

Climate and Oceanographic Summary, Great Australian Bight 2014 - 21

Kirsten Rough – 24th February 2014

Summary:

The upwelling continues to influence water temperatures with coolest conditions in the southeast (16 - 17°C) and along the coastal fringe of Kangaroo Island and Eyre Peninsula (both around 17 - 19°C). Along the shelf-break water temperatures remain suitable for SBT westwards of longitude 135°E, ie the fishing area is shifting westward to the more traditional catching areas historically. There remains isolated pockets of warm water south of the shelf break and a larger mass of water between 140 to 143°E.

Actual Sea Surface Temperature (SST) this past week:

- Western GAB at 130°E 33°30'S is 20.8°C
- Central GAB at 133°E 34°S is 20.6°C
- Eastern GAB at 135°E 35°S is 19.5°C
- Southwest KI at 136°30'E 36°30'S is 18.8°C
- Southeast SA at 138°E 37S is 17.2°C

The next full moon is on the 17th of March.

It is currently dodge tide, with reduced water movement - water flow will improve through the week.

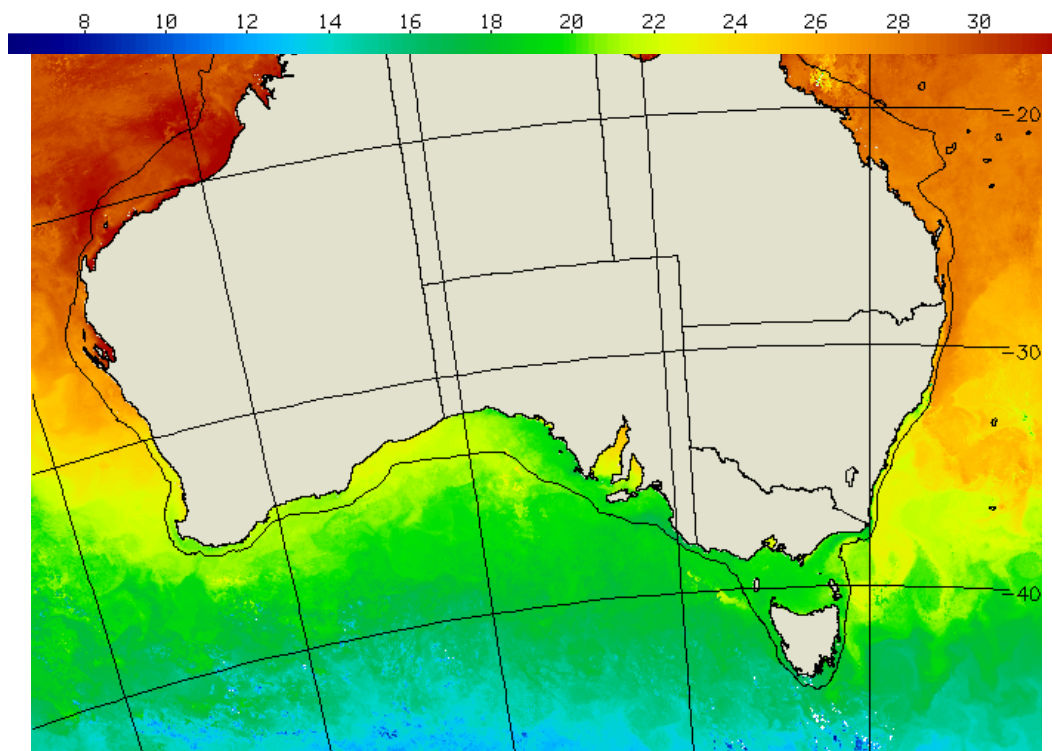
The strong upwelling continues to influence the productivity in the sea around Eyre Peninsula, chlorophyll levels in many areas are high enough that there would be a visible change in water colour and clarity that could be noticed from a boat.

GAB Sea Surface Temperature (SST):

Sea temperatures around Australia and through the Great Australian Bight are shown in Figure 1 and Figure 2. The upwelling continues to influence water temperatures through the GAB area. Cool water from upwelling follows along the coast all the way to the west of the Head of the Bight. A warmer band follows the shelf break to southern Eyre Peninsula. Isolated warm pockets of 20+°C water are present south and east of the SA-Victoria border area (141°E 39°30’S to 143°E 40°40’S).

Table 1: Sea Surface Temperatures at specific locations along the shelf and shelf break of the Great Australian Bight on the 24th February 2014, co-ordinates as degrees, minutes, seconds (CSIRO 2014).

130°E 33°30’S is 20.8°C	131°E 32°S is 19.8°C	131°E 33°S is 20.8°C	132°E 33°30’S is 20.9°C
133°E 34°S is 20.6°C	134°E 34°30’S is 19.5°C	135°E 35°S is 19.5°C	136°E 35°30’S is 19.3°C
136°30’E 36°30’S is 18.8°C	137°E 36°30’S is 18.4°C	138°E 37S is 17.2°C	139°E 37S is 16.6°C



Mean SST from 15/02/2014 to 20/02/2014
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Figure 1: Sea Surface Temperature across southern Australia for the 5-days to the 20th February 2014 (source: CSIRO 2014).

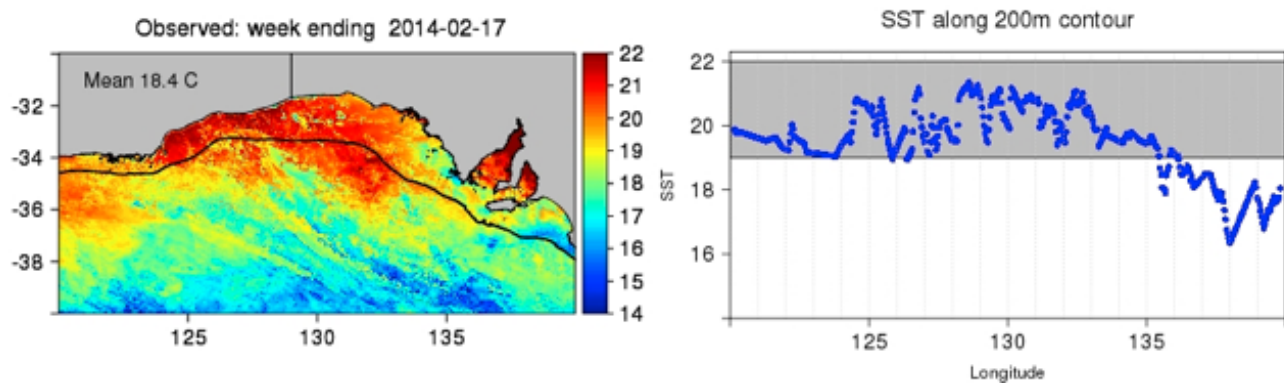


Figure 2: Snapshot of GAB water temperatures (left) and corresponding graph of Sea Surface Temperature along the shelf break (right). Where the blue dotted line is within the gray band, conditions are within the range that SBT prefer (source: TRF project web site 2014)

SA Water Currents and Tide Times:

A plot of where the water currents are moving below Eyre Peninsula is shown in Figure 3, the blue and red arrows are real time surface currents measured from radar mounted on Cape Catastrophe.

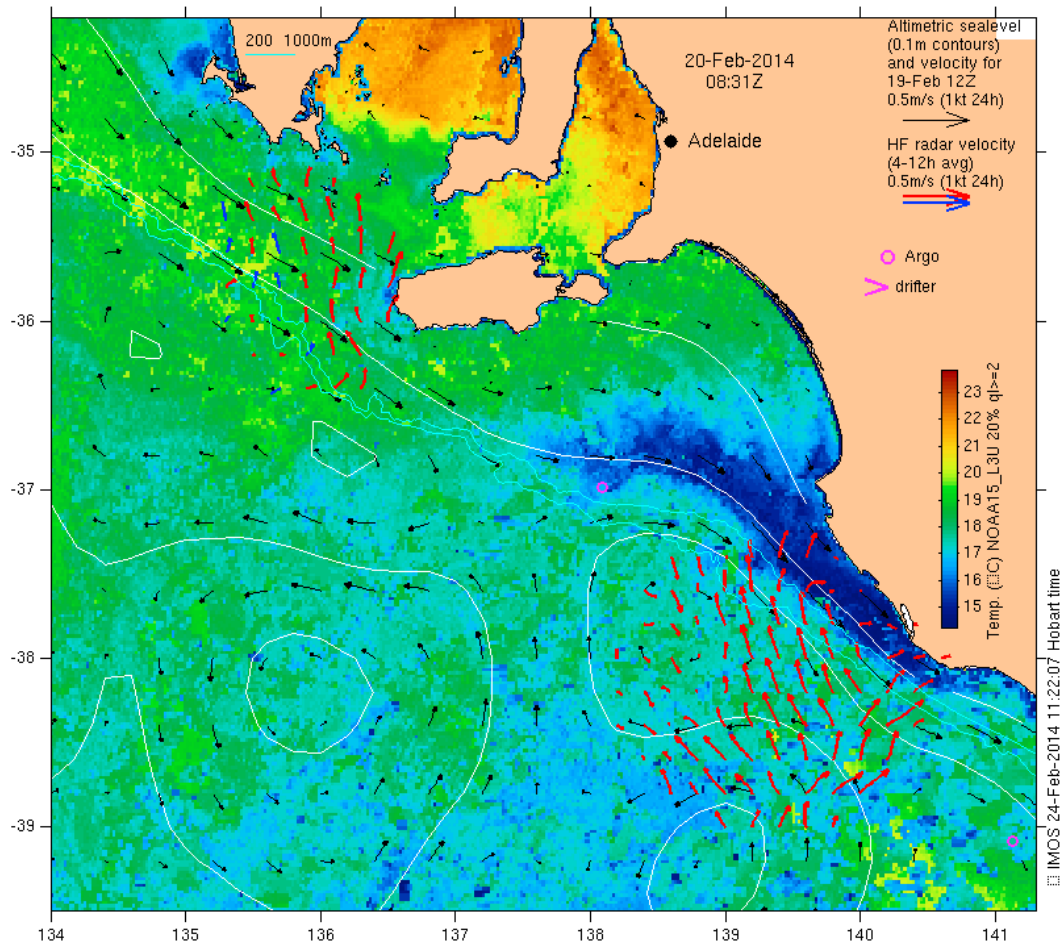


Figure 3: Water currents on the 20th February 2014, the arrows in blue below Eyre Peninsula are surface currents recorded by radar; the colour of the background is Sea Surface Temperature (IMOS 2014).

TUE 25 FEB		WED 26 FEB		THU 27 FEB		FRI 28 FEB		SAT 1 MAR		SUN 2 MAR		MON 3 MAR	
LOW	9:26 am 0.33 m	HIGH	1:15 am 1.25 m	HIGH	2:07 am 1.38 m	HIGH	2:44 am 1.46 m	HIGH	3:15 am 1.47 m	HIGH	3:41 am 1.43 m	HIGH	4:00 am 1.34 m
		LOW	9:03 am 0.25 m	LOW	9:13 am 0.18 m	LOW	9:29 am 0.15 m	LOW	9:46 am 0.15 m	LOW	10:01 am 0.17 m	LOW	10:14 am 0.17 m
		HIGH	3:27 pm 0.78 m	HIGH	3:24 pm 0.86 m	HIGH	3:34 pm 0.96 m	HIGH	3:49 pm 1.06 m	HIGH	4:03 pm 1.17 m	HIGH	4:14 pm 1.27 m
		LOW	7:47 pm 0.67 m	LOW	8:30 pm 0.50 m	LOW	9:03 pm 0.36 m	LOW	9:32 pm 0.27 m	LOW	10:00 pm 0.23 m	LOW	10:25 pm 0.23 m

Table 2: Tide times for Port Lincoln for the next week (local daylight savings time). Note that Taylors Landing and Reevesby Island tides are 20-28 minutes behind Lincoln tides, so minus this to make these more representative of the Tuna Lease Zone.

Chlorophyll and Productivity:

The best image of the past week was taken on the 23rd February, note the gray areas are obscured with cloud. Chlorophyll levels are higher along the coastal fringe and in the areas being fed by the recent upwelling, especially down the southeast of SA. The areas shown in yellow and red are of sufficient density that they would be visible as a change in water colour and clarity noticeable from the boat.

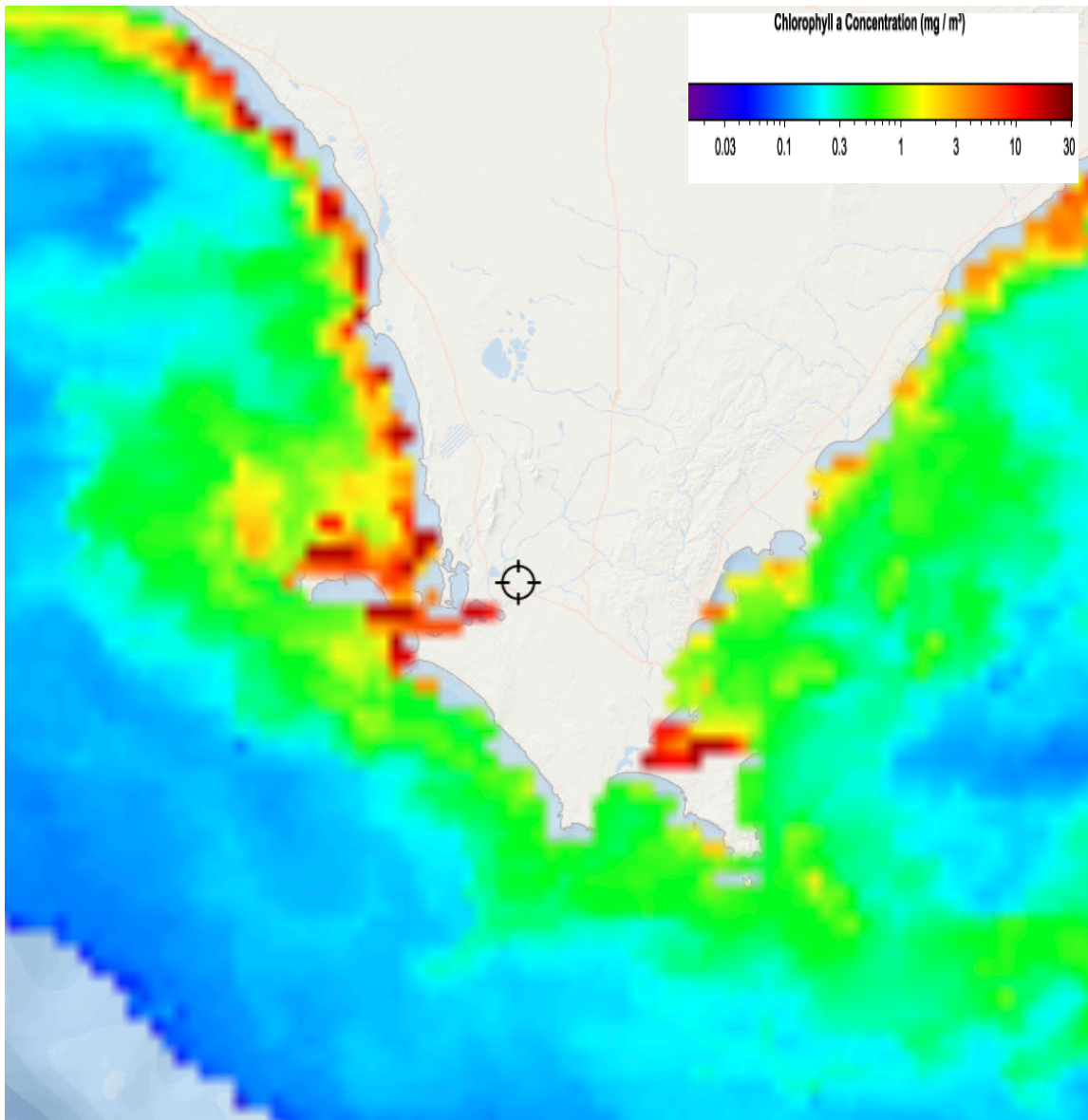


Figure 4: Areas of productivity around Eyre Peninsula on the 23rd February 2014 (Fish Track 2014).

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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