SST Climatology Discussion Points

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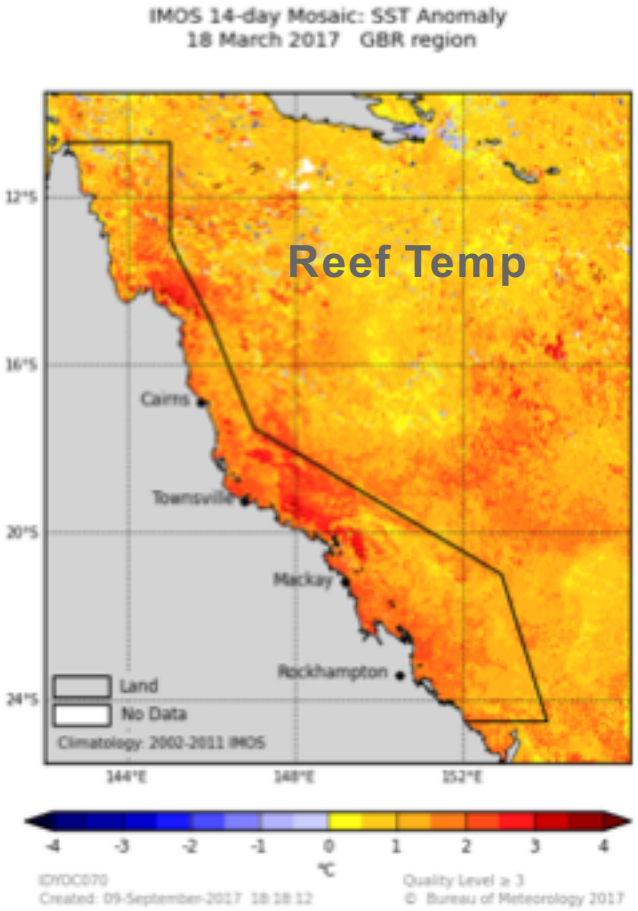
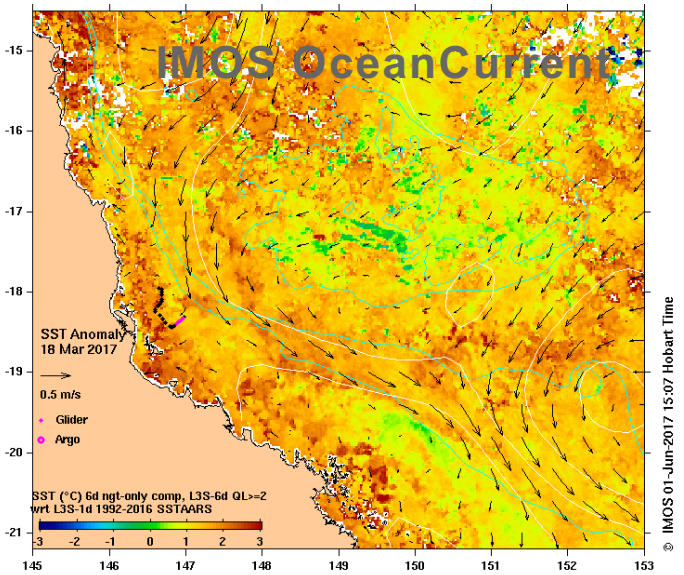
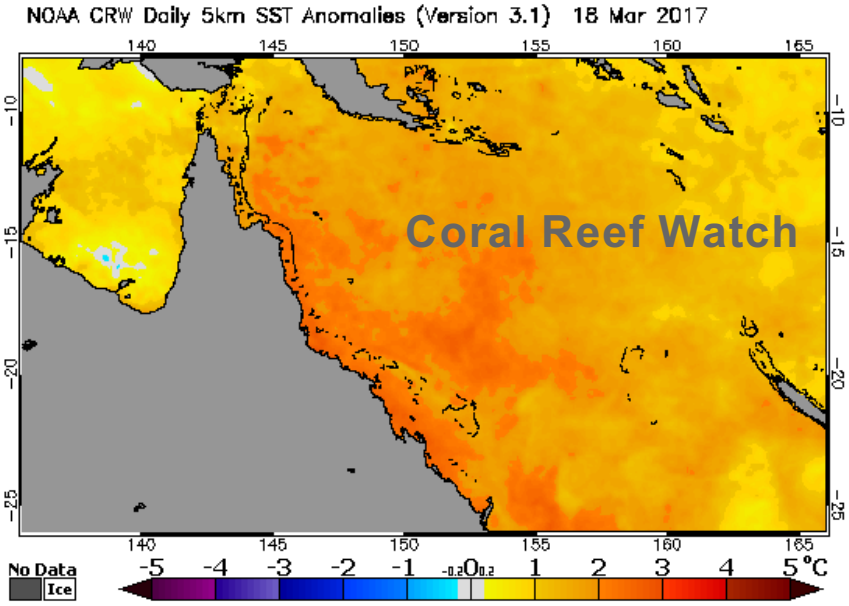
Why SST climatologies are important

In order to provide SST anomalies, percentiles or coral bleaching nowcasting metrics one needs to have a realistic and appropriate SST climatology.







Climatology Task Team?

Is GHRSST a suitable forum for an SST Climatology Task Team and who is interested in contributing?

Can GHRSST contribute to the following climatology-related questions?:

- What are the most suitable GHRSST data sets for a climatology (homogeneous, stable, accurate)?
- How best to produce a climatology from L3 (composite) or L4 (gap-free analysis) SSTs?
- How best to compare different climatology data sets, including those produced from L3S and L4 data?

SSTAARS SST Climatology

Susan Wijffels, Helen Beggs, Chris Griffin et al.

2 km seasonal climatology (1992 – 2016)

Inputs: IMOS daily night-time AVHRR L3S SST

Problem: Seasonal coverage is highly heterogeneous and data has occasional large outliers so normal averaging is difficult.

Solution: Robust fitting algorithm applied to cloud-free, de-biased pixels:

$$SST(t) = T_0 + \sum_{n=1}^{4}(a_n \cos(n\omega t) + b_n \sin(n\omega t)) + c(t - 2005)/20$$

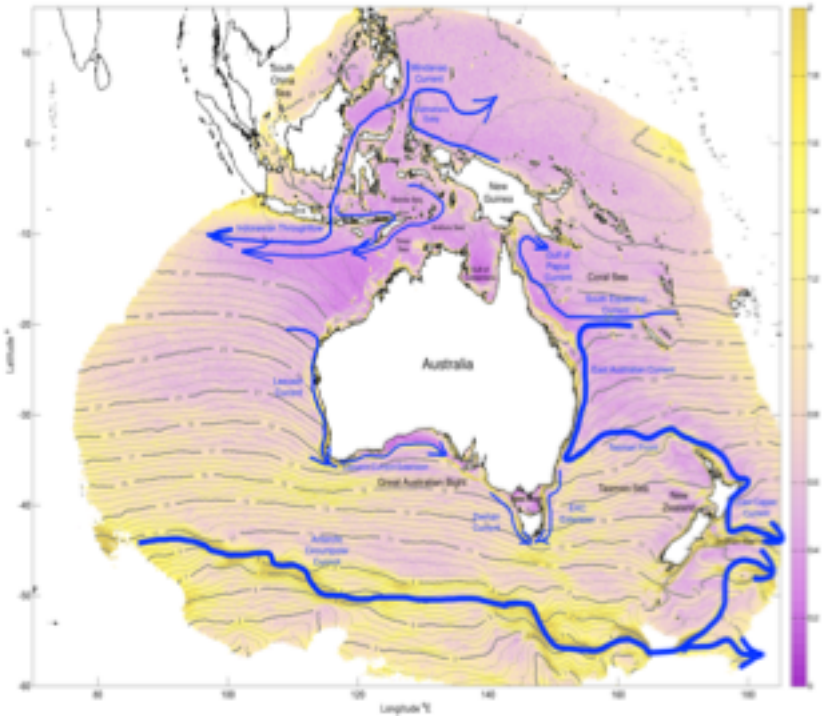
Mean **4 Seasonal Harmonics** **Linear Trend**

For each 0.02° pixel: daily climatological SST, mean, decadal trend, monthly seasonal harmonics and percentiles

Access: http://portal.aodn.org.au (search for "SSTAARS")

Paper: Wijffels et al, *J. Mar. Systems, under review*

Annual mean SST and gradient from SSTAARS



Questions?

Thank You!

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