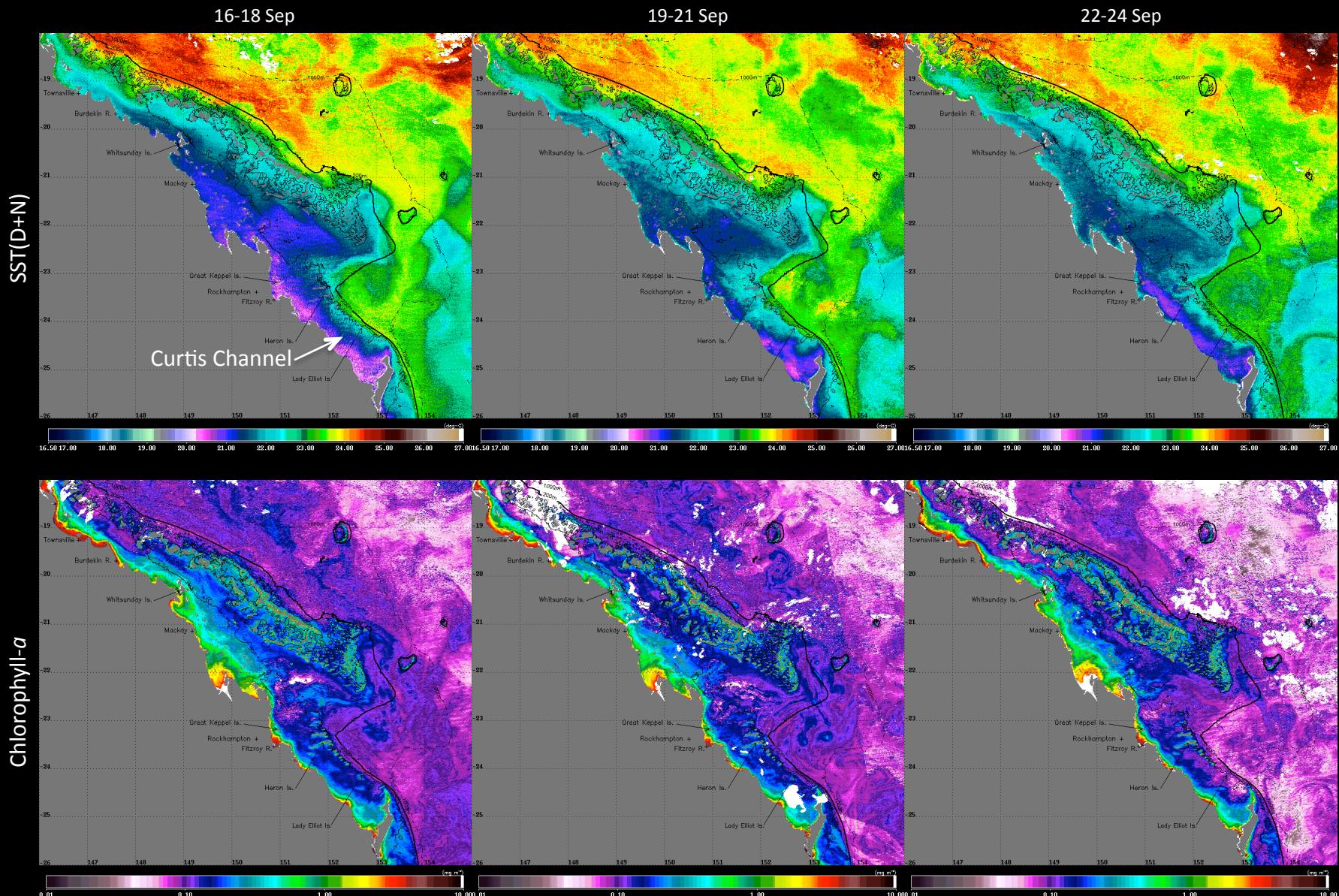
- Southward propagation of intensifying EAC during September, enhancing & confining phytoplankton biomass inshore
- Evolution of the Capricorn Eddy clearly evident
- Series of cyclonic eddy formation (see block arrows) inshore of EAC influencing variability of the primary EAC flow

## Series of 3 day images showing the intrusion of EAC waters into the Curtis Channel



- EAC strengthens & intensifies as it penetrates southward during early spring
- Initiation of Capricorn Eddy development
- Pronounced intrusions of EAC waters into Curtis Channel, especially either side of LEI (during field trip)

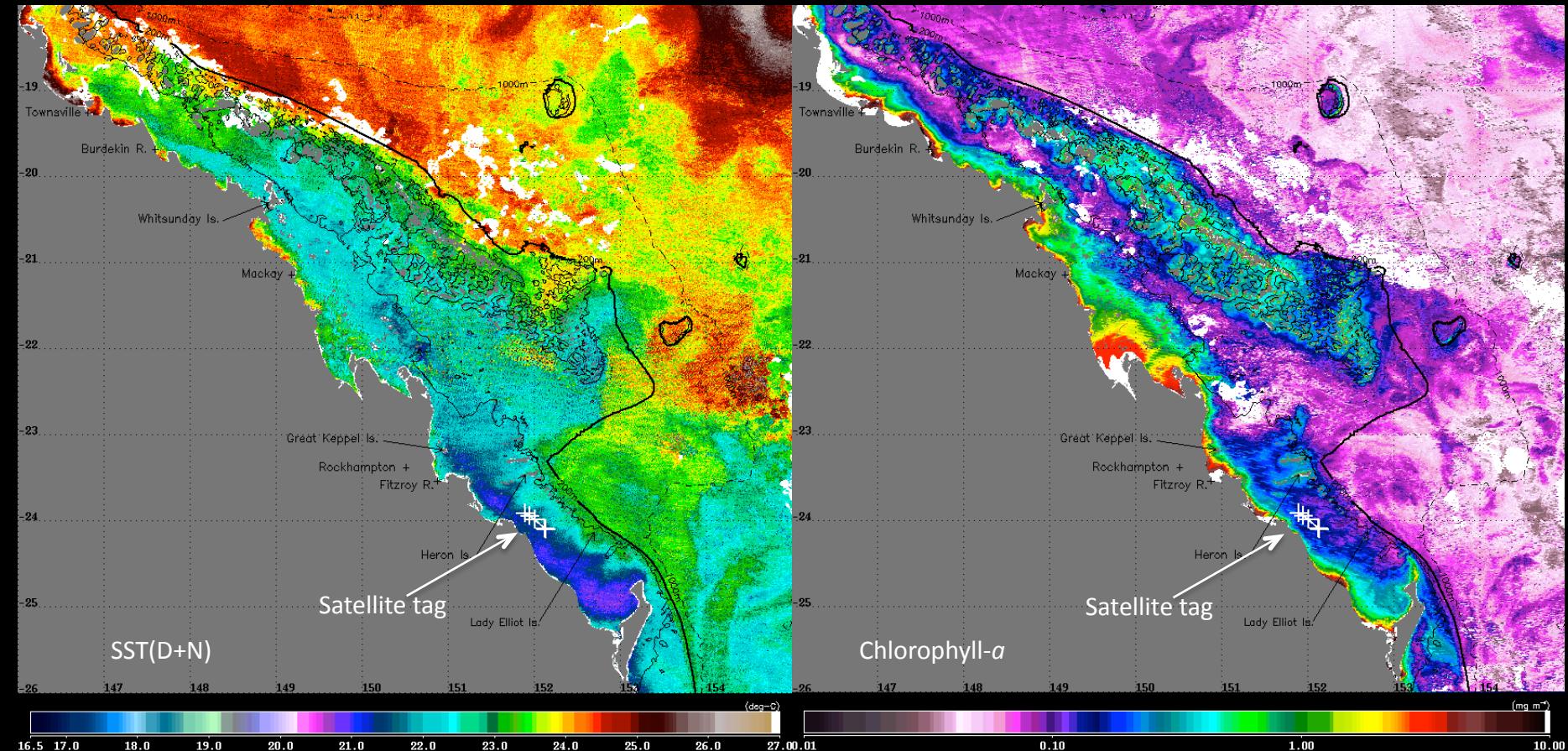
## Series of images showing the intrusion of EAC waters into the Curtis Channel



- Intrusions of the oceanic waters into GBR lagoon strengthens as a progressively greater component of EAC flow feeds the Capricorn Eddy
- Strong frontal features in the Curtis channel

# Zooming in on the satellite tag story

## 25-27 September 2011



- Satellite tag data from 25-27 September (white cross-hairs in the images)
- Drifting satellite tag closely followed frontal boundary between intruded EAC waters & cooler lagoonal waters – drifting northwards

(Initially, satellite tag came off alongside Lady Musgrave Is & maintained its position for several days. Fab awaits data from ARGOS. Will update as Fab receives ARGOS data)