

Climate and Oceanographic Summary, Great Australian Bight 2014 - 6

Kirsten Rough – 11th November 2013

This is the sixth 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 general GAB sea temperatures remain similar to last week. Short-term forecasts suggest this situation will remain for the next week, with warmer water in the western and central regions of the Bight.

Actual Sea Surface Temperature (SST) this past week:

- Western GAB at 130°E 33°S is 18.0°C
- Central GAB at 133°E 34°S is 17.4°C
- Eastern GAB at 135°E 35°S is 17.1°C

The warmth of the Leeuwin Current (LC) is now just rounding the southwest corner of WA, and the current speed remains similar to this time last year.

The major influence of GAB temperatures through 2014 will be from the sub-tropical source in the Indian Ocean, a similar situation to what occurred in 2013. The hotter part of this remains further away from Australia than it was for a similar point in time for the previous season.

The next full moon is on the 18th November.

GAB Sea Surface Temperature (SST):

An update of the most recent water temperatures around Australia and through the GAB fishing grounds to the 10th and 11th November 2013 can be seen in Figure 1 and Figure 2. The temperature through the GAB ranges between 16.4 to 18.8°C. The western GAB now has several areas suitable for SBT, and interesting thermal fronts now at 126°E.

The SST at a number of specific sites across the fishing grounds, averaged for the week to the 10th November 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 18.0°C | 131°E 32°S is 18.2°C | 131°E 33°S is 18.0°C | 132°E 33°30'S is 18.0°C |
| 133°E 34°S is 17.4°C | 134°E 34°30'S is 17.4°C | 135°E 35°S is 17.1°C | 136°E 35°30'S is 16.8°C |

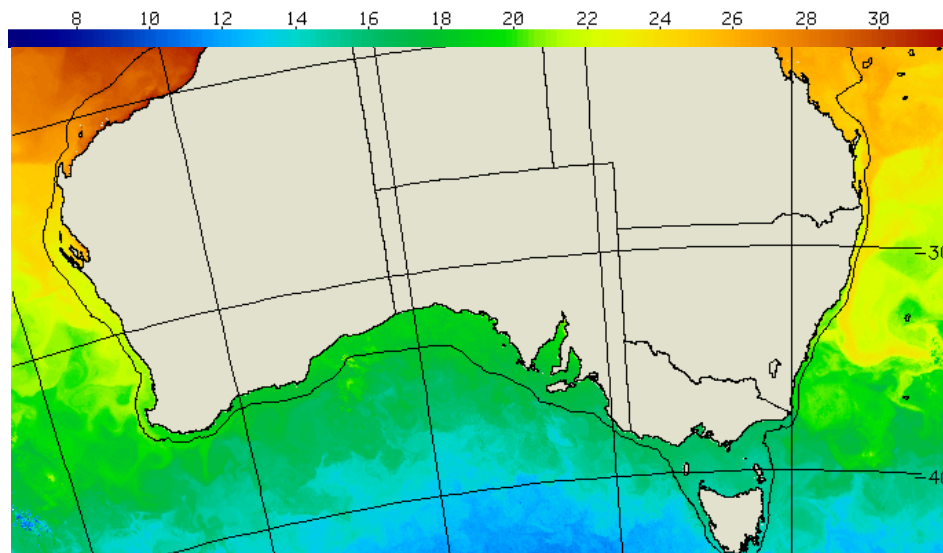


Figure 1: Sea Surface Temperature around Australia for the 5 days to 10th November 2013 (source: CSIRO 2013 <http://www.marine.csiro.au>).

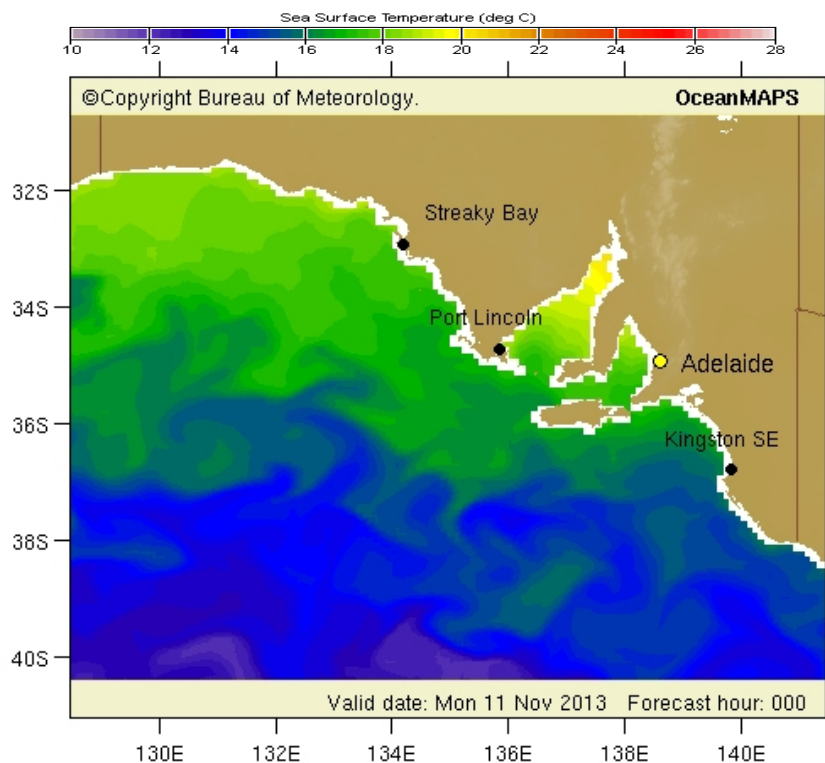


Figure 2: South Australian sea surface temperature from the Bureau of Meteorology website for the 3 days to the 11th November 2013 (source: Bureau of Meteorology 2013; <http://www.bom.gov.au>).

Leeuwin Current Temperature:

Sea surface temperatures and ocean currents around the Western Australian coastline for the 7th November 2012 and 2013 are shown below (Figure 3). The actual SST off the coast of North West Cape (Exmouth) is 26.0°C, out from Cape Inscription (Shark Bay) is 22.7°C, out from Cape Leeuwin (Augusta) is 20.0°C and out from Esperance is 17.4°C (CSIRO 2013).

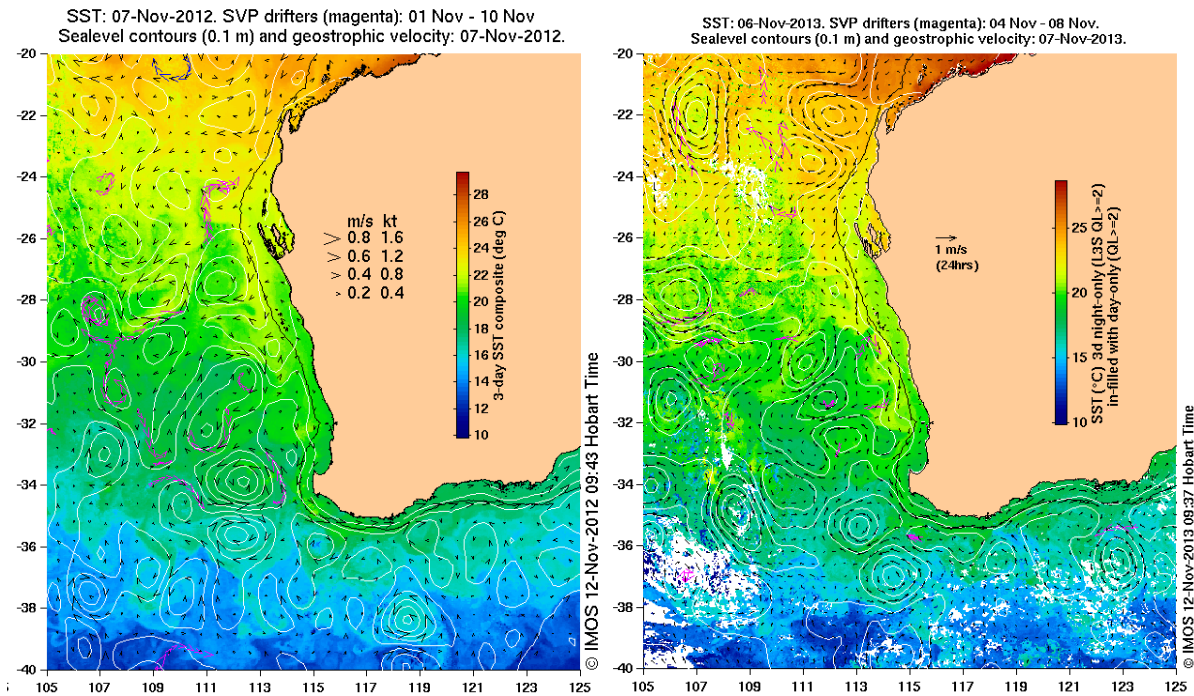


Figure 3: A comparison of the Leeuwin Current sea surface temperature and current speed and direction for the 7th 2012 (left) and 2013 (right) (Source: IMOS 2013; <http://www.oceancurrent.imos.org.au>).

Chlorophyll / Productivity:

The latest satellite image showing where productivity is concentrated is shown below (

Figure 4), grey areas appear where cloud cover is too thick to obtain an image. Chlorophyll is becoming concentrated to the west of the Head of the Bight and along the lower west coast of Eyre Peninsula, as well as the coastal fringe and within Spencers Gulf.

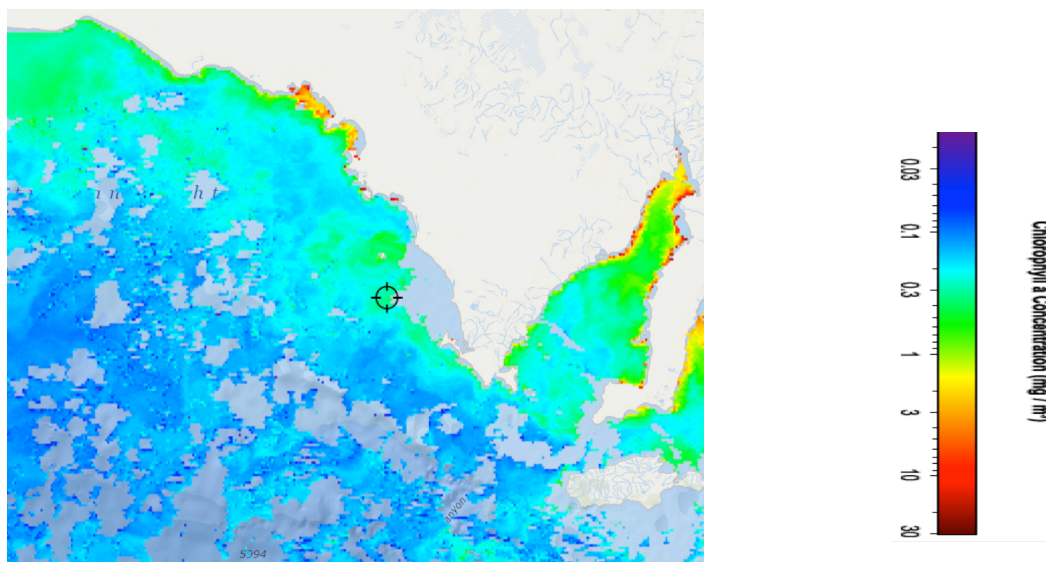


Figure 4: Areas of productivity within the GAB on the 11th November 2013 (source: <http://www.fishtrack.com>).

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
- Email: kirstenrough@bigpond.com
- SBT_Research@bigpond.com