

The Ship of Opportunity Program (SOOP)

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Project Summary

As part of the Ship Of Opportunity Program (SOOP), this project continues to provide XBT deployments from (mostly) cargo vessels, their data acquisition and transmission through the Shipboard Environmental Data Acquisition System (SEAS), and data quality control, and operational logistics to other observational networks such as ThermoSalinoGraphs (TSGs), global drifter array, and Argo profiling floats. XBTs are deployed along transects recommended by the international community in two different modes: frequently repeated and high density. The SEAS component of this project is also used for the acquisition and transmission of marine meteorological observations made from the Voluntary Observing Ships (VOS).

The project includes these main components:

- The maintenance and enhancement of a system called SEAS (Shipboard Environmental Acquisition System) for the merchant fleet to acquire ocean and meteorological information and transmit it in real-time to users worldwide;
- Upper ocean temperature observations using closely spaced XBTs that can resolve the mesoscale: the high-density XBT program;
- Upper ocean temperature observations using frequently deployed XBTs that sample large ocean regions along repeated transect: the frequently repeated XBT program;
- TSG data, which in turn support pCO₂ systems operations;
- Deployment opportunities for drifter and Argo floats;
- The maintenance and enhancement of the Amver component of SEAS in support of United States Coast Guard search and rescue operations.

This project is necessary and essential to the Department of Commerce's mission as evidenced by two of the three strategic goals that comprise the Department's mission statement:

- Foster science and technological leadership by protecting intellectual property, enhancing technical standards, and advancing measurement science,
- Observe, protect, and manage the Earth's resources to promote environmental stewardship.