

## ACORN – The Australian Coastal Ocean Radar Network

As part of the Integrated Marine Observing System (IMOS), Australia establishes its first national Coastal Ocean Radar Network. Formally called the Australian Coastal Ocean Radar Network (ACORN), it is a system with exciting implications and widespread potential to help many aspects of coastal ocean research and management, from coral reef restoration and tsunami warning to pollution control and search-and-rescue efforts.

Over the next four years, coastal radars will be installed at sites across Australia with the \$5.46 million in funding allocated through IMOS. In April 2007, the first radar was installed on the beach of Tannum Sands and a second set was installed in May at Lady Elliot Island. After Lady Elliot Island, the next radars slated for installation will be in South Australia followed by set-ups in Western Australia from Perth to Jurien Bay.

“The idea behind ACORN, in a 150 km area, we will have current measurements every 4 km by 4 km along the whole grid,” Dr. Mal Heron of James Cook University says.

The data, which is sent back to the university’s lab every 10 minutes, will allow for highly detailed maps of the currents from the shore out to the edge of the radars’ range. Eventually, there are plans for a public website where surface current images would be freely available. The maps will potentially benefit many sectors of the community, from marine researchers to fishermen to tourist operators and the general public, who may simply want to know what’s happening in local waters. “We want to encourage community use,” Heron says. “We want to be able to demonstrate at the end of IMOS that there is a community following.”

For a more detailed overview, visit the IMOS website: [www.imos.org.au](http://www.imos.org.au)

\* Information and pictures kindly provided by the second issue of the IMOS newsletter “Marine Matters”.



National IMOS facilities

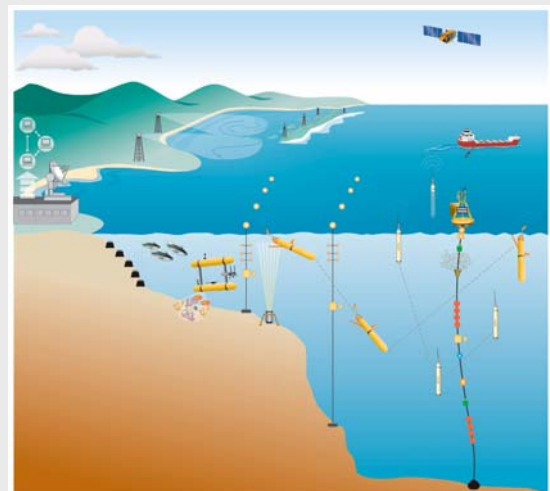


Diagram illustrating how the national IMOS program works. IMOS links several independent ocean observation projects involving technologies and observing instruments, ranging from moored observing instruments and deep sea autonomous floats to acoustic tracking devices and remote satellites, among others, into a more collaborative research infrastructure covering a vast swath of Australia’s large coastal and deep water marine territory. IMOS will generate critical data needed to support a diverse range of marine research projects.

## WERA as part of ACORN

In early April 2007, the first WERA radar was installed on the beach of Tannum Sands in the Capricorn Bunker reef group off the coast of central Queensland. Four additional systems followed at the West Australian coast covering the Perth Canyon and in South Australia (South Australia Gulfs) this year. Two systems will follow for Coffs Harbour early 2010. The coverage maps could be found under <http://imos.org.au/428.html>



Tx array at Tannum Sands



Curved Rx array at Tannum Sands

User:  
James Cook University  
Townsville, Queensland

12 channels  
8.3 MHz  
Range: 150 km



WERA Workstation

A second set was installed in May a little further south on Lady Elliot Island.



Lady Elliot Island  
Great Barrier Reef

