

Climate and Oceanographic Summary, Great Australian Bight 2016 - 3

Kirsten Rough – 13th November 2015

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

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Summary:

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

Cold water from the upwelling system is now visible at the sea surface. This is a good sign for the fishing season.

Productivity is being enhanced by upwelling along the shelf break of the South East and around the western end of Kangaroo Island.

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

There is still nothing to indicate that water currents will be stronger or move faster through the GAB over this fishing season.

The strong El Nino in the Pacific Ocean will persist through the 2016 fishing season. This is likely to influence weather patterns, giving strong high-pressure systems which can lead to extended periods of strong winds followed by periods of more favourable fishing conditions; these weather systems do promote upwelling.

The Indian Ocean remains very warm at the moment, and it is anticipated that this will influence GAB temperatures this season. Longer term forecasts are now indicating this is most likely to occur through January.

The large warm areas of the Indian Ocean may also mean periods of cloud and possibly rain over the GAB through the season.

GAB Sea Surface Temperature (SST):

How the situation for the month of October looked in 2015 and over the previous 5 years can be seen in Figure 1. Through October the average temperature across the entire GAB is slightly cooler than last year.

The situation for sea surface temperatures across the greater GAB area for the 3-days around the 11th November 2015 can be seen in Figure 2. And a snapshot of the conditions across the fishing areas of recent years is shown in Figure 3.

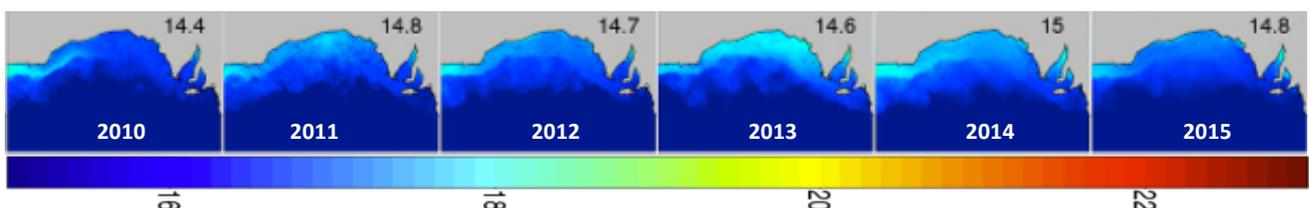


Figure 1: GAB sea surface temperatures through October for the previous 6 years; in these images aqua can contain early entry SBT (CSIRO 2015).

11 November 2015

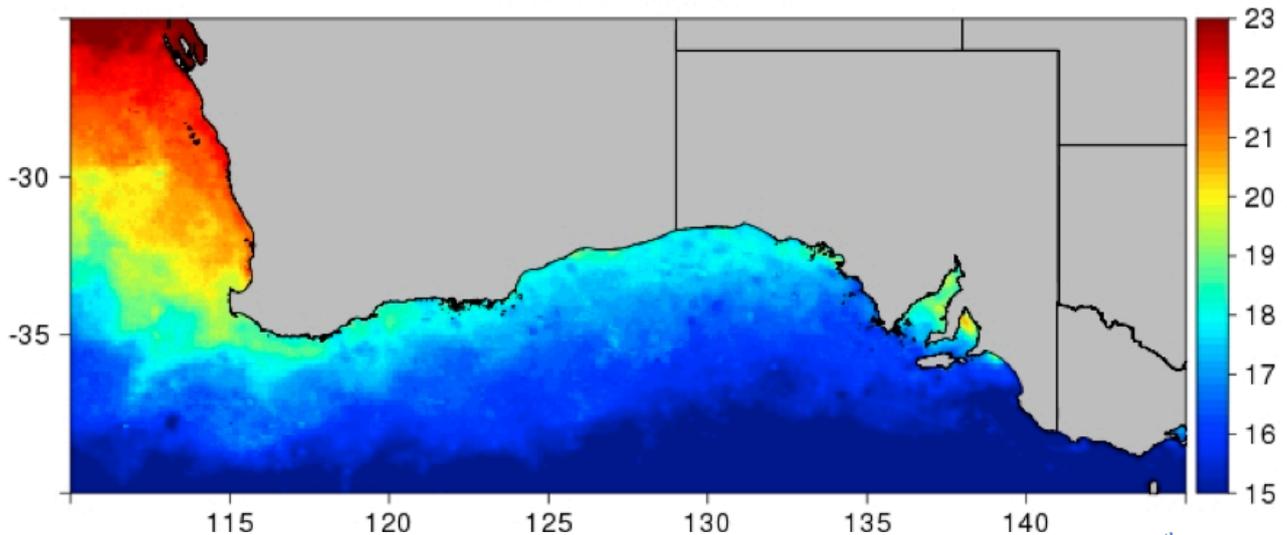


Figure 2: Sea surface temperatures across the broader area of the GAB and southwest WA on the 11th November 2015 (CSIRO 2015).

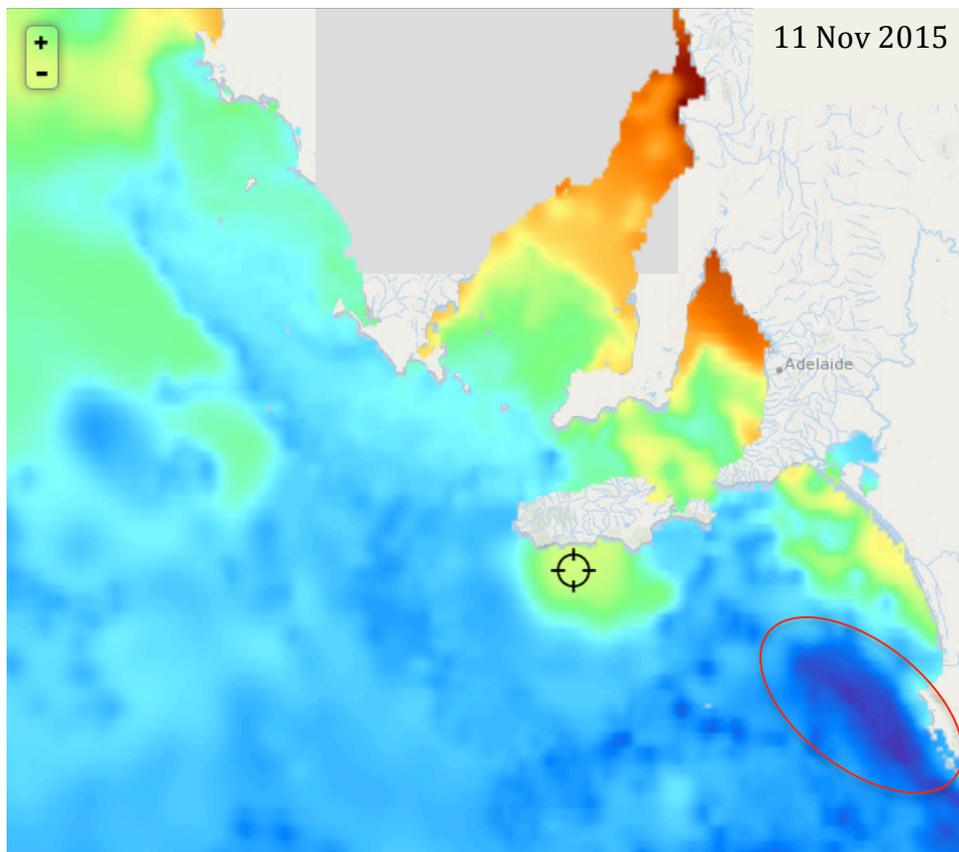


Figure 3: A single processed satellite image taken on 11th November showing SST; the black cursor shows a pocket of warmer water (18.2°C) in the vicinity of Young Rocks. The red circle highlights that strong upwelling of cold water has started; the other feature is warm water in the inshore areas out from Streaky Bay (FishTrack 2015).

Forecast SST and SBT Habitat:

The longer-term forecasts of conditions in the GAB can be seen in Figure 4. In the habitat forecast images (on the right) the areas at or above 1 (green to skin colour) are highly suitable for SBT. The longer-term forecasts have moderated slightly from those issued towards the end of October. It is now looking like the larger pulse of warm water will occur through January rather than late December.

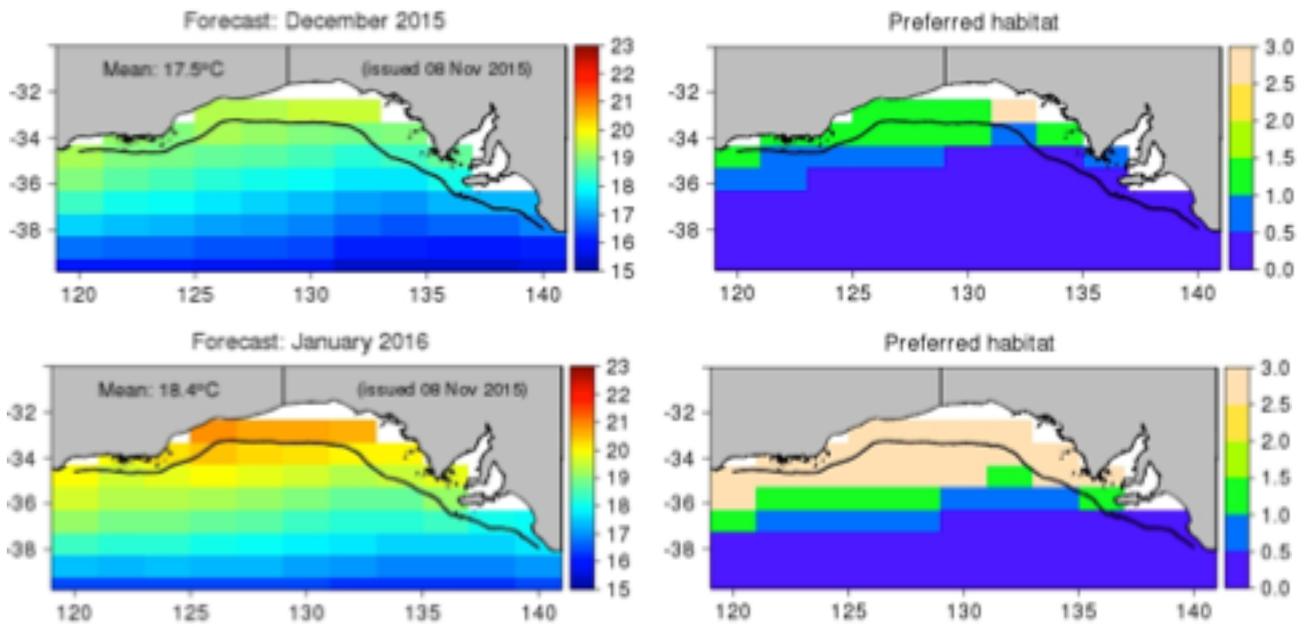


Figure 4: SBT habitat forecasts issued on the 8th November for likely conditions through December and January (CSIRO 2015).

Chlorophyll / Productivity:

The satellite images from the 8th November 2015 are showing higher chlorophyll (algae) associated with the cold water from the upwelling (Figure 5).

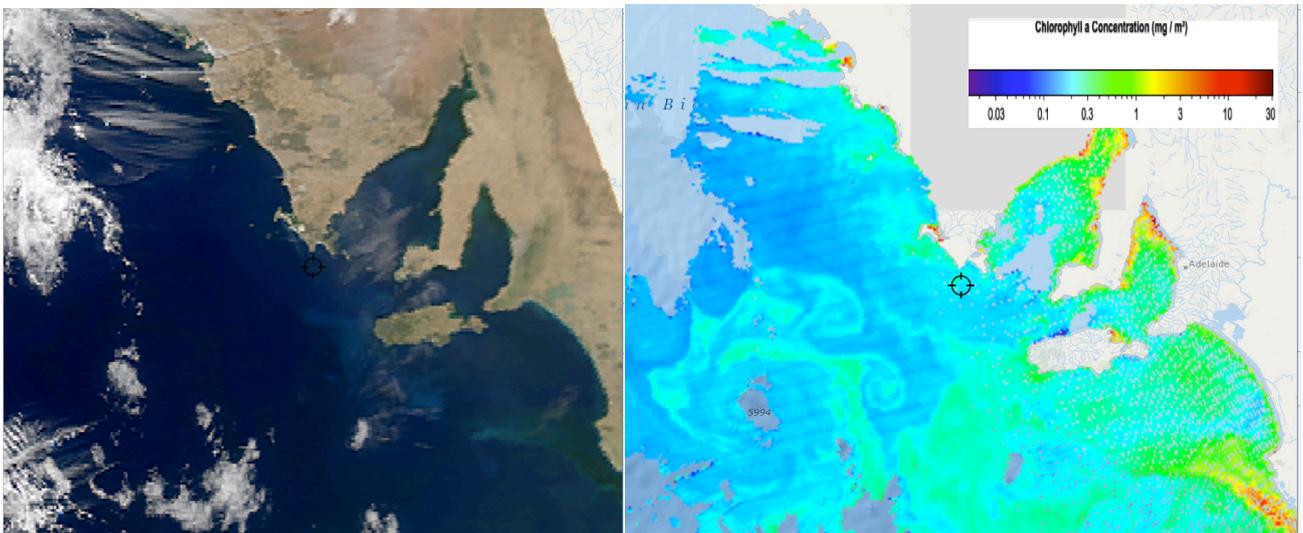


Figure 5: Satellite images taken on the 8th November - on left is the raw satellite view and on right is the same image processed to highlight chlorophyll (a measure of productivity) (FishTrack 2015).