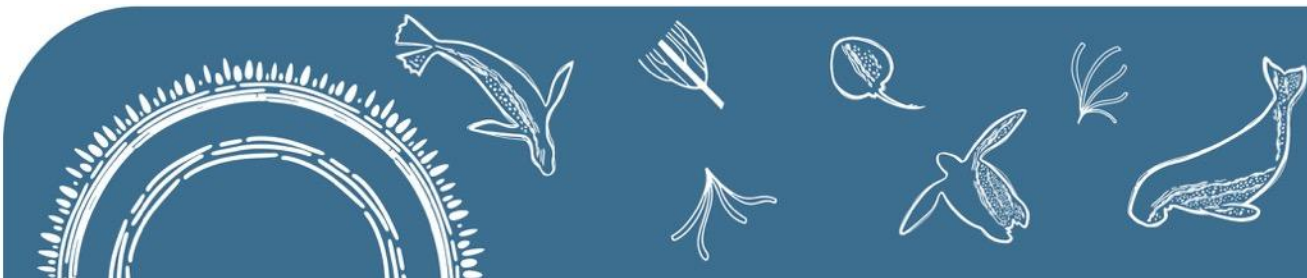




AODN 20-Year Retrospective

History and evolution of Australia's marine data network



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.

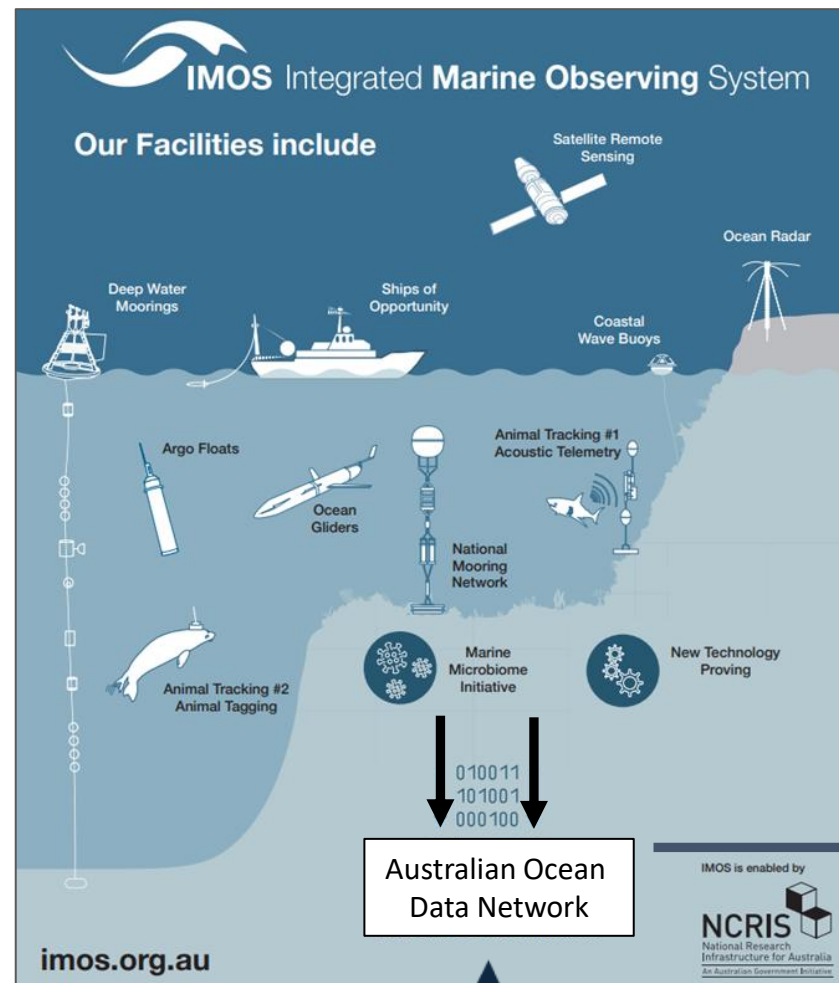
AODN 2-Parts

A certified repository for IMOS data - a national scale marine observing program (55 facilities from 10 Institutions)

- IMOS data are centralised (hosted by AODN)

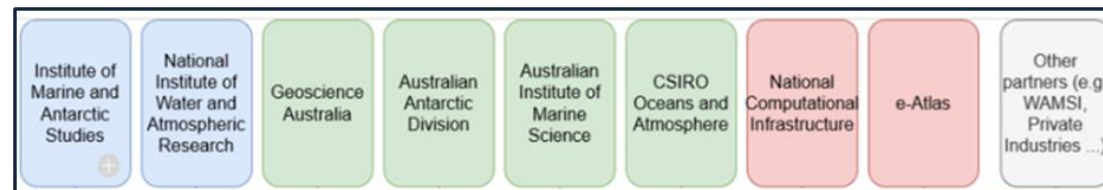
Also, a federated network of Partners, underpinned by:

- Metadata standards
- Spatial data standards
- Data hosted by the Partner



National & International Connections Eg WMO

AODN Federated Partners



Origins

Conceived by the Australian Oceanographic Data Centre – Joint Facility (AODC-JF) (AAD, AIMS, BoM, CSIRO Marine, GA, RAN)

Goal:

Make Australia's marine data discoverable, accessible and reusable

At this time, data were typically:

- Fragmented
- Inconsistent metadata and formats
- Limited discoverability and reuse
- Inaccessible, within organisation

Technical vision

A federated data infrastructure consisting of:

- GeoNetwork (metadata)
- GeoServer (spatial data sharing)
- Self-hosted data
- Centralised Portal and Catalogue (discovery)

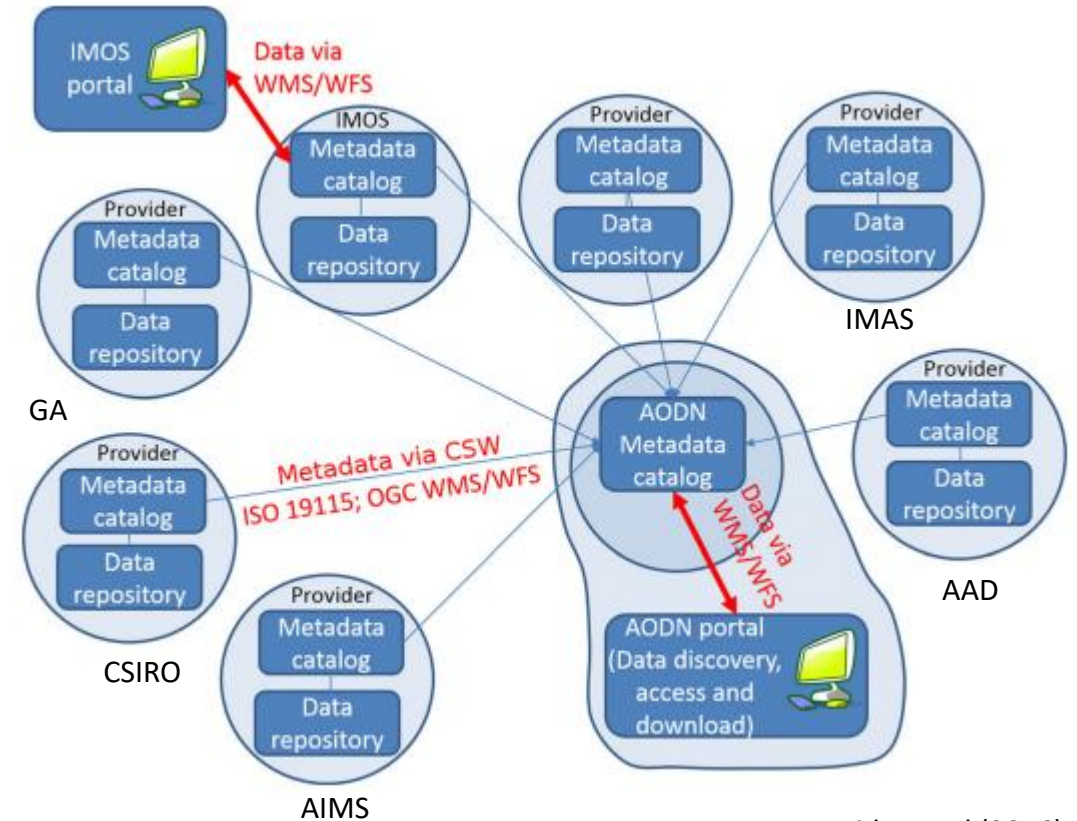
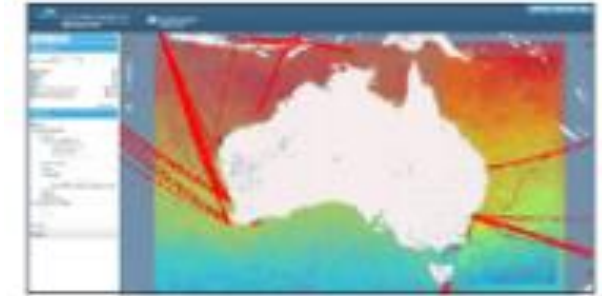
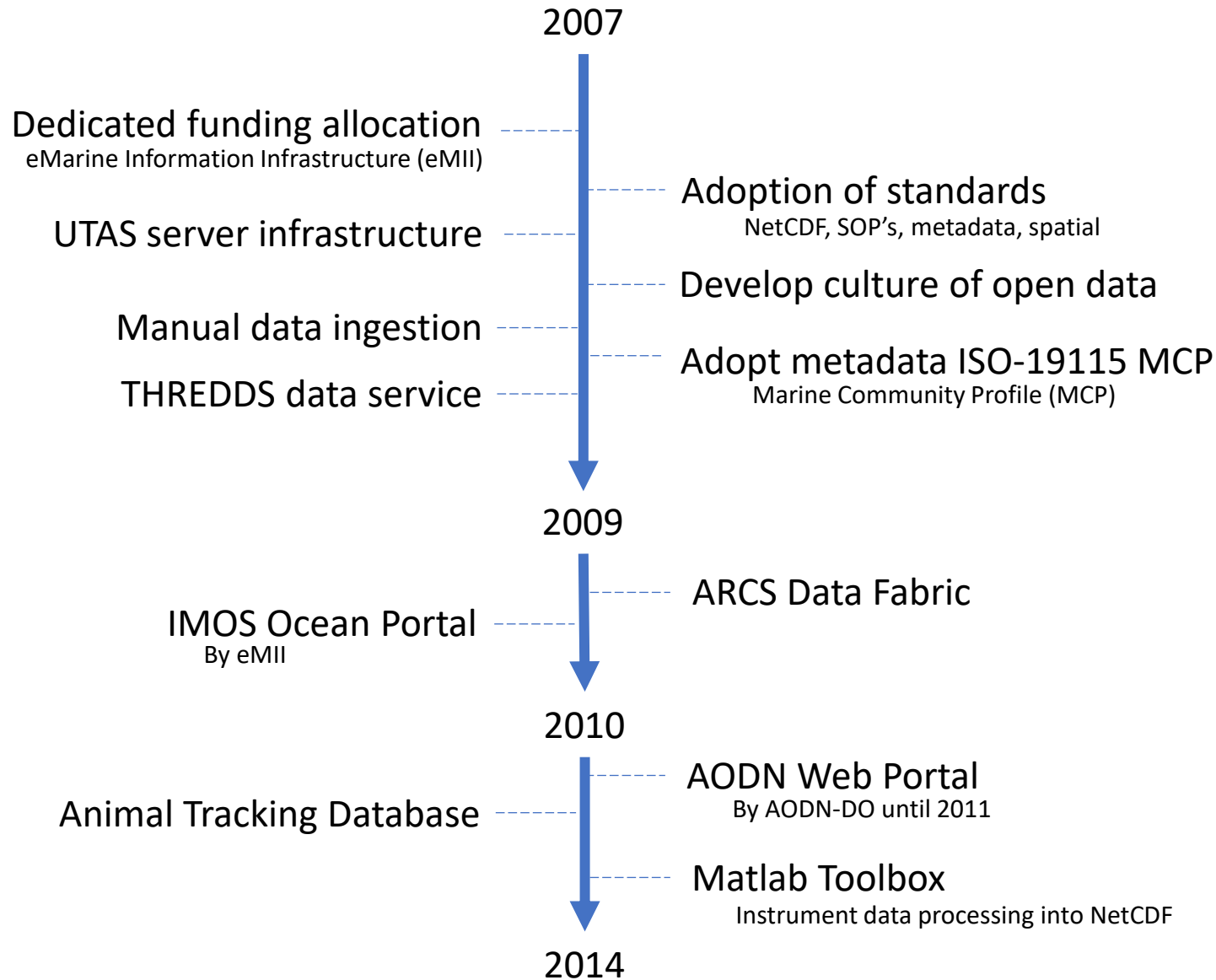


Image: Hidas et al (2016)

A significant achievement!



Early years (2007-2014): Foundations



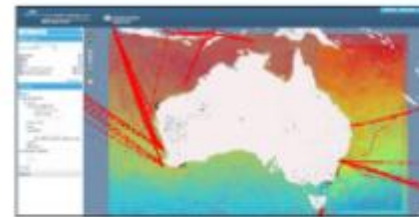
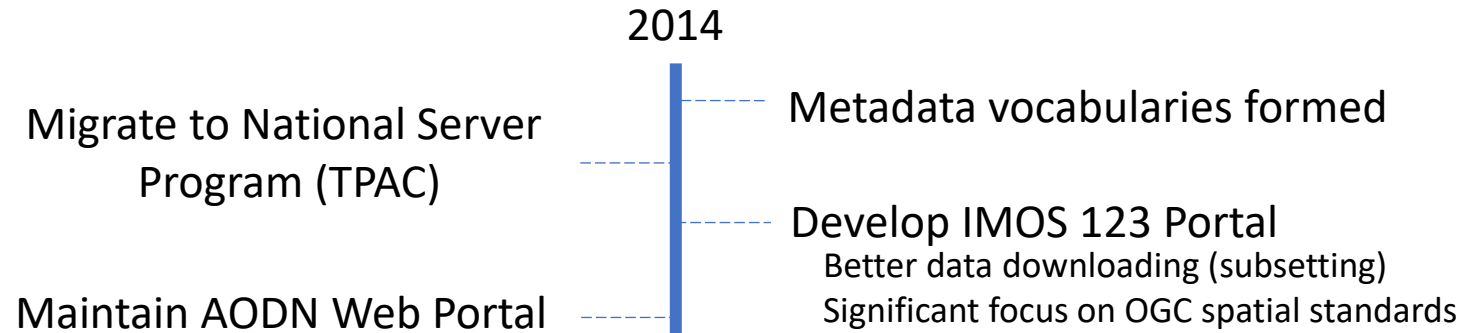
IMOS Ocean Portal
(2009 - 2014)



AODN Web Portal
(2010 - 2016)



2014-2016 Period



IMOS Ocean Portal
(2009 - 2014)



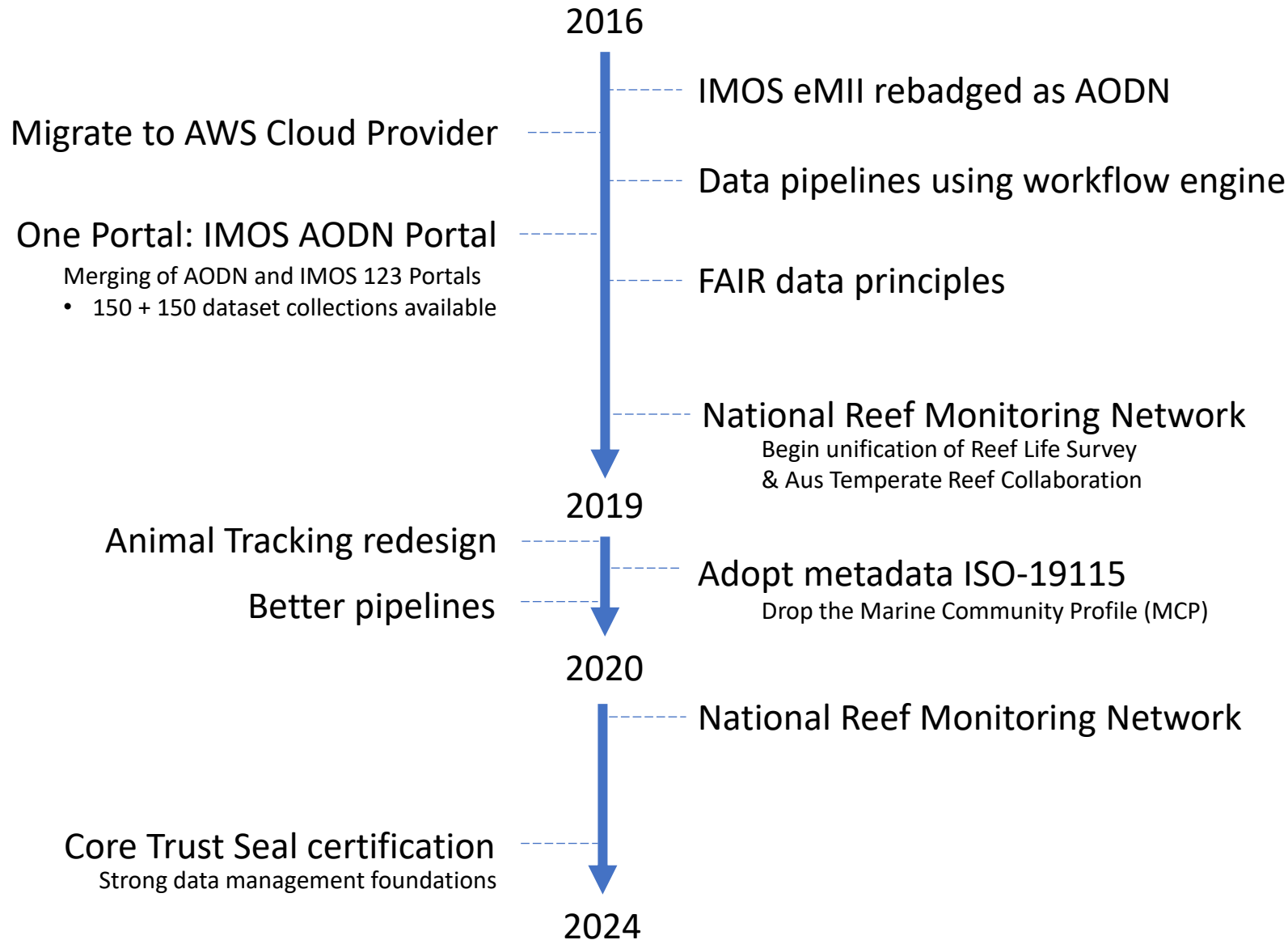
IMOS 123 Portal
(2014 - 2016)



AODN Web Portal
(2010 - 2016)



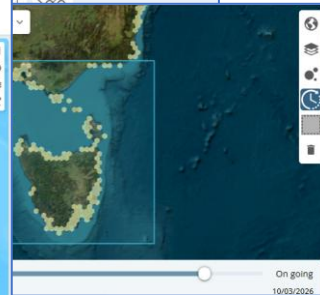
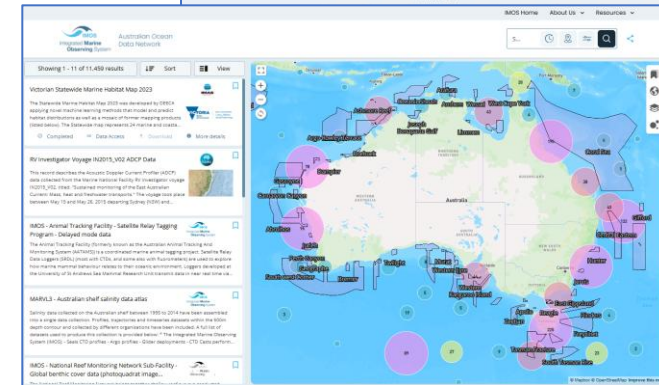
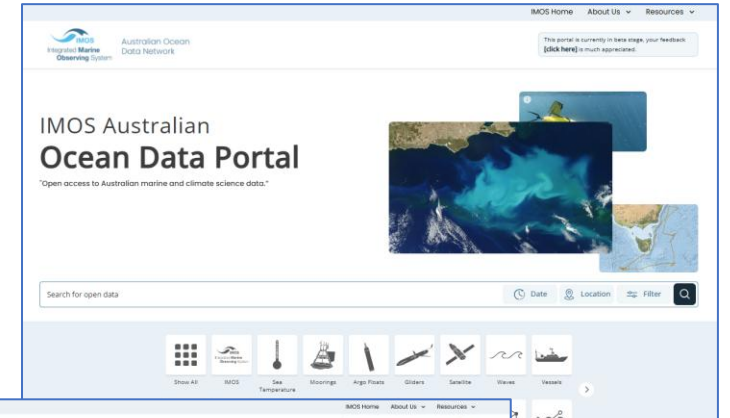
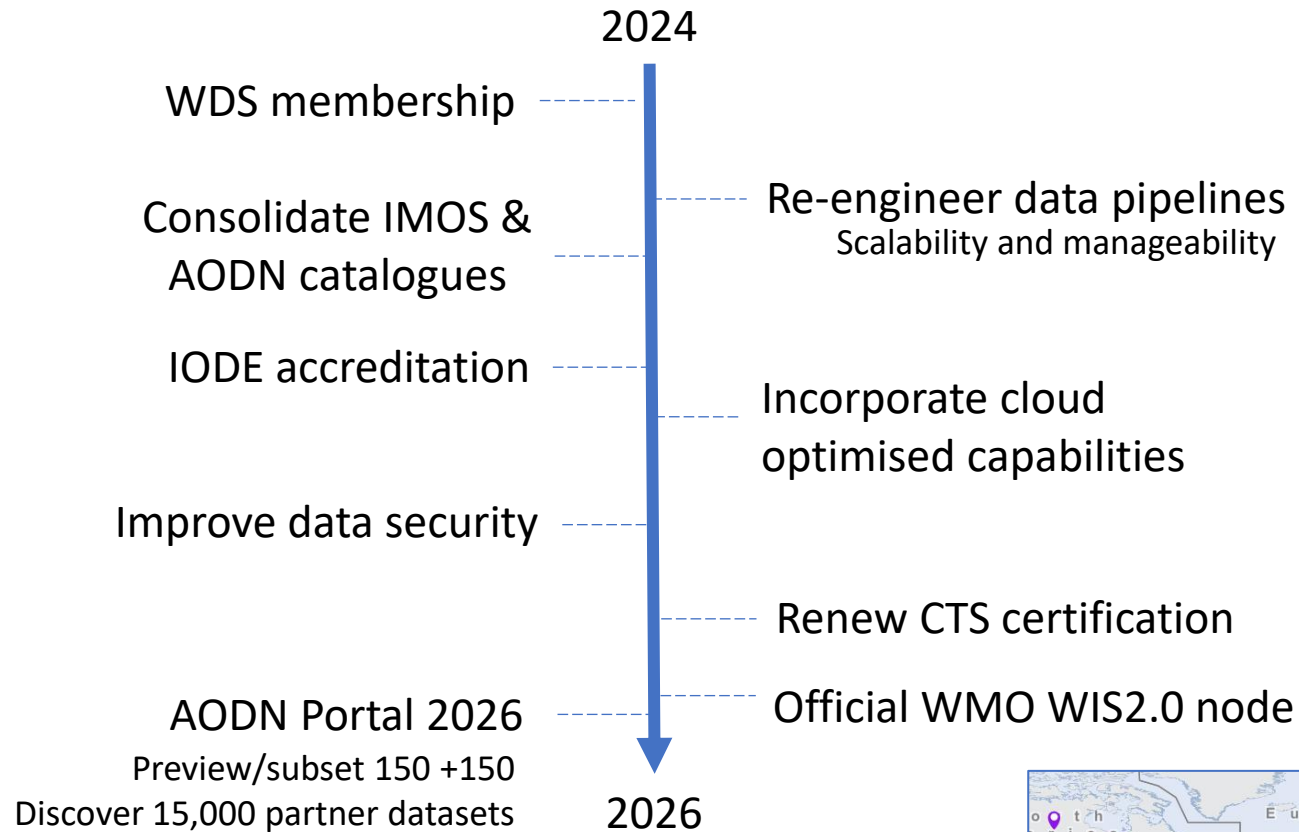
Cloud transition and consolidation (2016-2024)



IMOS AODN Portal
(2016 - 2026)



Recent developments (2024-2026)



WMO WIS2.0 Nodes



Data management credentials



AODN Portal 2026

Important features and concepts

- Search suggest
- Spatially aware
- Extended catalogue (15,000)
- Dataset information
- Subset download (150+150)
- Previews of data (150+150)
 - Data density maps
 - Web map service
- User survey
- Citation copy
- THREDDS
- Cloud optimized
- Links to data science notebooks

IMOS Home About Us Resources

IMOS Integrated Marine Observing System Australian Ocean Data Network

This portal is currently in beta stage, your feedback [\[click here\]](#) is much appreciated.

IMOS Australian Ocean Data Portal

"Open access to Australian marine and climate science data."

Search for open data

Date Location Filter

Show All IMOS Sea Temperature Moorings Argo Floats Gliders Satellite Waves Vessels

Weather & Climate Acidification Ocean Chemistry Tides Fisheries Reef Industry Gridded Datasets Ocean Physics

- Available in 'beta preview' for feedback
- Will continue to evolve based on feedback and technology change
- Not all IMOS data are available yet
- Old Portal will continue in parallel



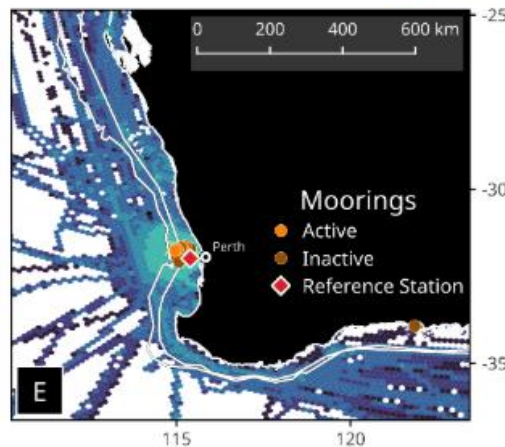
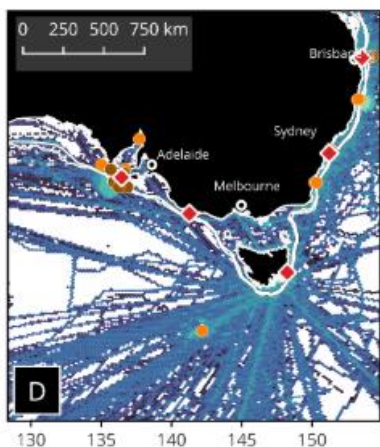
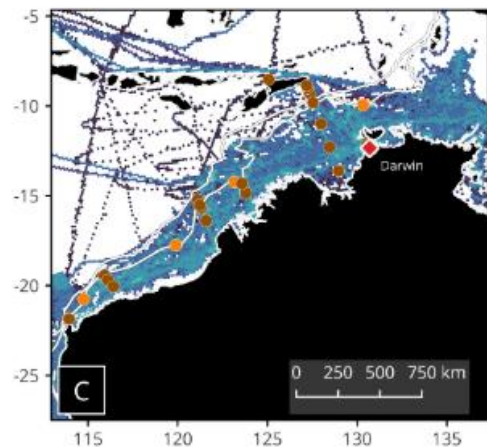
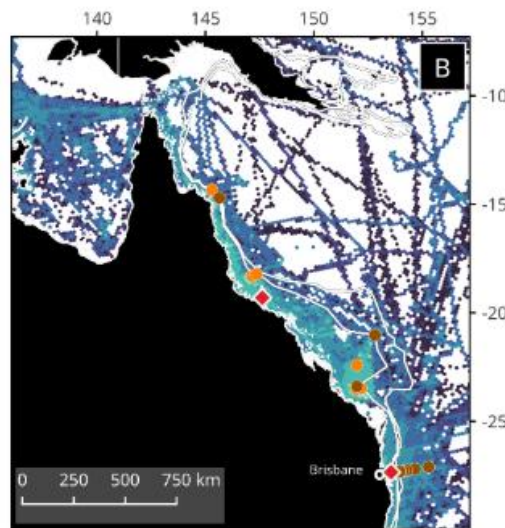
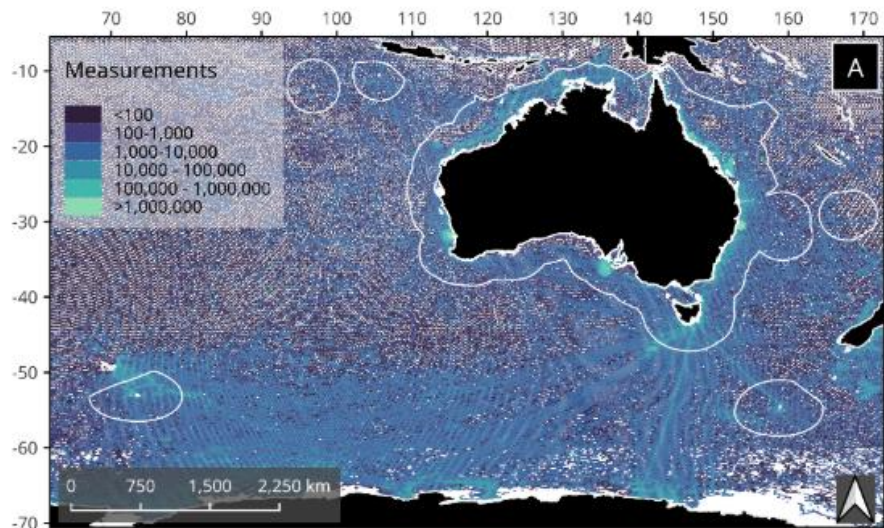
Some fun facts

1.5 Billion
measurements

88 TB
data volume

100 Million
data files

20+ Years
timeseries



15,000
metadata

150 + 150
dataset collections

1,440
voyages

325
industry vessels

840 K
profiles

3,600
mooring
deployments

3 Million
satellite images

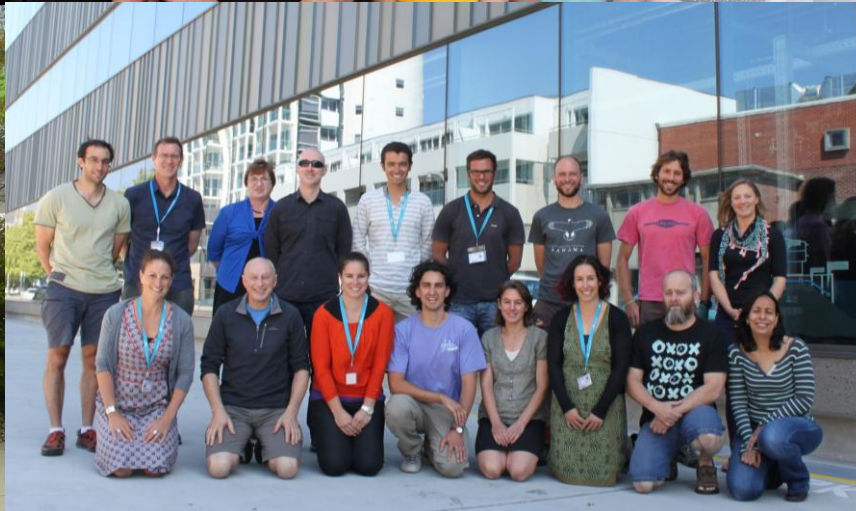
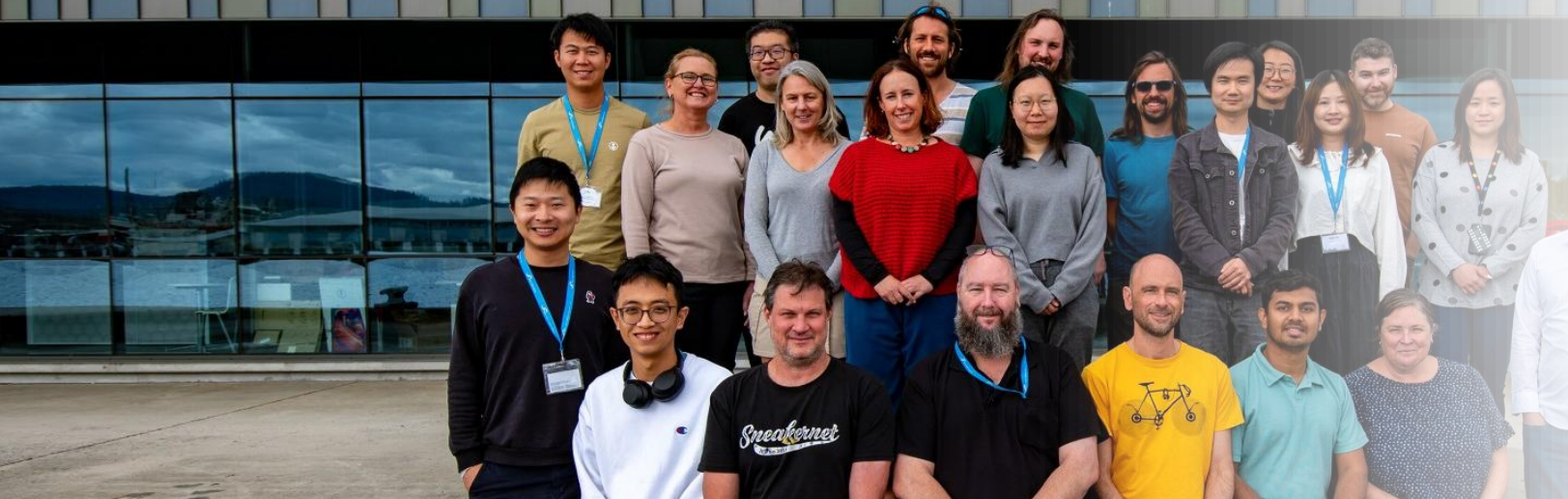
820
wave buoy
deployments

15,000
benthic images
69 AUV campaigns



Acknowledgement

- AODN Staff past and present
- IMOS Directors past and present
- IMOS Admin team
- IMOS Facilities
- NCRIS and UTAS





Australia's Integrated Marine Observing System 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.

PRINCIPAL PARTICIPANTS



SIMS is a partnership involving four universities

ASSOCIATE PARTICIPANTS



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

