

# Climate and Oceanographic Summary, Great Australian Bight 2016 - 7

## Kirsten Rough – 15<sup>th</sup> December 2015

Please find following the latest update for recent and expected oceanic conditions for the 2016 fishing and aerial survey season.

### Summary:

The sea temperatures of the GAB area continue to warm slowly.

No upwelling was visible on images along the South East of SA this week.

Productivity continues to be enhanced in upwelling areas along the shelf break of the South East and around southern and western Kangaroo Island. A large swirl of coloured water is located beyond the shelf break to the south-southwest Kangaroo Island.

### GAB Sea Surface Temperature (SST):

The Sea Surface Temperature situation across the GAB for the month of December over the previous 6-years, 2009 to 2014 is shown in Figure 1. The situation of the 3-days period around the 13<sup>th</sup> December 2015 across the broader GAB area, including southwest WA can be seen in Figure 2.

The situation for the central to eastern GAB area for the previous 2-weeks is shown in Figure 3 (these plots show the satellite image on the left and the temperature along the shelf break in the corresponding graph on the right). Temperatures continue to warm slowly across the inshore (shelf) areas of SA. Warming of the inshore areas is now extending to the shelf break throughout the central-western historic fishing areas. Specific SST at some of the key fishing locations historically and in recent years is detailed in Table 1.

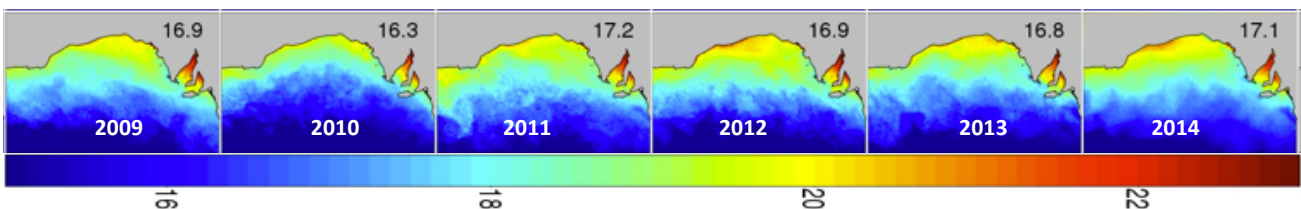


Figure 1: GAB sea surface temperatures averaged through December for the previous 6 years (CSIRO 2015).

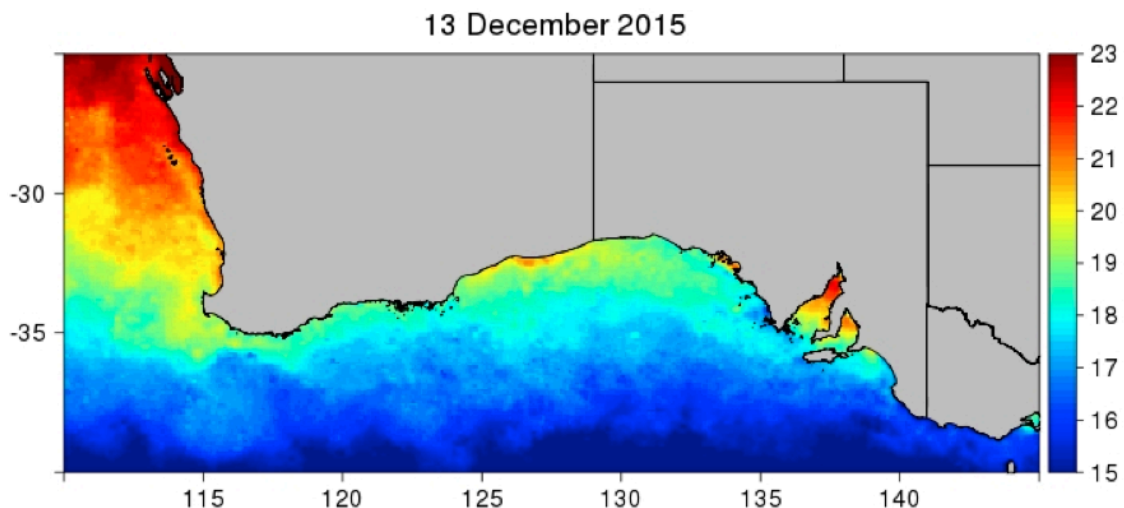


Figure 2: Sea temperatures across the broader area of the GAB and southwest WA for the 3-day period around the 13th December 2015 (CSIRO 2015).

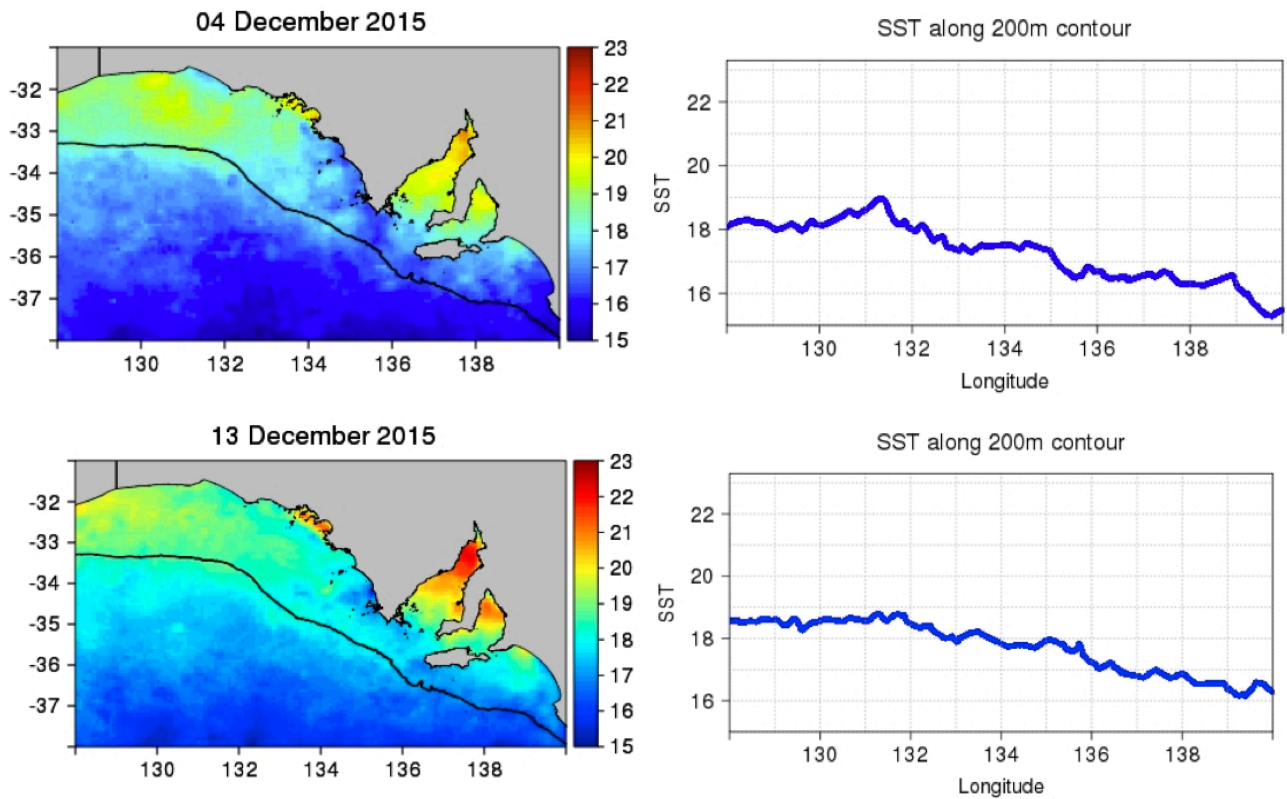


Figure 3: Snapshots of sea surface temperatures across the Eastern GAB over the past 2 weeks, satellite image on left and graph of temperature along the shelf break (black line) on the right (CSIRO 2015).

Table 1: Sea Surface Temperature on the 15<sup>th</sup> December, at some important historic and recent catching locations.

131°00'E 33°05'S = 19.7°C	132°00'E 33°23'S = 19.5°C
133°00'E 34°05'S = 19.7°C	134°00'E 34°15'S = 20.1°C
Yatala Reef 20.0°C	Cannan Reef 19.2°C
SW Rocky Island 18.8°C	Cabbage Patch area 18.5°C
SW Cape de Cudiac 17.7°C	Young Rocks area 18.0°C
SE Pelorus Rocks 18.5°C	Sanders Banks area 18.8°C

### **Chlorophyll / Productivity:**

Cloud has obscured the view along the shelf break of many images over the past week. A clear image was available for the area west of Eyre Peninsula on the 10<sup>th</sup> December, and for the southeast of SA on the 13<sup>th</sup> December (Figure 4). Chlorophyll is higher in the vicinity of the Head of the Bight, and also well south of the shelf break in the South East of SA. There are eddies swirling this discoloured water to the south of Kangaroo Island.

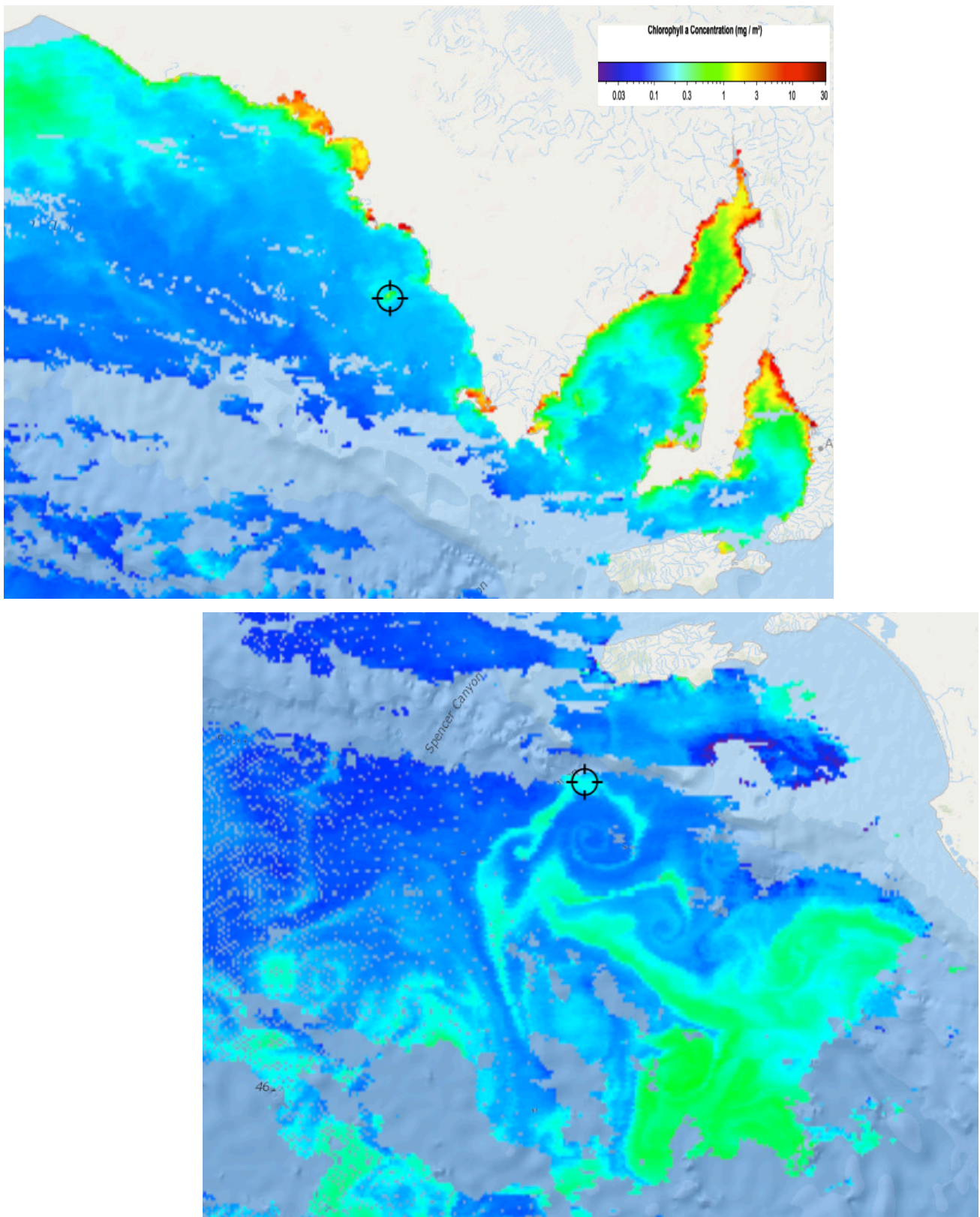


Figure 4: Due to cloud cover, have included 2 images of chlorophyll taken on the 10<sup>th</sup> December (top) and 13<sup>th</sup> December (bottom) (FishTrack 2015).

**Useful Websites:**

- <http://www.bom.gov.au>
- <http://www.csiro.au>
- <http://www.fishtrack.com>
- <http://www.oceancurrent.imos.org.au>
- <http://www.cmar.csiro.au/gab-forecasts/index.html>

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