IMOS FishSOOP Newsletter #17 February 2025

Dear all,

Welcome to the February newsletter. In here, you'll find an explanation of the temperature data's journey from the vessel to its various destinations, and another case study on how fishers are using the data to fish smarter, not harder. This month we also welcomed COLTO (Coalition of Legal Toothfish Operators) into the program. We are really expanding the reach of the program from the equator to the sub-Antarctic.

Data case study 3: Leatherjacket and Gold-band snapper

In our recent end-user survey, we discovered some innovative uses of the FishSOOP data, including two instances of fishers making dynamic, operational decisions about their fishing strategy in relation to Leatherjacket and Gold-band snapper. In both cases, these fish are caught using pots or traps. Both species are highly temperature sensitive, moving locations and/or depths in search of the optimum temperature range.

Our two fishers reported using the FishSOOP temperature data to establish whether their intended fishing grounds were likely to yield a decent catch. As such, they make data driven decisions about where to fish and even which species to target. This resulted in better catch rates as well as savings in time, fuel, and bait enabling them to fish smarter, not harder.

Leatherjacket (Photo credit: Deckee.com)

We hope to discover more novel uses of the temperature data. If any of our fishers have used the data to enhance their fishing operations, please let us know via the email address below.

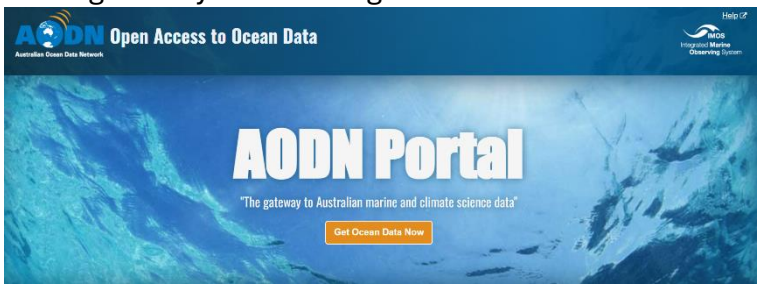
Disclaimer: FishSOOP does not collect any information regarding catch rates or composition – the only information recorded by the instrumentation is time, position, depth, and temperature

What happens to the data?

Once the data gathered by IMOS FishSOOP have been quality controlled (QC), they are returned in the first instance to the fisher who collected them. This occurs automatically and usually within minutes to an hour of data offload, either via the vessel's Wi-Fi or via mobile phone signal when in range. This rapid turnaround allows fishers to make dynamic, operational decisions like those described above, meaning that the data generate a real impact in a short time frame.

The data are then anonymised (i.e. stripped of any identifying information which could indicate the source vessel) then undergo a quality control process and are formatted uniformly for machine readability. IMOS subscribe to FAIR data principles so that all ocean data is 'Findable, Accessible, Interoperable, and Reusable'.

Some of the data are sent in real time to the international Global Telecommunications System (GTS) for use by meteorological services to improve weather forecasts. As part of the agreement to participate in IMOS, all of the data are eventually uploaded to Australian Ocean Data Network (AODN) portal, from which researchers and anyone else interested in ocean temperature observations can access and use the data, as long as they acknowledge IMOS as the source.

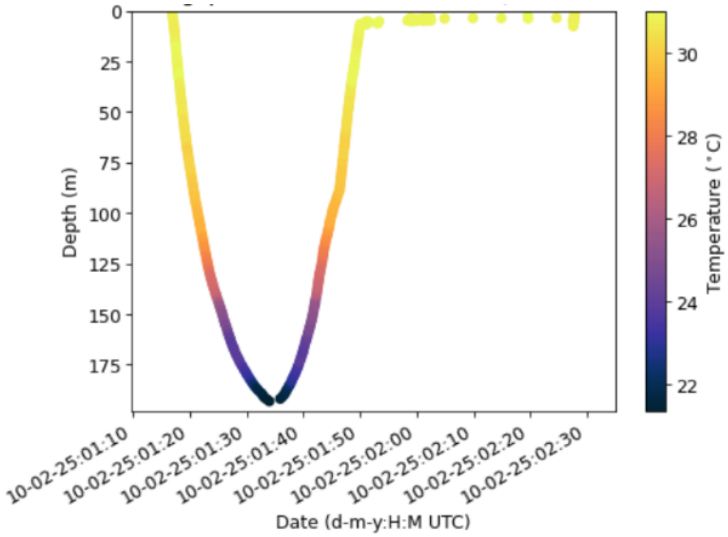


IMOS FishSOOP Newsletter #17 February 2025

Access to the anonymised FishSOOP data specifically is via this link. Files are available in NetCDF format. We recognise that the NetCDF format is specific for scientists, so over the next 12 months we will be working on data products and data access tools for easy access by fishers.

Plot of the Month

We are delighted that some of our new PNG purse seine vessels have offloaded up to 4 weeks' worth of data after returning to port. Here's a temperature profile from a one of the tropical vessels, showing ocean temperatures are more than 30˚C at the surface and still a balmy 22˚C at a depth of 180m.



New Participation

This month we welcomed five vessels from COLTO (Coalition Of Legal Toothfish Operators) into the program. We have worked with the sensor manufacturer Zebratech to develop a sensor that can withstand the pressures experienced at depths of ~2000m for the deep toothfish fishery. We have four vessels that are now instrumented, and we look forward to seeing some of their Southern Ocean data come in over the next month or two.

Feedback

Please provide your feedback and comments by emailing us. We are particularly keen to understand which elements of the data you receive are most useful and how we can improve.

Matt Irwin, Project manager, UNSW
FishSOOP@unsw.edu.au

Bryce Nurnaitis, Liaison, Fishwell
bryce@fishwell.com

Thank you

Thank you for your continued support of the FishSOOP program - the data that you help us gather is extremely valuable to the wider community. It will help us improve weather and ocean forecasting models daily, allow us to monitor changes in the oceans, and enable a better understanding of the risks and impacts of climate change, while also contributing to operational decision making at sea, and fisheries stock assessment and research.

Fair winds and following seas

Professor Moninya Roughan and the FishSOOP team.

IMOS FishSOOP Newsletter #17 February 2025

Partners

IMOS Fishing Vessels as Ships of Opportunity sub-Facility is operated through the University of New South Wales (UNSW Sydney) and the Sydney Institute of Marine Science (SIMS) an IMOS partner.

Delivery Partners

Australian Fisheries Management Authority (AFMA)
Parks Australia (Australian Marine Parks)
Charles Darwin University (CDU)
Coalition of Legal Toothfish Operators (COLTO)
Fisheries Research and Development Corporation (FRDC)
Fishwell Consulting
New South Wales Government (Office of Chief Scientist and Engineer)
Northern Territory Government (Fisheries)
University of the Sunshine Coast (USC)
University of New South Wales (UNSW)

International Collaborators

Papua New Guinea National Fisheries Authority
Papua New Guinea Fishing Industry Association
Pacific Community (SPC) - coinvested in the trial of the FishSOOP program across the Central and Western Pacific.

For more information, please see the FishSOOP website and/or email FishSOOP@unsw.edu.au

About IMOS

The Integrated Marine Observing System (IMOS) operates a wide range of observing equipment throughout Australia's vast and valuable coastal and open ocean estate.

IMOS makes all of its data openly and freely accessible to the marine and climate science community, other stakeholders and users, and international collaborators.

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.

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 Univeristy 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 their unique connection to land and sea. We pay our respects to Aboriginal and Torres Strait Islander people past and present.