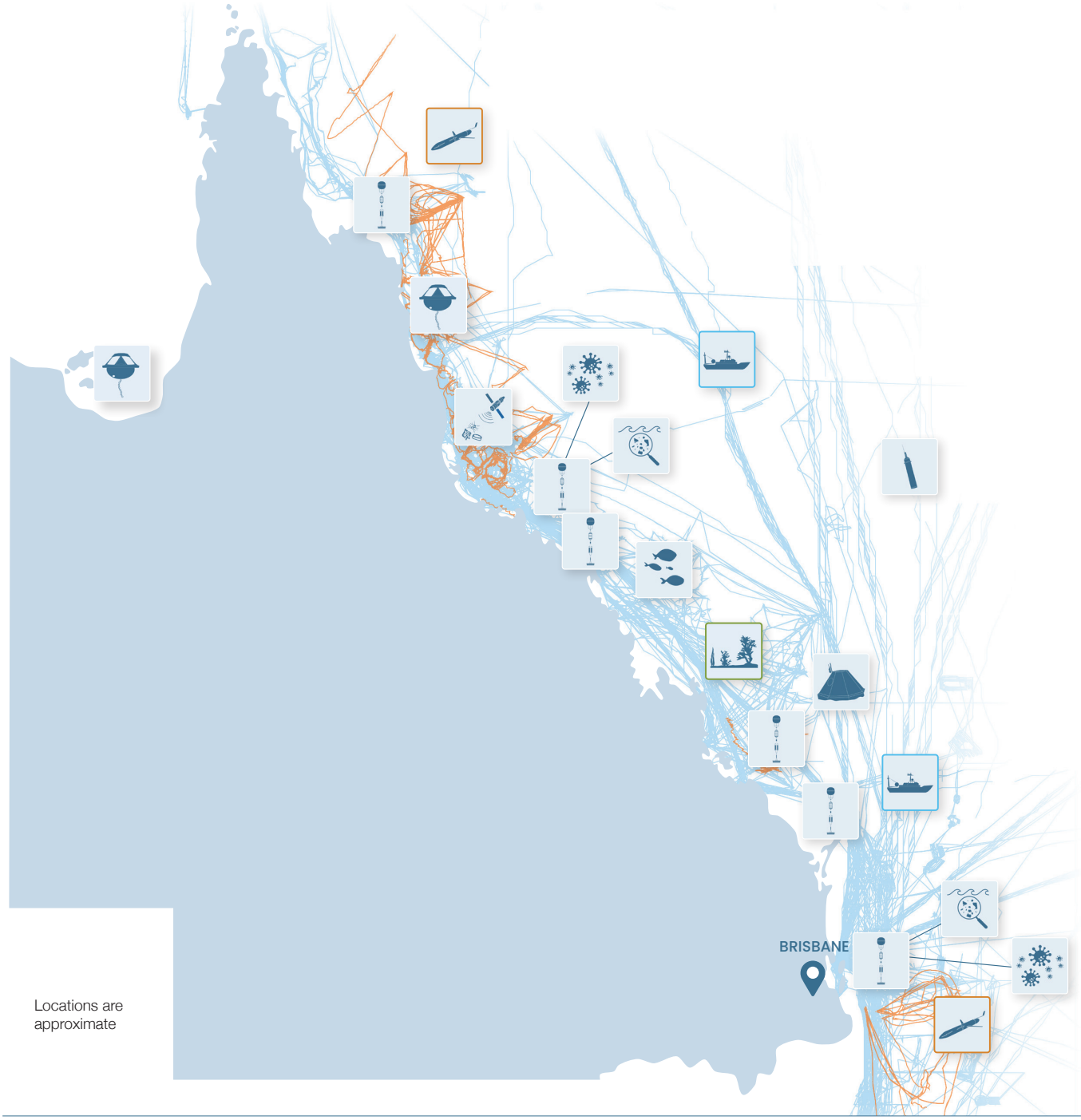
IMOS
in Queensland

IMOS
Integrated **Marine Observing** System



IMOS sustained ocean observing infrastructure in Queensland

Ships of Opportunity
Voyage observations

Ocean Gliders
Glider tracks

Benthic Monitoring
Occurring along the entire coastline

National Mooring Network

Marine Microplastics

Coastal Wave Buoys

Acidification Moorings

Animal Tracking

Argo Floats

Satellite Remote Sensing - Ocean Colour

Biomolecular Observing

Australia's Integrated Marine Observing System (IMOS) operates a variety of observing equipment across Australia's coastal and open oceans. IMOS is designed to be a fully integrated, national system, collecting data at ocean-basin and regional scales, measuring physical, chemical and biological variables.

All data collected by IMOS is openly and freely available through the IMOS Australian Ocean Data Network (AODN) portal, to support scientists, industries, government and First Nations communities.

IMOS infrastructure in Queensland aims to provide an understanding of the impacts of ocean variability in the Coral Sea on the condition and productivity of shelf ecosystems along the east coast of Queensland, with a current focus on the section of the continental shelf influenced by the southerly-flowing East Australian Current (EAC).

This region includes the southern half of the iconic Great Barrier Reef (GBR), the majority of Queensland's commercial fisheries production, and the great majority of the State's coastal population.

IMOS' sustained ocean observing infrastructure in Queensland

Ships of Opportunity

A combination of commercial, fishing and research vessels collecting a wide range of oceanographic measurements.

Benthic Monitoring

A national repository for annotating and processing marine imagery, and a centralized database of diver-collected data to track the biodiversity and health of shallow reefs and benthic ecosystems.

Acidification Moorings

A specially designed mooring system that measures CO_2 of the ocean's surface and atmosphere.

Satellite Remote Sensing - Ocean Colour

Provides information on suspended particles within the water that alter the absorption and reflection of light.

Animal Tracking

Uses acoustic telemetry to monitor the movements of tagged animals to support research and the management of marine biodiversity.

Coastal Wave Buoys

Moored wave buoys delivers near real-time wave and surface temperature observations.

Ocean Gliders

Deployments along the coast monitor subsurface properties of shelf and boundary currents.

Argo Floats

Autonomous profiling instruments collecting real-time subsurface ocean temperature and salinity data.

National Mooring Network

A collection of moorings that monitor oceanographic conditions in shelf waters and boundary currents in Australia's coastal waters.

Marine Microplastics

Microplastics samples are collected to identify sources and impacts of contamination.

Biomolecular Observing

Water samples are collected at National Reference Stations to analyse environmental DNA to track trends in marine biodiversity.

The Qld marine science community has used IMOS observations to produce:

538	Journal Articles
137	Reports
164	Projects
57	Data Products
88	Postgraduate Projects

Qld institutional users of IMOS observations:

16	Government Departments & Research Agencies
13	Research Collaboration & Non-government
23	Industry & Services
7	Universities

State partnerships

Principal participants include the Australian Institute of Marine Science (AIMS) and CSIRO. The data collected by IMOS observing infrastructure has been used by all major Queensland universities, including the University of Queensland and James Cook University.

Research partnerships

IMOS partners with eReefs and RIMReP, providing observational data that supports government agencies, Reef managers, policy makers, researchers, industry and local communities, and contributes to the coordinated monitoring, modelling and reporting required for the Reef 2050 Plan.

Access data

portal.aodn.org.au

More information

imos.org.au/nodes

NCRIS National Research Infrastructure for Australia
An Australian Government Initiative

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.

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.