



Ocean Sensing Using Autonomous Ocean Gliders

Historically, scientists have used ships to obtain data to describe the physical, chemical and biological processes in the oceans. But some of these processes occur at temporal and spatial scales too short to be resolved, and extents too long to be covered, by ship-based measurements. Also high costs associated with ship operations means that the area which may be covered may be restricted and repeated surveys uneconomic. Ships are also limited to collecting data during fair weather and thus data are not usually available under adverse weather conditions. Autonomous ocean gliders provide a great opportunity to undertake routine measurements of the oceans at fraction of the costs associated with ship based systems.



Ocean gliders are autonomous vehicles designed to operate in water depths up to 1000 m. By changing its buoyancy, the glider is able to descend and ascend. This momentum is converted to forward motion by its wings and is steered using a rudder and/or battery packs. The glider is able to

navigate its way to a series of pre-programmed waypoints using GPS, internal dead reckoning and altimeter measurements. The gliders provide real-time data through satellite communication and it is also possible to control the path of the glider during its mission.

The Australian National Facility for Ocean Gliders (ANFOG), with funding provided through the Integrated Marine Observation System (<http://www.imos.org.au>), is at UWA. ANFOG has a fleet of 9 gliders which will be used to the study of the major boundary current systems surrounding Australia and their links to coastal ecosystems.



Contact and links

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