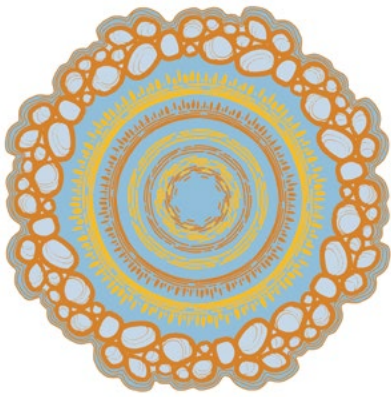




Integrated **Marine**
Observing System

2024–2025 HIGHLIGHTS

Enabling research that delivers benefits across
Australian society, its environment, and its economy.



IMOS acknowledges the Traditional Custodians and Elders of the land and sea on which we work and observe, and recognise them as Australia's first marine scientists and carers of Sea Country. We pay our respects to Aboriginal and Torres Strait Islander peoples past and present.

Director's Overview

In 2025 IMOS has delivered its 19th year of operations. In a period of decreasing investment in ocean observing, this is an impressive achievement, and we are thankful for the support of our partners and critical programs like the National Collaborative Research Infrastructure Strategy to ensure we have IMOS as a national resource.

The success of IMOS is readily apparent through the highlights included in this document as well as many other achievements that couldn't be captured here. A hallmark of our success is the recent signing of a Memorandum of Understanding with Mercator Ocean International. This agreement is designed to learn from each other and share knowledge. IMOS' world-leading impact tracking and reputation for high-quality data delivery made us a natural partner for Mercator, who will in turn share expertise on visualisation and data products. Many benefits are expected to flow from this partnership.

IMOS is also making strides in increasing and enhancing Sea Country observing through expanding partnerships with Sea Rangers to collect more data to help understand and manage marine

ecosystems for all Australians. We look forward to increasing two-way knowledge sharing as we continue on this path.

As always, IMOS Facilities and the scientific community are making important contributions to understanding the state and trend of our marine estate. IMOS data have been critical to helping understand the harmful algal bloom in South Australia, are underpinning data products to identify and predict marine heatwaves, and new microplastics report cards are helping define the level of plastic pollution. While these are largely negative aspects in our environment, data is needed to understand, predict and mitigate these events, and that is all made more possible through the efforts of the IMOS community. We need to measure how conditions are changing not



only to understand degradation, but also to see when we are making improvements as our data help underpin policy, management, and mitigation decisions.

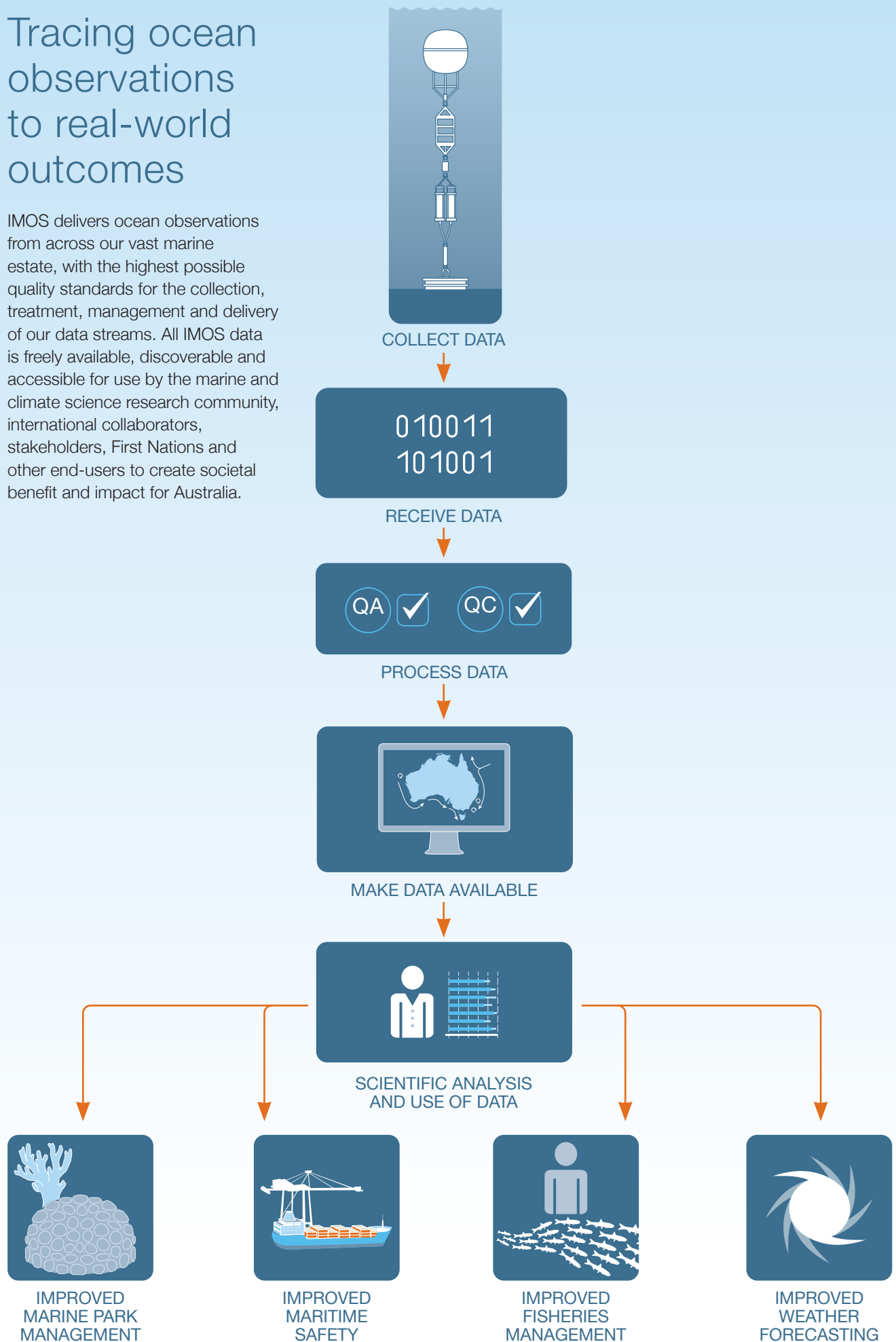
The impact and achievements of IMOS are only possible through the dedicated commitment of IMOS partners, collaborators, and community members. Thank you for your continued contributions, effort and energy, we couldn't do it without you.

Michelle Heupel
IMOS Executive Director



Tracing ocean observations to real-world outcomes

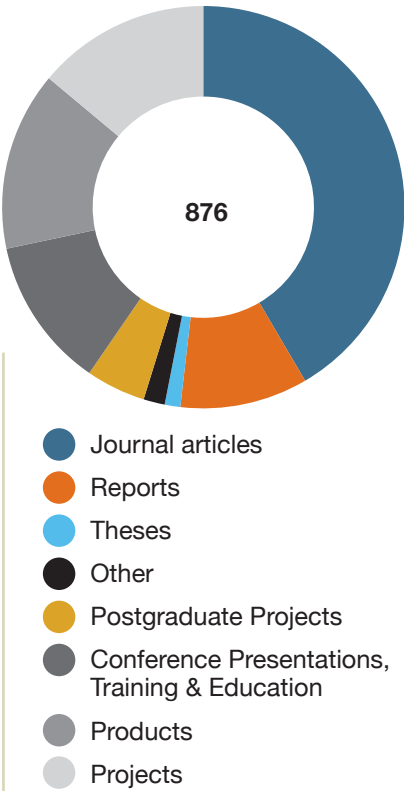
IMOS delivers ocean observations from across our vast marine estate, with the highest possible quality standards for the collection, treatment, management and delivery of our data streams. All IMOS data is freely available, discoverable and accessible for use by the marine and climate science research community, international collaborators, stakeholders, First Nations and other end-users to create societal benefit and impact for Australia.



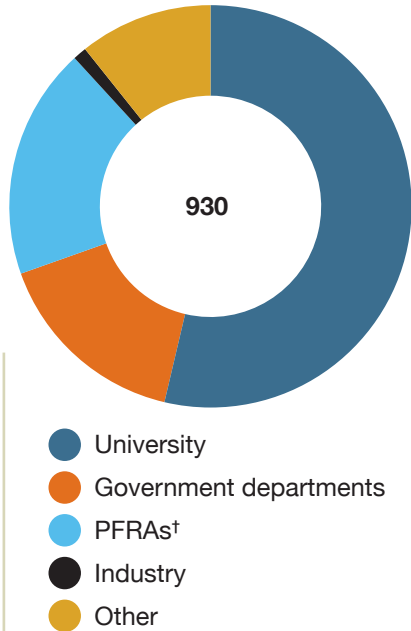
Use and Users of IMOS Data

The core uptake and use of IMOS data is measured through numbers of journal articles, reports, theses, research projects, postgraduate student projects, products, conference presentations, and training and education activities. Use and user data are provided below for the 2024–25 financial year.

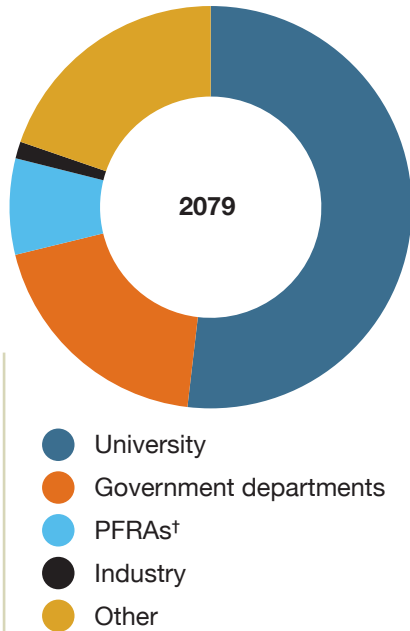
UPTAKE
AND USE



UNIQUE AUSTRALIAN
USERS*



UNIQUE INTERNATIONAL
USERS*



*These users are identified from publications, reports and other outputs. These numbers do not include the broader user base of IMOS data, including those who use IMOS OceanCurrent, THREDDs and other products.

† Publicly funded research agencies (PFRAs)

Financial Summary

A summary of the IMOS finance for the 2024-25 financial year:

FINANCIAL OVERVIEW	2024–2025	2023–2024
Capital	6,607,896	6,351,817
Personnel	17,545,913	13,554,644
Other	8,410,414	6,904,855
Expenditure relating to NCRIS Funds	32,564,223	26,811,316
Cash Co-investments	3,363,839	1,918,838
In-Kind Co-investments	50,152,365	31,353,626
Total – Resources utilised	86,080,428	60,083,780
Full-time equivalent staff numbers	FTE 2024–25	FTE 2023–24
NCRIS Funded	117.98	90.91
Co-investment funded	31.07	22.41
Total FTE Staff	149.05	113.32

IMOS HIGHLIGHTS 2024–2025

National network of coastal wave buoys

IMOS is integrating a national network of wave buoys to observe wave-driven processes and changes in the coastal zone. IMOS has added 23 wave buoys to the existing network deployed around Australia which provides near real-time data essential for forecasting hazards, guiding sustainable development, and protecting coastal ecosystems and communities.

IMOS expands data product to estimate coral bleaching risk

The Bureau of Meteorology ReefTemp product has been expanded and re-launched as IMOS AusTemp. The new, national-scale AusTemp product provides sea surface temperature anomalies and heating stress indicators used to assess coral bleaching risk, contributing to scientific research underpinning marine management.

Observing the evolution of the South Australian Harmful Algal Bloom

The South Australian Research and Development Institute has monitored and reported on the evolution of the ongoing Harmful Algal Bloom (HAB) to inform industry and the public. HAB tracking is based on publicly available data and ocean circulation forecasts provided by the Department of Primary Industries and Regions eSA-Marine system. The eSA-Marine system is underpinned by IMOS observations from National Reference Stations, South Australian moorings and Ocean Radar.

IMOS OceanCurrent upgrade

The widely used IMOS OceanCurrent platform is being redeveloped to enhance access to Australian ocean data. The refreshed version will include enhanced navigation to make ocean data more discoverable, easier to use, and visually engaging. The new mobile-friendly IMOS OceanCurrent will continue to be a useful tool for marine scientists, educators, industry, and the general public.

A decade of ocean colour observations

This year marks the 10th anniversary of sustained marine and atmospheric observing at the IMOS Lucinda Jetty Coastal Observatory in Queensland. The Lucinda observatory is recognized by the international space community as a unique contribution to global Earth observation and is leveraged to create national benefit through integration into international satellite data and validation of the quality of marine satellite products.

New Indigenous Partnerships Coordinator

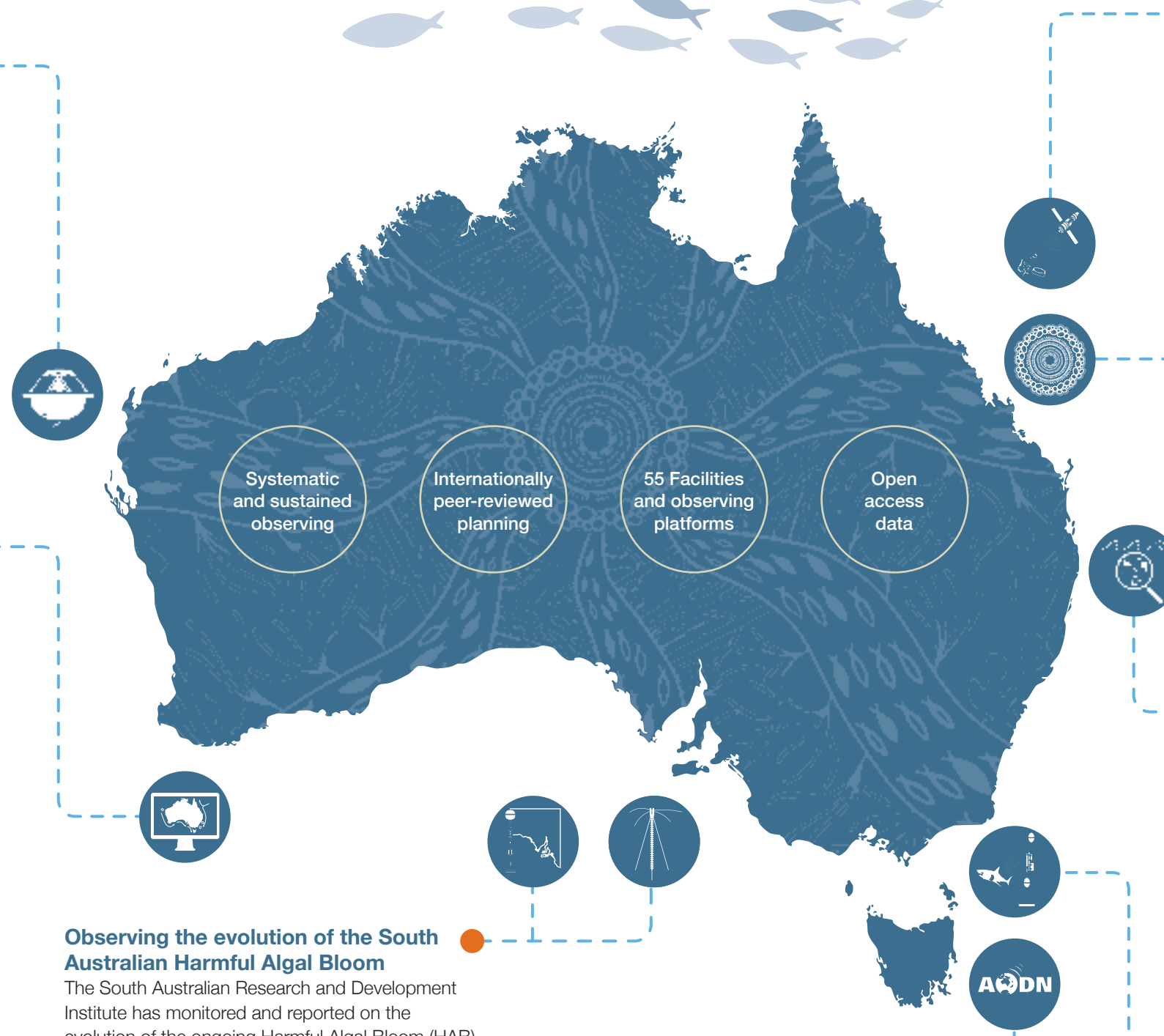
IMOS is growing its approach to observing Sea Country by developing partnerships with Sea Rangers and working to ensure First Nations priorities are reflected in the data we collect and share. To help lead and coordinate this work, IMOS has appointed an Indigenous Partnerships Coordinator, Tonya Grant, hosted within the Indigenous Partnerships Team at the Australian Institute of Marine Science.

Revealing the scale of plastic pollution in Australian oceans

IMOS has released a series of annual report cards detailing microplastic contamination levels and trends across time and geographical location from 2021 to 2024. The report cards enable scientists and community members to explore microplastics trends, understand the impact of plastic pollution, and inform environmental management and policy at local and national scales.

Animal Tracking network reveals cross-jurisdictional kingfish migration

The IMOS national acoustic tracking network has revealed kingfish tagged in Victoria have extensive movement and connectivity, including across fisheries jurisdictions. The data identify kingfish as a shared resource across southeastern Australia requiring a collaborative approach to stock assessment and fishery management. These data have already prompted a reduction in the recreational angler bag limit in Victoria to help improve sustainability.





A new era of global ocean data collaboration

Mercator Ocean International and IMOS have signed a Memorandum of Understanding representing a significant step toward a more connected and resilient global ocean community.

“Partnership with Mercator provides exciting new opportunities for IMOS to collaborate globally while delivering improved data products, tools and visualisations for our users.” – Michelle Heupel, IMOS Executive Director

Mercator Ocean International is a centre of excellence in ocean analysis and forecasting, entrusted by the European Commission to

operate the Copernicus Marine Service, to deliver high-quality, free and open ocean data to support science, policy, industry, and society.

This new partnership will drive innovation in ocean forecasting through co-developed digital tools, joint infrastructure studies, integration of socio-economic and traditional knowledge, and shared insights to expand the impact of ocean services.

By working together, we’re helping to ensure ocean data is open, accessible and actionable, supporting sustainable development and informed decision-making around the world.

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

PRINCIPAL PARTICIPANTS



SIMS is a partnership involving four universities.

ASSOCIATE PARTICIPANTS



IMOS thanks the many other organisations who partner with us, providing co-investment, funding and operational support, including investment from the Tasmanian and Western Australian State Governments.

IMOS acknowledges the Traditional Custodians and Elders of the land and sea on which we work and observe and recognise their unique connection to land and sea. We pay our respects to Aboriginal and Torres Strait Islander peoples past and present.

"Around the Campfire" Designer: Tarquin Singleton, Yirrganydji. ingeous Studios.

PARTNERS

CO-INVESTORS AND OPERATIONAL PARTNERS • Anindilyakwa Land Council • Austral Fisheries • Australian Antarctic Division • Australian Antarctic Program Partnership • Australian Centre for Excellence in Antarctic Science • Australian Fisheries Management Authority • Australian Longline • Australian Wildcatch Fishing • Charles Darwin University • Defence Science and Technology Group • Department for Environment and Water, SA • Department of Biodiversity, Conservation and Attractions, WA • Department of Climate Change, Energy, the Environment and Water, NSW • Department of Climate Change, Energy, the Environment and Water, Reef Trust • Department of Defence • Department of Energy and Economic Diversification, WA • Department of Energy, Environment and Climate Action, Victoria • Department of Environment, Tourism, Science and Innovation, Qld • Department of Planning and Environment, NSW • Department of Primary Industries and Regional Development, NSW • Department of Primary Industries and Regional Development, WA • Department of Primary Industries, Qld • Department of State Growth, Tas • Department of Transport and Major Infrastructure, WA • Environmental Protection Authority, SA • Environmental Protection Authority, Victoria • Flinders University • Geoscience Australia • Gippsland Ports • Great Barrier Reef Foundation • Greybits Engineering • Groote Aqua Aboriginal Corporation • James Cook University • Kimberly Marine Research Station • Macquarie University • Manly Hydraulics Laboratory • Marine National Facility • Murdoch University • Oceanographic Field Services Pty Ltd • OMC International • Parks Australia • Parks Victoria • Pilbara Ports Authority • Queensland University of Technology • Reef Life Survey • Research Attraction and Acceleration Program, NSW • Royal Australian Navy • RPS MetOcean Pty Ltd • Salmon Tasmania • Sydney Water Corporation • Talley's Limited • Tiwi Land Council • Tiwi Rangers • TT Line • University of New South Wales • University of Newcastle • University of Queensland • University of Sydney • University of Technology Sydney • University of the Sunshine Coast • Voyager Seafoods • Woodside Petroleum Pty Ltd • Xylem • **INTERNATIONAL COLLABORATORS** • Centre National de la Recherche Scientifique, France • European Space Agency • First Institute of Oceanography, China • Fishing Vessel Observing Network • French Polar Institute • Global Ocean Observing System • Hokkaido University, Japan • Institut Polaire Français Paul-Emile Victor, France • Korea Polar Research Institute, Korea • Laboratory for Studies in Geophysics and Spatial Oceanography, France • LOCEAN, France • Mercator Ocean International • MetService New Zealand • National Aeronautics and Space Administration, USA • National Centre for Space Studies (CNES), France • National Institute of Water and Atmospheric Research, New Zealand • National Oceanic and Atmospheric Administration, USA • National Science Foundation, USA • Natural Environment Research Council, UK • Ocean Data Network • Ocean Tracking Network • Scripps Institution of Oceanography, USA • Sealord, New Zealand • Shanghai Ocean University, China • Sofar Ocean Technologies • Southern Ocean Observing System • St Andrews University • Stockholm University, Sweden • TOSCA Dumont d'Urville expedition, France • University of Gothenburg • University of Stockholm • Woods Hole Oceanographic Institution, USA • **RESEARCH PARTNERSHIPS AND COLLABORATORS** • Atlas of Living Australia • Australia's Academic and Research Network (AARNET) • Australian Community Climate and Earth System Simulator National Research Infrastructure (ACCESS-NRI) • Australian Research Data Commons (ARDC) • Biopixel Oceans Foundation • Bioplatforms Australia • Blue Economy Cooperative Research Centre • Bluelink Ocean Forecasting • Department of Climate Change, Energy, the Environment and Water • eReefs • Fisheries Research and Development Corporation • Fishwell Consulting • Great Barrier Reef Marine Park Authority • National Environmental Science Program Marine and Coastal Hub • Ningaloo Research Program • QDAF Shark Control Program • Queensland Department of Agriculture and Fisheries (QDAF) Fish Aggregation Devices Program • Reef 2050 Integrated Monitoring and Reporting Program (RIMReP) • Reef and Rainforest Research Centre • Tasmanian Partnership for Advanced Computing (TPAC) • Terrestrial Ecosystem Research Network • Various ARC-funded Projects • Western Australian Marine Science Institution (WAMSI)