IMOS Integrated **Marine Observing** System

# IMOS Data

## Increasing knowledge of Australia's oceans and coasts

Australia's Integrated Marine Observing System (IMOS) is committed to delivering impact for Australia by collecting and delivering key and multidisciplinary data streams. These data benefit Australia across five broad societal themes: marine sovereignty, safety and security; energy security, food security, biodiversity conservation and management, and coastal populations.

To ensure IMOS meets our objective to be a world-class research infrastructure that delivers societal benefit and scientific excellence, we have developed a Framework to track the impact of our data. This information is used alongside close partnership and engagement with key stakeholders and end-users to ensure IMOS meets their management, operational and research needs.

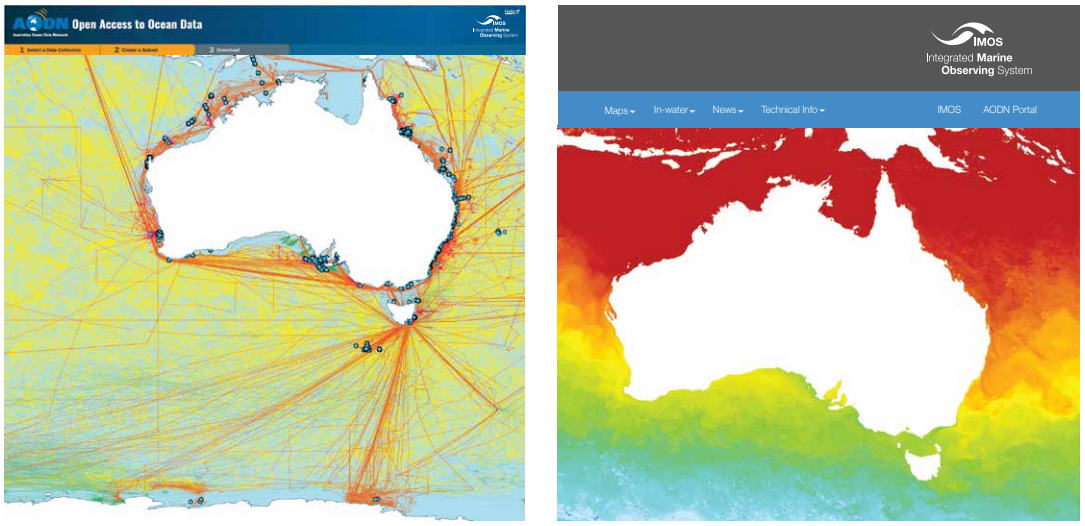
IMOS understands that a robust, open, and accessible data capability is critical to Australia's future prosperity. Innovation in the delivery and understanding of sometimes complex observational data can assist with and amplify the understanding of Australia's much-loved ocean estate.

## Adding more value to ocean observations

All IMOS observations are turned into data served through the Australian Ocean Data Network (AODN). The AODN capability manages, processes, and delivers the data via the AODN Portal, where it can be discovered, accessed, used and reused.

IMOS engages with various end-user communities, including policy and decision-makers and more broadly with the general public, to ensure our data is user-friendly and meets their needs.

IMOS recognises that whilst researchers prefer the delivery of specific data streams, traditional data formats are often less applicable and accessible for individuals in industry and management. IMOS has identified the need to integrate data streams to create syntheses and value-added products, such as IMOS OceanCurrent and the State and Trends of Australia's Ocean Report. Data integration and synthesis not only benefits end-users but will also benefit a broader community of scientists.




IMOS data delivery systems: The Australian Ocean Data Network (AODN) and IMOS OceanCurrent.

Australia's Integrated Marine Observing System (IMOS) is enabled by the National Collaborative Research Infrastructure Strategy (NCRIS). It is operated by a consortium of institutions as an unincorporated joint venture, with the University of Tasmania as Lead Agent.

www.imos.org.au

NCRIS National Research Infrastructure for Australia
An Australian Government Initiative

# Data delivery for all

**IMOS OceanCurrent:** To ensure broad use and uptake of often complex data, IMOS provides access to graphics of Australian ocean conditions via IMOS OceanCurrent. This product offers easy-to-view and downloadable sea surface temperature and ocean colour information overlaid with sea level contours and surface current velocities at national to local scales. IMOS OceanCurrent provides summarised data that can be viewed and used by experts and non-experts alike: from researchers to fishers, from surfers to managers, and recreational anglers to industry.

**Mooring products:** Other products include user-friendly time series products that aggregate long-term time-series data from our mooring sites. These long time-series products increase accessibility to the wealth of IMOS coastal mooring data from over 60 sites across many years.

**IMOS Ocean Observer:** Through our New Technology Proving capability, IMOS is developing the IMOS Ocean Observer platform. A team of scientists, data scientists and software developers will leverage and integrate many different IMOS data streams to increase visibility and ease of access to existing data, providing data fusion across the IMOS program. This includes integration between biological and physical data.

**Microbial Ocean Atlas:** In partnership with fellow NCRIS capabilities ARDC and Bioplatforms Australia, we are integrating highly specialised genomic data with physical ocean data to ensure greater accessibility of microbial data to a broad range of researchers.

**Citizen Science:** IMOS capability in data software and design is being used to ensure the robustness and longevity of Reef Life Survey, which is a global set of citizen science data of reef environments.

**Real-time data:** Some IMOS infrastructure platforms deliver data on a real-time basis. This ensures access for decision-makers and users of the marine estate, including surfers and recreational boaters who can access real-time wave data from our buoy capability.

# Use and uptake of data

Through greater accessibility and innovative delivery of data, IMOS is seeing an increase in our user base. Data are used by marine and climate scientists, forecasters, marine industries, and the broader public for many reasons. In turn, these many uses deliver benefit to Australian and global communities. The IMOS Head Office tracks these many uses from infrastructure to impact.

Through a carefully considered set of metrics and narratives, the IMOS Impact Framework tracks, measures, and articulates the societal benefit of IMOS data. For example, we can follow a particular use of data from the observing platform to the AODN Portal, through its use in peer-reviewed research, into policy-related documents, into policy decisions and strategy and to the ultimate societal outcome.

Utilising the *OECD Framework for Assessing the Scientific and Socio-Economic Impact of Research Infrastructures*, we track and measure progress to ensure IMOS is a national and world-leading research infrastructure and an enabling facility to support science excellence; deliver high-quality scientific data and associated services to enable innovation; support clusters of scientific excellence; promote educational outputs and knowledge transfer.

Alongside analysis of Australia's complex marine policy environment and close engagement with the marine science community, this Framework helps inform the development and direction of core IMOS strategies and priorities that aim for impact.

More information on the Impact Framework can be found here: https://imos.org.au/observing-impact

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