

Climate and Oceanographic Summary, Great Australian Bight 2015 - 9

Kirsten Rough – 31st January 2015

Summary:

GAB Sea Surface Temperatures continue to warm slowly.

Areas of preferred temperatures for SBT are west of longitude 135°E and east of 136°30'E.

Forecasts are indicating the eastern area is likely to shrink through the latter half of February.

The upwelling systems of the South East of SA, along the southwest of Kangaroo Island and the west coast of Eyre Peninsula continue to be a prominent feature of satellite images over this last week.

GAB Sea Surface Temperature (SST):

The most recent 3-day composite satellite image of water temperatures through the central and eastern GAB area and the graph of actual temperatures along the shelf break are shown Figure 1. The temperatures across the greater GAB area continue to warm slowly.

Preferred temperatures for SBT occur along the shelf break to around longitude 135°E. There was another major upwelling event in satellite images from the 28th January. This appears to be holding a warmer pocket of water in the eastern GAB - extending between the southern coast of Kangaroo Island (KI) and the shelf break at around longitude 137°E, and another patch to the east and south-east of KI.

How the situation has changed from the 17th to the 30th January can be seen in Figure 2. The area just to the west of 135°E (colour-coded green) has conditions similar to those fished historically.

The most recent forecast, issued on the 29th January continues to suggest the current fishing areas will remain as suitable areas of SBT habitat till mid February, but this area is likely to start contracting back westward after that.

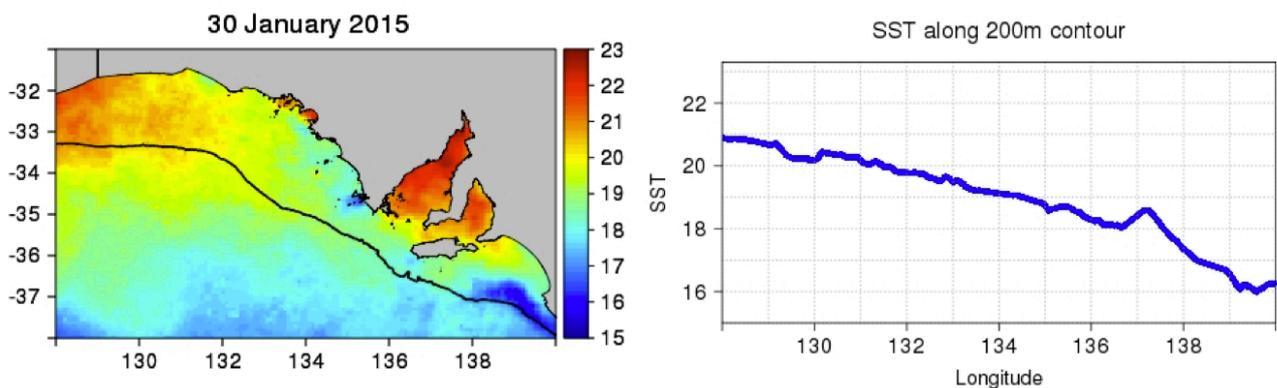


Figure 1: Sea Surface Temperatures through the central and eastern GAB for the 3-day period to the 31st January 2015, satellite image left and graph of temperature along the 200m-depth contour (shelf-break) on right (CSIRO 2015).

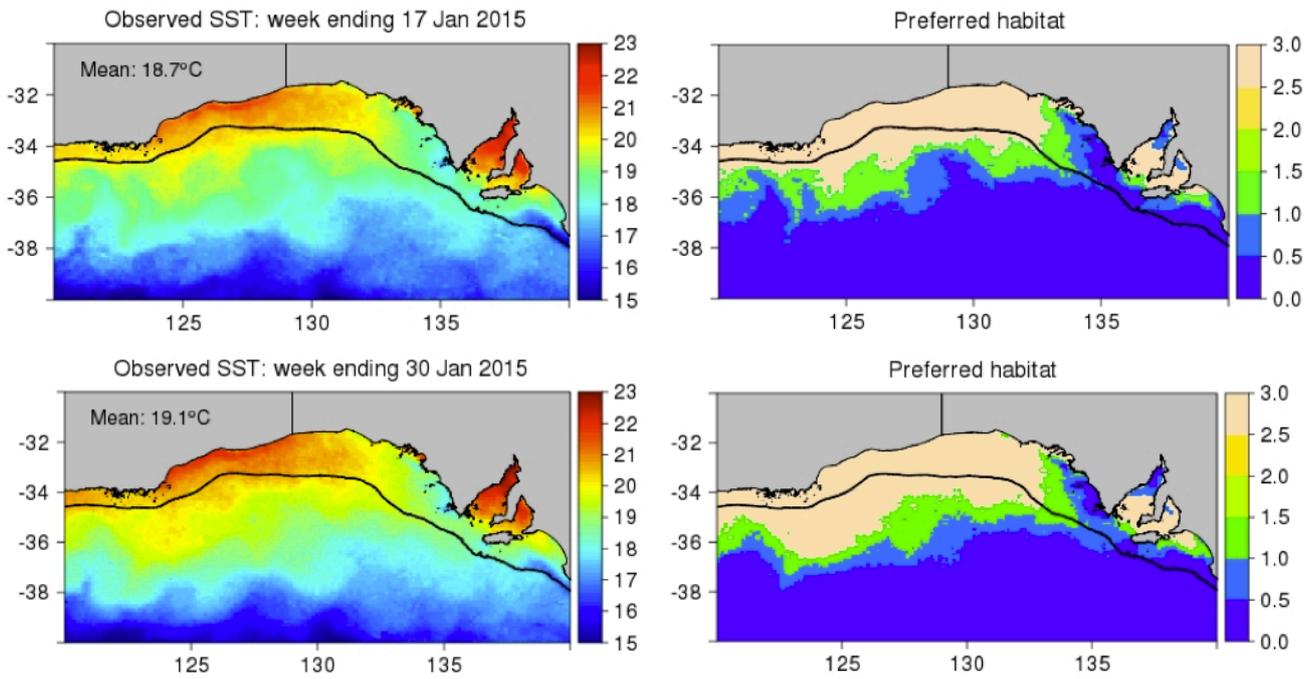


Figure 2: Sea Surface Temperatures across the entire GAB area for the week ending 17th January (top left) and 30th January (bottom left). The corresponding preferred SBT habitat map for each of these periods is shown on the right (CSIRO 2015).

Chlorophyll / Productivity:

The satellite image from the 29th January continues to show higher chlorophyll (algae) associated with the cold water from the upwelling (Figure 3). The aqua-coloured areas are within the preferred range for SBT.

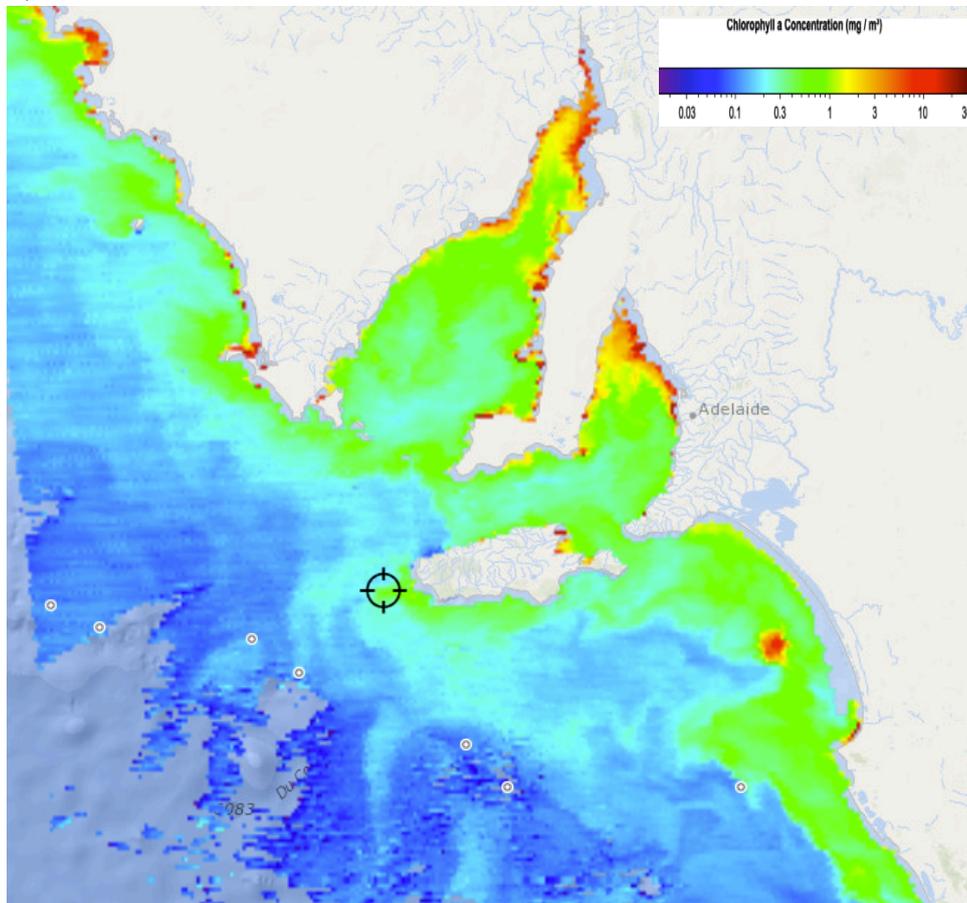


Figure 3: Chlorophyll levels through the eastern GAB area on the 29th January 2015 (FishTrack 2015)

Water Currents:

The red arrows in **Figure 4** below indicate the direction of the surface current. Sea Surface Temperatures that show in the background of this image are only a little patchy due to cloud.

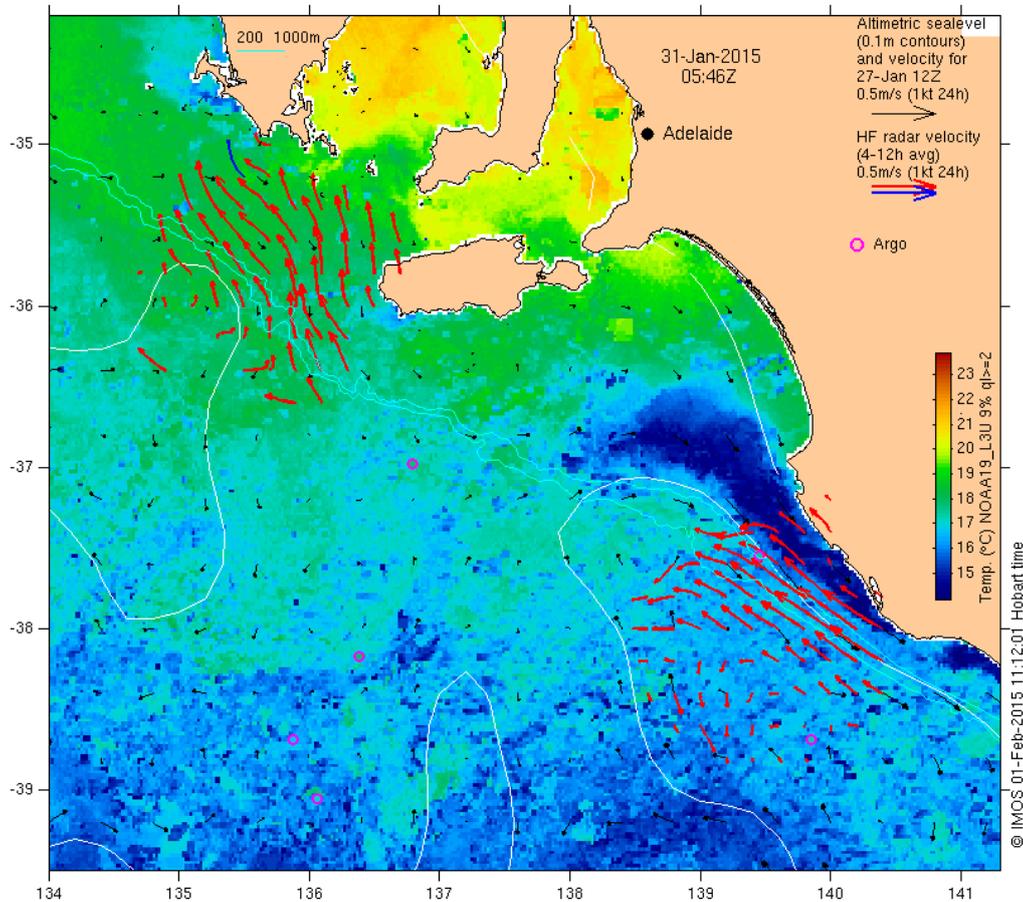


Figure 4: Direction of surface water currents measured by radar located on southern tip of Eyre Peninsula. The background colour represents sea surface temperature (IMOS 2015).

Seismic Surveys:

Three vessels are operating in the central and western GAB area.

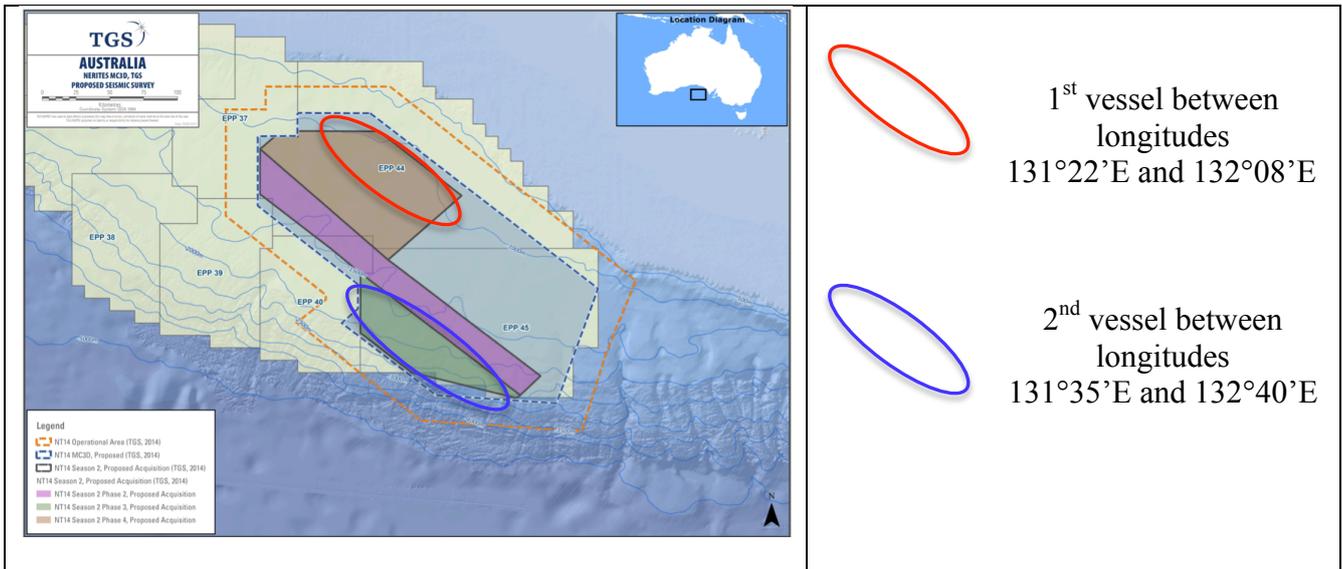
PGS:

Vessel currently at 130°18' 34°09'S; operating between longitudes 129°39'E and 130°22'E

Due to Port for crew change mid February (note they stop seismic operations for 4-5 days for this)

TGS-NOPEC:

Two vessels currently operating in the areas shown below; both due to Port for crew changes mid to late February (note each will stop seismic operations for 3-4 days when this occurs).



1st vessel between longitudes 131°22'E and 132°08'E

2nd vessel between longitudes 131°35'E and 132°40'E

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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