

Climate and Oceanographic Summary, Great Australian Bight 2014 - 3

Kirsten Rough – 21st October 2013

This is the third 2014-season update of sea surface temperature, ocean currents and chlorophyll distribution in the Great Australian Bight (GAB). If anyone has any questions or further suggestions please call or email (details appear at the end of this document).

Summary:

The GAB has cooled a little through this past week, but there are pockets of 18.5°C water inshore around 132°E. Short-term forecasts suggest this situation will remain over the next week.

Actual Sea Surface Temperature (SST) this past week:

- Western GAB at 130°E 33°S is 17.7°C
- Central GAB at 133°E 34°S is 17.2°C
- Eastern GAB at 135°E 35°S is 16.8°C

The warmth of the Leeuwin Current (LC) doesn't appear to be rounding the southwest corner of WA yet, and the current speed has slowed from last week so is now similar to this time last year.

Productivity is concentrated along the coastal fringe of the GAB and on the shelf, there is a band of clear water starting to push along the shelf break.

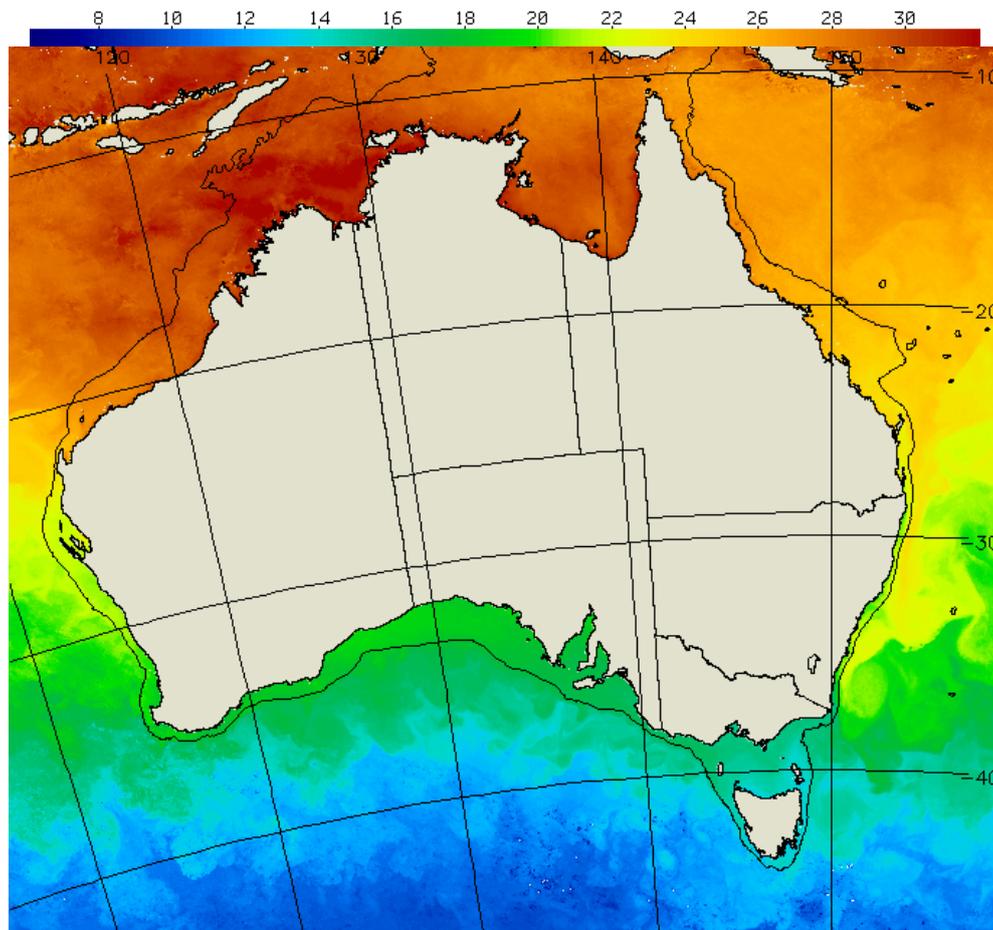
GAB Sea Surface Temperature (SST):

An update of the most recent water temperatures around Australia and through the GAB fishing grounds to the 20th October 2013 can be seen in Figure 1 and Figure 2. The temperature through the GAB ranges between 16.4 to 18.5°C.

The SST at a number of specific sites across the fishing grounds, averaged for the week to the 20th October are shown in Table 1.

Table 1: Sea Surface Temperatures at specific locations along the shelf and shelf break of the Great Australian Bight, co-ordinates as degrees, minutes, seconds (CSIRO 2013).

130°E 33°S is 17.7°C	131°E 32°S is 18.0°C	131°E 33°S is 17.9°C	132°E 33°30'S is 17.7°C
133°E 34°S is 17.2°C	134°E 34°30'S is 17.1°C	135°E 35°S is 16.8°C	136°E 35°30'S is 16.8°C



Mean SST from 14/10/2013 to 19/10/2013
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Figure 1: Sea Surface Temperature around Australia for the 5 days to 19th October 2013 (source: CSIRO 2013 <http://www.marine.csiro.au>).

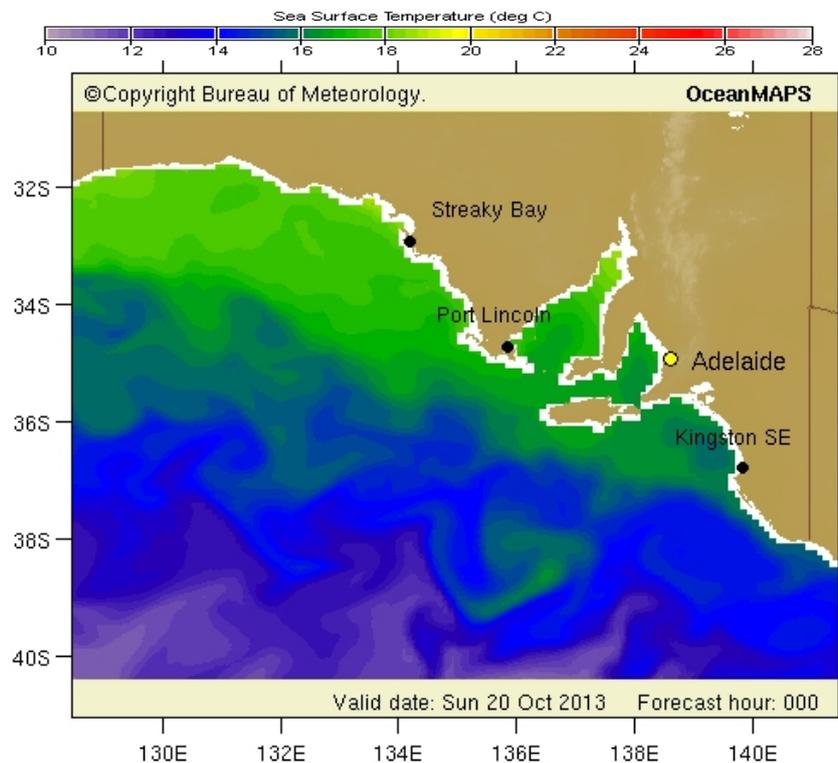


Figure 2: South Australian sea surface temperature from the Bureau of Meteorology website for the 3 days to the 20th October 2013 (source: Bureau of Meteorology 2013; <http://www.bom.gov.au>).

Leeuwin Current Temperature:

Sea surface temperatures and ocean currents around the Western Australian coastline from the 15th October 2013 and 18th October 2012 are shown below (Figure 3). The actual SST off the coast of North West Cape (Exmouth) is 25.6°C, out from Cape Inscription (Shark Bay) is 21.4°C, out from Cape Leeuwin (Augusta) is 17.9°C and out from Esperance is 17.4°C (CSIRO 2013).

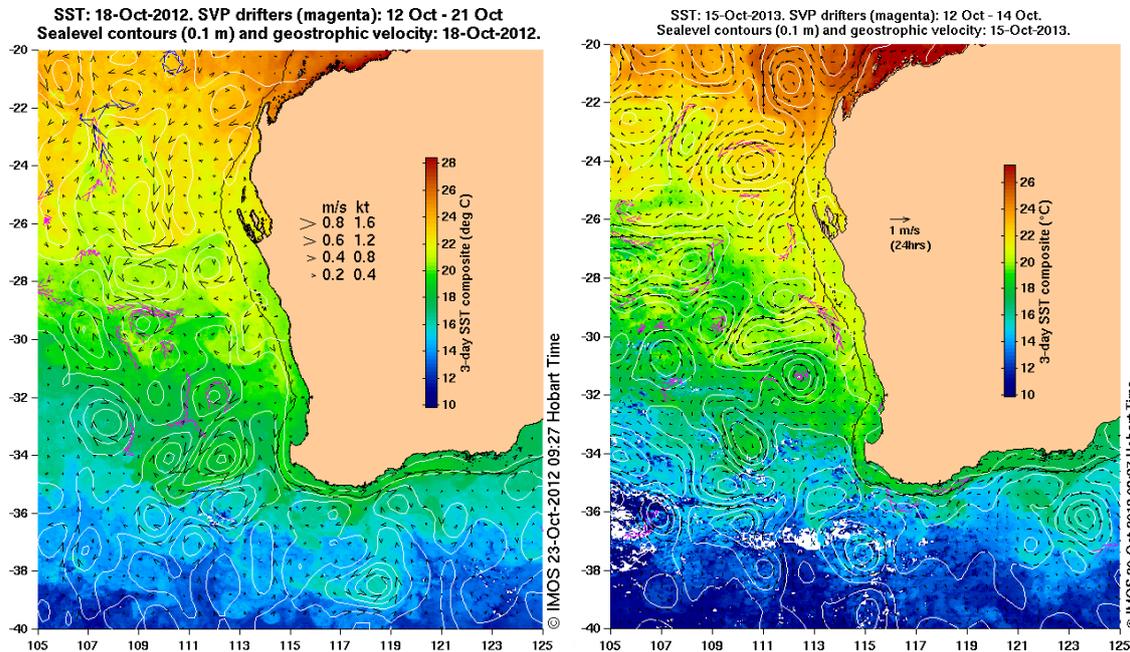


Figure 3: A comparison of the Leeuwin Current sea surface temperature and current speed and direction for the 18th October 2012 (left) and 15th October 2013 (right) (Source: IMOS 2013; <http://www.oceancurrent.imos.org.au>).

Chlorophyll / Productivity:

The satellite supplying the IMOS site continues to have problems transmitting data; there are no updates after the 22nd September 2013. The other site has one reasonably cloud-free image from the 18th October 2013. Productivity is concentrated along the coastal fringe of the GAB, with patches extending over the shelf area. There is a clearer band of water pushing through along the shelf break.

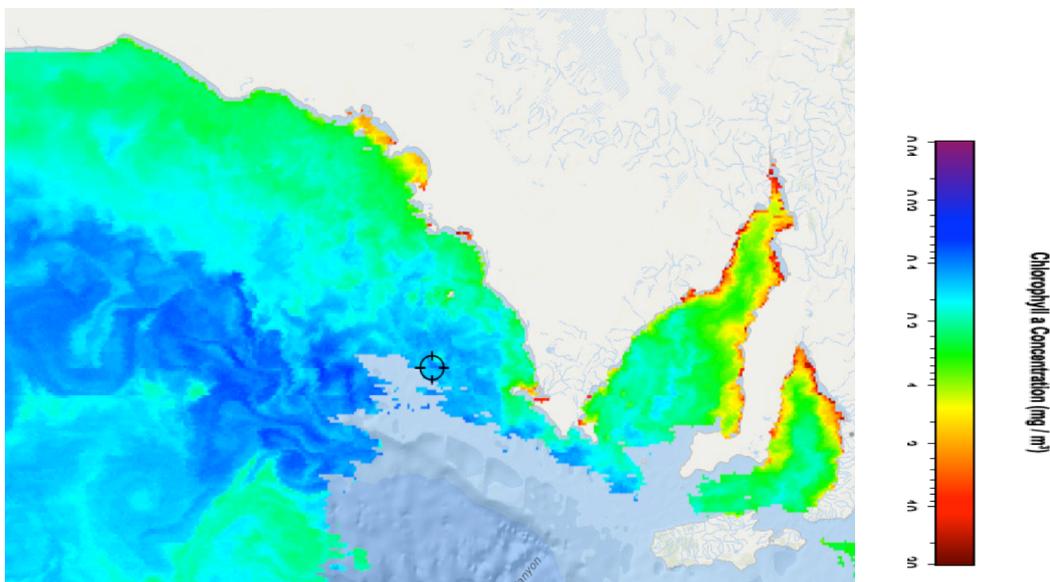


Figure 4: Areas of productivity within the GAB on the 18th October 2013 (source: <http://www.fishtrack.com>).

Useful Websites:

<http://www.bom.gov.au>

<http://www.csiro.au>

<http://www.fishtrack.com>

<http://www.oceancurrent.imos.org.au>

Further details contact:

Kirsten Rough 0429 833 697

ASBTIA – Research Office

Port Lincoln SA 5606

Email: kirstenrough@bigpond.com

SBT_Research@bigpond.com