

Use Case:

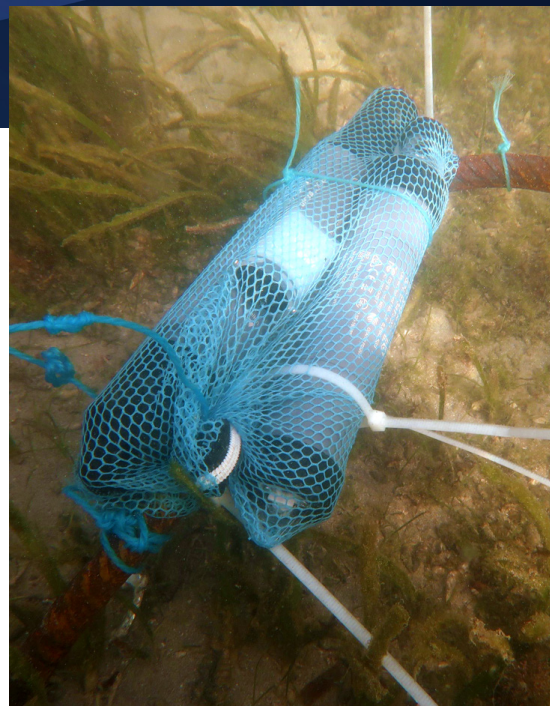
Studying the Effects of Climate Change on Marine Organisms

Problem

Engaged in investigating the response of marine organisms to changing climate conditions (such as ocean acidification, ocean warming, and hypoxia), a team of marine biologists with the Centre for Climate Change Studies at the Sathyabama Institute of Science & Technology in Chennai, India were looking for monitoring products for long-term continuous collection of water quality data, including dissolved oxygen (DO), temperature, and pH measurements.

Solution

Having had a positive experience using HOBO data loggers for a past project, the researchers reached out to Onset to purchase the following types of monitoring equipment: the [HOBO Dissolved Oxygen Data Logger](#), an affordable, easy-to-maintain DO logger, the [HOBO Pendant Temp/Light Data Logger](#), a miniature, low-cost, waterproof logger; the HOBO Waterproof Shuttle and [HOBOWare Pro software](#) for data download and analysis; and the Bluetooth [HOBO pH and Temperature Data Logger](#), which works with the free [HOBObconnect app](#) for wireless data downloads right to a mobile device or Windows laptop.



Results

Loggers were deployed in aquarium tanks as part of the team's laboratory study in Chennai, as well as in situ, on customized block mountings in a seagrass meadow at an underwater research site in Palk Bay, along the Rameswaram coast of India. The team collected data from the pH and DO loggers as frequently as every day, and data from Pendant light and temperature loggers approximately every 10 days. Linking the collected data with the other physico-chemical and biological parameters based on the studies, the researchers were able to gain a good understanding of the diel variations in DO, temperature, and pH in natural settings like seagrass meadows.

HOBO products are easy to use, and they produce reliable data.

- Amit Kumar, PhD

*Centre for Climate Change Studies,
Sathyabama Institute of Science & Technology*

Products Used

Product	Description
HOBO Dissolved Oxygen Data Logger	An affordable, precise data logger that measures oxygen concentrations in lakes, streams, rivers, estuaries, and coastal waters.
HOBO Pendant Temp/Light Data Logger	A miniature, value-priced, waterproof data logger for temperature and light monitoring applications; stores 52K measurements.
HOBO Waterproof Shuttle	Provides convenient readout and relaunching of underwater and outdoor HOBO data loggers with an Optic USB interface, and is waterproof to 20m (66ft). Can also be used as a base station.
HOBOWare Pro software	Setup and enhance your data analysis with powerful tools for easy setup, graphing, and analysis of our stand-alone products.
HOBO pH and Temperature Data Logger	A pH and temperature data logger for long-term monitoring of pH in water, leveraging Bluetooth for easy setup and data download.
HOBOnet connect app	A free app to configure HOBO MX Series data loggers and manage the collected data.

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