

Climate and Oceanographic Summary, Great Australian Bight 2014 - 22

Kirsten Rough – 3rd March 2014

Summary:

The upwelling continues to influence water temperatures with conditions cooling across the GAB. The coolest regions are down the southeast of SA and along the western coastal fringe of Kangaroo Island and Eyre Peninsula (range from 16 to 18°C). Along the shelf-break water temperatures remain suitable for SBT westwards of longitude 133°E.

Actual Sea Surface Temperature (SST) this past week:

- Western GAB at 130°E 33°30'S is 20.4°C
- Central GAB at 133°E 34°S is 19.8°C
- Eastern GAB at 135°E 35°S is 18.8°C

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

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 area generally continues to cool and the upwelling continues to influence water temperatures especially along the coastal fringe. The cool water from upwelling now extends along the coast all the way to the West Australian border. A warmer band continues to follow the shelf break but the most eastern end of this is now to the west of Lower Eyre Peninsula. The fishing area of this season now ranges from 16 to 18°C.

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

130°E 33°30'S is 20.4°C	131°E 32°S is 18.5°C	131°E 33°S is 20.3°C	132°E 33°30'S is 19.8°C
133°E 34°S is 19.8°C	134°E 34°30'S is 19.5°C	135°E 35°S is 18.8°C	136°E 35°30'S is 18.7°C
136°30'E 36°30'S is 18.4°C	137°E 36°30'S is 18.0°C	138°E 37S is 16.9°C	139°E 37S is 16.3°C

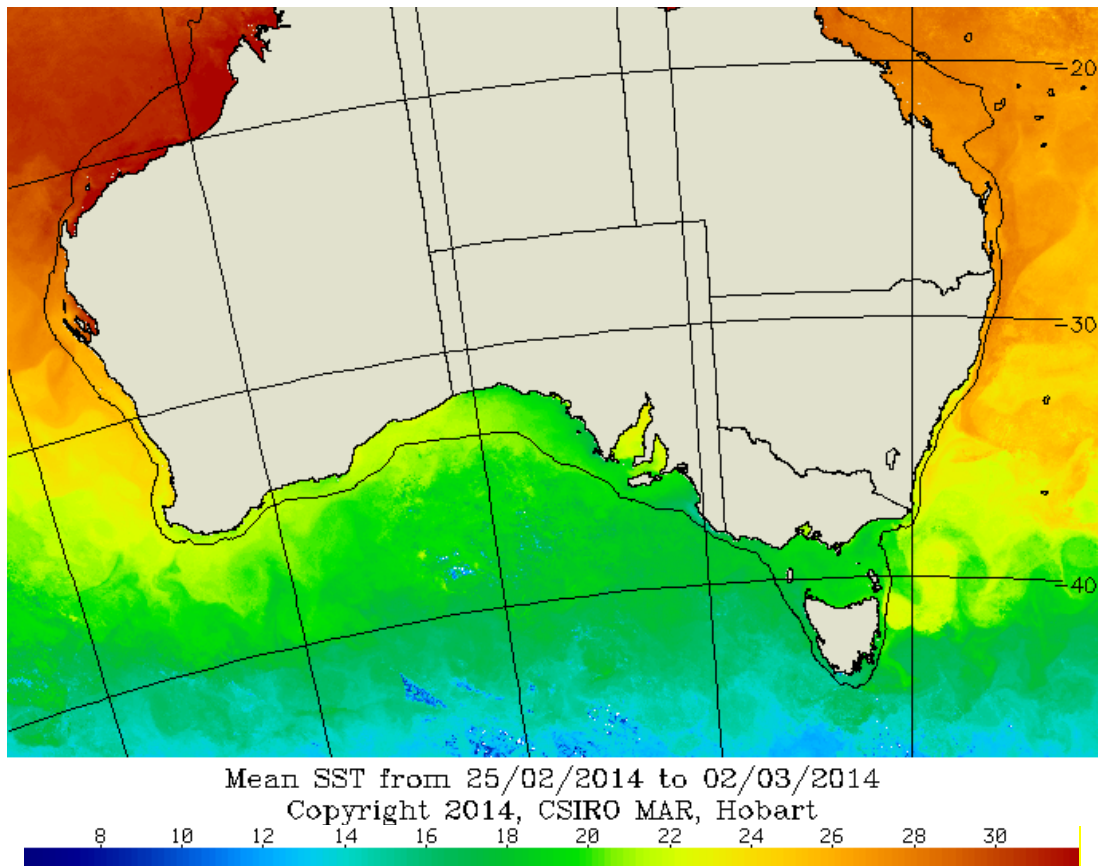


Figure 1: Sea Surface Temperature across southern Australia for the 5-days to the 2nd March 2014 (source: CSIRO 2014).

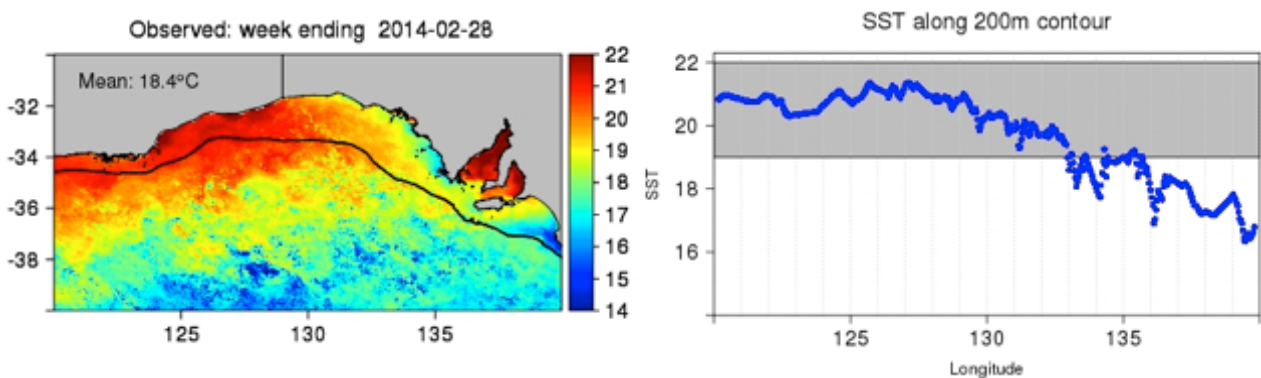


Figure 2: Snapshot of GAB water temperatures for the previous week (left) and corresponding graph of Sea Surface Temperature along the shelf break (right). Where the blue dotted line is within the gray band, conditions are within the range that archival tags suggest SBT prefer (source: CSIRO-ASBTIA TRF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

SA Water Currents and Tide Times:

There are no images available from the radar this week.

Local tide times for the next week in the SBT ranching lease area are shown in table 2. Tide movements are reduced over next weekend, this can lead to reduced appetite in tuna.

TUE 4 MAR		WED 5 MAR		THU 6 MAR		FRI 7 MAR		SAT 8 MAR		SUN 9 MAR		MON 10 MAR	
HIGH	4:12 am 1.25 m	HIGH	4:25 am 1.16 m	HIGH	4:41 am 1.09 m	HIGH	4:58 am 1.02 m	HIGH	5:10 am 0.93 m	LOW	12:28 am 0.67 m	LOW	10:59 am 0.41 m
LOW	10:24 am 0.17 m	LOW	10:30 am 0.15 m	LOW	10:38 am 0.13 m	LOW	10:53 am 0.14 m	LOW	11:08 am 0.21 m	HIGH	3:51 am 0.86 m	HIGH	7:00 pm 1.02 m
HIGH	4:27 pm 1.35 m	HIGH	4:45 pm 1.41 m	HIGH	5:10 pm 1.42 m	HIGH	5:37 pm 1.38 m	HIGH	6:04 pm 1.29 m	LOW	11:11 am 0.30 m		
LOW	10:48 pm 0.28 m	LOW	11:09 pm 0.35 m	LOW	11:32 pm 0.44 m	LOW	11:58 pm 0.55 m			HIGH	6:32 pm 1.16 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 2nd March (Figure 3). Chlorophyll levels are higher along the coastal fringe and in the areas being fed by the recent upwelling. 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.

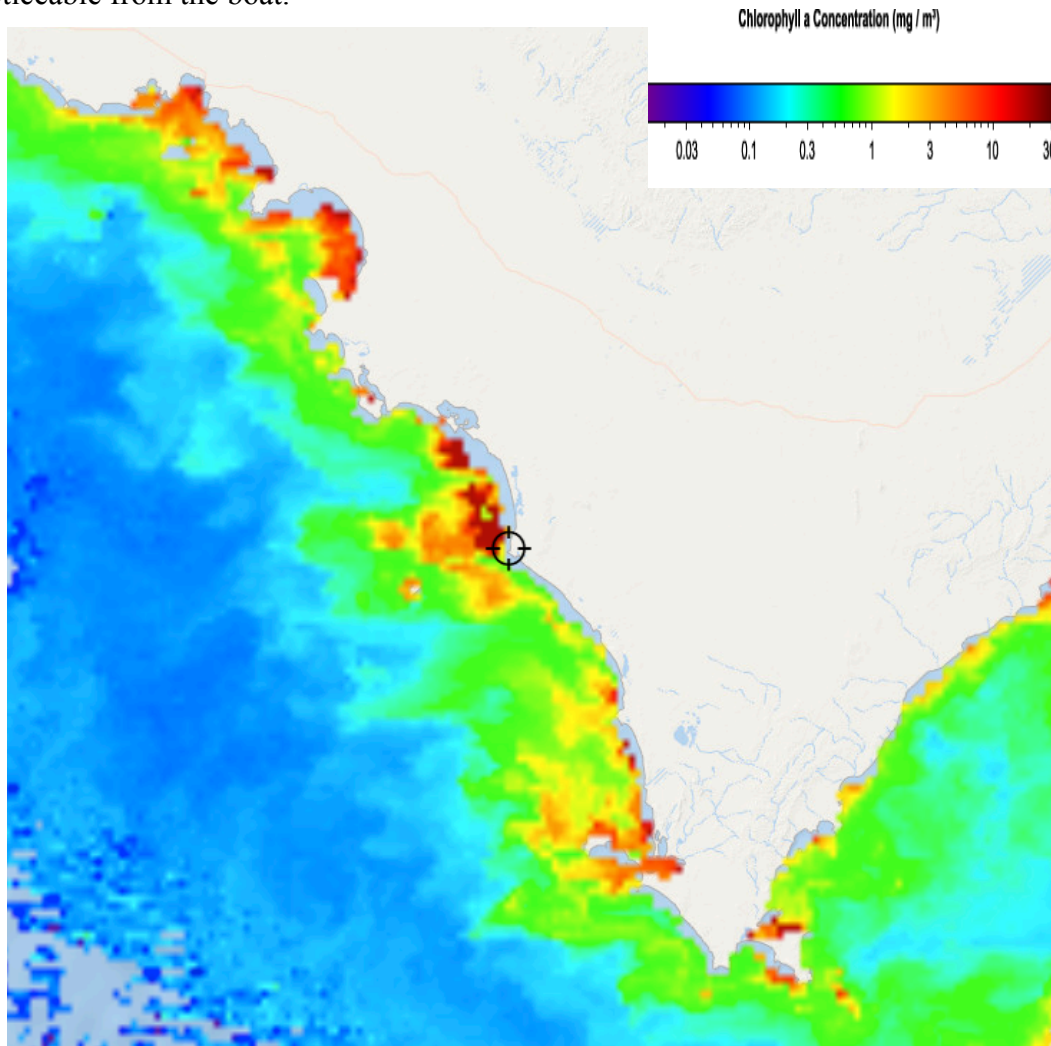


Figure 3: Areas of productivity around Eyre Peninsula on the 2nd March 2014 (Fish Track 2014).

Useful Websites:
<http://www.bom.gov.au>
<http://www.csiro.au>
<http://www.fishtrack.com>

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