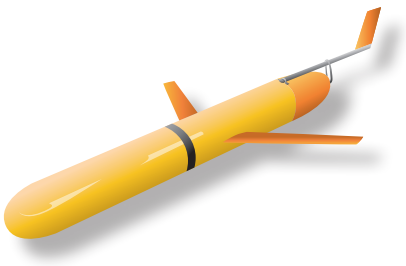
IMOS Integrated **Marine Observing** System

Extended and enhanced under the Australian Government's Marine and Climate Super Science Initiative



Australia's Integrated Marine Observing System (IMOS) is in the process of becoming bigger and better. With an additional $52M from the Education Investment Fund (EIF), it will be able to deliver more ocean data, to more stakeholders, for longer.

Background

IMOS was established under the National Collaborative Research Infrastructure Strategy (NCRIS), with initial funding of $50M in 2007. It has successfully deployed a range of observing equipment in the oceans around Australia, and is making all of the data freely and openly available through the IMOS Ocean Portal - http://imos.aodn.org.au/webportal/.

Observations being undertaken are guided by science plans developed within the marine and climate science community. These plans address five major research themes:

1. Multi-decadal ocean change,
2. Climate variability,
3. Major boundary currents,
4. Continental shelf processes, and
5. Biological responses.

IMOS is designed to be a fully-integrated, national system, observing at ocean-basin and regional scales, and covering physical and biological variables.

What's new?

Additional funding was provided in the 2009 Federal Budget to extend the system out to mid-2013, and provide enhanced monitoring in the Southern Ocean and northern Australian waters.

Following extensive consultation during the second half of 2009, a plan for investing the new funds has now been approved for implementation.

More capability

Significant enhancements will include:

- Moving into higher latitudes of the Southern Ocean, using ice-capable Argo floats and 'seals as samplers'.
- Going deeper in the Southern Ocean, with a mooring off the Antarctic Coast.
- Expanding the Southern Ocean Flux Station to include a second deepwater mooring that will enable continuous time series to be established.
- Monitoring full-depth transport of major boundary currents - the Indonesian Through Flow in the northwest, and the East Australian Current off Brisbane.
- Making greater use of ocean gliders in the Southern Ocean and the Coral Sea, and expanding the coastal glider fleet to increase coverage in coastal waters.
- Expanding and strengthening the national network of coastal, moored Reference Stations to include a ninth site near Brisbane, as well as new bio-optical sensors at selected sites.
- Establishment of an Australian ocean carbon and acidification mooring network with deployments at three of the nine National Reference Station sites.
- Expansion of the network of cross- shelf mooring arrays, with new deployments in northwest Western Australia and southeast Queensland.
- Better use of satellite remote sensing, especially Ocean Surface Topography and Ocean Colour.
- Greater integration of biological and physical observations, including
  - ◊ monitoring of apex predators in the Southern Ocean,
  - ◊ new bio-acoustic measurements of mid-trophic level organisms, and
  - ◊ extension of continuous plankton recording to provide national coverage.
- Establishment of a national system of reference sites for repeated, sustained benthic surveying using an Autonomous Underwater Vehicle.

Better Coverage

IMOS engages with the Australian marine and climate science community through Nodes based in major centres of activity around the country. It is the Nodes that develop science plans to guide the observing system. There is a national Bluewater and Climate Node, and series of Regional Nodes. Significant enhancements will include:

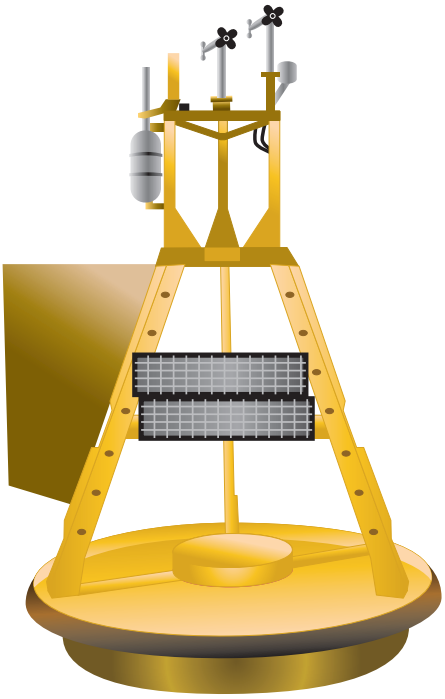
- The Western Australian Node (WAIMOS) extending its focus from the southwest and Ningaloo Reef into the northwest.
- The Node on the Great Barrier Reef extending its focus into Southeast Queensland to form a whole-of-Queensland Node (Q-IMOS).
- A new Regional Node being established in Tasmania (TasIMOS).

Regional Nodes in Southern Australia (SAIMOS) and New South Wales (NSW-IMOS) will also be extended and enhanced.

Stronger partnerships

Being a national, collaborative research infrastructure program, strong partnerships are fundamental to the success of IMOS. Significant co-investment, both cash and in-kind, is being provided by Research Institutions, other Commonwealth Government portfolios, State Governments and Industry partners.

Up to $68M of new co-investment is expected to match the EIF funding. In addition to $44M committed under NCRIS, total co-investment will more than double the core funding provided by the Department of Innovation, Industry, Science and Research, enabling IMOS to achieve much more through effective collaboration on a national scale.



Further Information

For more information about IMOS, please visit the website

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Australian Government
Department of Innovation
Industry, Science and Research

IMOS is supported by the Australian Government, through the National Collaborative Infrastructure Strategy and the Super Science Initiative.
It is led by the University of Tasmania on behalf of the marine and climate science community.

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