

# FISHING VESSELS AS SHIPS OF OPPORTUNITY

## Do you need ocean data in remote regions?

Don't trawl for it yourself – use the freely available ocean data collected from around Australia and beyond by IMOS FishSOOP.

## What is IMOS FishSOOP?

IMOS FishSOOP crowd sources ocean data as part of a collaboration between IMOS, UNSW Sydney and the commercial fishing sector. Fishing vessels deploy high resolution, low impact Moana sensors on their fishing gear to gather sub-surface temperature data during normal fishing operations. The programme complements existing infrastructure by filling the observation gap between coastal moorings and deep-water instruments such as ARGO floats.



## How does the system work?

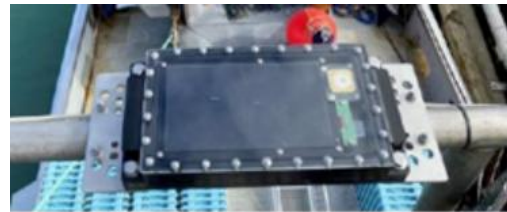
The system is designed to be autonomous once installed. The sensor activates on entering the water and records temperature, time, and pressure (i.e. depth) throughout the deployment.

Lightweight sensor which attaches to fishing gear



On emerging from the water, it offloads data via Bluetooth to a solar powered deck unit which adds the corresponding position data to the

measurements. The deck unit then offloads the data to the cloud for processing, quality control, anonymisation, and dissemination.



Deck unit

## Where do the data go?

The data are returned to the fisher that gathered them (often in near real time) to enable dynamic, operational decision making and an insight into the effects of ocean temperatures on their fishery.

The data are also anonymised and uploaded to the Australian Ocean Data Network (AODN). Some near real time data is uploaded to the Global Telecommunications System (GTS) which allows national weather services to incorporate them into weather models and forecasts.

## How do I access the data?

The data are made freely available under a 'Creative Commons By Attribution' licence ([CC By 4.0](https://creativecommons.org/licenses/by/4.0/)) on the AODN. The data are provided as netCDF files listing temperature, depth, time, and position. They can be accessed via the [IMOS/AODN 123 Portal](https://www.imos.gov.au/aodn-123-portal/) either from Amazon Web Services (AWS) or THREDDS.

Download and links

- Link to Fishing Vessels as Ships of Opportunity page on IMOS website  
<https://imos.org.au/facility/ships-of-opportunity/fishing-vessels-as-ships-of-opportunity>
- Files via Amazon Web Services S3 storage  
<http://data.aodn.org.au/?prefix=IMOS/SOOP/SOOP-FishSOOP/REALTIME/>
- NetCDF files via THREDDS catalog  
<https://thredds.aodn.org.au/thredds/catalog/IMOS/SOOP/SOOP-FishSOOP/REALTIME/catalog.html>
- Access to AWS Open Data Program registry for the Cloud Optimised version of this dataset  
[https://registry.opendata.aws/aodn\\_vessel\\_fishsoop\\_realtime\\_gc/](https://registry.opendata.aws/aodn_vessel_fishsoop_realtime_gc/)
- Access to Jupyter notebook to query Cloud Optimised dataset  
[https://nbviewer.org/github/aodn/aodn\\_cloud\\_optimised\\_notebooks/vessel\\_fishsoop\\_realtime\\_gc.ipynb](https://nbviewer.org/github/aodn/aodn_cloud_optimised_notebooks/vessel_fishsoop_realtime_gc.ipynb)

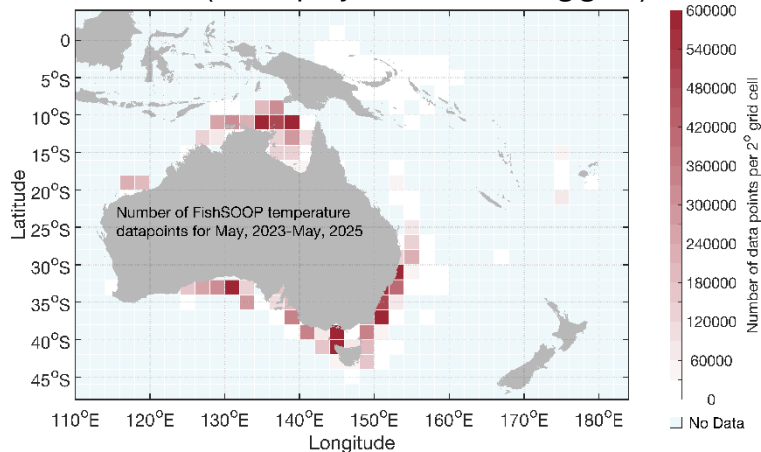
Data access portals

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There are also plans to make the data available in the near future directly from the AODN portal.

## How much data is there and where is it?

There are almost 70 vessels in the programme, with plans to add more in the coming months. These vessels operate in every coastal state/territory in Australia, as well as in the Southern Ocean, and across the Western & Central Pacific. In the first 12 months under IMOS (to June 2025), the programme gathered 4.7 million data points from more than 21,000 sets (i.e. deployments of fishing gear).



Data coverage plot for IMOS FishSOOP May 2023-5. Credit: Dr. V Lago, Oceanography Lab, UNSW

## Who might use the data?

The data have a wide range of applications across the blue economy.



- Fishers, fisheries managers, and fisheries scientists may use their FishSOOP data to understand catch rate or other fisheries data

(note that FishSOOP does not collect any catch data).

- Ocean scientists and climatologists may use the data to help understand our changing oceans.
- Meteorologists could use the data to improve weather forecasts, including tropical cyclone prediction, thereby saving lives and property.

## How do I acknowledge use of the data?

Users of IMOS data are required to acknowledge clearly the source material by including the [IMOS Data Acknowledgement](#).

*"Data were sourced from Australia's Integrated Marine Observing System (IMOS) – 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".*

Additionally, we would love to hear about the impact the data have. Please tell us using the contact details below.

## How do fishers get involved?

We're keen to talk to engaged fishers who are willing to co-invest time and resources in gathering ocean data with us. If you know anyone who might be interested, please fill out this [Expression of Interest](#) form and we will get in touch.



## How do I find out more information?

If you'd like more information, please contact [FishSOOP@unsw.edu.au](mailto:FishSOOP@unsw.edu.au). Alternatively you can visit our [IMOS](#) and [UNSW](#) pages where you can read more about the programme and subscribe to our monthly newsletter.

