

# Improving connectivity with distributed partners in the Australian Ocean Data Network

15 YEARS of IMOS

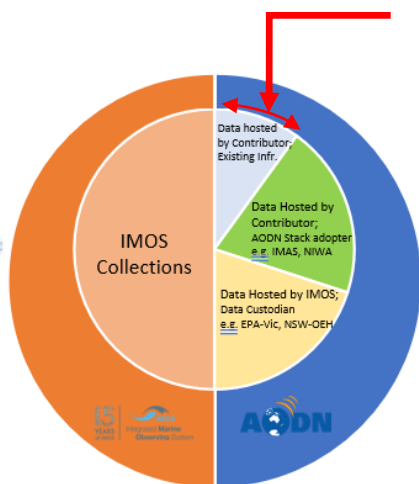
IMOS Integrated Marine Observing System

Sebastien Mancini<sup>1</sup> Mark Rehbein<sup>2</sup> Dave Watts<sup>3</sup> Johnathan Kool<sup>4</sup> Andrew Carroll<sup>5</sup> Miles Nicholls<sup>6</sup>

1 Australian Ocean Data Network, UTAS [sebastien.Mancini@utas.edu.au](mailto:sebastien.Mancini@utas.edu.au) 2 The Australian Institute of Marine Science [m\\_rehbein@aims.gov.au](mailto:m_rehbein@aims.gov.au)  
 3 CSIRO Oceans and Atmosphere [dave.watts@csiro.au](mailto:dave.watts@csiro.au) 4 The Australian Antarctic Data Centre [Johnathan.kool@awe.gov.au](mailto:Johnathan.kool@awe.gov.au)  
 5 Geoscience Australia [Andrew.Carroll@ga.gov.au](mailto:Andrew.Carroll@ga.gov.au) 6 The Atlas of Living Australia [miles.nicholls@csiro.au](mailto:miles.nicholls@csiro.au)

## 1. Challenge

To grow the number of dataset collections published on the AODN Portal by organisations in Australia with major marine data holdings



A specific focus on the data hosted by contributors with existing infrastructure

All data products contributed to the AODN are made freely and openly available to the public

In 2018, ARDC funded the Marine Research Data Cloud Project enabling the establishment of infrastructure connections and data integration with 5 major Australian oceanographic data providers

Australia has the third largest marine jurisdiction of any nation on Earth – 13.86 million km<sup>2</sup>

AODN data collections cover a large geographical area; from coastal to open ocean, equator to Antarctica

End users include:

- Researchers
- Students
- Managers
- Policy Makers
- Consultants
- Sailors
- Fishers

## 2. Context

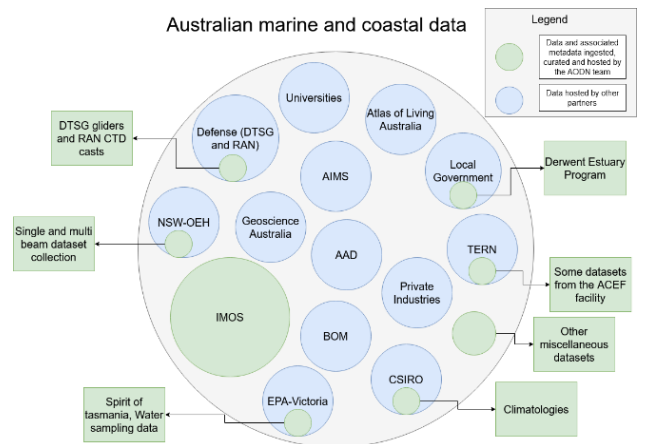


Figure Above: An overview of the Australian marine data landscape, highlighting the number of organisations, institutions and initiatives involved in the collection and publication of marine data

## 3. Implementation

Development of the institutional infrastructure linkages with 5 organisations. Collaborative work to ensure each contributor satisfy the 3 crucial AODN Portal requirements to publish dataset collections

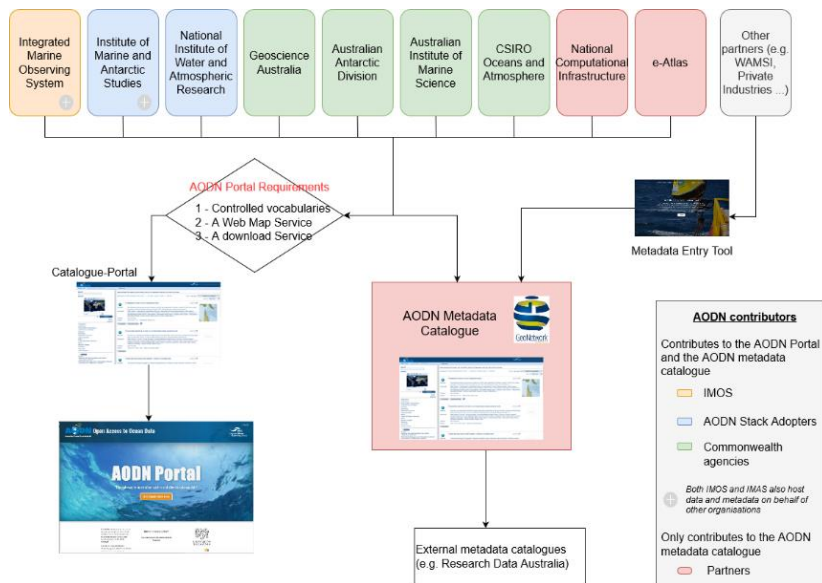


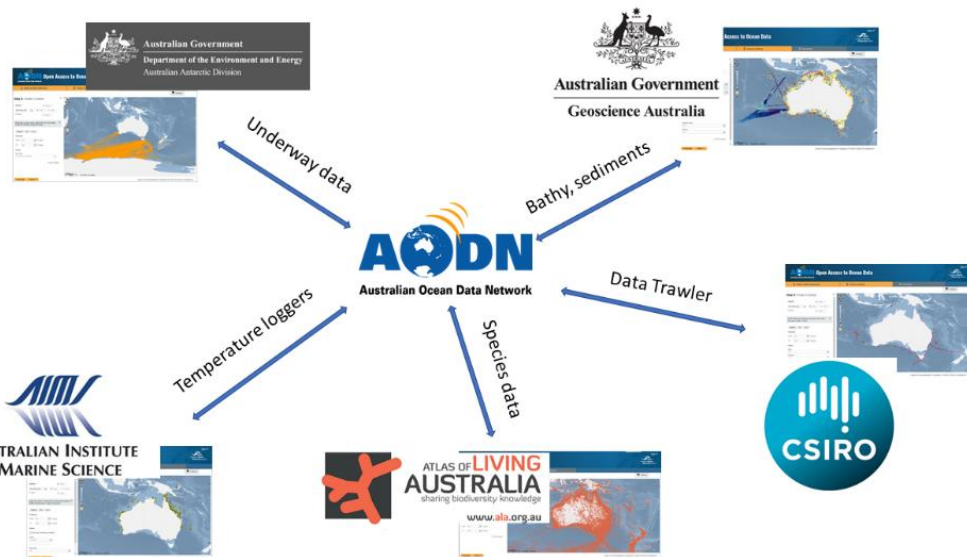
Figure Below: List of tools and standards used by IMOS and AODN partners in their respective infrastructure to publish data and metadata

Contributor	Metadata tool	Metadata standard	OGC WMS	Data download service
IMOS	Geonetwork	Marine Community Profile (MCP) 2.0	Geoserver	Geoserver
AIMS	Geonetwork	Marine Community Profile (MCP) 2.0	Geoserver	Geoserver
AAD	GCMD	Directory Interchange Format (DIF)	Geoserver	Geoserver
GA	Geonetwork	ISO 19115-1	Geoserver	Combination of Geoserver and web API using Web Coverage Service (WCS)
ALA	Not applicable	Darwin Core	Web service API (Biocache)	Web service API (Biocache)
CSIRO	Geonetwork	Marine Community Profile (MCP) 2.0	Geoserver	Data Trawler

## 4. Results

- Key dataset identified for each contributor with existing public access and interest
- Project plan created for each contributor to list tasks to be performed by both teams to enable the infrastructure linkage
- AODN Portal enhancements to allow integration with a wider range of web services (e.g. OGC WFS and WCS)
- Test environment set up to facilitate the testing and configuration of new dataset collection
- Adoption of published AODN controlled vocabularies to mark-up various elements in the metadata

There are currently over 275 dataset collections available on the AODN Portal, 130 of these are from AODN Partners



Code repository: <https://github.com/AODN>

Data access: <https://portal.aodn.org.au/> Contact: [info@aodn.org.au](mailto:info@aodn.org.au)

NCRIS National Research Infrastructure for Australia

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](http://www.imos.org.au)

