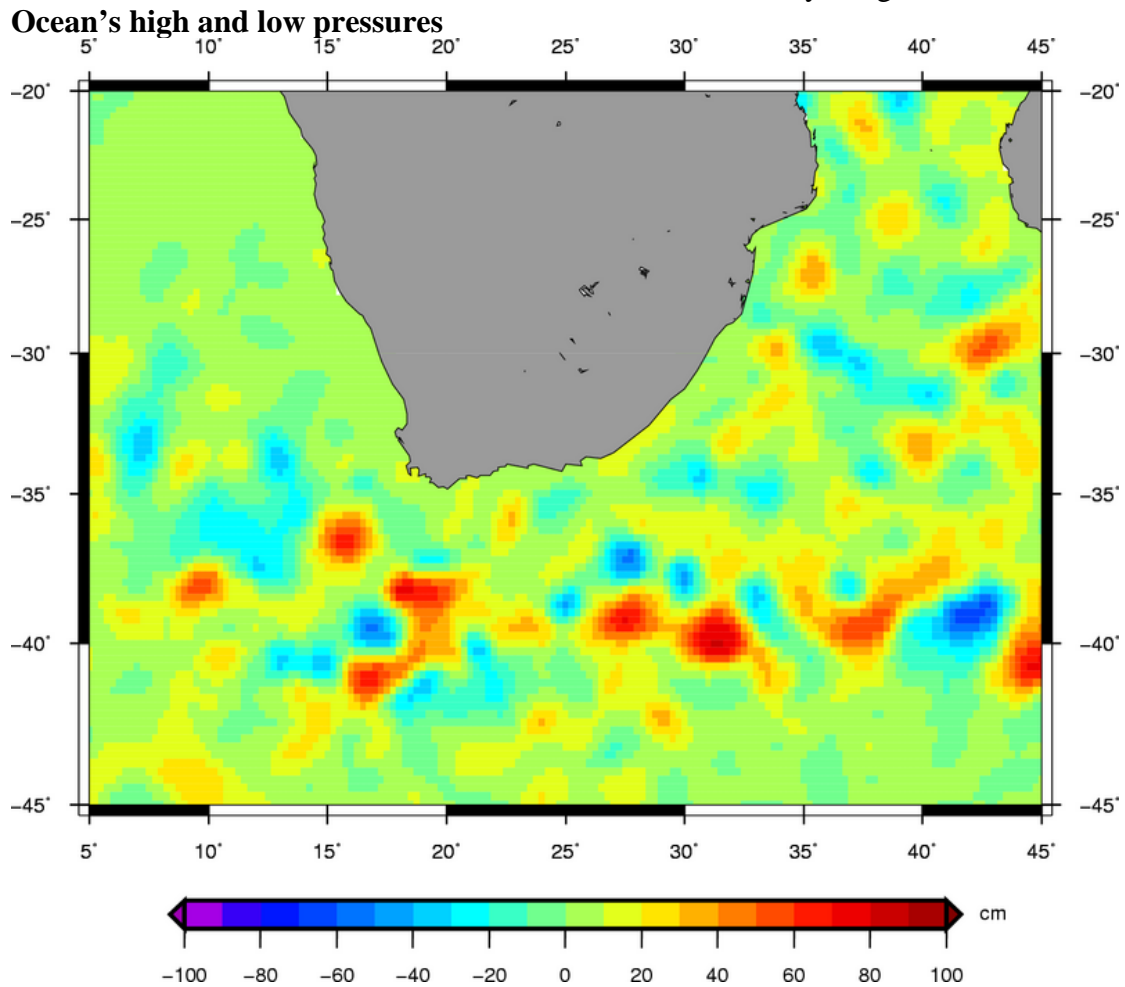


Weekly image: Week 42, 2006



The image shows the height of the sea surface observed from satellite.

The mean sea level is subtracted from each point such that the image shows the deviations from the mean sea surface height, the so-called anomalies. The area is from South Africa where the Agulhas Current which is one of the strongest currents in the oceans, is flowing towards the southwest along the east coast of South Africa. At around 25° East the current leaves the coast and becomes unstable and starts to meander and produce whirls (eddies). The areas in the image with blue and red colours indicate where the whirls are produced in the unstable current. Such eddies are found nearly everywhere in the oceans but mainly appear in areas where strong currents are flowing freely in the oceans, such as the Gulf Current in the Atlantic Ocean, the Kuroshio Current in the Pacific Ocean and at Agulhas.

While you look in the image with sea surface height anomalies it is comparable to look at a map of the atmospheric pressure at sea level when studying weather. The areas with high and low sea level corresponds to areas with high and low pressure in the upper layer of the ocean.



Similarly to the atmosphere, the water is flowing round in an area with high or low pressure. An eddy in the image with low sea level in the centre flows clock-wise while an eddy with a high sea-level in the centre flows counter clock-wise. This is always the case on the southern hemisphere, and opposite at the northern hemisphere.

However, there are differences between a low pressure in the atmosphere and in water. The size of a typical low pressure in the atmosphere is around 1000 km. In contrast, an eddy in the oceans is around 100 km in diameter.

Technical information

The figure is based on observations of sea level from Envisat, Jason-1 and Geosat Follow-on satellites. The observations are anomalies which mean that the mean sea level height of the ocean surface is subtracted in each point. The error within each satellite observation is around 5 cm. The observations from the various satellites are adjusted between satellites and then the data are interpolated to a 0.25° net. A new image is produced every day based on observation within the last week. Therefore the new observations typically are a couple of days old.

For more information on the product, see:

<http://www.avisioceanobs.com/>

New images can be seen in Google Earth at:

<http://galathea.oersted.dtu.dk/GE.html>

The weekly image is produced by DMI that is partner in the project Satellite Eye for Galathea 3.