



## **The value of Operational Ocean SST and Current products in glider deployments**

D. Griffin (1), R. Proctor (2,3), B. Hollings (4), C. Pattiaratchi (4), and I. Suthers (5)

(1) CSIRO Marine and Atmospheric Research, Castray Esplanade, Hobart, TAS 7000, Australia, (2) University of Tasmania, IMOS, Hobart, TAS 7001, Australia (roger.proctor@utas.edu.au), (3) Proudman Oceanographic Laboratory, 6 Brownlow Street, Liverpool, L3 5DA, UK (rp@pol.ac.uk), (4) Environmental Systems Engineering, The University of Western Australia, 35 Stirling Highway Crawley, WA 6009 Australia, (5) School of Biological, Earth and Environmental Sciences (BEES), & Sydney Institute of Marine Science (SIMS) University of New South Wales (UNSW), Sydney, Australia. 2052

On November 26, 2008 a Slocum Glider was launched with the mission to explore near-shore processes off southern New South Wales, Australia, then return to the coast. This study contributed to regional activity of the Integrated Marine Observing System ([www.imos.org.au](http://www.imos.org.au)), an AU\$100m 5-year project to establish an ocean and regional ocean observing system for Australia.

The planned mission got into difficulties due to the strength of the East Australian Current and the glider began to track offshore and away from the region of interest. In order not to lose the glider to the ocean the mission was redefined to circumnavigate a warm-core eddy evident in satellite imagery.

CSIRO routinely generates maps of sea surface temperature from satellite AVHRR imagery and geostrophic currents derived from sea surface height anomalies measured by satellite altimetry. By tracking the development of the SST and geostrophic circulation against the glider reported positions the satellite data helped to guide the glider into the eddy and thus continue the study, even though the satellite SST data quality was low during much of the deployment due to heavy cloud cover, and there being only two altimeters presently useful for estimating currents.

The glider was successfully retrieved on December 11, 2008 40km off Jervis Bay after travelling 1002.84 km in 15 days, an average of 0.76m/s, or 1.5kt. This was achieved principally by drifting with the current, and using the glider's 0.25m/s horizontal glide velocity to go sideways with respect to the currents, to get into water thought to be going in the desired direction. The glider was saved and 2374 CTD casts produced giving a valuable dataset for understanding warm-core eddy processes, a dataset which would not have been obtained without the use of operational products.