Oceanographic Summary, Great Australian Bight 2015 - 10

Kirsten Rough – 9th February 2015

Summary:

The general GAB Sea Surface Temperatures continue to warm slowly. The upwelling is influencing the shape of the warmer masses. The warm water pool to the south-east of Kangaroo Island seems to be getting flattened westwards along the southern coast line.

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 areas shown in yellow are ideal for SBT.

The upwelling system has had another very strong push of cold water in the south-east of SA over the past few days. This seems to be flattening the warm patch of water located to the south-east of Kangaroo Island west-wards back along the coast (back towards Low Rocks).

How the situation has changed from the 30th January to the 7th February 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.

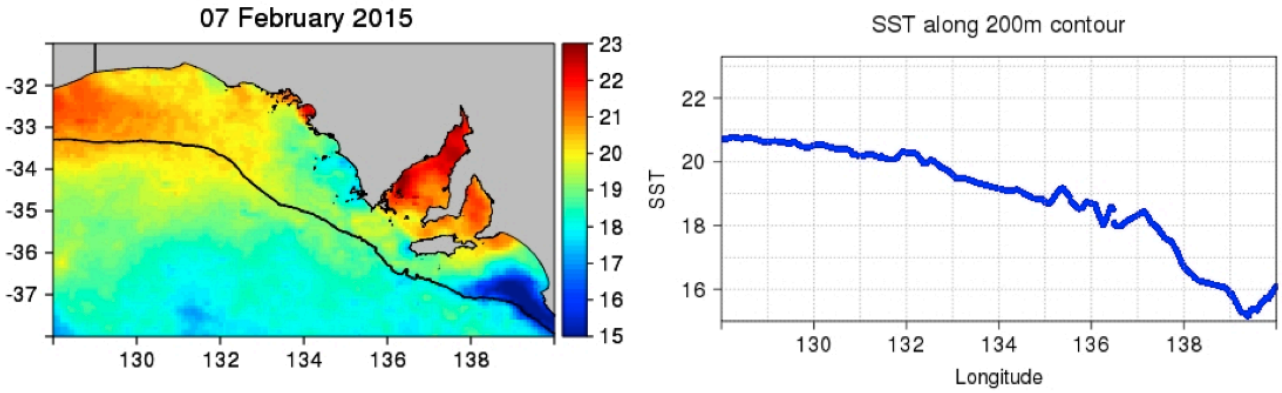


Figure 1: Sea Surface Temperatures through the central and eastern GAB over the 3-day period to the 8th February 2015, satellite image left and graph of temperature along the 200m-depth contour (shelf-break) on right (CSIRO 2015).

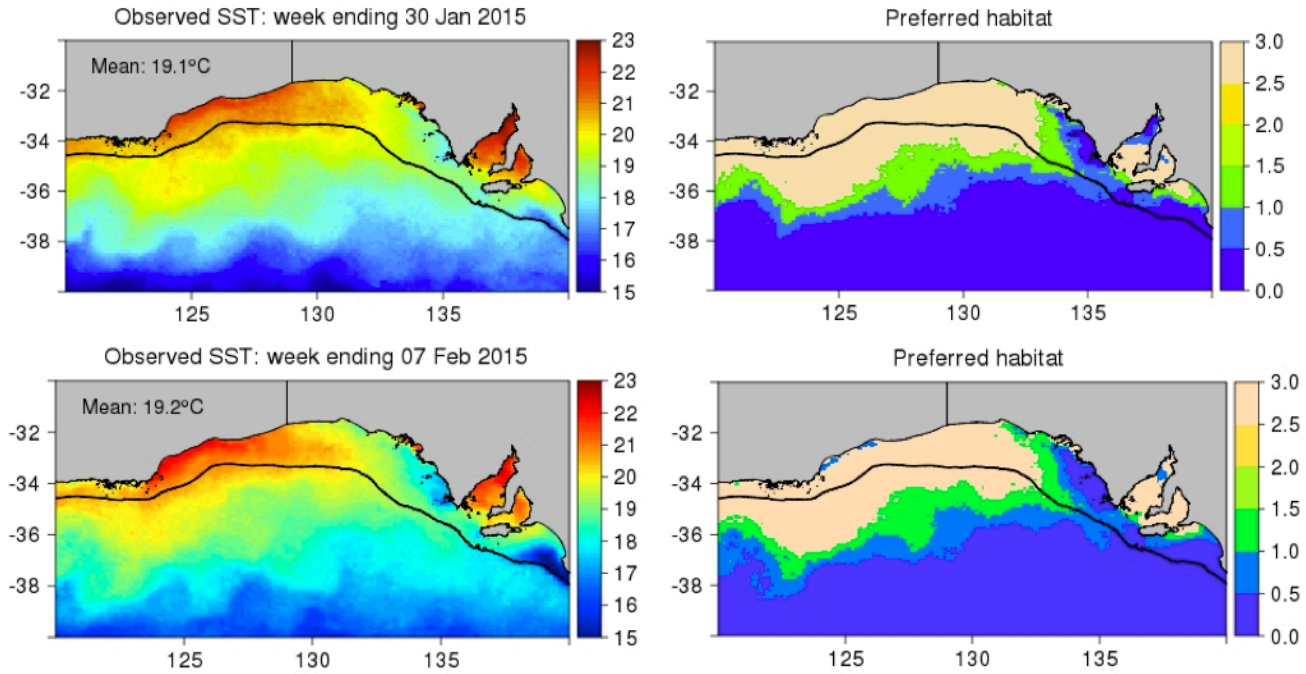


Figure 2: Sea Surface Temperatures across the entire GAB area for the week ending 30th January (top left) and 7th February (bottom left). The corresponding preferred SBT habitat map for each of these periods is shown on the right (CSIRO 2015).

Chlorophyll / Productivity:

The satellite image from the 6th February continues to show higher chlorophyll (algae) associated with the cold water from the upwelling (Figure 3). A very large and dense area can be seen where the marker is located. The aqua-coloured areas are within the preferred range for SBT.

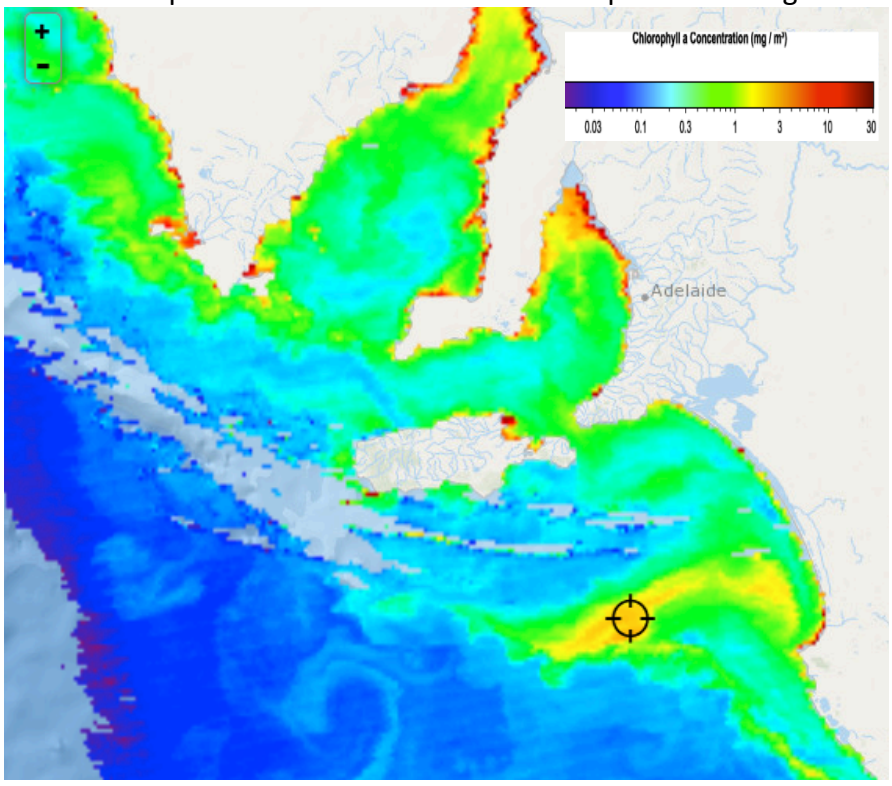


Figure 3: Chlorophyll levels through the eastern GAB area on the 6th February 2015 (FishTrack 2015).

Water Currents:

The red arrows in Figure 4 below indicate the direction of the surface current. Sea Surface Temperatures that show in the background clearly show the large pool of warm water to the south east of Kangaroo Island.

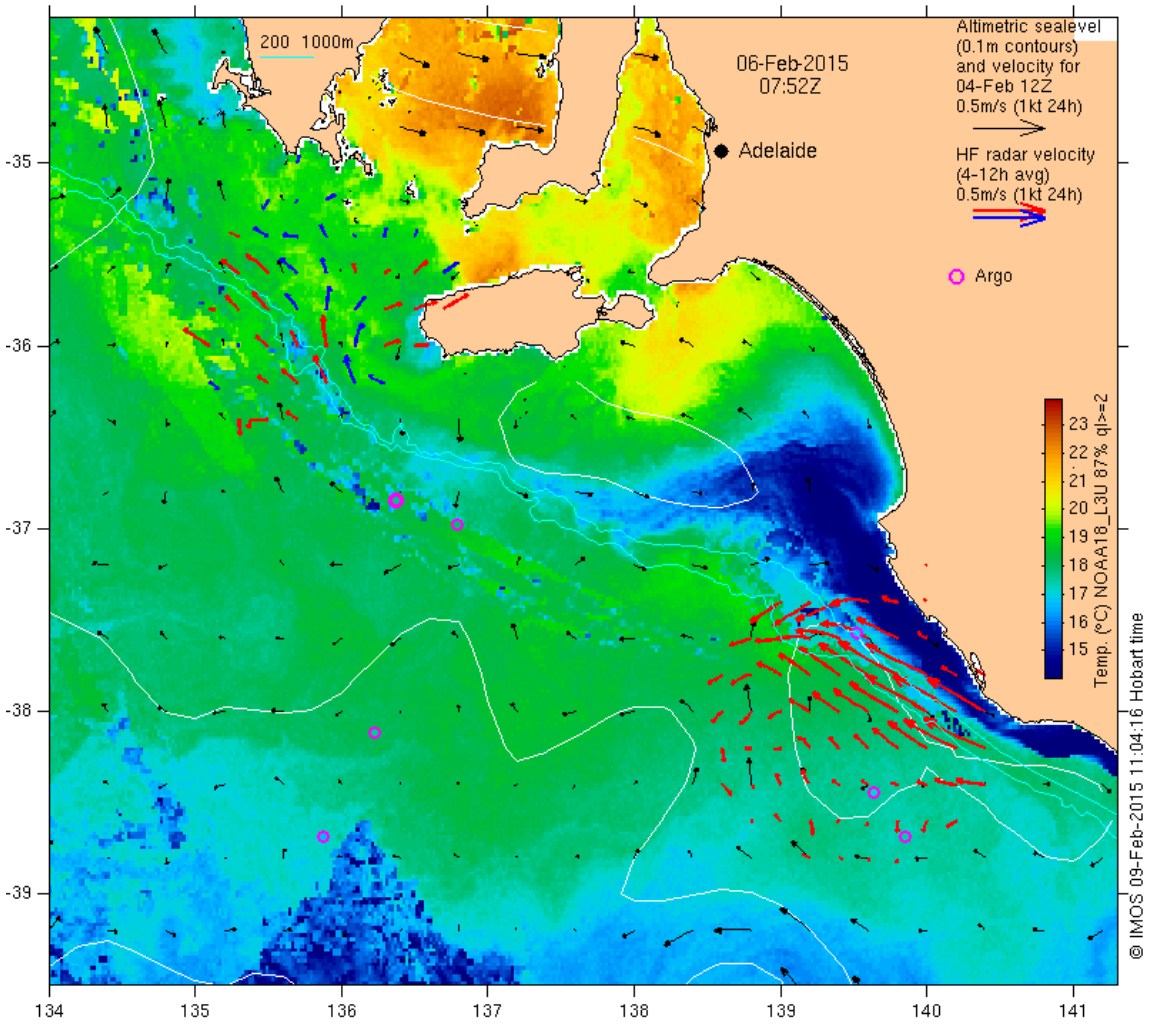


Figure 4: Direction of surface water currents measured by radar located on the southern tip of Eyre Peninsula (red arrows); the background colour represents sea surface temperature (IMOS 2015)

Seismic Surveys:

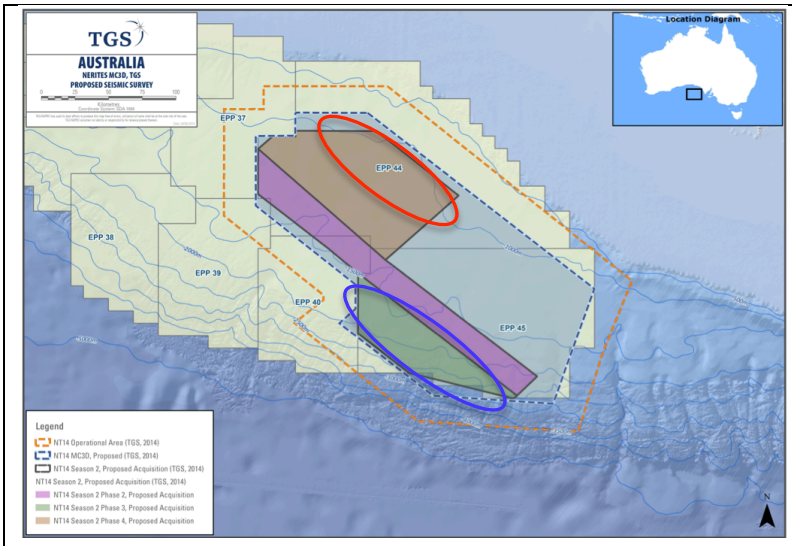
Three vessels are operating in the central and western GAB area.

PGS:

Vessel currently at 131°18.3'E 35°56'S; ceased seismic acquisition over night is now winding in cables on its way back to Port Lincoln

TGS-NOPEC:

Two vessels continue to operate in the areas shown below; one vessel due in Port Lincoln around the 18th February, and the second approximately the 25th February.



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

Further details contact:

Kirsten Rough 0429 833 697
ASBTIA – Research Office
Port Lincoln SA 5606
Email: kirstenrough@bigpond.com
SBT_Research@bigpond.com