

## The Australian Integrated Marine Observing System

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### Abstract

The Integrated Marine Observing System (IMOS) is a \$92M project established with \$50M from the National Collaborative Research Infrastructure Strategy (NCRIS) and co-investments from 10 operators including Universities and government agencies. It is a nationally distributed set of equipment established and maintained at sea, streams of oceanographic data and information services that collectively will contribute to meeting the needs of marine research in both open oceans and coastal oceans around Australia. In particular, if sustained in the long term, it will permit identification and management of climate change in the marine environment, an area of research that is as yet almost a blank page. While as an NCRIS project IMOS is intended to support research, the data streams are also useful for many social, environmental and economic applications, such as management of offshore industries, safety at sea, management of marine ecosystems and tourism. The infrastructure also contributes to Australia's commitments to international programs of ocean observing and international conventions, such as the 1982 Law of the Sea Convention that established the Australian Exclusive Economic Zone, the United Nations Framework Convention on Climate Change, the Global Ocean Observing System and the intergovernmental coordinating activity Global Earth Observation System of Systems. IMOS is made up of nine national facilities that collect data, using different components of infrastructure and instruments, and two facilities that manage and provide access to data and enhanced data products, one for in situ data and a second for remotely sensed satellite data. The observing facilities include three for the open (bluewater) ocean (Argo Australia, Enhanced Ships of Opportunity and Southern Ocean Time Series), three facilities for coastal currents and water properties (Moorings, Ocean Gliders and HF Radar) and three for coastal ecosystems (Acoustic Tagging and Tracking, Autonomous Underwater Vehicle and a biophysical sensor network on the Great Barrier Reef). The value from this infrastructure investment lies in the coordinated deployment of a wide range of equipment aimed at deriving critical data sets that serve multiple applications. Additional information on IMOS is available at the website (<http://www.imos.org.au>).