

GIS Innovations to Improve Visualization of and Access to NOAA Ocean Exploration Data

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INTRODUCTION

CIRES scientists collaborate with the NOAA National Centers for Environmental Information (NCEI) to develop and implement innovative geospatial services and products for NOAA Ocean Exploration. Geospatial data layers are now hosted in the *NOAA GeoPlatform* - NOAA's instance of Esri's ArcGIS Online. These cloud-based geospatial data layers provide *data access to and visualization of* near-real-time data feed, past expeditions, remotely operated vehicle (ROV) dive sites, and an array of gridded and tiled multibeam bathymetry mosaics.

Live Interactions with Telepresence

NOAA prioritizes real-time interactions with shoreside scientists and the public. Shipboard *telepresence technologies* allow data and communications to seamlessly move between shipboard and onshore participants. CIRES scientists leverage this to create near-real-time data services, like the *Live Operations Map*, to improve operations and deep-sea explorations.

ARCGIS ONLINE SERVICES

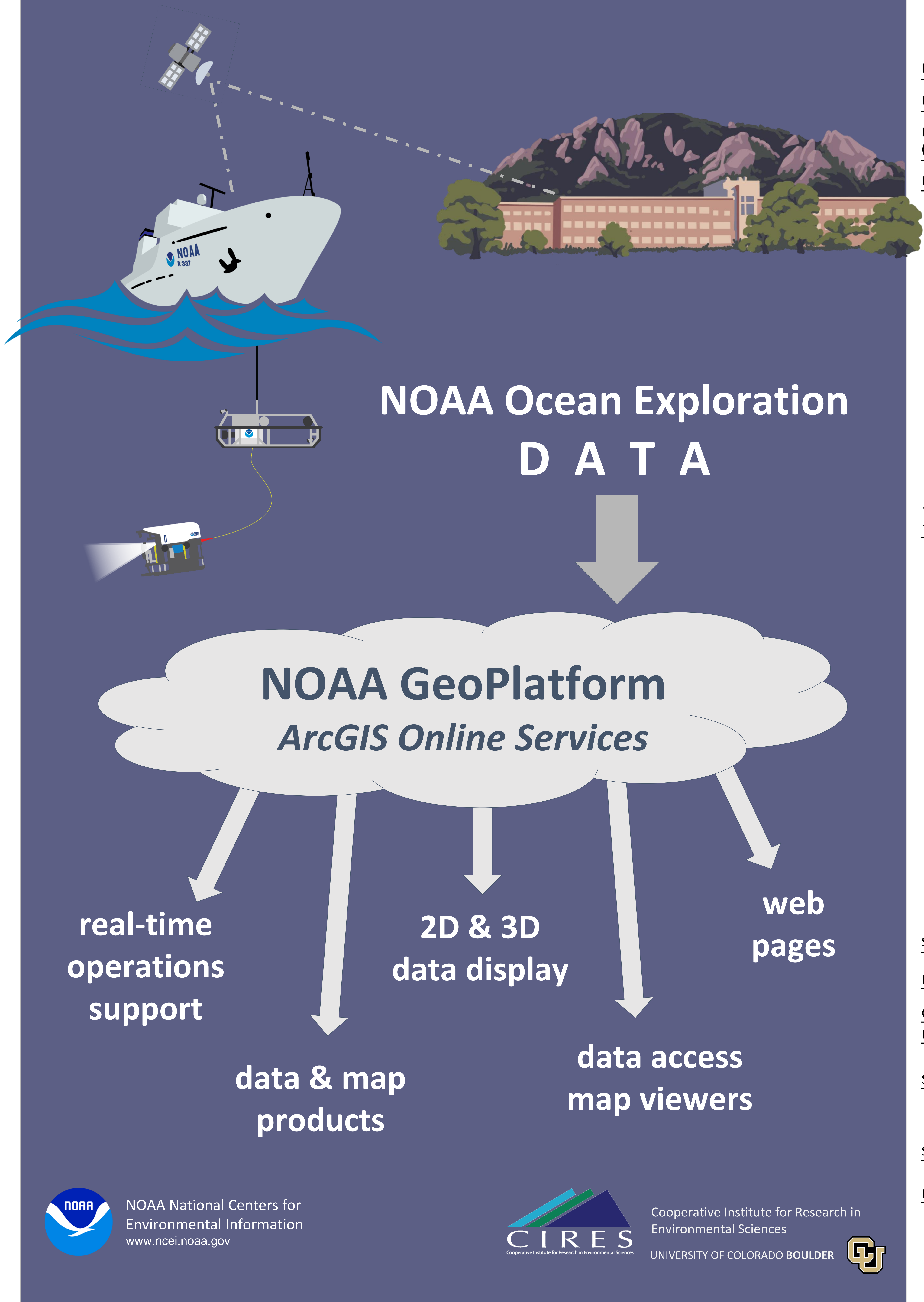
- Real-time Okeanos Explorer Ship Location
- Real-time Okeanos Explorer Ship Track
- Daily Bathymetry Products (near-real-time)
- Sensor Deployment 'Data Sites' (near-real-time)
- Data Access via Ship Tracks
- Remotely Operated Vehicle (ROV) Dive Sites
- ROV Dive Tracks (3D)
- ROV Deployment/Recovery Points
- ROV On/Off Bottom Points (3D)
- Physical Sample Collection Sites (3D)
- Bathymetry Coverage Polygons
- Bathymetry Image Services
- Tiled Bathymetry Services (3D)

CHECK IT OUT!



www.ncei.noaa.gov/products/ocean-exploration-and-research-oer-data-management

GIS Group



NOAA National Centers for Environmental Information
www.ncei.noaa.gov

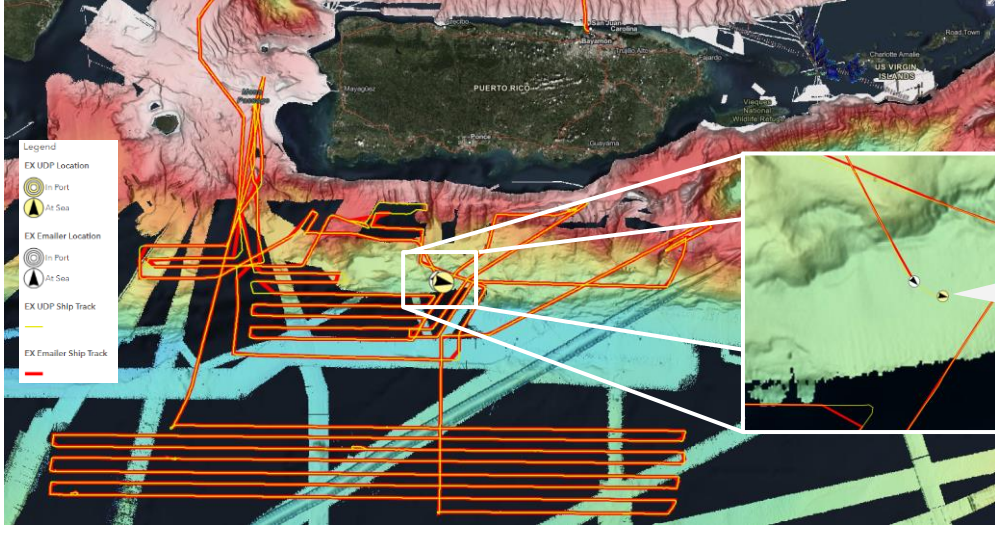
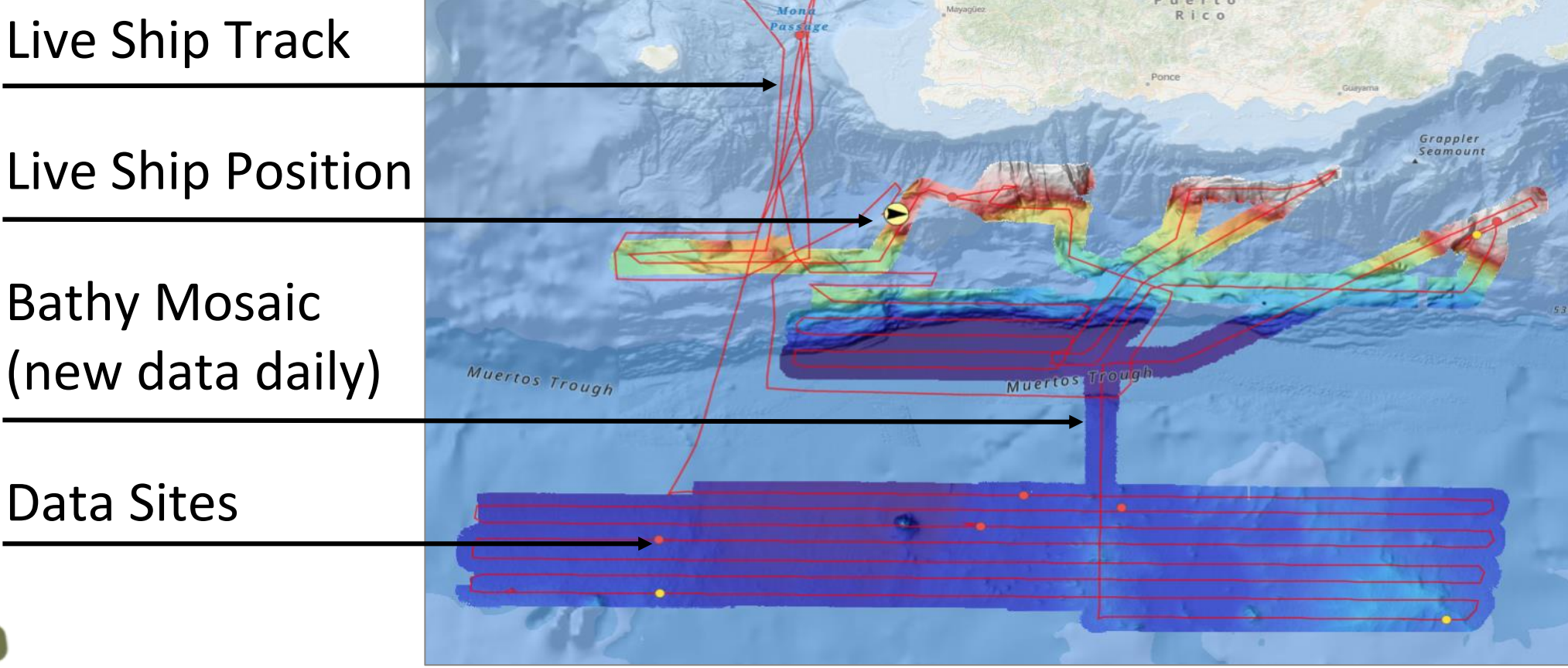


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Live Operations Map for Okeanos Explorer



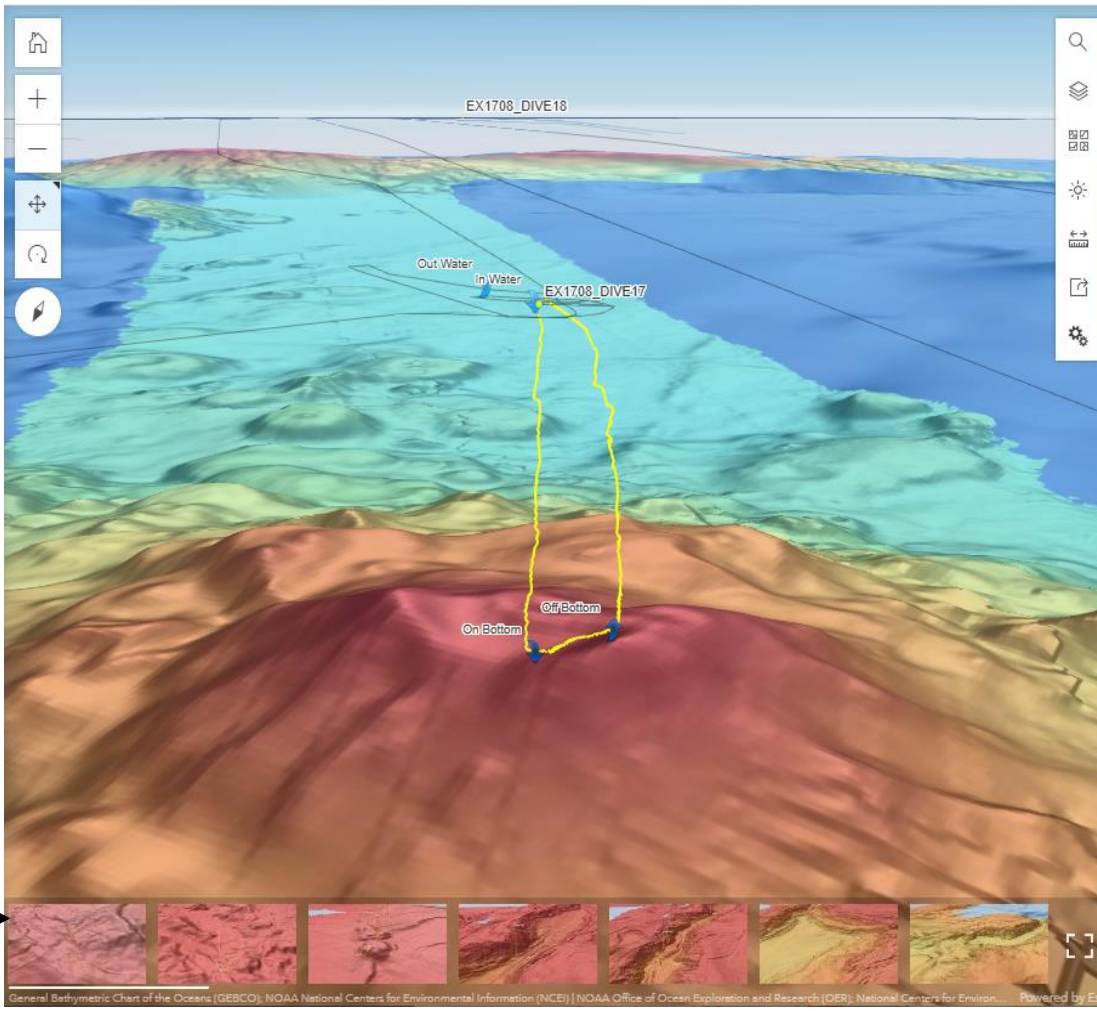
Near-Real-Time Data

User Datagram Protocol (UDP) & Emailer data streams

3D ROV Dive Scene

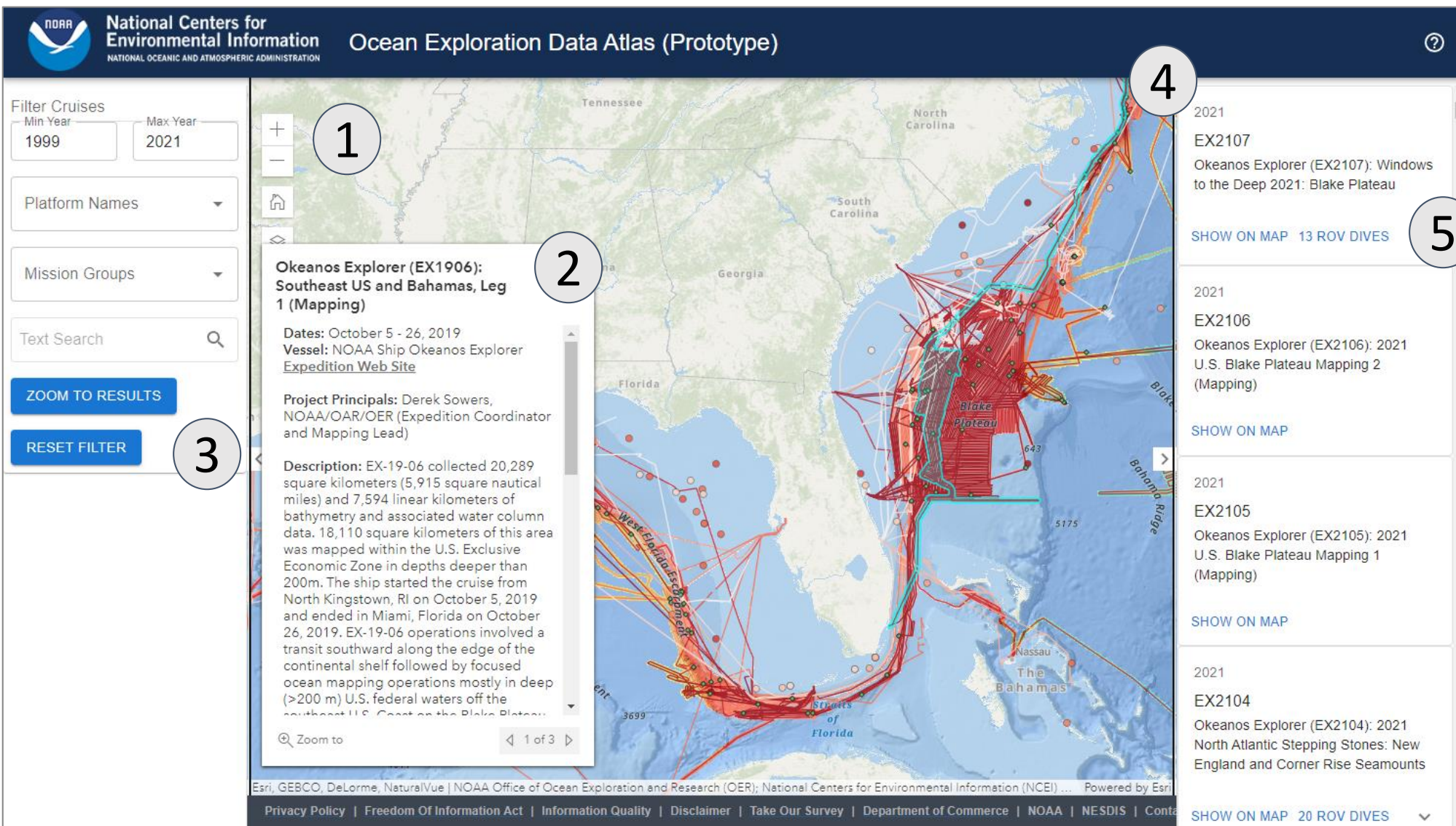
Global scene provides 3D display of all ROV layers on top of the tiled bathymetry products.

'Slides' allow a specific view to be imbedded into websites

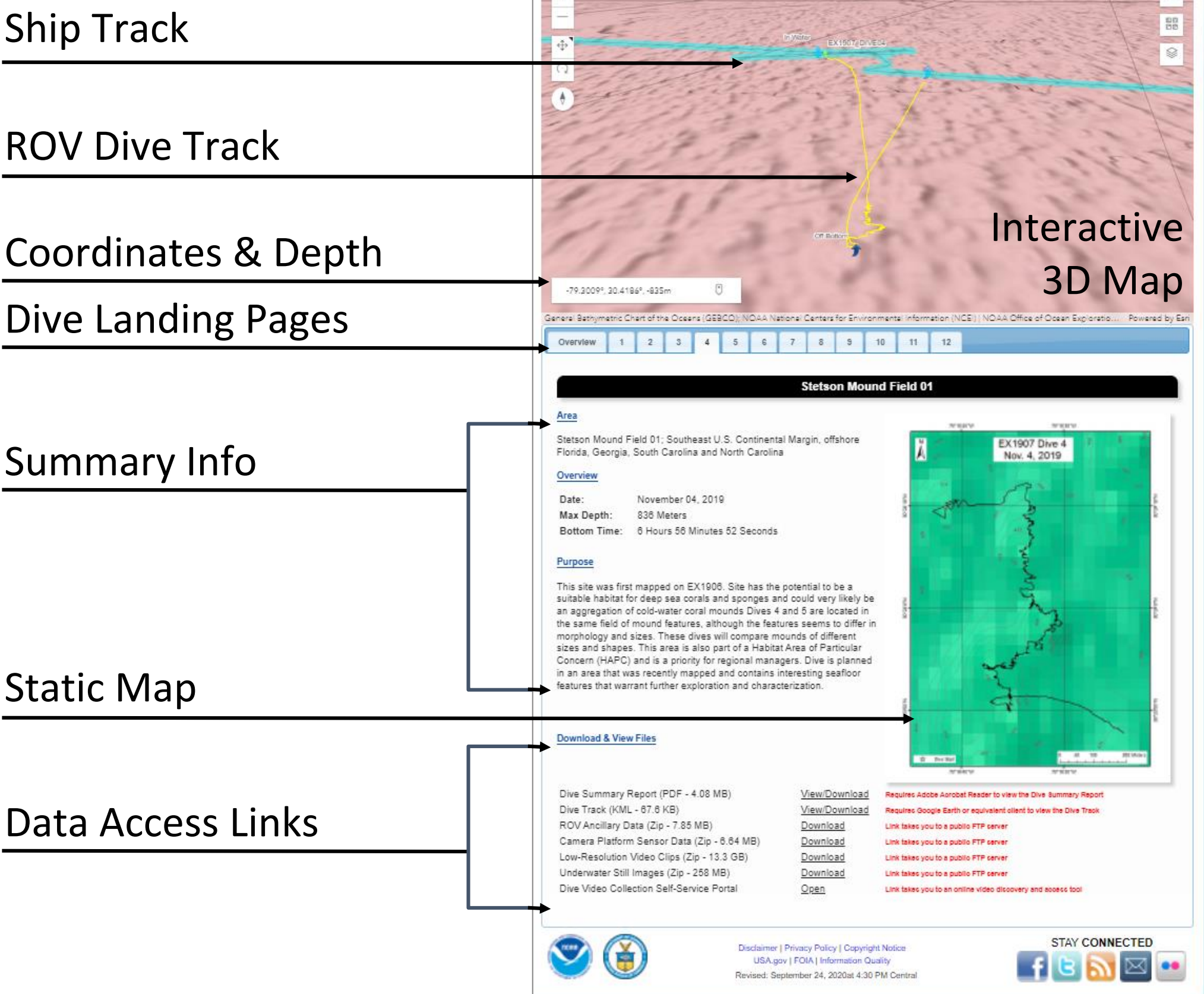


NOAA Ocean Exploration Data Atlas

- 1) Interactive Map, 2) Comprehensive Layer Pop-ups with Data Access Links, 3) Data Filtering, 4) Expedition Summary Cards, 5) Zoom to Expedition and Expandable ROV Dive Scenes



Landing Pages



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