



## Major Data Collection Programs:

NOAA Ship *Okeanos Explorer*  
 Ocean Exploration Cooperative Institute  
 (including *E/V Nautilus*)  
 NOAA Ocean Exploration's competitive grant  
 Archaeology exploration funded by NOAA Ocean Exploration

## Core Data Types:

Ship tracks  
 ROV dive locations  
 ROV video footage and annotations  
 Sample locations (biological, geological, water, and eDNA samples)  
 CTD Rosette locations  
 Seafloor mapping boundaries  
 Water column acoustics footprint

Egan, Katharine E. et al. (2021). Exploration Variables Identified By NOAA Ocean Exploration.  
<https://doi.org/10.25923/m37w-8b55>

# Exploration Gap Analysis

## Objectives:

In response to the Implementation Plan of NOMECS, NOAA Ocean Exploration is developing a GIS-based Exploration Gap Analysis. The analysis aims to:

- Establish a spatial coverage baseline for ocean exploration data holdings in the U.S. EEZ
- Monitor exploration and characterization progress of unexplored ocean areas
- Provide effective coordination of deep-sea research and expedition planning
- Showcase the major achievements of NOAA Ocean Exploration

## Approaches:

- This work builds upon a previous NOAA Ocean Exploration literature review (Egan et al., 2021) that identified sixteen important exploration variables (EVs)
- The U.S. EEZ is divided into H3 hexagons, which provide two advantages: 1) hexagons are almost identical in sizes for the same resolution level and 2) the unique ID makes locating and record keeping of each hexagon easy
- For each hexagon, the *in-situ* measurements made by the major data collection programs are compiled and used to determine whether they sufficiently address the related EVs

## Planned Products:

- Support expedition planning through customized web applications for visualizing and querying of existing data
- Online dashboards for tracking exploration progress
- Technical memo for research communication
- ArcGIS StoryMap for outreach and education

