

Oceanographic Summary, Great Australian Bight 2016 - 12

Kirsten Rough – 16th 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 continue to fluctuate considerably from week to week depending on the prevailing weather patterns.

Upwelling continues as a particular feature, with sea surface temperatures along the South East “Bonney Coast” around 12 to 13°C. The coastal fringe of lower and western Eyre Peninsula has water around 15-18°C.

The CSIRO Aerial Survey has started with 9 (of the 15) transect lines flown over a 3-day period this past week. Sightings are predominately where surface water temperatures were at or exceeded 20°C.

CSIRO Aerial Survey SBT sightings from 1st January 2016 to date (16th Jan) tonnage per longitude:

128°	129°	130°	131°	132°	133°	134°
0 tonnes	95 tonnes	430 tonnes	150 tonnes		1400 tonnes	875 tonnes

GAB Sea Surface Temperature (SST):

The situation across southern Australia this week and for a similar point in time last season is shown in Figure 1. The Leeuwin Current seems to be having less influence on SST within the GAB this year. Over the past week, the GAB area continues to warm, particularly in the west and centre, and local weather patterns continue to contribute to marked differences in conditions from week to week. Plots of SST 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). Upwelling continues to influence sea surface temperatures along the western coastal fringe Eyre Peninsula and is a prominent feature of the South East of SA. Sea surface temperatures in the upwelling zone east of longitude 138°E are currently around 12-13°C.

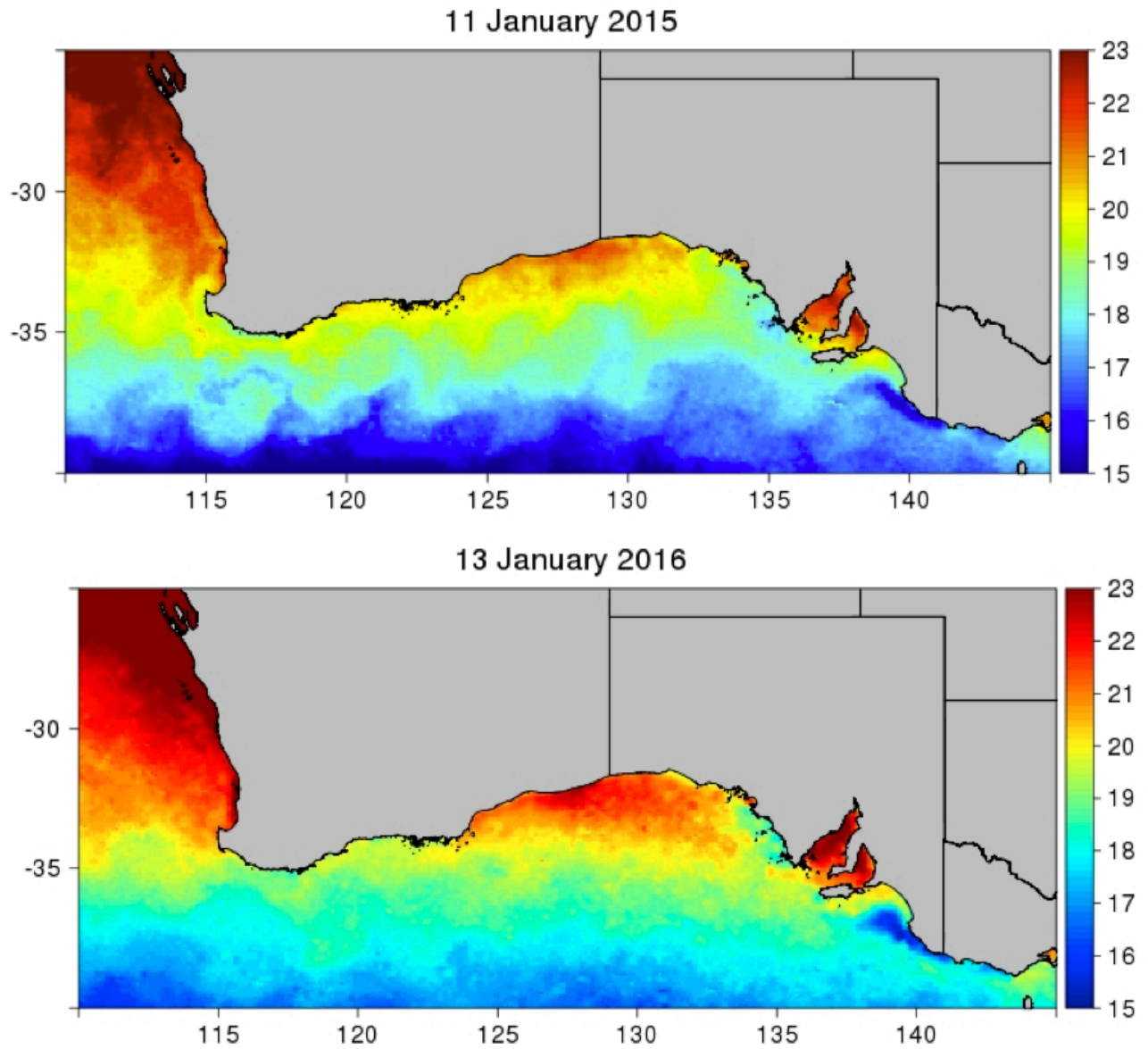


Figure 1: Sea surface temperatures across southern Australia over a 3-day period for a similar point in time last season (top image) and now around the 13th January 2016, bottom image (CSIRO 2016).

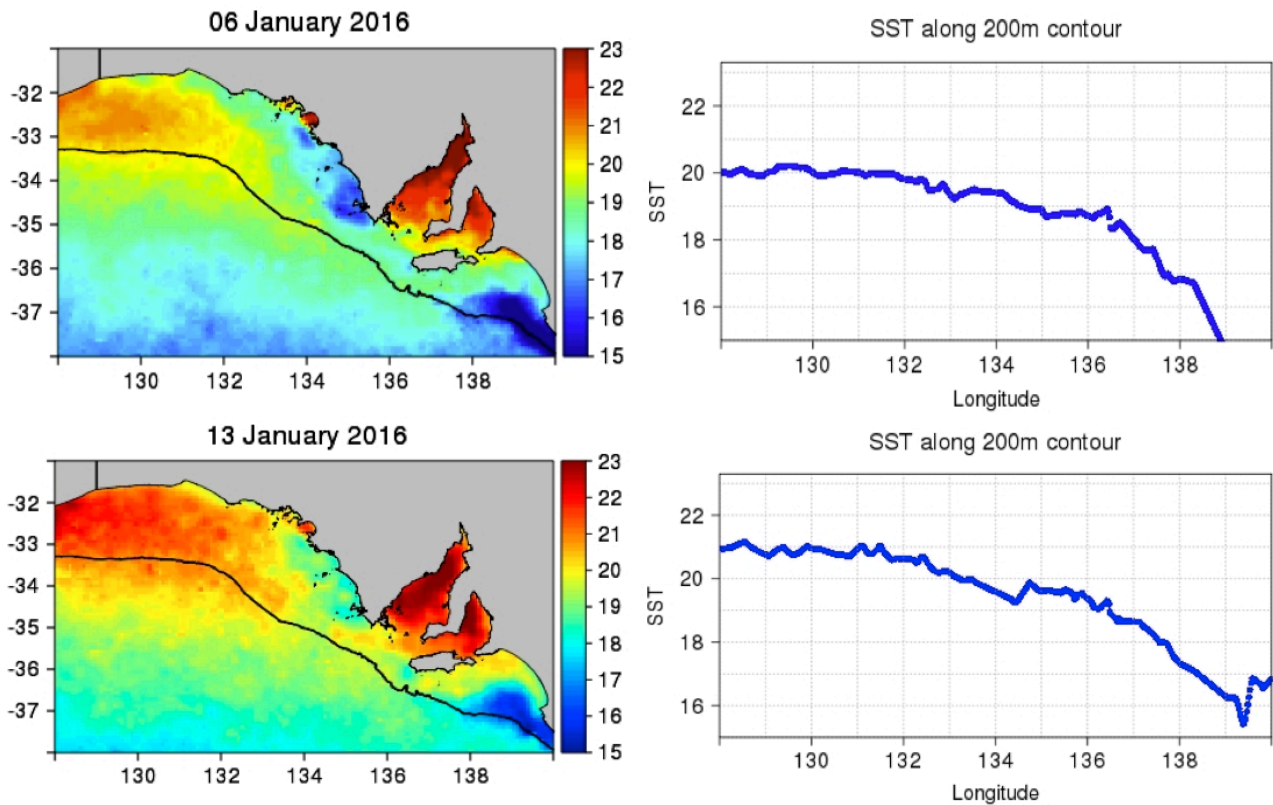


Figure 2: Snapshots of sea surface temperatures across the Eastern GAB over the past 2 weeks, satellite image on left and graph of temperature along the shelf break (black line) on the right (CSIRO 2015).

Specific Sea Surface Temperatures at some of the key fishing locations historically, and from recent years are detailed in Table 1, and a snapshot from the Head of the Bight to the South East of SA in Figure 3.

Table 1: Sea Surface Temperature for 12th January 2016, at some important historic and recent catching areas.

131°00'E 33°05'S = 22.3°C	132°00'E 33°23'S = 20.9°C
133°00'E 34°05'S = 20.3°C	134°00'E 34°15'S = 19.9°C
Yatala Reef 20.6°C	Cannan Reef 20.4°C
SW Rocky Island 19.6°C	Cabbage Patch area 19.2°C
SW Cape de Cudiac 18.7°C	Young Rocks area 19.1°C
SE Pelorus Rocks 18.9°C	Sanders Banks area 18.6°C

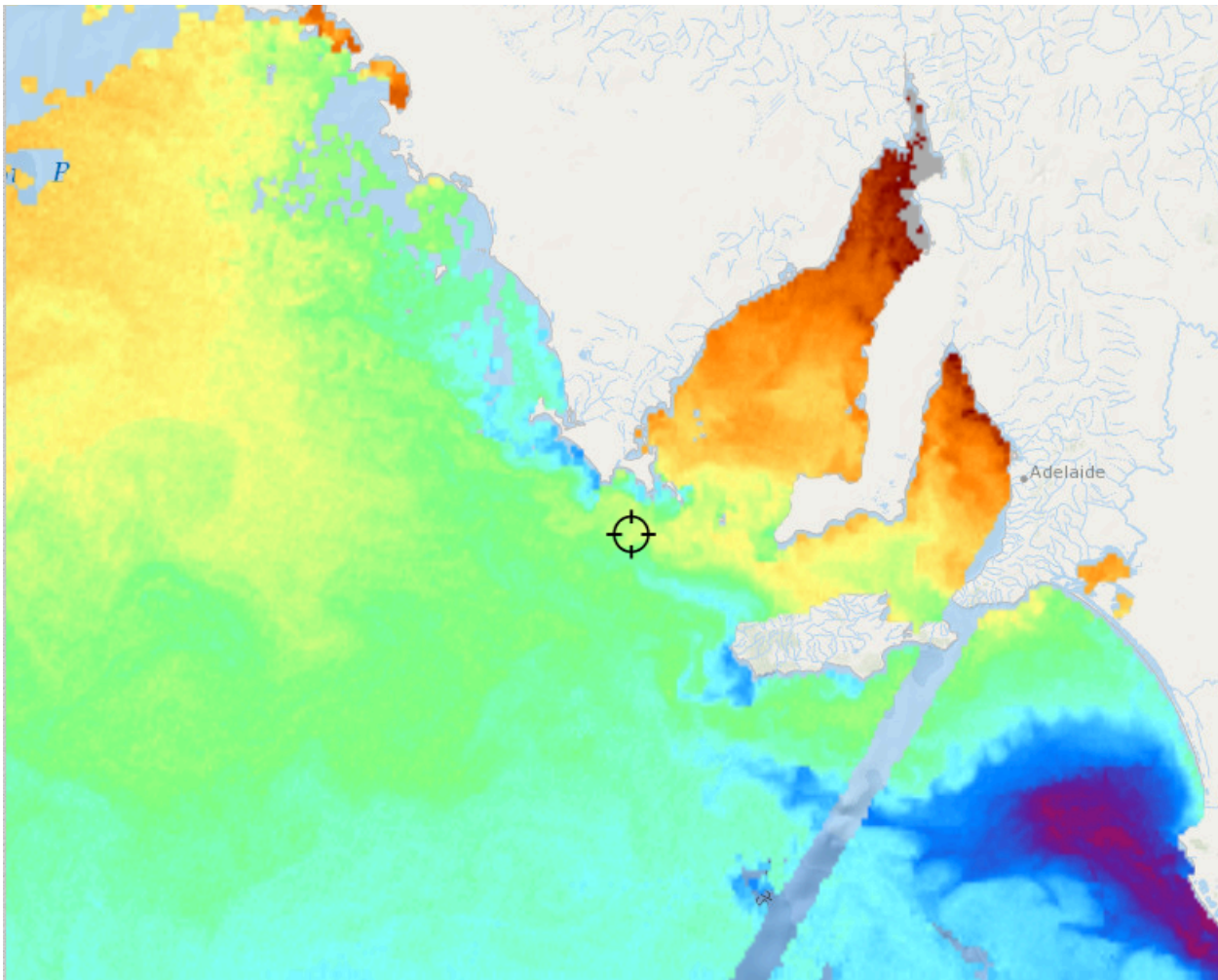


Figure 3: A snapshot of sea surface temperatures over the area from the Head of the Bight to the SE of SA taken on the 12th January 2016 (FishTrack 2016).

SBT Habitat:

From a habitat perspective, how the situation looked over the past week, and is forecast for the next two fortnightly periods is shown in Figure 4. The western and central GAB and below Eyre Peninsula have high preference scores now and this situation is forecast to persist for the next month.

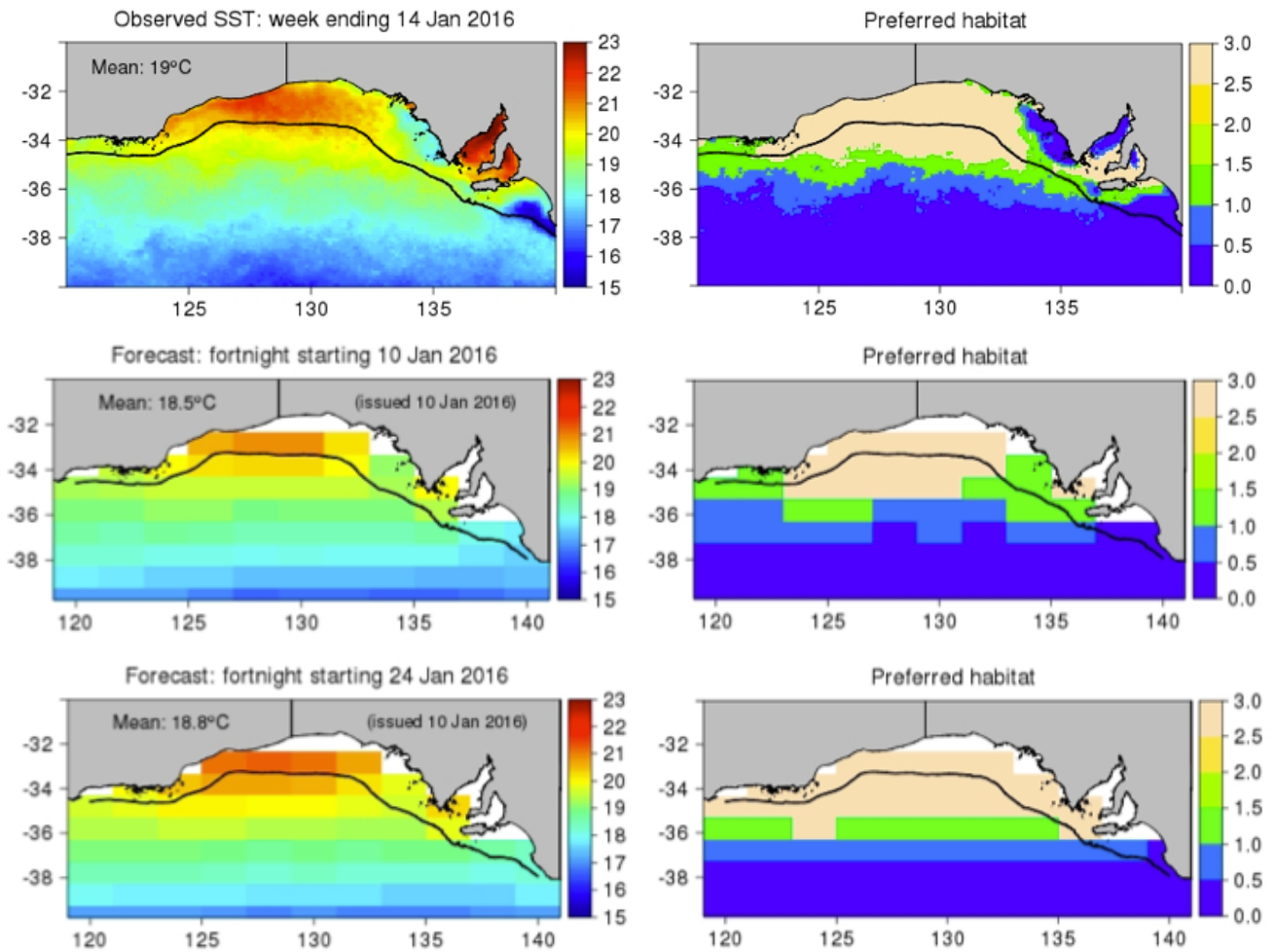


Figure 4: SST and preferred habitat distribution over the past week (top) and forecasts for the next 2 fortnightly blocks (middle and bottom) (CSIRO 2016).

Chlorophyll / Productivity:

The most recent clear satellite image of chlorophyll distribution across fishing areas of past and recent years was from the 11th January 2016 (Figure 5). The influence of the upwelling is clearly seen with elevated readings particularly in the South East, southwestern tip of Kangaroo Island and coastal areas along the western fringe of Eyre Peninsula.

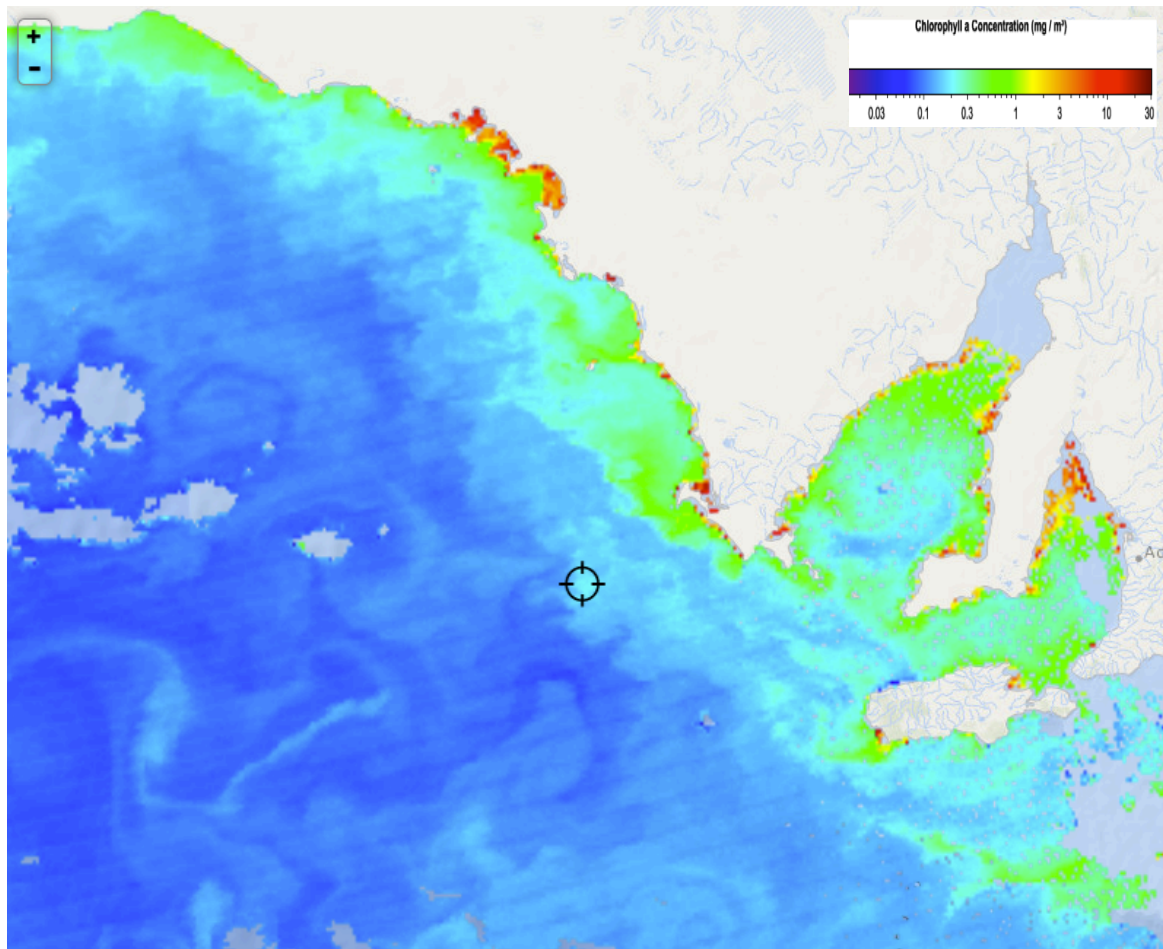


Figure 5: Processed satellite images of chlorophyll taken on the 11 January 2016; the cursor is located at 35°05'S 134°24'E (FishTrack 2016).

Useful Websites:

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

<http://www.csiro.au>

<http://www.fishtrack.com>

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

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

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