

Climate and Oceanographic Summary, Great Australian Bight 2014 - 118

Kirsten Rough – 3rd February 2014

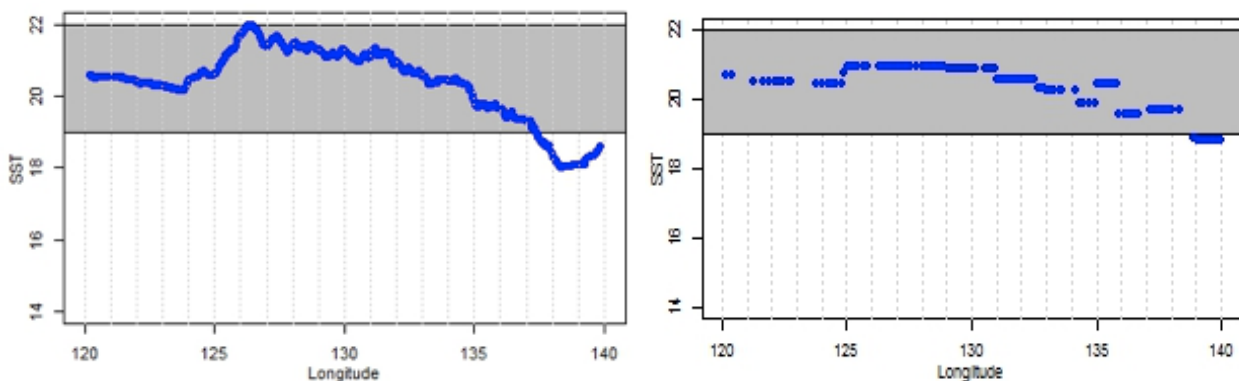
Summary:

The upwelling continues to influence water temperatures with coolest conditions in the southeast (16 - 18°C) and along the coastal fringe of Kangaroo Island and Eyre Peninsula (both around 19°C). The general shelf area and shelf break continue to exceed 20°C.

Actual Sea Surface Temperature (SST) this past week:

- Western GAB at 130°E 33°S is 21.7°C
- Central GAB at 133°E 34°S is 20.9°C
- Eastern GAB at 135°E 35°S is 20.6°C
- Southwest KI at 136°30'E 36°30'S is 20.4°C
- Southeast SA at 138°E 37S is 18.0°C

SST along the shelf-break on 31st January (left) and the forecast of SST along shelf break for the month of February (right). This suggests conditions will remain suitable for SBT to occur east to around longitude 138°E throughout the month of February.



The Leeuwin Current (LC) continues to have very little influence on the GAB fishing area. This season remains under the influence of the Southern Ocean.

The next full moon is on the 15th of February.

CSIRO Aerial Survey SBT sightings from 1st January 2014 to date (3rd Feb) tonnage per longitude:

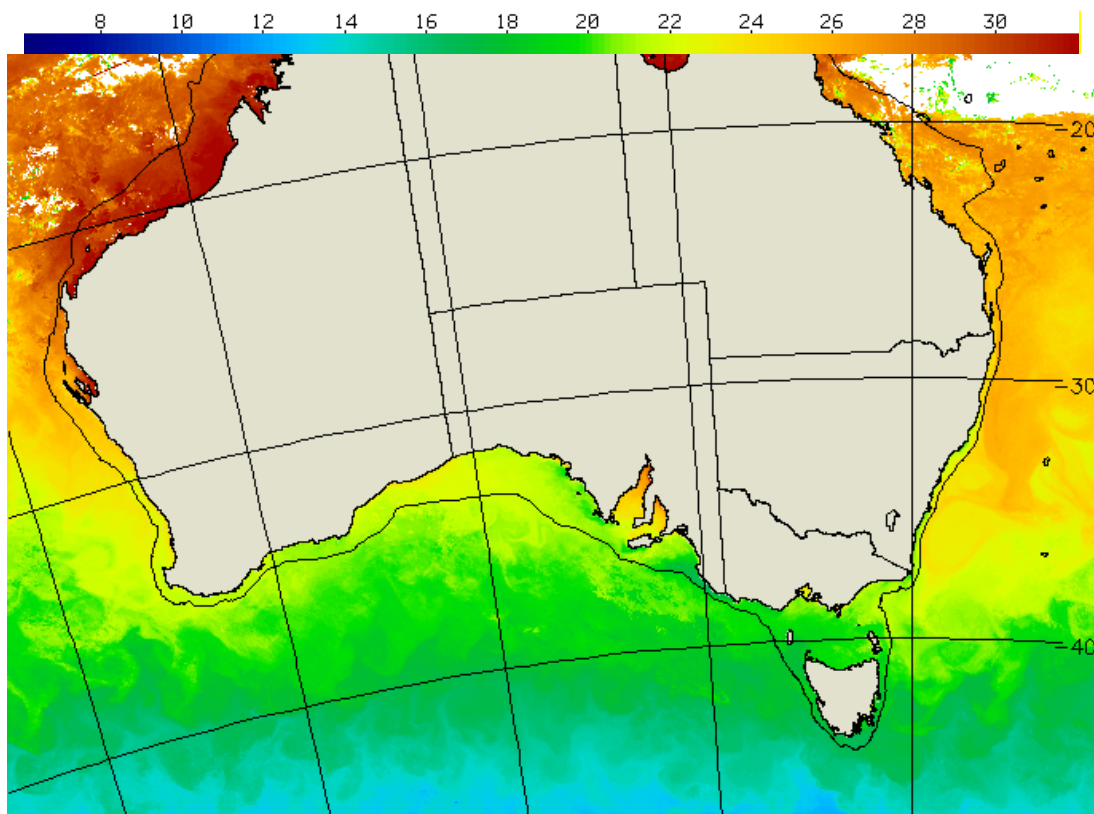
128°	129°	130°	131°	132°	133°	134°
51 tonnes	415 tonnes	250 tonnes	2345 tonnes	3357 tonnes	2043 tonnes	4867 tonnes

GAB Sea Surface Temperature (SST):

The upwelling is still influencing water temperatures (Figure 1 and Figure 2). Water suitable for SBT remains in a band along the shelf break in the eastern Bight, as well as southwest and south of Kangaroo Island. The Bight (WA border to the west of KI) now ranges from 19 to 22.5°C, generally warmer along the shelf break and cooler inshore, due to upwelling along the coastal fringe.

Table 1: Sea Surface Temperatures at specific locations along the shelf and shelf break of the Great Australian Bight on the 2nd February 2014, co-ordinates as degrees, minutes, seconds (CSIRO 2014).

130°E 33°S is 21.7°C	131°E 32°S is 21.4°C	131°E 33°S is 21.6°C	132°E 33°30'S is 21.2°C
133°E 34°S is 20.9°C	134°E 34°30'S is 20.6°C	135°E 35°S is 20.6°C	136°E 35°30'S is 20.6°C
136°30'E 36°30'S is 20.4°C	137°E 36°30'S is 20.6°C	138°E 37S is 18.0°C	139°E 37S is 16.9°C



Mean SST from 28/01/2014 to 02/02/2014
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Figure 1: Sea Surface Temperature across southern Australia for the 5-days to the 2nd February 2014 (source: CSIRO 2014).

31 January 2014

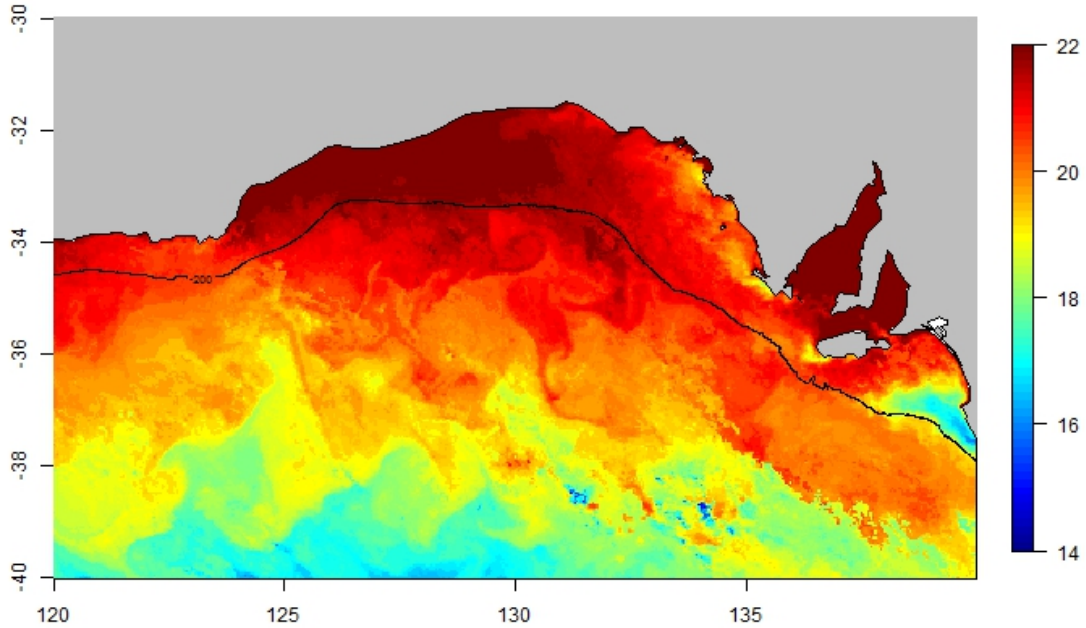


Figure 2: Sea Surface Temperature from the GAB SBT Habitat Forecasting project taken on the 31st January 2014 (source: CSIRO 2014).

Leeuwin Current Temperature:

Sea surface temperatures and ocean currents around the Western Australian coastline for the 28th of January 2013 and 2014 are shown below (Figure 3). The actual SST this week to 2nd Feb: off North West Cape (Exmouth) is 28.8°C, out from Cape Inscription (Shark Bay) is 25.2°C, out from Cape Leeuwin is 21.6°C and out from Esperence is 20.1°C (CSIRO 2014). The warm water from this current continues to progress slowly along the coastline. It is now very unlikely that this current will have any significant influence over this years fishing and aerial survey season - so these plots will not appear in the remainder of these updates for this season. These plots are available on the IMOS website if anyone wants to continue watching the progress of the Leeuwin Current (<http://www.oceancurrent.imos.org.au>).

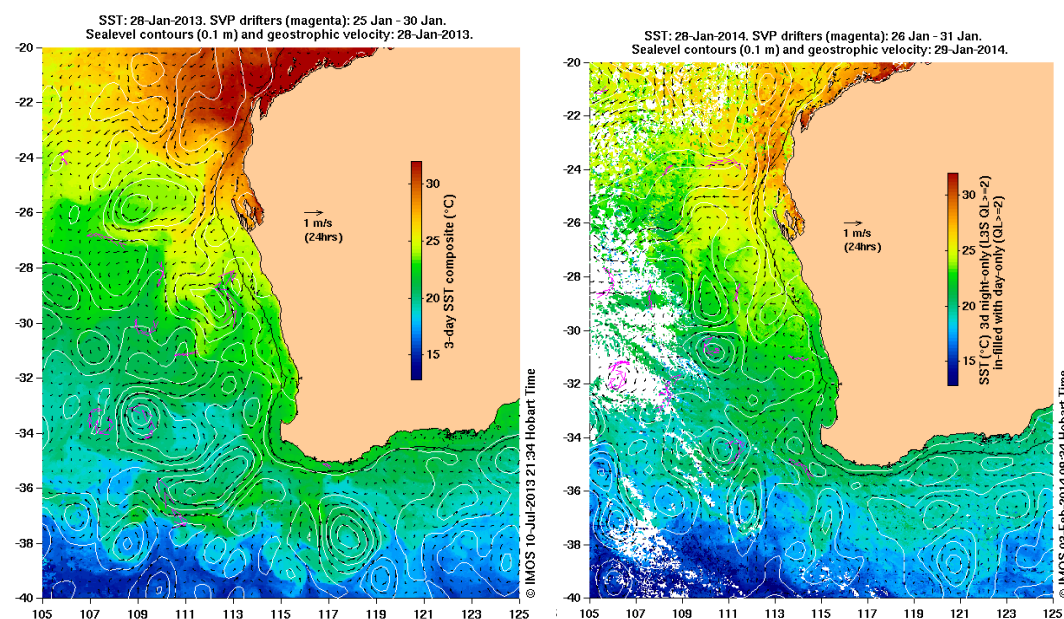


Figure 3: A comparison of the Leeuwin Current sea surface temperature and current speed and direction for the 28th January 2013 (left), and 2014 (right) (Source: IMOS 2014).

SA Water Currents:

A plot of where the water currents are moving below Eyre Peninsula is shown in Figure 4, the blue arrows are real time surface currents measured from radar mounted on Cape Catastrophe. Please note the maps in previous issues were based on models of water movement not real measurements, but they are able to cover a wider area than the radar below. From the currents measured along the Bonney Coast it seems that the cool water from the recent upwelling will be dispersed to the south and southwest, below the area holding the fish

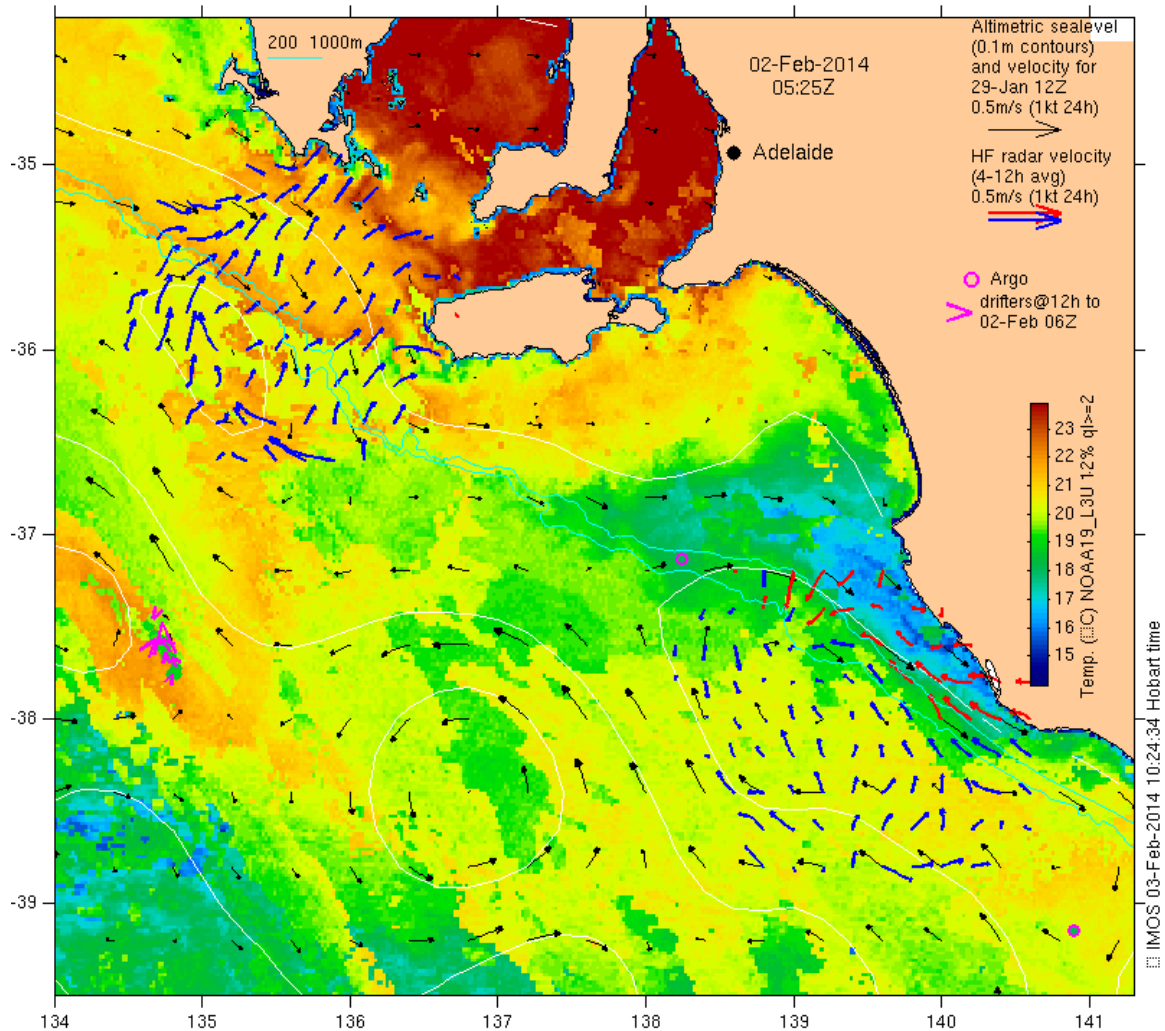


Figure 4: Water currents on the 2nd February 2014, the arrows in blue below Eyre Peninsula are surface currents recorded by radar; the colour of the background is Sea Surface Temperature (IMOS 2014)

Chlorophyll and Productivity:

Chlorophyll levels are higher along the coastal fringe and in the areas being fed by the recent upwelling, especially down the southeast of SA. If anyone would like some GPS positions along the edges of the green areas just reply on this email.

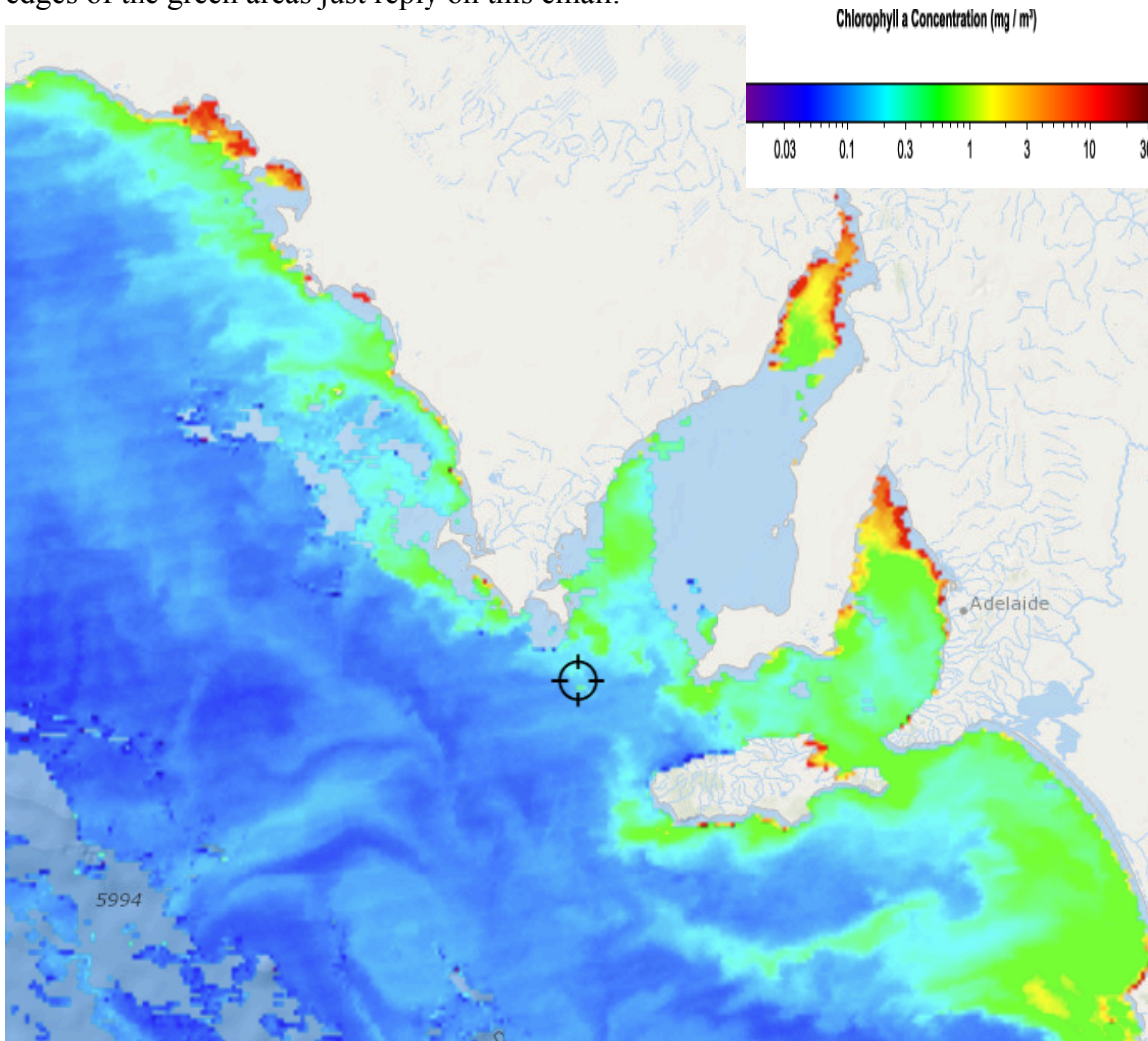


Figure 5: Areas of productivity within the GAB on the 1st of February 2014 (Fish Track 2014).

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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