Big Data for a Big Ocean - Preserve, Discover, and Use **[1]**

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Abstract:

Goals: Tiers of Stewardship

The mission of the NOAA National Oceanographic Data Center (NODC) is to provide scientific stewardship of marine data and information.   NODC provides various levels of stewardship of our data; long term preservation and basic access to data is the absolute mininum level of stewardship. NODC engages its partners around the globe to provide additional levels of stewardship.

Challenges: The "Big Ocean"

With increasing numbers of ocean observing systems, including automated ship-based systems, autonomous underwater and airborne vehicles, satellite observations, and other in situ systems, combined with numerical models, NODC has clearly entered the age of Big Data. The challenges of stewarding this growing variety, volume, and velocity of incoming "Big Ocean" data, while also maintaining the veracity of those data, will continue to grow.

Strategy: Automation and Standardization

NODC continues to adapt to meet these challenges by taking numerous approaches, including automating the acquisition and ingest of incoming data; deploying standardized, machine-consumable data discovery services; and providing interoperable data access, visualization, and subset mechanisms. NODC also supports the community of data producers by developing tools to help create more machine-ready ocean observation data and information. NODC undertakes projects to investigate how, for example, to more effectively incorporate cloud storage, access, and processing services into existing workflows and systems.

Collaboration Area: Data Preservation [3]
Discovery [4]
Documentation [5]
Visualization [6]

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