

Climate and Oceanographic Summary, Great Australian Bight 2014 - 15

Kirsten Rough – 13th January 2014

Summary:

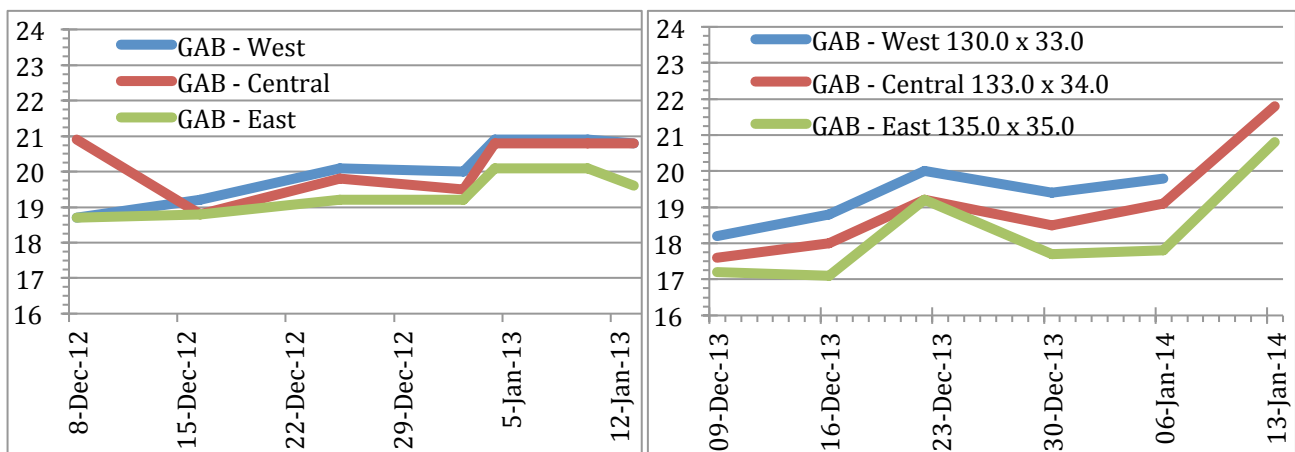
The general GAB sea temperatures range between 19 and 23°C. Cold water from upwellings continues to keep temperatures slightly cooler along the coastal fringe of Eyre Peninsula, than they are along the shelf break. A couple of days of warm weather has most likely lead to the increased surface temperatures in this issue.

A band of warmer water (19-21°C) is pushing along the shelf break below and past Kangaroo Island. Pockets of water this temperature and warmer are scattered through to the Southeast of KI to at least 138°30'E 36°56'S.

Actual Sea Surface Temperature (SST) this past week:

- Central GAB at 133°E 34°S is 21.8°C
- Eastern GAB at 135°E 35°S is 20.8°C

Comparison graphs for SST over the past month last season (on left) and this season (on right).



The Leeuwin Current (LC) continues to have very little influence on the GAB fishing area.

GAB Sea Surface Temperature (SST):

The GAB continues to warm, with the entire area now within a suitable temperature range for SBT (Figure 1). Temperatures range from 19°C in upwelling areas to 23°C through inshore areas of the western GAB. The upwelling continues to keep temperatures slightly cooler along the coastal fringe of Eyre Peninsula, than they are across the shelf and along the shelf break. But the warmer weather has increased all surface temperatures considerably over the past few days.

A band of warmer water (19-21°C) is pushing along the shelf break below and past Kangaroo Island. Pockets of warm water are scattered throughout the Southeast of KI, with some patches in shallower areas (50-70m depth) exceeding 20°C this is to at least longitude 138°45'E.

The SST's at the specific sites routinely monitored across the fishing grounds, for the 13th January 2014 are shown in Table 1. Note that the Fishtrack website that is currently being used to get temperatures relies on a single satellite image, this means that a SST cannot be obtained for any position that has cloud cover when the satellite is passing over.

Table 1: Sea Surface Temperatures at specific locations along the shelf and shelf break of the Great Australian Bight on the 13th January 2014, co-ordinates as degrees, minutes, seconds. NA means not available, and * is the most recent available SST which occurred on the 11th Jan (FishTrack 2014).

130°E 33°S NA	131°E 32°S is 21.0°C*	131°E 33°S NA	132°E 33°30'S NA
133°E 34°S is 21.8°C	134°E 34°30'S is 19.0°C*	135°E 35°S is 20.8°C	136°E 35°30'S is 18.2°C*

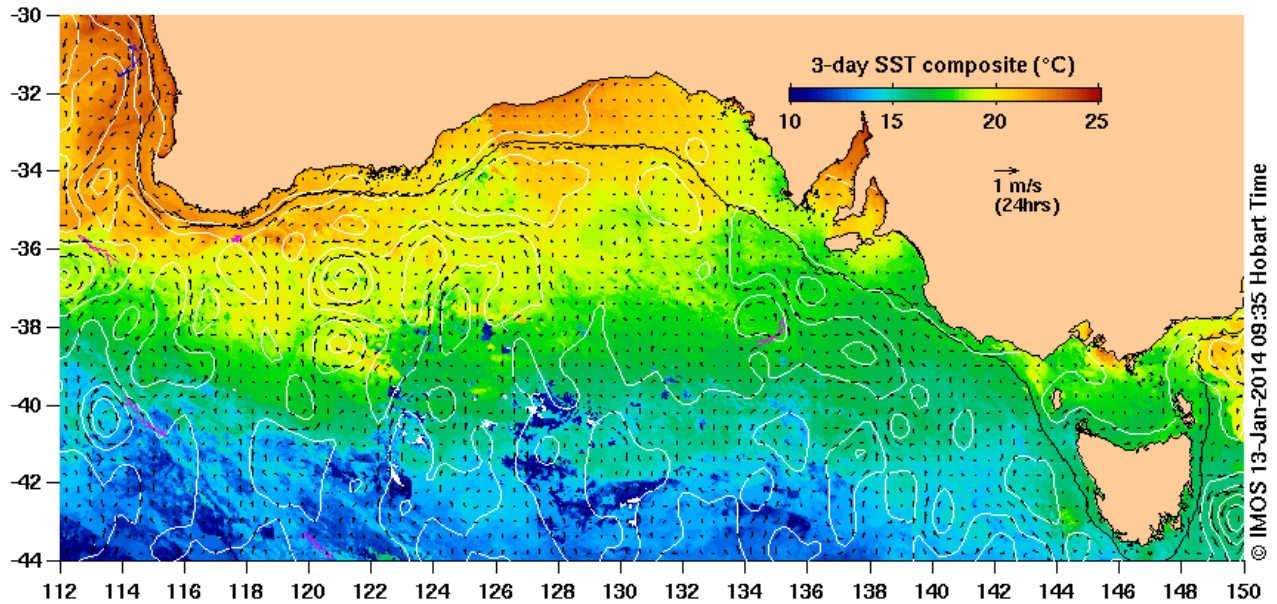


Figure 1: Sea Surface Temperature and currents across the southern Australia on the 10th January 2014 (source: IMOS 2014).

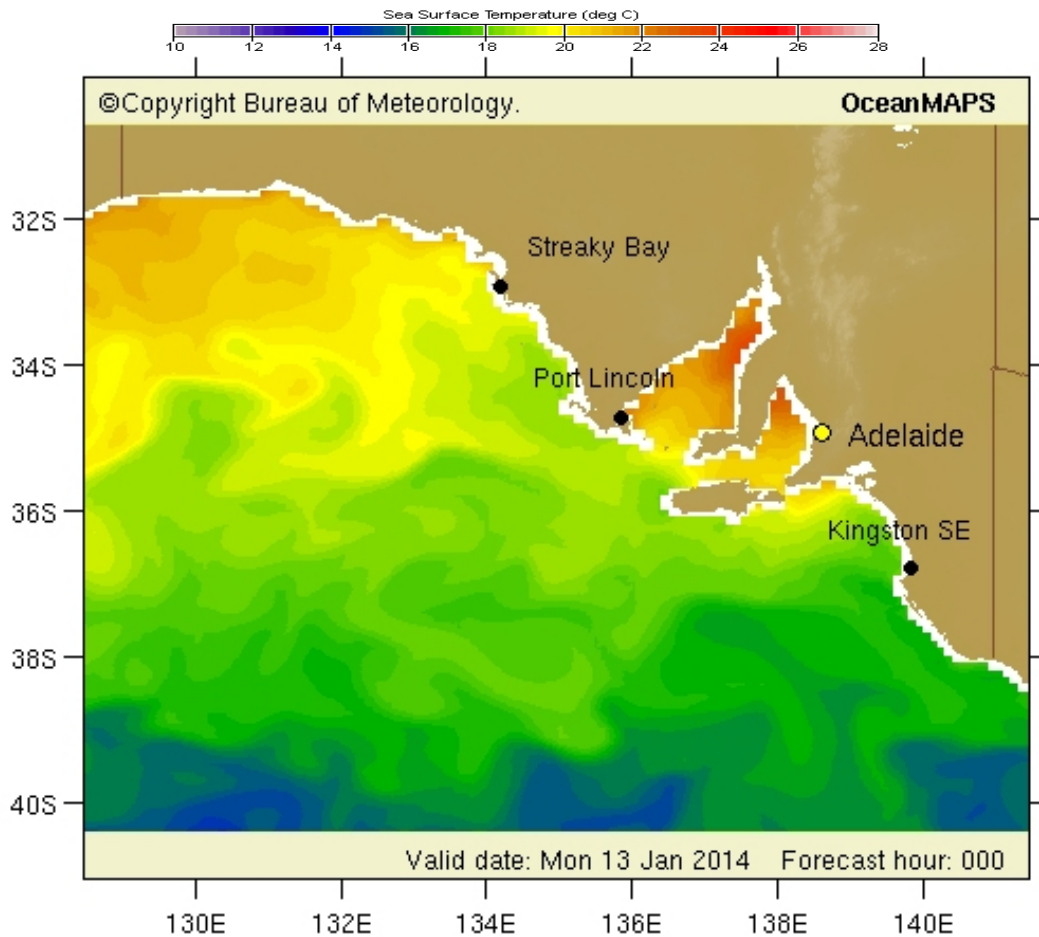


Figure 2: South Australian sea surface temperature from the Bureau of Meteorology website for the 3 days to the 13th January 2014 (source: Bureau of Meteorology 2014).

Leeuwin Current Temperature:

Sea surface temperatures and ocean currents around the Western Australian coastline for the 8th of January 2013 and 10th of January 2014, are shown below (

Figure 3). Still having trouble accessing the satellite data to obtain temperatures at specific locations this week, but this warm water current continues to progress slowly along the coastline, so there is nothing of immediate concern for us.

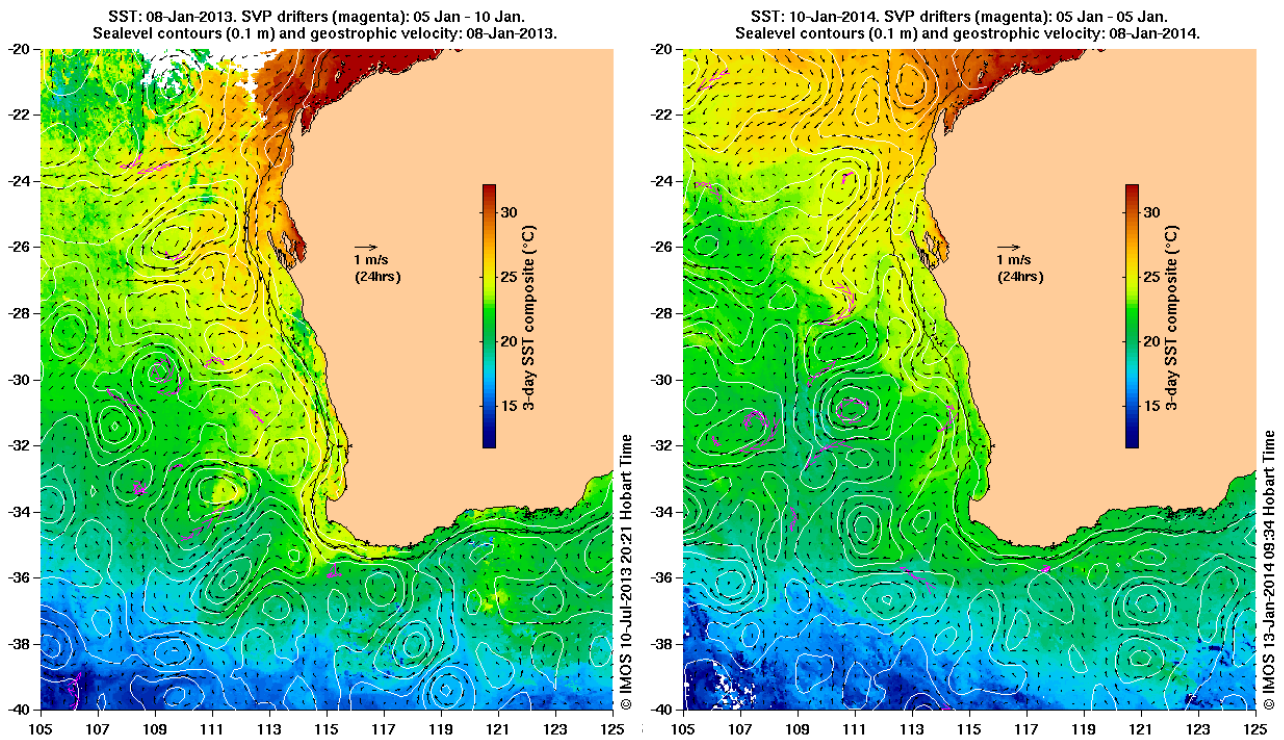


Figure 3: A comparison of the Leeuwin Current sea surface temperature and current speed and direction for the 8th January 2013 (left), 10th January 2014 (right) (Source: IMOS 2014).

SA Water Currents:

A general plot of where the water currents are moving within the eastern GAB area can be seen in Figure 4 below. Please note that through the last fishing season there were occasions when the currents experienced by vessels were different to those shown in these maps. There is no real time data on water currents available for the areas you fish. Please let me know when these are different to what you are experiencing on the vessel. Specific maps at particular locations can be provided - just contact on the email or numbers detailed at the end of this document.

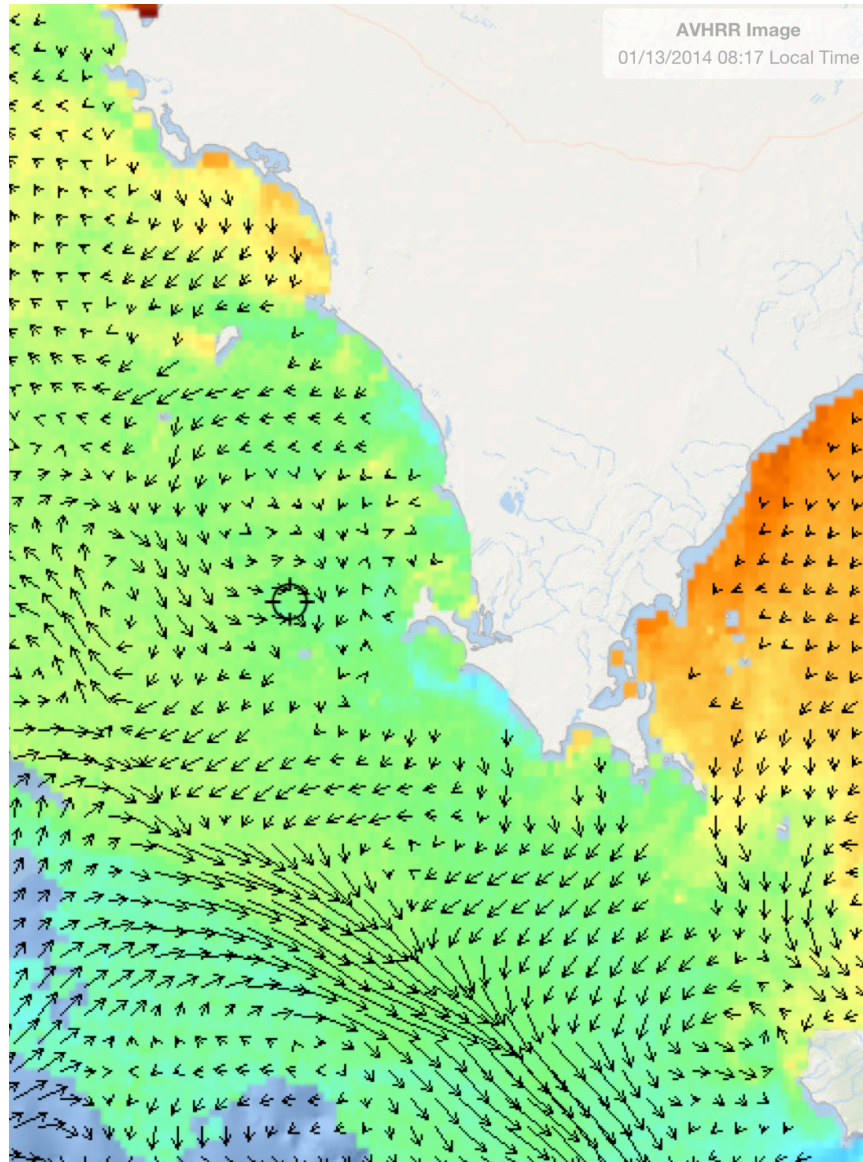


Figure 4: Water currents on the 13th January 2014 (source: <http://www.fishtrack.com>).

Chlorophyll / Productivity:

A clear image was taken on the 9th January 2014 (Figure 5). Productivity is concentrated along the coastal fringe.

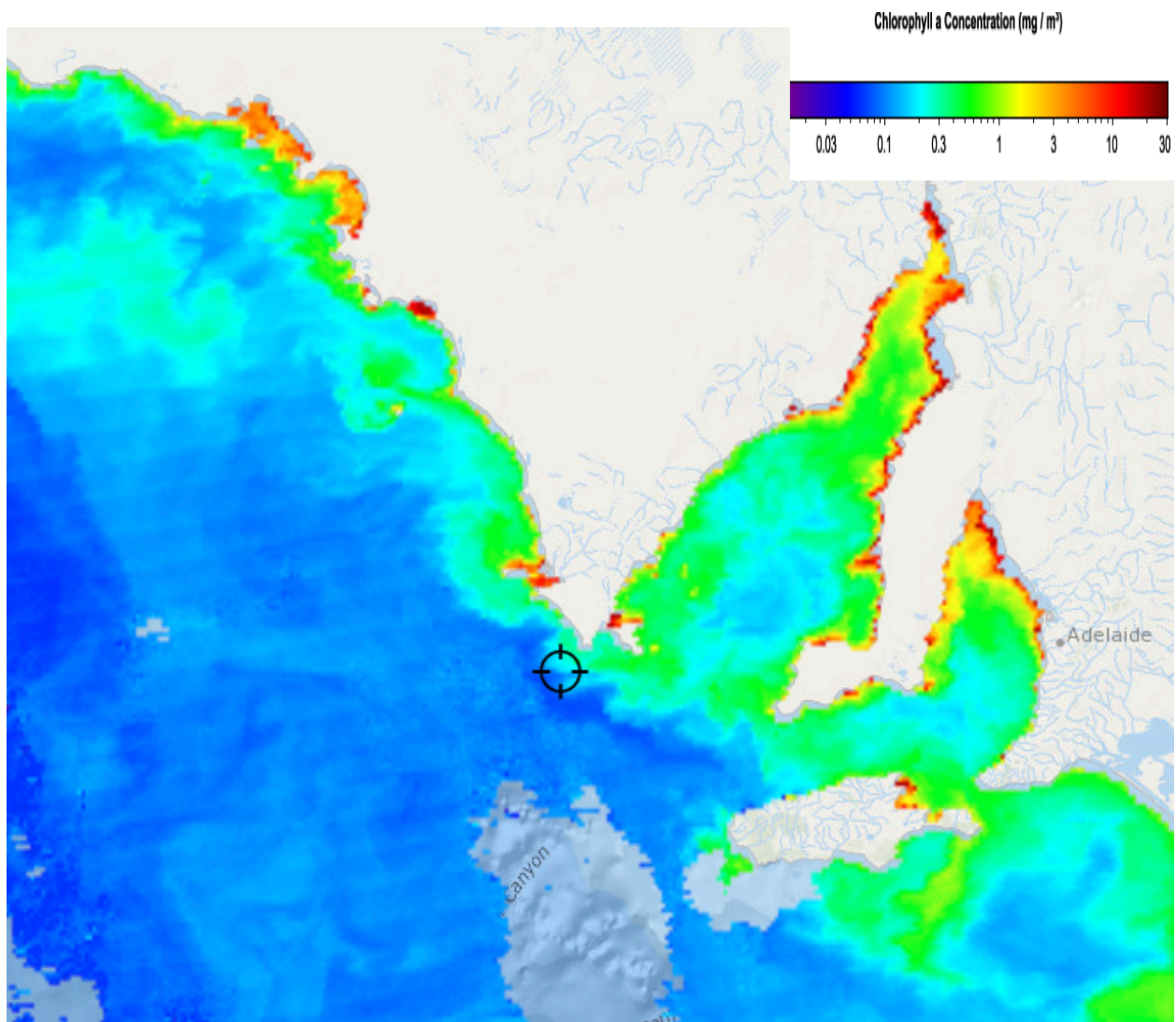


Figure 5: Areas of productivity within the GAB on the 9th January 2014 (source: <http://www.fishtrack.com>).

Useful Websites:

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

<http://www.csiro.au>

<http://www.fishtrack.com>

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

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