

# Oceanographic Summary, Great Australian Bight 2016 - 14

## Kirsten Rough – 28<sup>th</sup> January 2016

Please find following the latest update for recent and expected oceanic conditions for the 2016 fishing and aerial survey season.

### Summary:

The sea temperatures of the GAB area continue to warm generally. Water temperatures along the shelf break are highly suitable for SBT to at least longitude 137°20'E; and inshore to longitude 139°E.

Upwelling continues as a particular feature, with sea surface temperatures along the South East “Bonney Coast” around 14 to 16°C. The coastal fringe of lower and western Eyre Peninsula has water generally between 15-18°C. Upwelling in the South East is influencing chlorophyll concentrations.

The CSIRO Aerial Survey has now flown all transect lines at least once. Sightings are higher in the eastern half of the area covered.

CSIRO Aerial Survey SBT sightings from 1<sup>st</sup> January 2016 to date (29<sup>th</sup> Jan) tonnage per longitude:

128°	129°	130°	131°	132°	133°	134°
0 tonnes	95 tonnes	430 tonnes	560 tonnes	1910	2125 tonnes	970 tonnes

### GAB Sea Surface Temperature (SST):

Sea surface temperatures across southern Australia continue to warm, and the area of warmer water is considerably larger than it was at a similar point in time last season (Figure 1). This is particularly noticeable for the area below Eyre Peninsula and to the south and southeast of Kangaroo Island. How the situation looks for South Australia over the previous 2-weeks are shown in Figure 2 (satellite image on the left and the temperature along the shelf break in the corresponding graph on the right). Water temperatures along the shelf break are highly suitable for SBT to at least longitude 137°20'E; and inshore to longitude 139°E. Upwelling continues to be a prominent feature of the South East of SA and is influencing sea surface temperatures along the western coastal fringe of Eyre Peninsula all the way to the Head of the Bight.

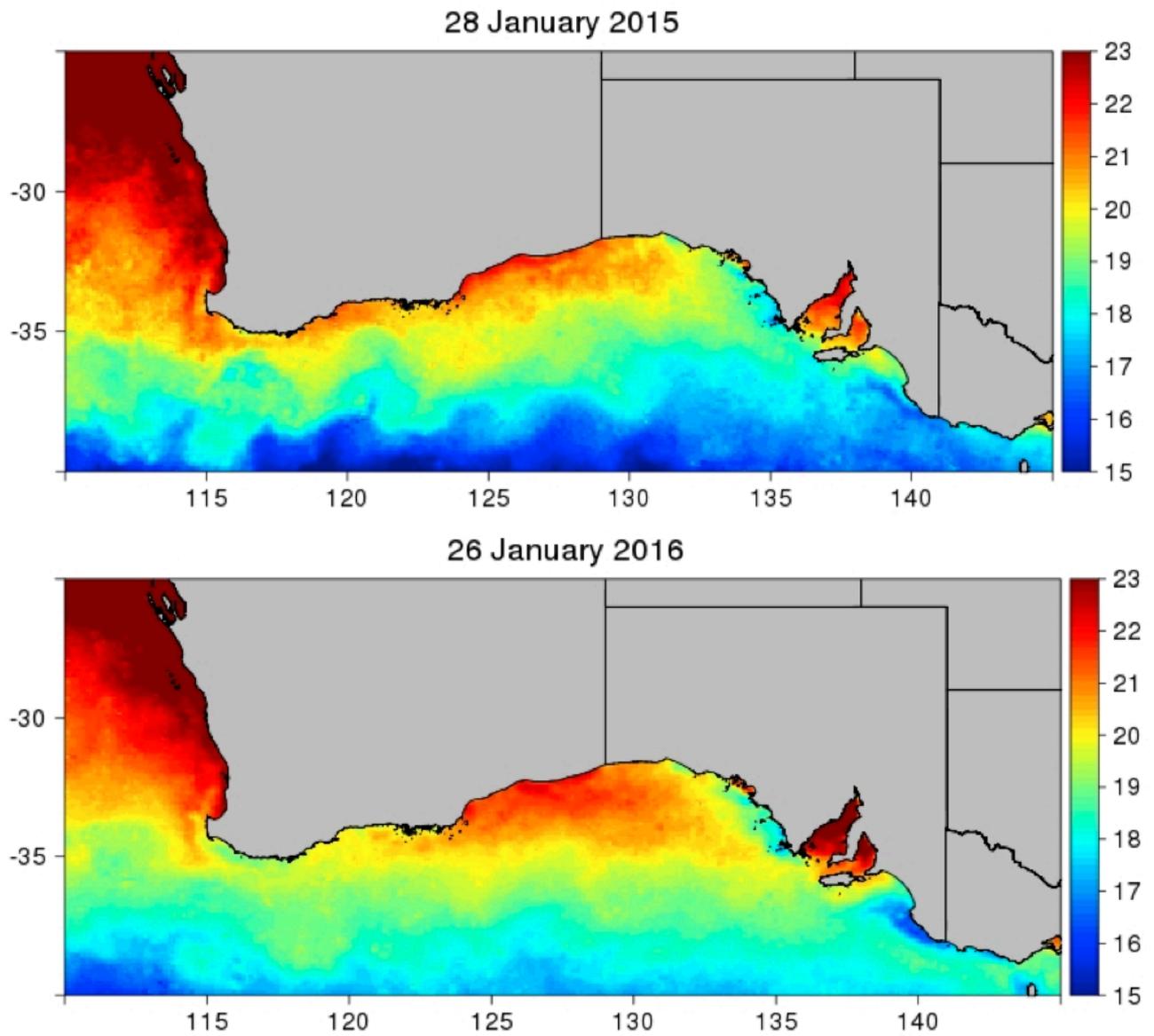


Figure 1: Comparison of Sea Surface Temperature across southern Australia for similar dates last year (top) and this year (bottom) (CSIRO 2015, 2016).

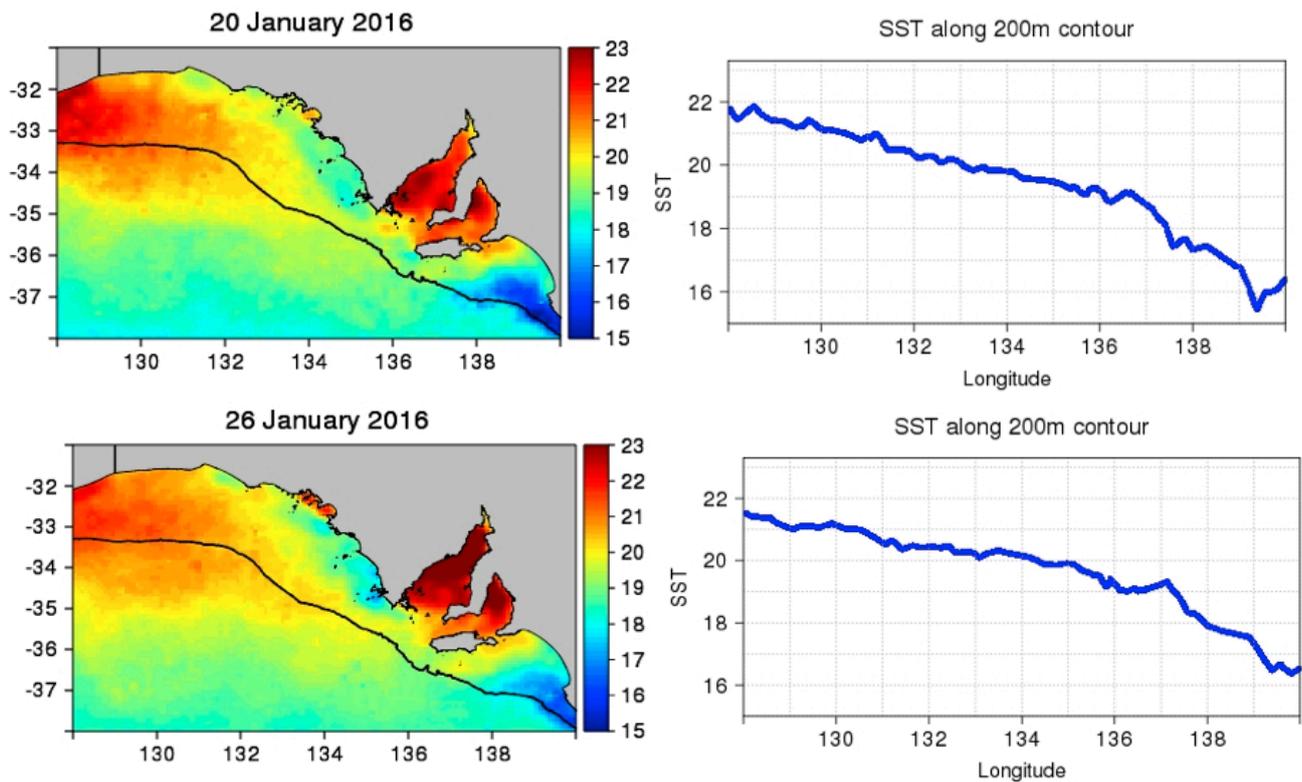


Figure 2: Snapshots of sea surface temperatures across the Eastern GAB over the past 2 weeks, satellite image on left and graph of temperature along the shelf break (black line) on the right (CSIRO 2016).

Specific Sea Surface Temperatures at some of the key fishing locations historically, and from recent years are detailed in Table 1. Cloud cover has interfered with most images over this past week.

Table 1: Sea Surface Temperature for 28<sup>th</sup> January 2016, at some important historic and recent catching areas.

131°00'E 33°05'S = 21.0°C	132°00'E 33°23'S = 20.1°C
133°00'E 34°05'S = 19.4°C	134°00'E 34°15'S = 19.6°C
Yatala Reef – too cloudy	Cannan Reef – too cloudy
SW Rocky Island 20.0°C	Cabbage Patch area 19.6°C
SW Cape de Cudiac 17.7°C	Young Rocks area 19.2°C
SE Pelorus Rocks 19.0°C	Sanders Banks area 19.2°C

**SBT Habitat:**

From a habitat perspective, how the situation looked over the past week is shown in Figure 3. The areas currently within the “preferred habitat” are forecast as likely to persist into March Figure 4.

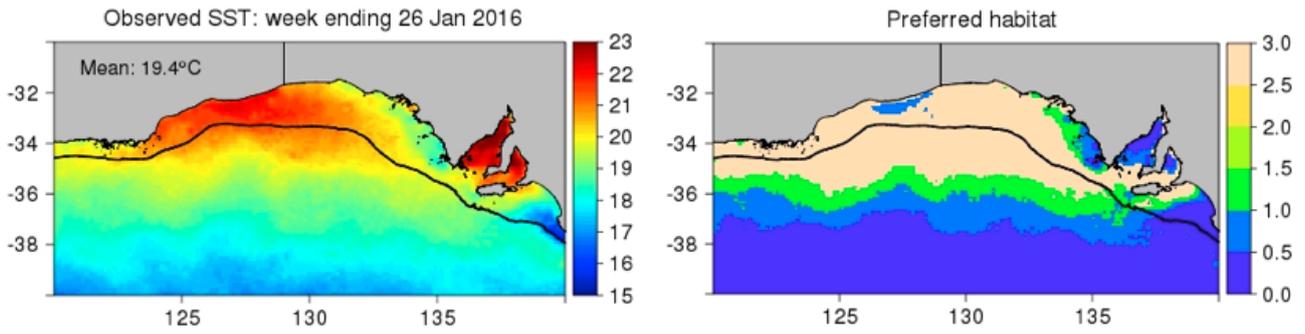


Figure 3: SST and preferred habitat distribution over the past week (CSIRO 2016).

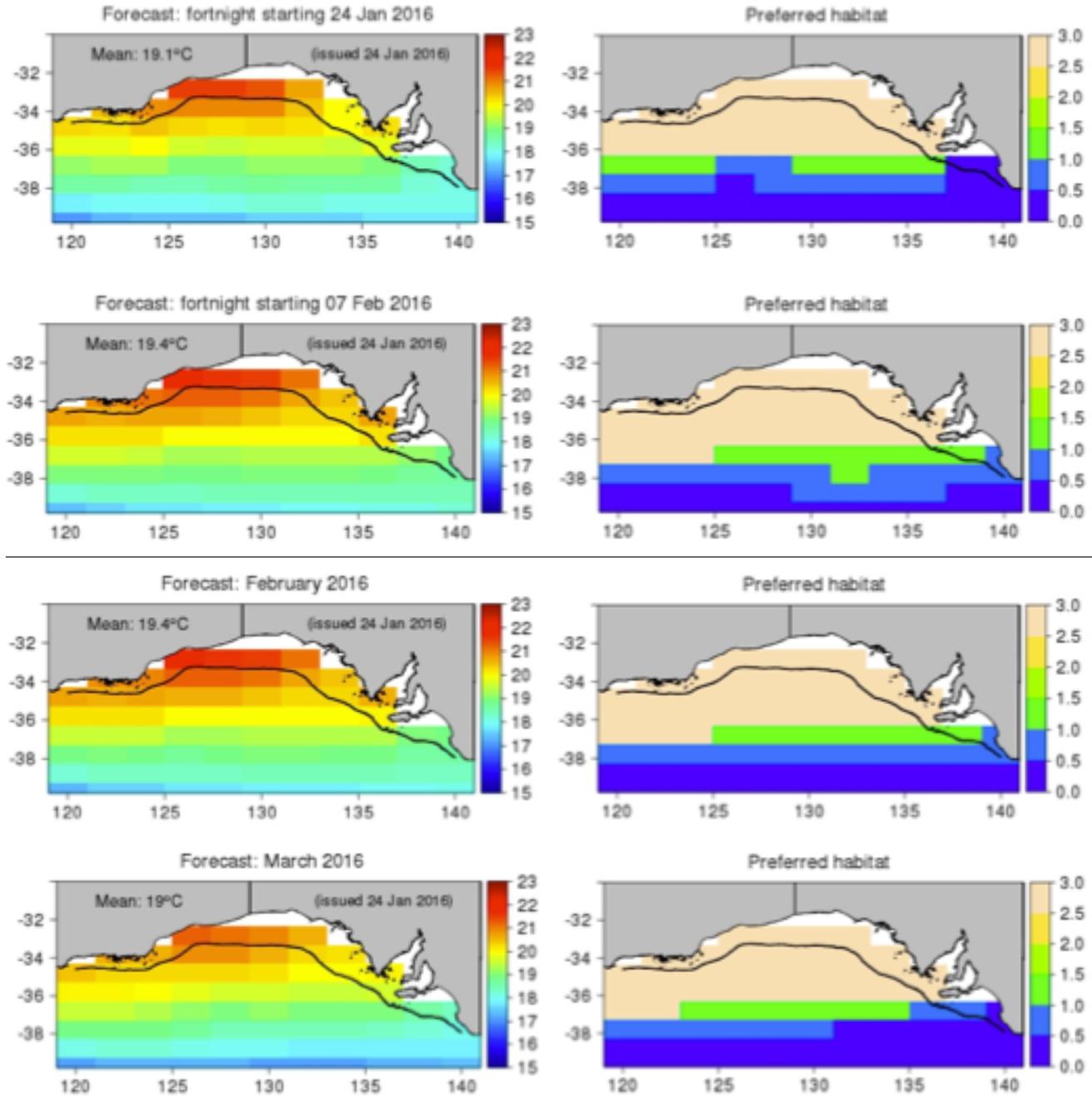


Figure 4: SBT habitat preference forecasts for the remainder of January, February and March 2016 (CSIRO 2016)

**Chlorophyll / Productivity:**

Cloud cover has obscured most images over the past week. Two clear satellite images of chlorophyll distribution across the greater GAB on 27<sup>th</sup> January (Figure 5); and 25<sup>th</sup> January (Figure 6).

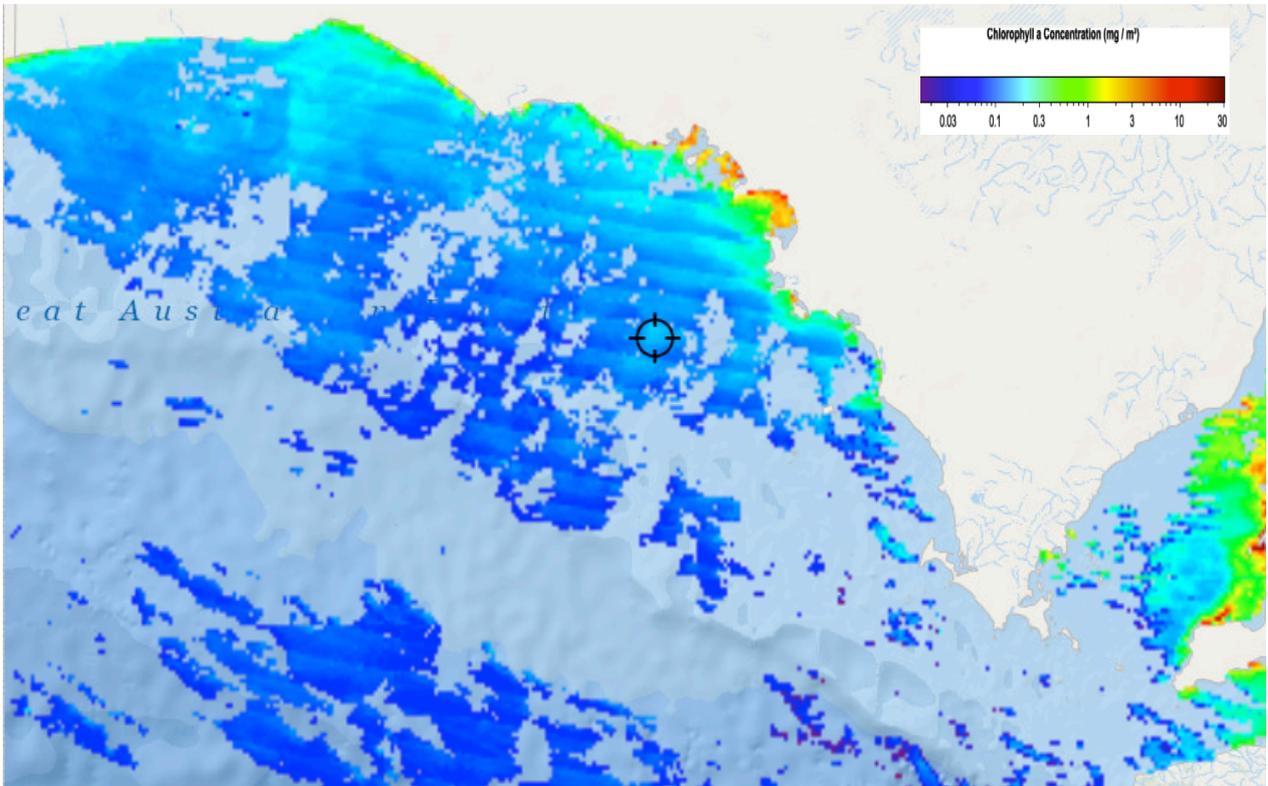


Figure 5: Chlorophyll image for 27th January 2016 (FishTrack 2016)

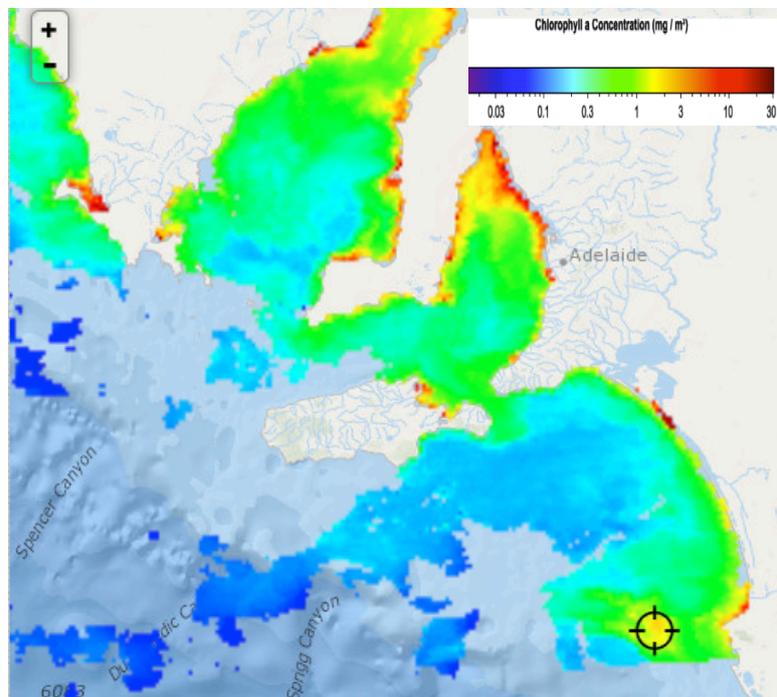


Figure 6: Chlorophyll image from the 25<sup>th</sup> January 2016, cursor highlighting an area of high productivity associated with the upwelling (FishTrack 2016).