

An underwater scene showing a hydrographic surveying instrument, possibly a CTD or similar, suspended from above. The instrument is emitting a blue light. Below it, a large, textured mound of sediment or rock is visible on the seafloor. The water is dark blue, and the overall lighting is dim, typical of an underwater environment.

# **NOAA Office of Ocean Exploration and Research DeSSC New Users Program**

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# OCEAN EXPLORATION



Seafloor Mapping



Visual Surveys



Sampling



Inform traditional and renewable energy siting



Evaluate availability of critical minerals resources



Discover new species with biopharmaceutical/biotechnology potential



Assess populations and habitats of managed marine species



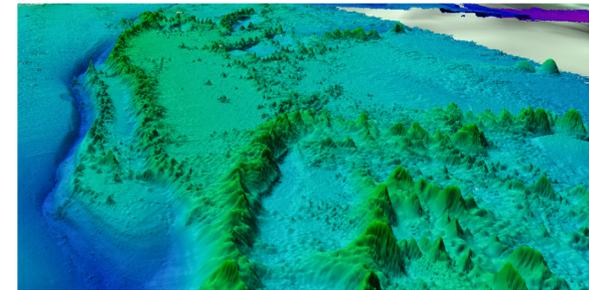
Drive innovation of novel technologies

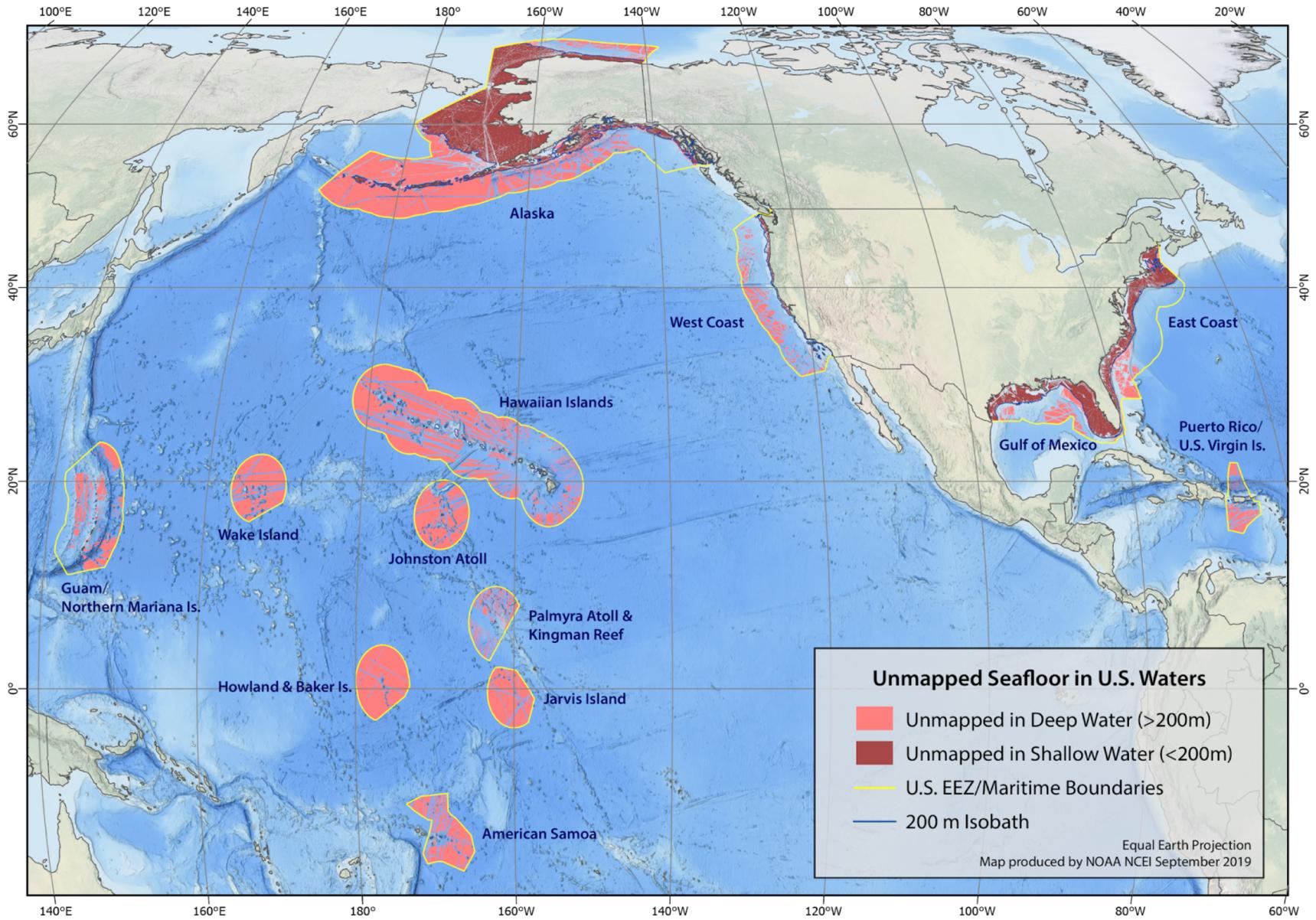


Inspire and educate the next generation of STEM professionals

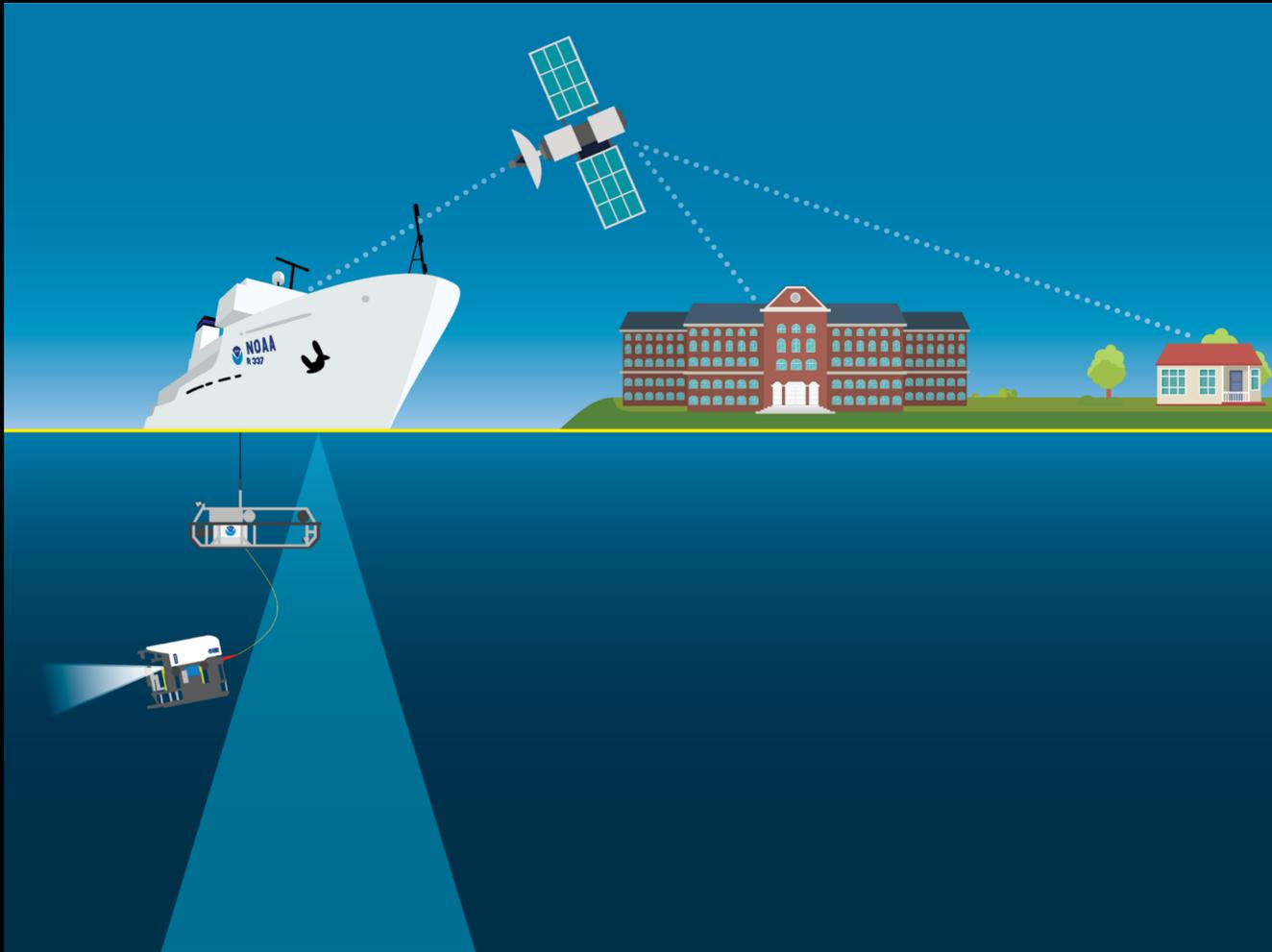
# Mechanisms to support ocean exploration

- **Dedicated Platform** - NOAA Ship *Okeanos Explorer*
- **Ocean Exploration Cooperative Institute** - New CI awarded in May 2019. Partnership with URI, WHOI, USM, UNH, and OET.
- **CRADAs** - All for maturation and investment of technology with industry
- **Contracts** - Hydro surveys and data buys from industry
- **Cross-agency partnerships** - NOAA works through the NOPP to facilitate exploration across the federal government, like with the DEEP SEARCH project and through the annual BAA funding call
- **Competitive grant process** - FY20 proposals already in review. FY21 call for proposals in spring 2020





# NOAA Ship *Okeanos Explorer*: A Dedicated Exploration Platform

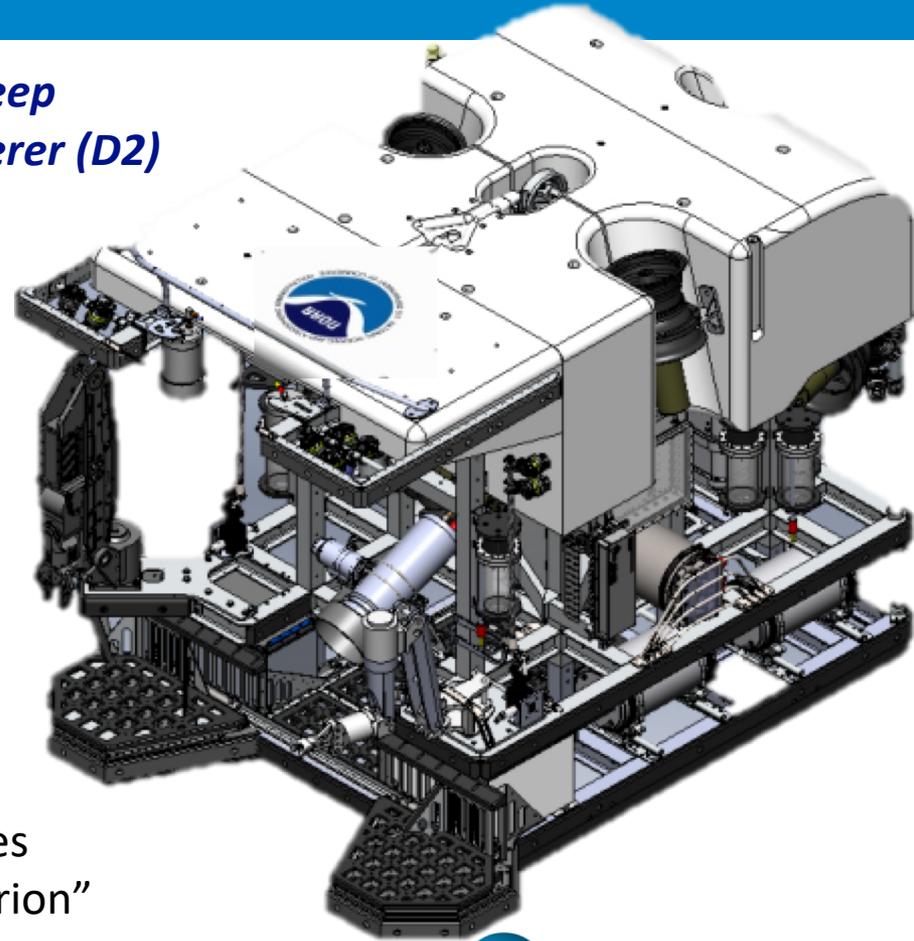


# *Seirios and Deep Discoverer Dual Body ROV*

**Camera Sled  
Seirios**



**ROV *Deep Discoverer (D2)***



- 250-6000 meters operating depths
- 11 cameras between 2 ROVs
- Powerful lighting and high definition imaging
- Temperature Probe, CTD, DO, LSS, ORP
- 4 bio boxes for storing samples and 2 rock boxes
- Manipulators: Hydraulic 7 Function Shilling “Orion” & Kraft Telerobotics 7-function “Predator”
- Added in 2019: Niskin Bottles & Suction Sampler



GLOBAL FOUNDATION  
FOR OCEAN EXPLORATION



# ASPIRE Outcomes to date

Atlantic Seafloor Partnership for Integrated Research and Exploration

- Prioritized areas of interest to key partners and resource managers, including: Southeast Deep Coral Initiative, South Atlantic Fishery Management Council, Northeast Canyons and Seamounts Marine National Monument
- Began Canadian and European collaborations for 2019-2020 expeditions
- Contracted Fugro to map ~27,000 square kilometers on Blake Plateau



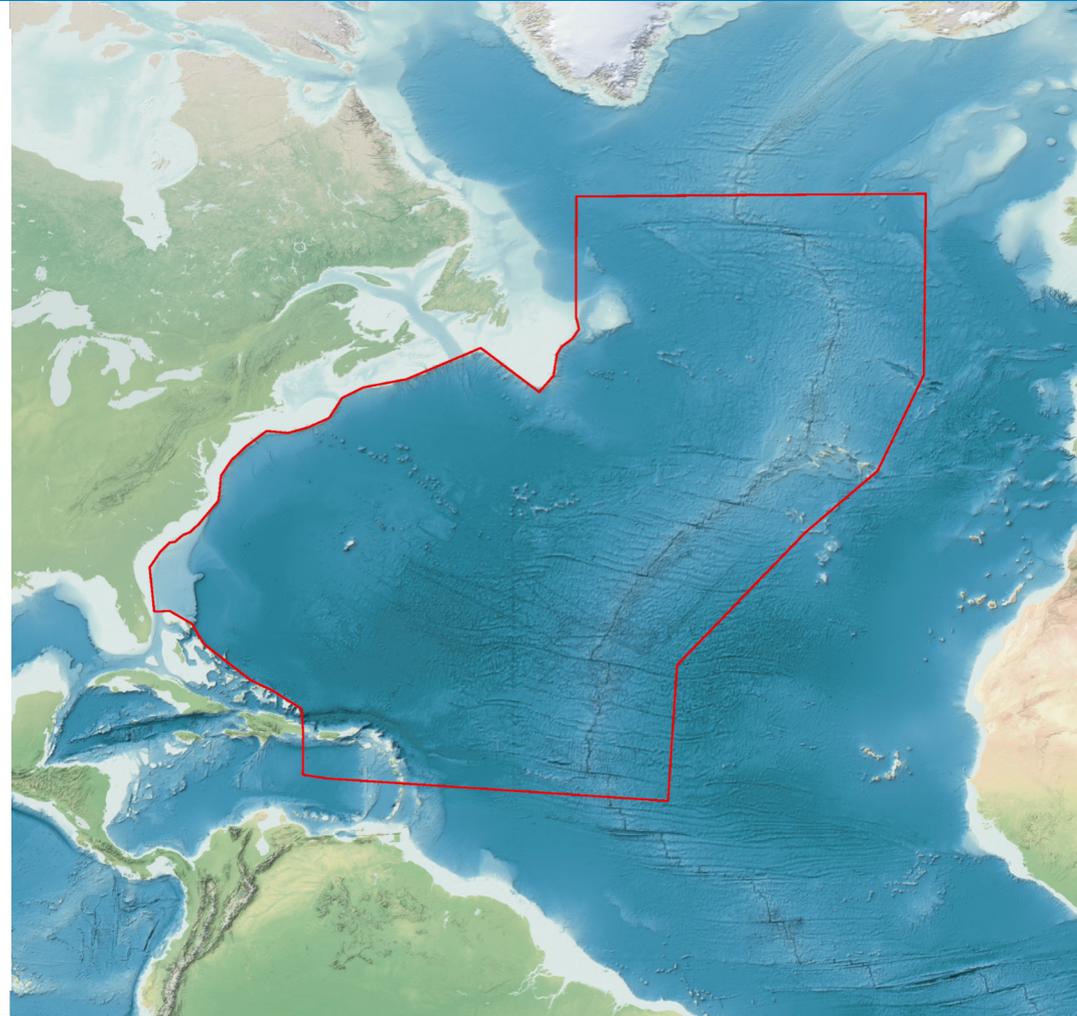
22 cruises



245,500+ km<sup>2</sup> mapped

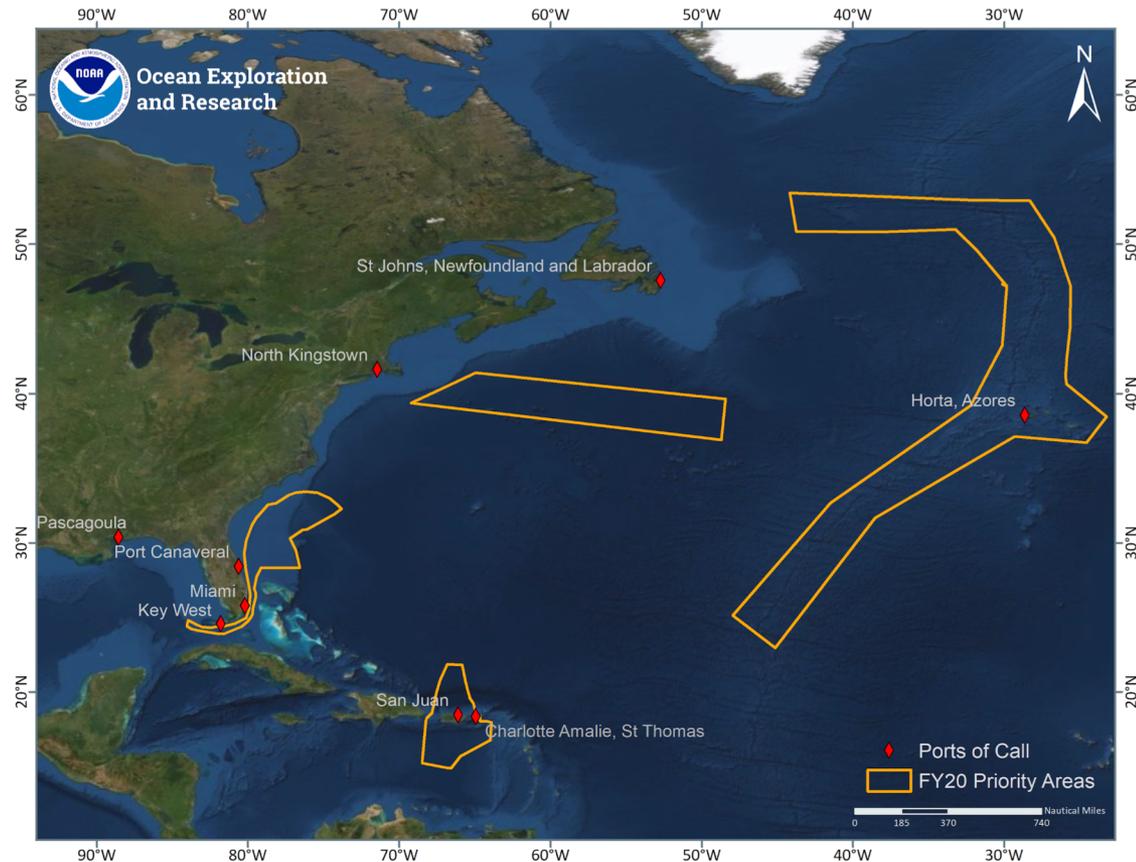


134 vehicle dives



# Okeanos Explorer in FY20

- **U.S. Caribbean Mapping**
  - Extend US EEZ mapping; possible tech demo component.
- **Voyage to the Mid-Atlantic Ridge** - Three leg, 70-day expedition to MAR and Azores Plateau next summer.
- **High Seas Mapping** - Transit mapping cruise to end the season and bring the ship back to RI homeport



# How to get involved



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**Ocean Exploration  
and Research**