

Successful retrieval by DMS of a Sea Glider

The DMS vessel Dugong retrieved a Sea Glider on Tuesday 12 January – the first ever deployment of this type of glider in the East Australian Current. This ocean glider dives to 1,000 m deep recording temperature, salinity, and other data that indicates plankton abundance. Diving is created by changing its buoyancy, thus giving the glider forward motion of about 25 km per day. The glider spent a month in a cyclonic (clockwise) cold core eddy and the last month was in an anti-cyclonic warm core eddy. These eddies are crucial in to the weather and rainfall for NSW (East Coast Low events) and also for fisheries.

It was deployed in October 2009, and after 85 days and 417 dives to 1,000 m deep it was time to retrieve it. The eddy had currents of 2-4 knots, so there were only a few days (in fact hours) when it was relatively near the coast. The conditions were not ideal with 20-30 knots NE wind and 3-4 m seas, which steepened as the afternoon progressed. Two researchers from the Sydney Institute of Marine Science (SIMS) joined the determined crew of the Dugong at Chowder Bay and steamed out 40 nautical miles to the latest GPS report.

After 2 hours searching, with SMS updates of the position, we finally spotted the orange aerial of the low profile glider. **Captain Steve Reissis** said he was determined to pick it up and patiently plotted the GPS updates from the glider to determine its rapid drift SW. The crew were similarly determined and SIMS gratefully acknowledges the seamanship of **Engineer Ruvin Kazatsky** and **Navigator Chuck Lewis**.

The Sea Glider is valued at nearly \$200,000 and is one of a fleet owned and operated by the Integrated Marine Observing System, from the glider facility operated by the University of Western Australia (www.imos.org.au). Data will soon be downloaded from the glider and will provide **Professor Iain Suthers** an unprecedented view of the 3 dimensional structure of these eddies. The clockwise gyre entrains coastal water and possibly incubates the larvae for 3-4 weeks. The anticlockwise gyre transports a huge amount of heat southwards, which is very important for our local climate, particularly for winter storm generation (such as the “Pasha Bulker” storm in June 2007).



This deployment was sourced as part of the Integrated Marine Observing System (IMOS) - an initiative of the Australian Government being conducted as part of the National Collaborative Research Infrastructure Strategy



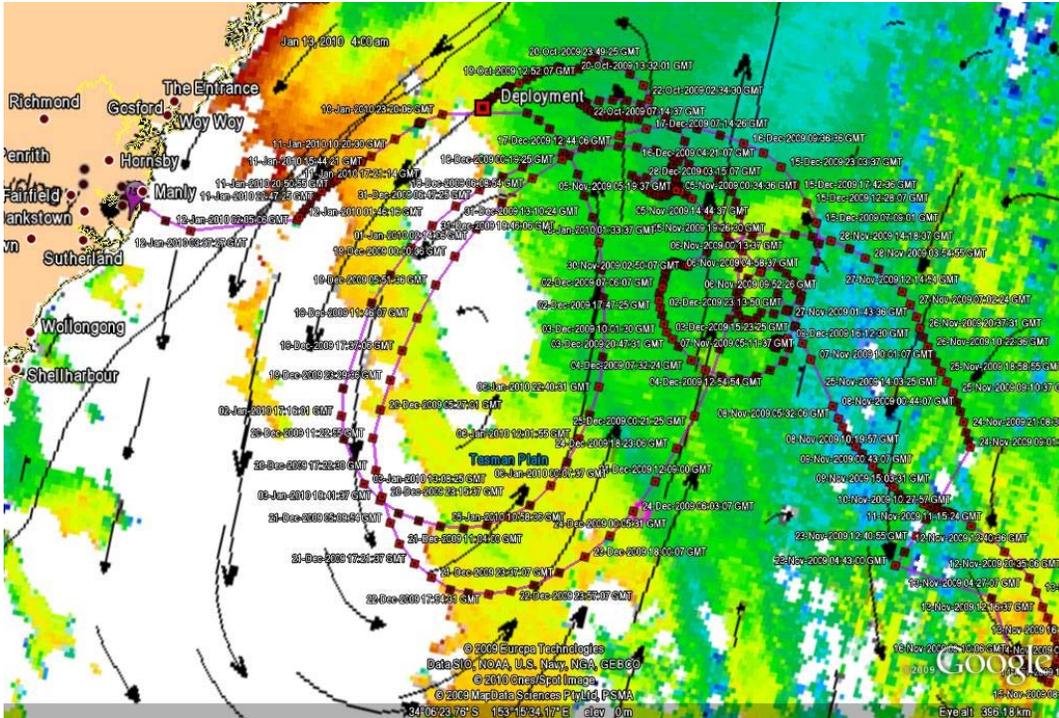


Figure 1. A Google Earth image of the glider track from deployment (18 October 2009) to retrieval (12 Jan. 2010). Initially there are clockwise tracks as it dives throughout a cold core eddy, and in Dec-Jan there are two anti-clockwise tracks as it dives throughout a warm core eddy.



Fig. 2. The successful retrieval of the glider.



Fig. 3. A likely shark bite (~15 cm diameter) on the ocean-scarred glider.