

FISHING VESSELS AS SHIPS OF OPPORTUNITY

Sensor attaches to fishing gear

Our technology partner, Zebra-Tech, has developed a compact, low-cost temperature sensor (the Moana sensor) that can be attached to many types of commercial or recreational fishing gear. It operates with minimal human intervention and communicates directly to a solar powered deck box.



Fishers collect ocean temperatures

Fishers have always been ocean experts. The Moana sensor puts ocean data collection back into the hands of those who work on, and depend upon, the sea.

We need subsurface marine measurements to understand how the ocean is changing below the surface. International ocean observing programmes such as Argo provide some deepwater data offshore but our subsurface coastal waters are not well monitored. Fishing vessels operate in areas where we have few subsurface ocean measurements, and where environmental change is having a huge impact.

There are thousands of vessels operating around Australia and across the South Pacific. This network of fishing vessels can collectively provide cost-effective, real-time subsurface data in our vast EEZ and beyond.

What are we asking fishers to do?

Participating fishers deploy small self-contained temperature sensors on their fishing gear, and a standalone, solar-powered deck unit on the vessel.

The sensor collects data every time the gear is deployed. After the installation, the system needs little to no intervention.

What do fishers get in return?

You will be able to access your individual vessel temperature data (with pressure and time). Sensor measurements will be made available online as downloadable files and sent to you via email within 1 hour of data reception.

You can compare sensor data with your personal catch information and understand relationships between catch and temperature.

The data will benefit fisheries and fishers

We are working to further the understanding of the link between water temperature at depth and fish distribution and abundance. The fishing industry can provide very valuable ocean observations on an unprecedented scale, which can be used to answer a range of questions. We can use the data in near real time to improve our ocean forecast models.

In the longer term, we hope the data will assist in standardising catch rates in our fisheries stock assessment models. Furthermore, better ocean data will improve our understanding of general ocean warming, marine heatwave events, temperature impacts on the relative or total abundance of species, species range shift, and the impact of this on fisheries productivity.

