

Climate and Oceanographic Summary, Great Australian Bight 2016 - 5

Kirsten Rough – 1st December 2015

Please find following the latest update for recent and expected oceanic conditions for the 2016 fishing and aerial survey season. Contact details and useful websites are listed at the end.

Summary:

The sea temperatures of the GAB area continue to warm slowly.

Cold water from the upwelling system continues to be visible at the sea surface on satellite images.

Productivity continues to be enhanced by upwelling especially along the shelf break of the South East and around southern and western Kangaroo Island.

Forecasts on SBT habitat distribution have moderated but continue to suggest that the area below Eyre Peninsula is likely to be a suitable fishing area through January.

Bureau of Meteorology long range weather forecasts are not indicating a long hot summer – anticipating a warmer than average December but the remainder of the season will be bursts of hot weather interspersed with mild conditions including abundant southerly-southeasterly winds.

GAB Sea Surface Temperature (SST):

The Sea Surface Temperature situation for the eastern GAB for the previous 2-weeks is shown in Figure 1 (these plots show the satellite image on the left and the temperature along the shelf break in the corresponding graph on the right). Temperatures continue to warm slowly across the inshore (shelf) areas of SA. Along the shelf break the temperatures to the west of 133°E have not changed much compared with the previous week; however from 135°E eastwards the temperature has steadily increased.

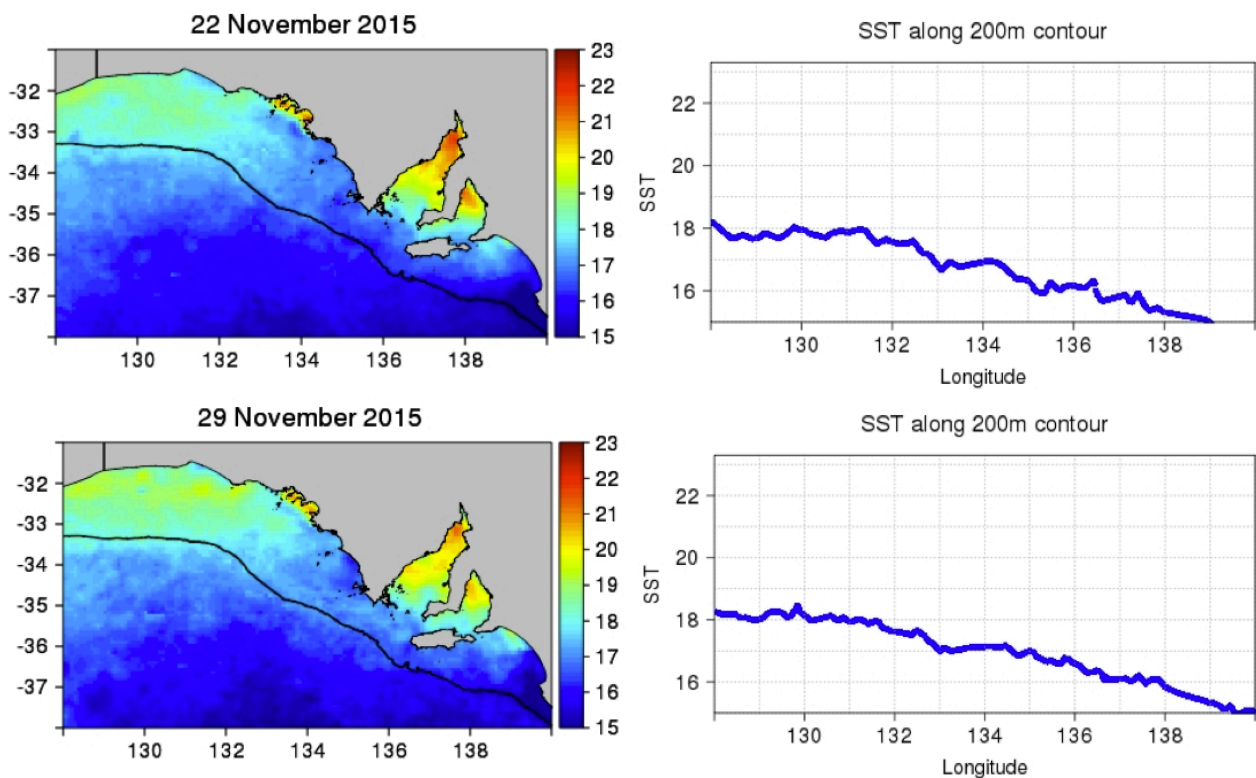


Figure 1: Snapshots of sea surface temperatures across the Eastern GAB over the past 2 weeks (CSIRO 2015).

How the situation compares to a similar point in time last season can be seen in Figure 2; where the top image is sea temperature on left and preferred habitat on the right from the last week of November 2014. The lower image is sea temperature and preferred habitat from last week (November 2015).

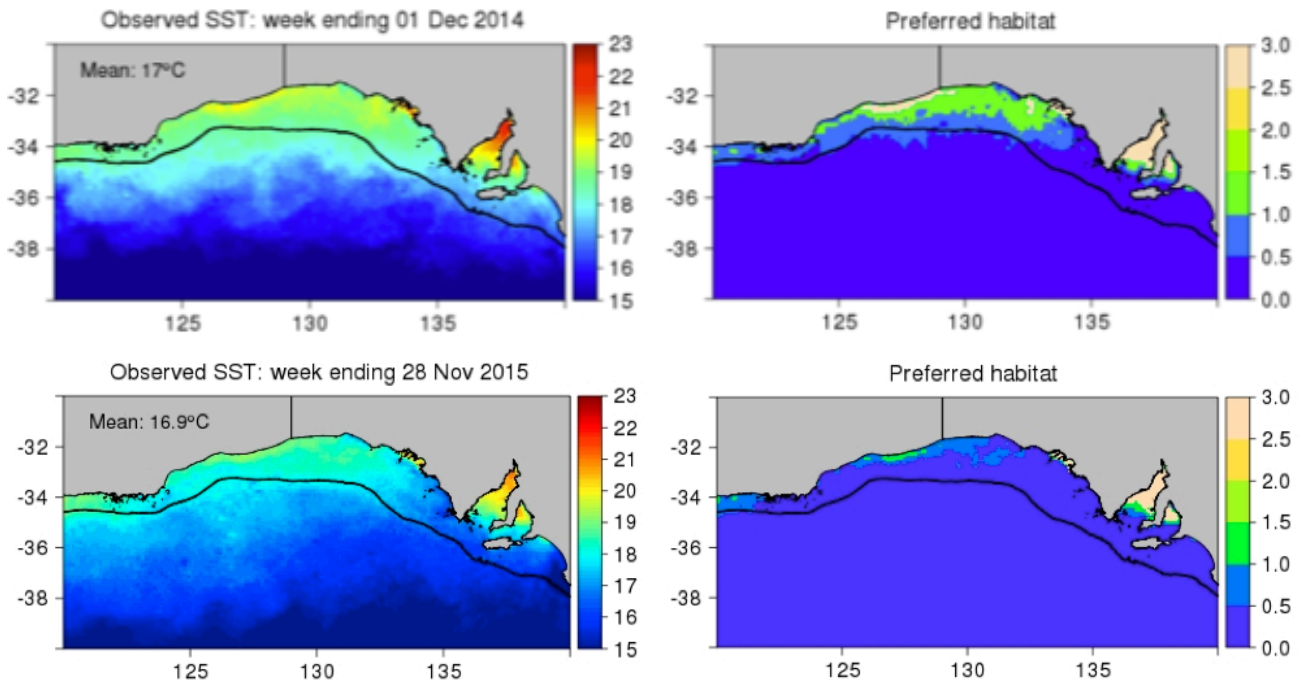


Figure 2: Comparison this point in time coming into the last season (1st December 2014 top images) and the situation now (28th November 2015, bottom images) (CSIRO 2014 and 2015).

The situation for sea surface temperatures across the greater GAB area for the 3-days around the 29th November 2015 can be seen in Figure 3. And a snapshot of the conditions across the fishing areas historically and through recent years is shown in Figure 4.

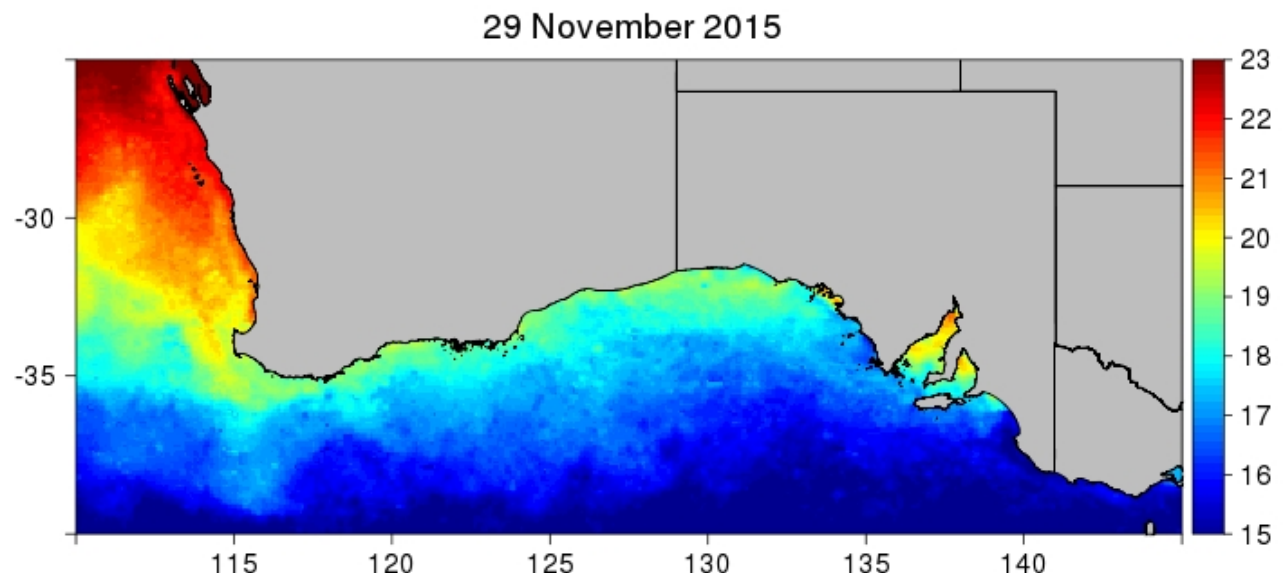


Figure 3: Sea surface temperatures across the broader area of the GAB and southwest WA on the 29th November 2015 (CSIRO 2015).

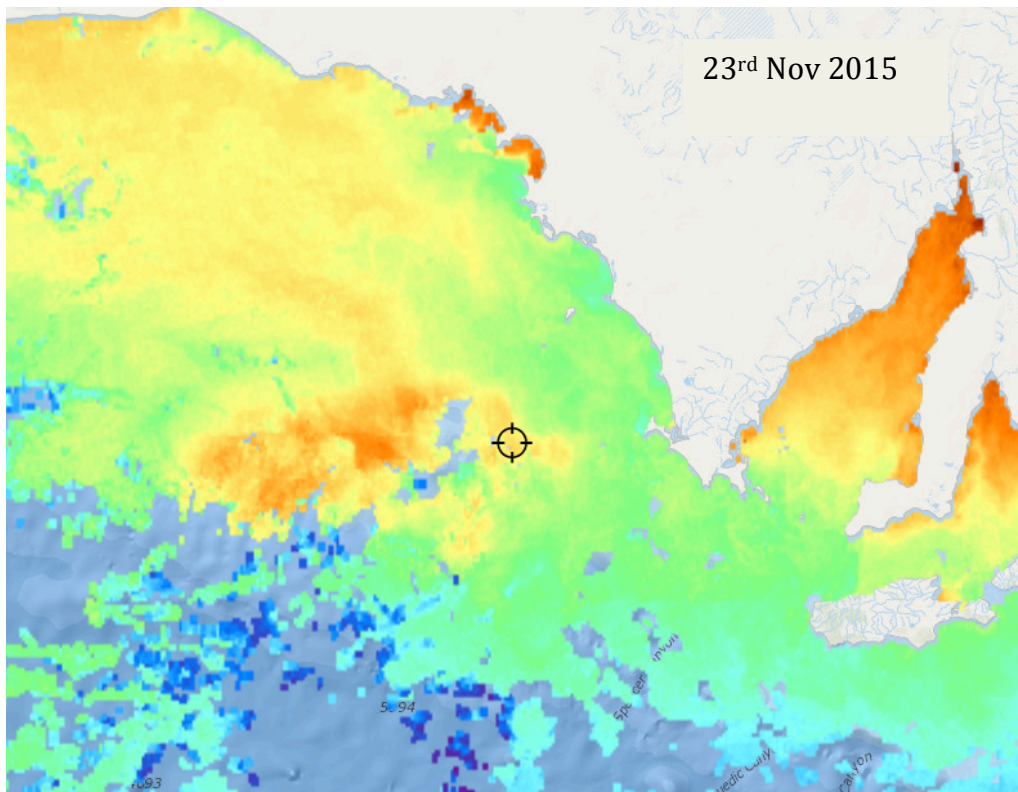


Figure 4: A single processed satellite image taken on 23rd November showing SST; the cursor is located at 34°38'S 134°00'E on a patch of 19C water (FishTrack 2015).

Forecast SST and SBT Habitat:

The longer-term forecasts of conditions in the GAB can be seen in Figure 5. In the habitat forecast images (on the right) the areas at or above 1 (green to skin colour) are more preferred habitat for SBT. The longer-term forecasts continue to moderate as the season approaches. The inshore areas are now predicted to be a little cooler than shown in previous forecasts. And the forecasts for January are now looking similar to those issued around the same time for January last season.

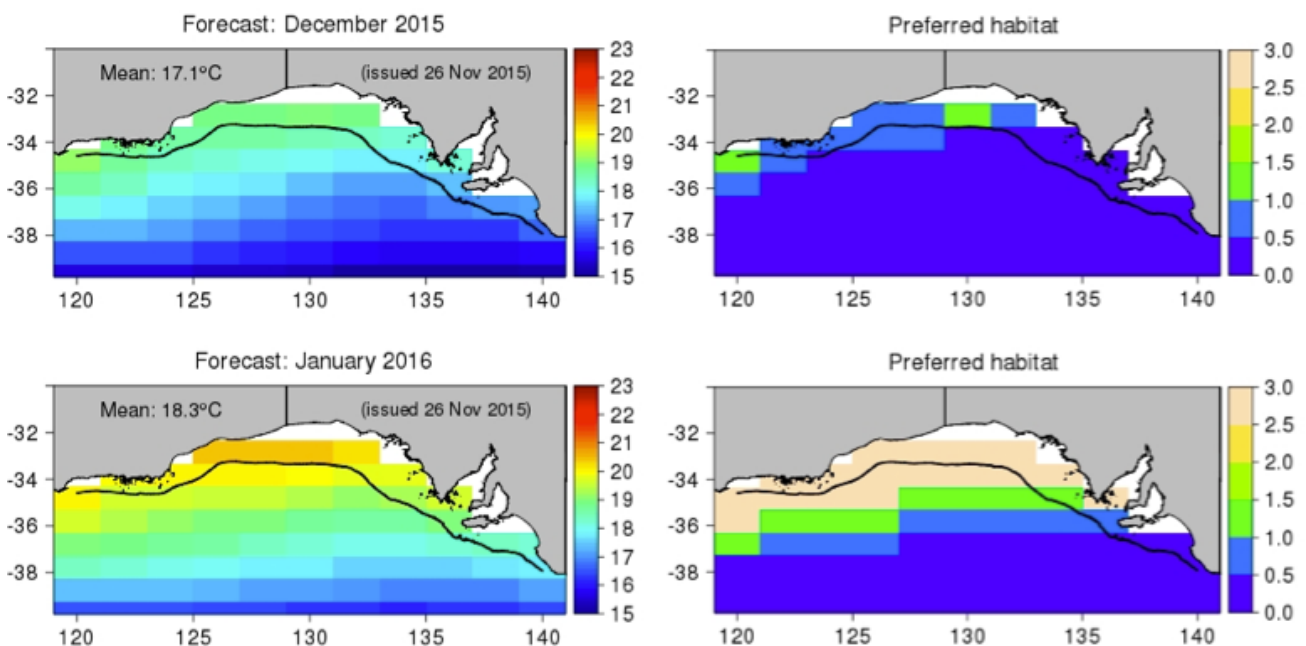


Figure 5: SBT habitat forecasts issued on the 26th November for likely conditions through December and January (CSIRO 2015).

Chlorophyll / Productivity:

The clearest recent satellite image is from the 26th November 2015, and it continues to show higher chlorophyll associated with the cold water from the upwelling (**Figure 6**). There are also large areas of clear water on the shelf and along the shelf edge to the southwest of Lower Eyre Peninsula. Indicating a wide range of habitats are available across the GAB area.

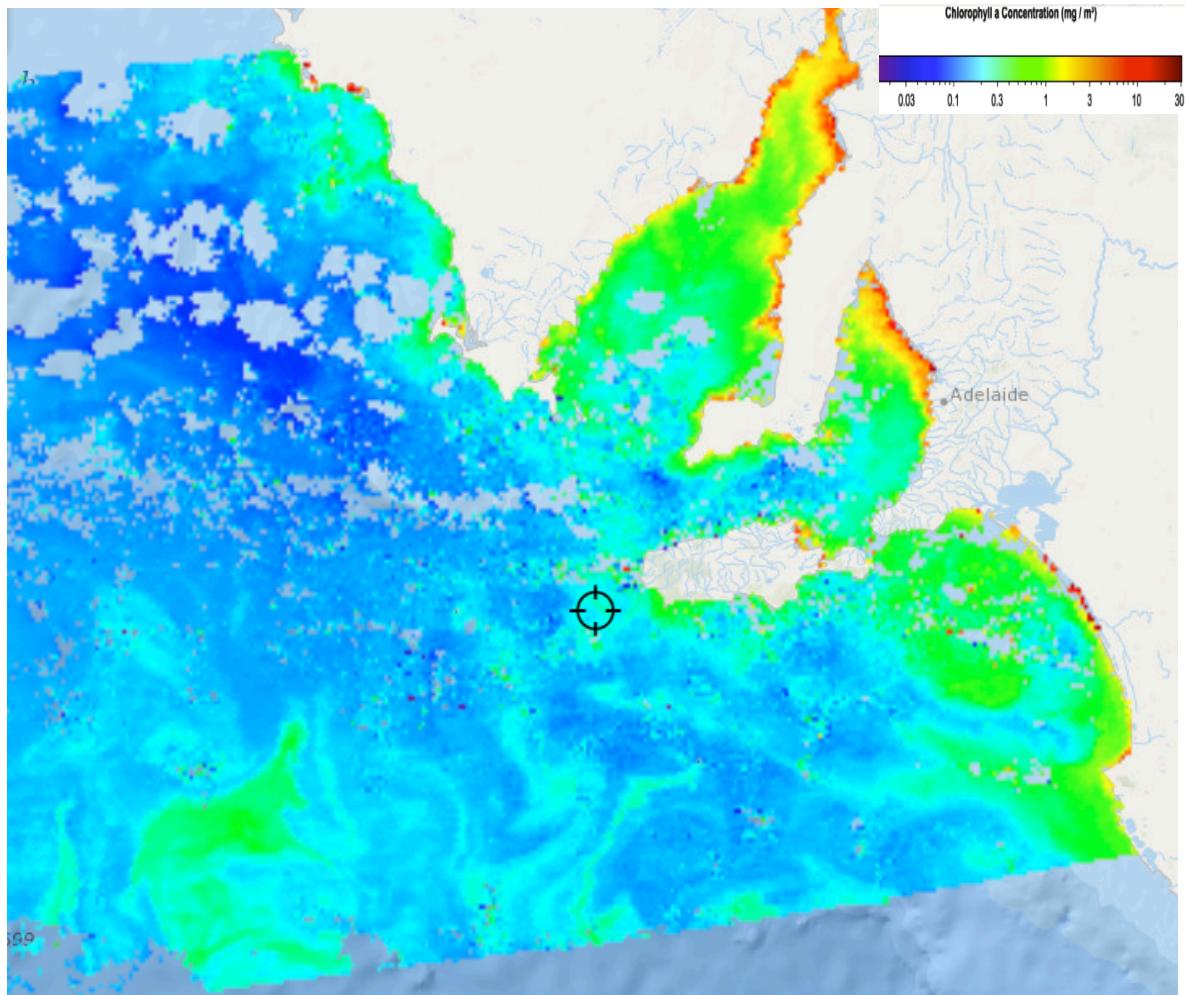


Figure 6: Processed satellite image of chlorophyll taken on the 26th November (FishTrack 2015).

Useful Websites:

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

<http://www.csiro.au>

<http://www.fishtrack.com>

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

<http://www.cmar.csiro.au/gab-forecasts/index.html>

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