MISA snapshot

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Excellence in marine science inspired through Collaboration

Another HF Ocean RADAR for SA

South Australia (SA) will soon have two HF Ocean RADARs along its coast providing near real time surface currents and wave data covering the entrance to the gulfs and the south-east of SA.

South Australia purchased its first HF Ocean RADAR, set to monitor the Kangaroo Island and Eyre Peninsula Coast, thanks to substantial funding ($516,000) from the South Australian Government.

This initial investment leveraged top-up funding from the Integrated Marine Observing System (IMOS), allowing the cutting edge WERA RADAR system to be purchased.

MISA researchers John Middleton (SARDI) and Laurent Seuront (Flinders) are leading the acquisition and deployment of these RADAR systems that form part of the $6.5M Southern Australian IMOS node (SAIMOS). They have also recently been successful in securing additional funds for a second RADAR system from IMOS.

The CODAR system, costing approximately $500,000 is to be located along the Bonney Coast in the south-east of SA.

This success is a major win for South Australia, with the total value of the RADARS exceeding $1.2 million, representing an extraordinary return on the initial investment by the South Australian Government.

The first HF Ocean RADAR is set to be installed in August 2009, with the second RADAR to be installed by December 2010.

The South Australian HF Ocean RADARs form part of an Australian Coastal Ocean RADAR Network (ACORN), consisting of six radar sites in the southern Great Barrier Reef, the entrance to the South Australian Gulfs, the Perth Canyon, Coffs Harbour on the NSW coast and the Bonney Coast in the south-east of SA.

This network is part of the nation wide IMOS collaborative program designed to observe the oceans around Australia, including the coastal ocean and the 'blue water' open oceans. The data produced also supports fundamental research on many of the critical marine issues facing Australia, including climate change and sustainability of ecosystems.

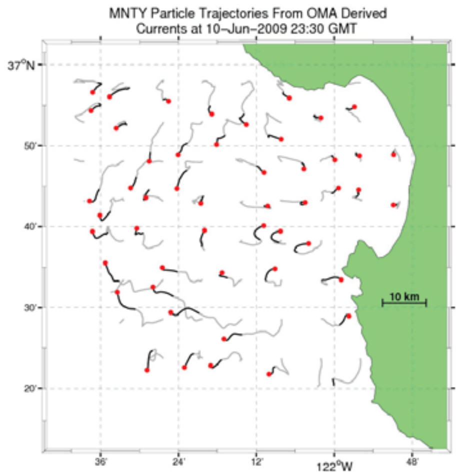
In additional to assisting researchers, the RADAR data can also be used in search and rescue operations; marine pollution containment situations; eco-tourism; shipping, to minimise fuel costs and consequently carbon footprints by utilising currents; and improving severe weather predictions assisting in managing natural disasters such as bush fires.

The HF Ocean RADARs will provide surface ocean currents between 50-100km off shore, updated half hourly.

This data will be available on the web once the systems become operational.

Current data will be displayed visually through particle trajectory graphs (see image below) as well as being available for down load.

An example from Monterey, USA can be viewed at http://www.cencalcurrents.org/MNTY_Traj.shtml.



An example of current data that will be available on the web, taken from Monterey USA (http://www.cencalcurrents.org/MNTY_Traj.shtml).

Images of wave height and wave direction will also be available on the web.

SAIMOS also collect a range of additional data through:

- An array of mooring stations, continuously monitoring the physical and biological properties off the shelf waters along the paths of the upwelled waters flowing onto the shelf in summer, and density currents that flow out of the gulf during winter.
- The deployment of underwater vehicles, including ocean gliders that provide real time data on temperature, salinity and variables of biological significance: data collected can be viewed on the IMOS web site at www2.sese.uwa.edu.au/~hollings/anfog/index.php?page=deployments.

Key Points

- South Australia (SA) is soon to install two HF Ocean RADARS covering the entrance to the gulfs and the south-east of SA.
- These systems form part of a national network monitoring Australia's oceans, providing data that supports research on critical issues such as climate change and sustainability of ecosystems.
- RADARS will provide surface ocean currents between 50-100km, updated every half hour.
- Current data, as well as wave height and wave direction will be available on the web once the systems become operational.
- Mooring stations and underwater vehicles also provide data on the physical and biological properties of SA's waters.

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Don't forget to visit our web site

www.misa.net.au

Government of South Australia

Marine Innovation SA (MISA), an initiative of the South Australian Government, is a partnership between the South Australian Research and Development Institute (SARDI), Flinders University, University of Adelaide, South Australian Museum, Primary Industries and Resources SA and the SA seafood industry.