

NOAA Ocean Exploration: Update on Refit of the NOAA Ship *Okeanos Explorer*

DSSC Meeting
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Artist Rendering

- Ocean Exploration and Research - Exploration Goals

Accomplished within the context of four principal activities:

- ▶ Mapping and characterizing physical, chemical, biological environments and ecosystems, as well as maritime heritage resources;
- ▶ Developing a better understanding of ocean dynamics and interactions in new places and/or at new levels;
- ▶ Development of new ocean sensors and systems;
- ▶ Reaching out to the public to communicate how and why exploration of the oceans is to the benefit of current and future generations.

Data and observations from OE expeditions will result in new discoveries, new insights, new knowledge and new frontiers.

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Some *EX* Operational Guiding Principles

- ▶ Reconnaissance vessel operating in regions with a high potential for discovery.
- ▶ Expeditions will be interdisciplinary.
- ▶ Most of the investigative scientific team will participate from one of five shore-based Exploration Command Centers (ECC) via telepresence.
- ▶ Investigative team will be participating on behalf of the entire oceanographic community.
- ▶ Goal is to have results of expeditions available immediately.
- ▶ Distribution of "iconographic" set of products

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Some Key Okeanos Explorer Operations

- ▶ Deep Water Mapping (6000 m).
- ▶ Science-Class Remotely Operated Vehicle Operations (6000 m).
- ▶ Daily "Ewing Stations" (e.g., Water-Column and Seabed Characterization and Sampling).
- ▶ Real-Time Broadband Satellite Communications (Data, Education and Outreach)

Will complement ongoing investigations aboard more traditionally outfitted, larger vessels.

General Operating Area



Concept of Operations



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<http://oceanexplorer.noaa.gov>

EXPLORE 

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This year...

- ▶ Series of local shakedown cruises for purpose of confirming EX's operational readiness
- ▶ "Sticks and Boxes" cruise from NE Pacific to NWHI

Next year...

- ▶ Expeditions within the Pacific Basin with target areas determined with community-based input

Progress and Timelines

