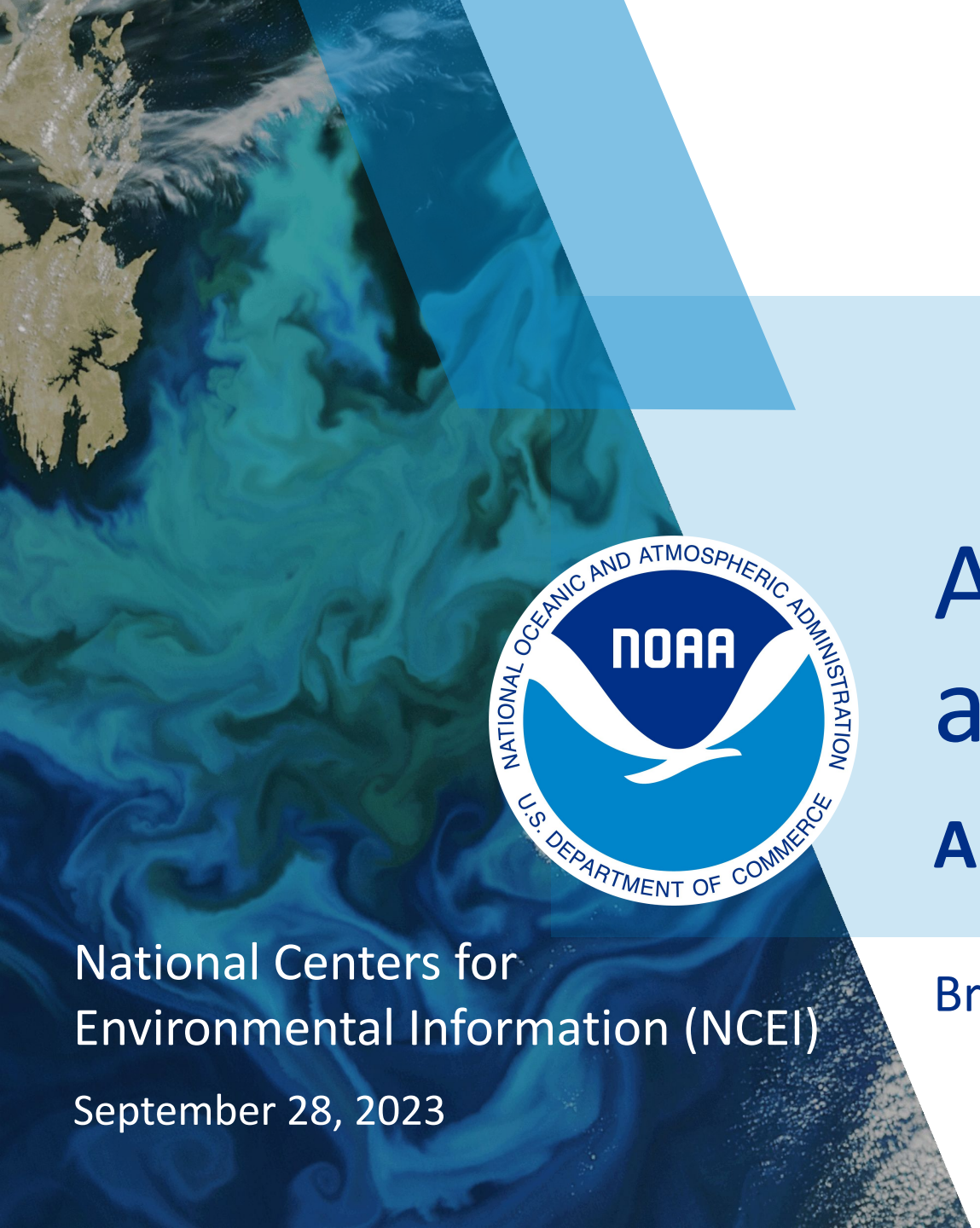


All Things Bathymetry at NCEI

Archive to Distribution

Brian Meyer, Trackline Geophysics Data Manager

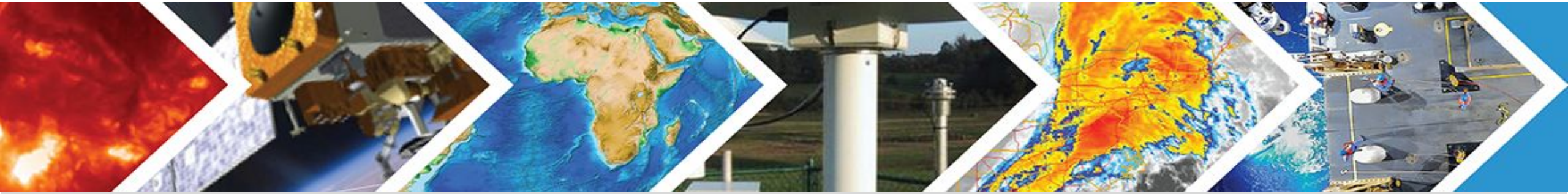
National Centers for Environmental Information (NCEI)

September 28, 2023

Who We Are

- NOAA's National Centers for Environmental Information (NCEI) is responsible for hosting and providing access to one of the largest archives of atmospheric, coastal, geophysical, and oceanic data in the world.

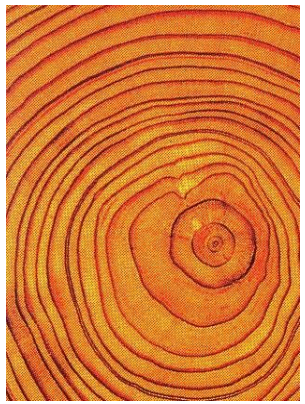
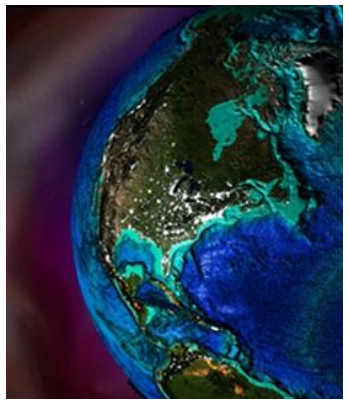
- As such, it is the Nation's leading authority for environmental information.



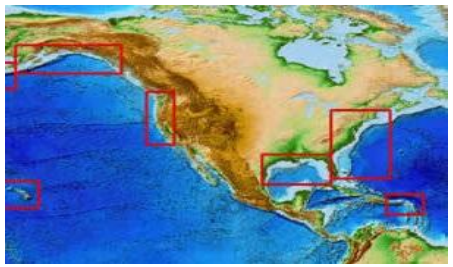
Proper stewardship of ocean & coastal mapping data maximizes the use & re-use of valuable data.

Steward of the Nation's Environmental Information





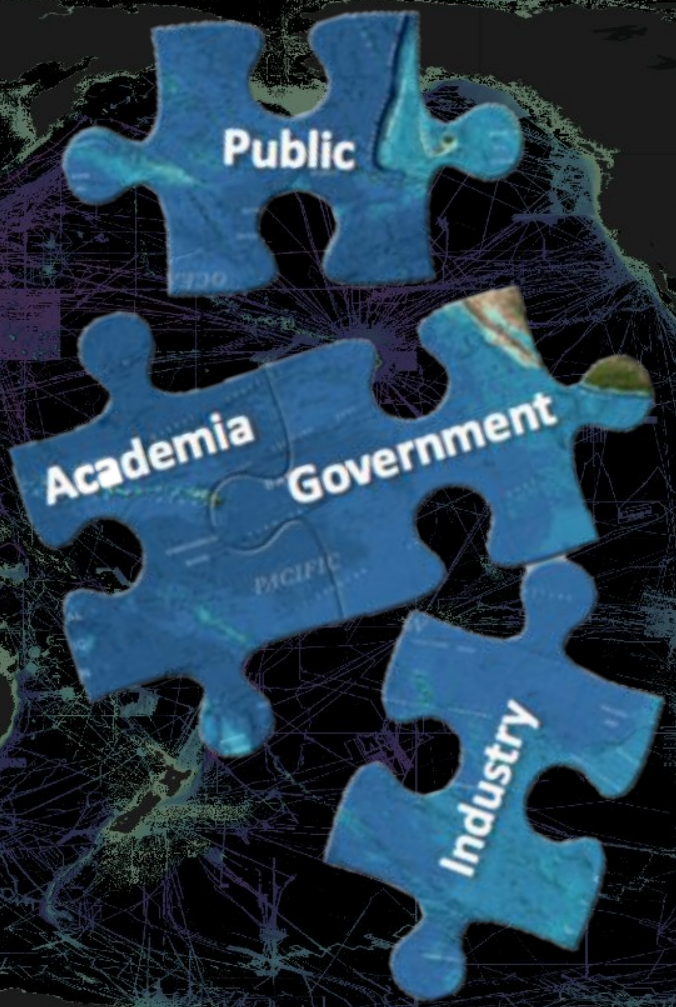



With data that spans stone age to space age, from the depths of the ocean to the sun, and across the globe

What We Steward

NCEI stewards a variety of bathymetric data:

- Office of Coast Survey (OCS) - 1274 TB
- Multibeam - 69 TB
- Singlebeam - 100’s of Millions of points
- Coastal Lidar - High resolution shallow water
- Crowdsourced - Millions of points and growing fast!
- Satellite Derived* - Global Coverage



*Planned for the future

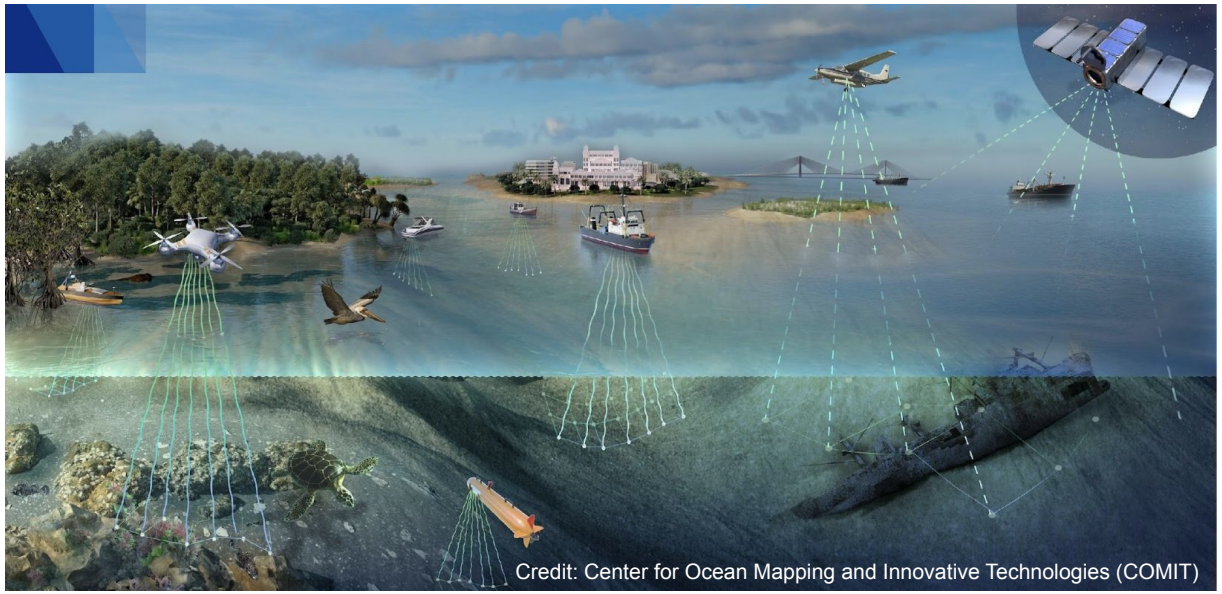
How It Got Here

NCEI has been stewarding bathy data since day 1 of NOAA

- Paper records
- Scanned microfilm
- Punch cards

Most data these days comes from

- FTP
- WAFs (including Google Drive)
- **Hard Drives**



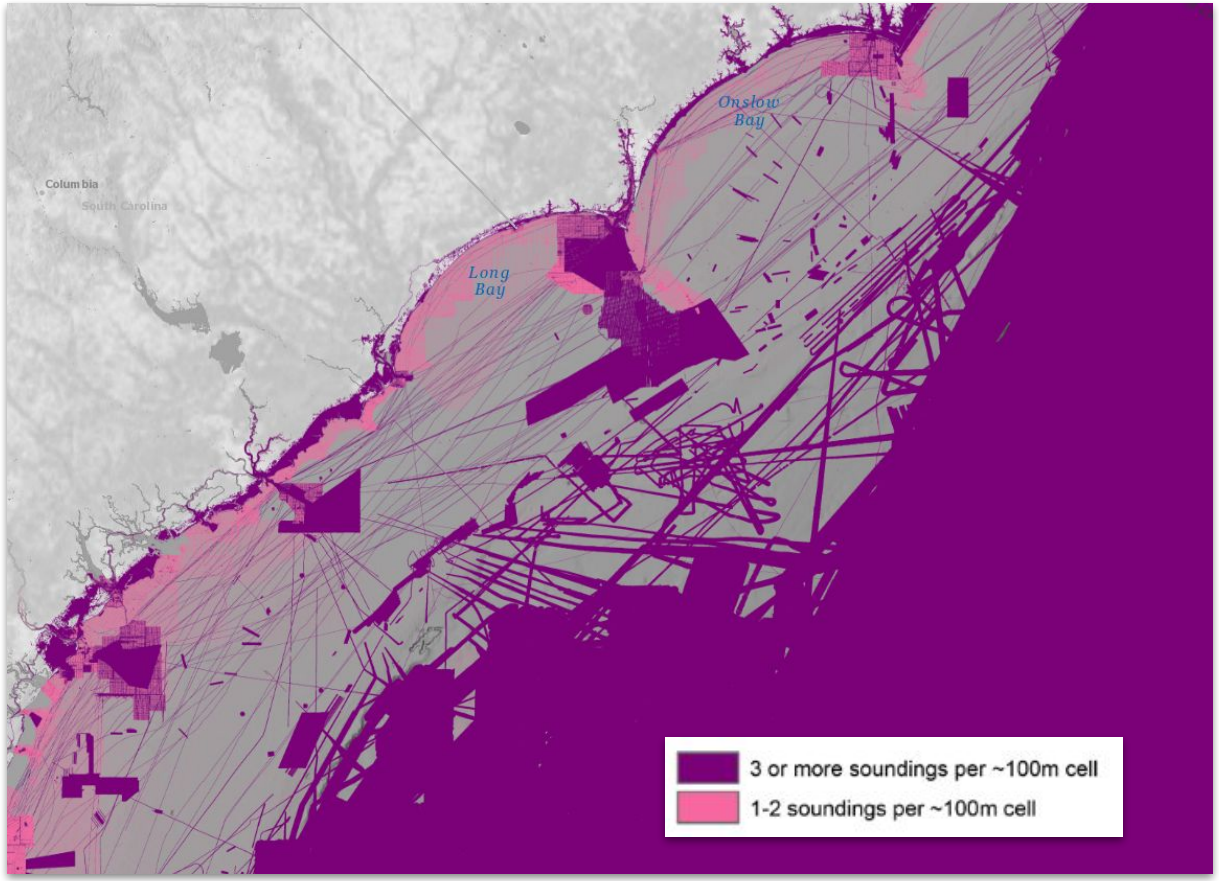
NCEI receives every flavor of Bathy data that is out there

Over the course of a year we will receive data from dozens of providers

How We Handle It

6 separate stovepipes that follow the same high-level structure:

1. Data is sent to us
2. Reorganize the data into well known structures
3. Harvest metadata and populate databases
    a. Cruise, instrument, and geometry
4. Send to the archive
5. Publish to map viewers



Using all publicly-available bathymetric data, classify as “well-mapped” or “minimally-mapped.”Compiled with all Multibeam, single-beam, NOS hydrography, crowdsourced bathymetry, lidar. *iocm.noaa.gov/seabed-2030-status.html*

How You Can Find & Access

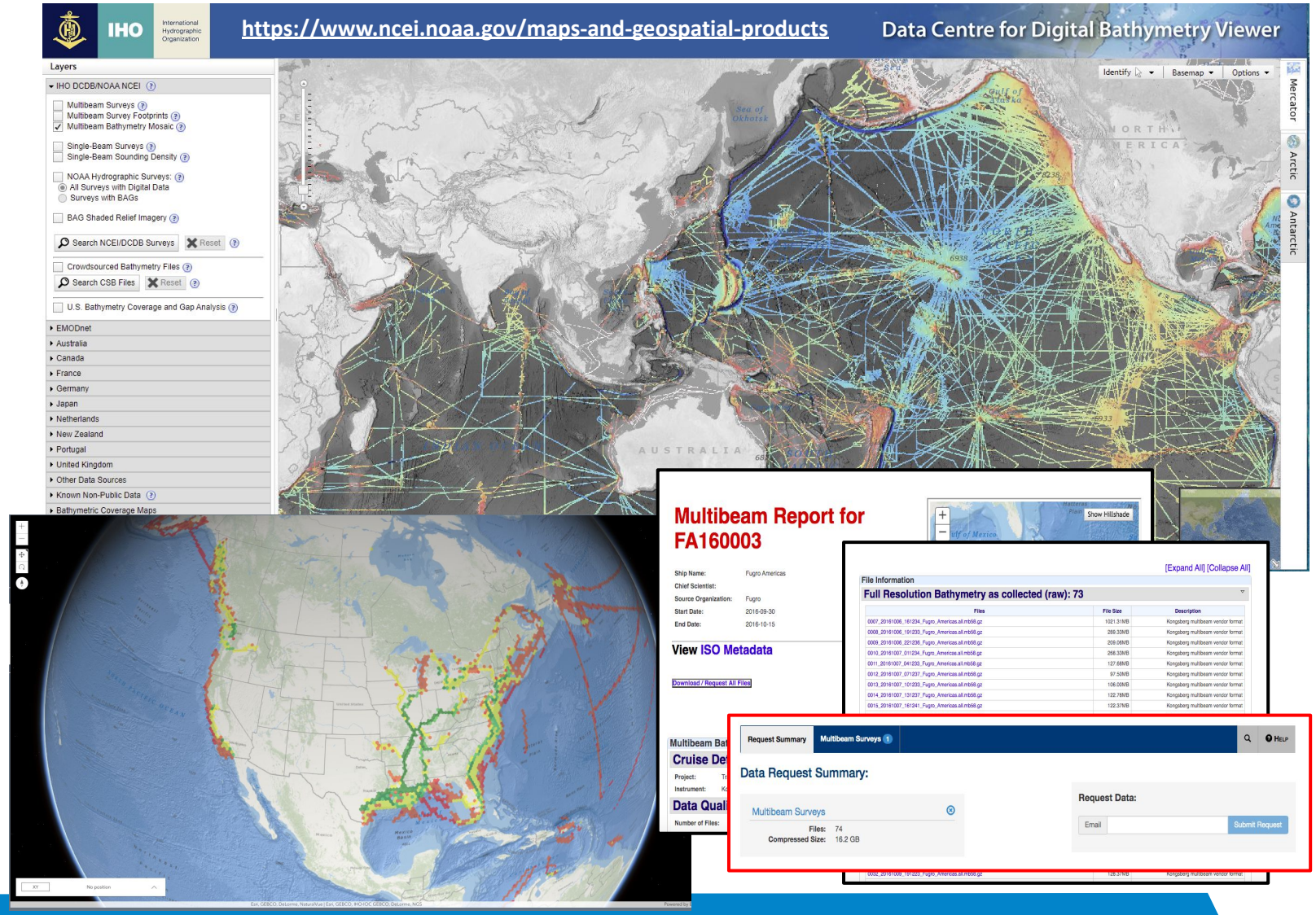
NCEI has multiple web-viewers for each primary dataset and a combined Bathy Viewer

When data is requested:

a. Delivered from archive
b. Packaged from WAF
c. Manually downloaded by user
d. Large orders are packaged by hand

Current efforts:

- Experimenting with various ways to display point data
- Transitioning more services into ArcGIS Online (NOAA GeoPlatform)
- Working with global community to adopt standards for interoperability to continue to include and update more web services



Where We Are Going

Data archiving rates are growing exponentially

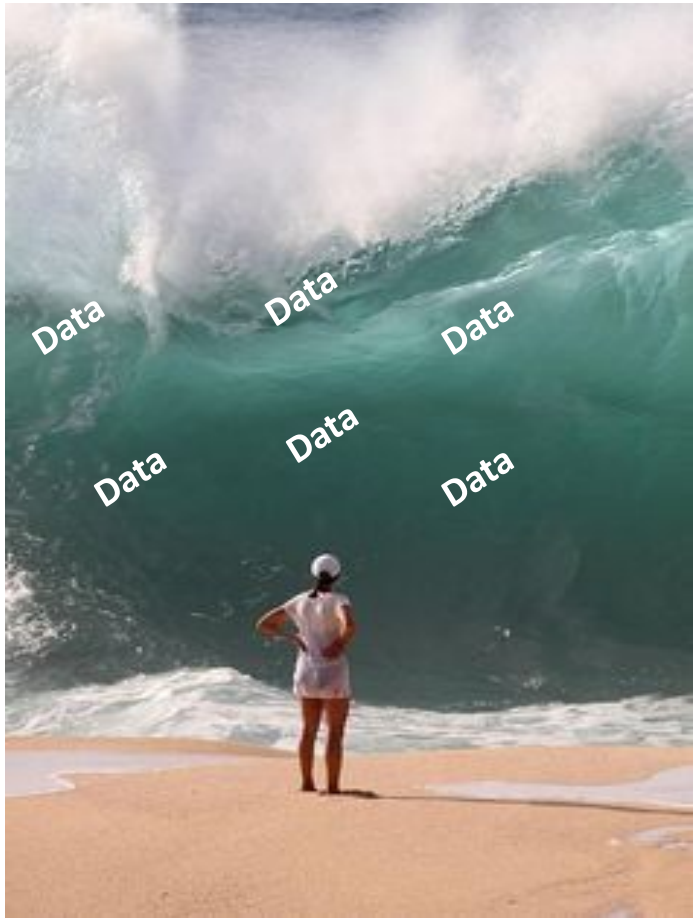
Seabed 2030, NOMEC, CrowdSourced, and better instruments

The 6 stovepipes morphing into 1 NCEI in the Cloud!

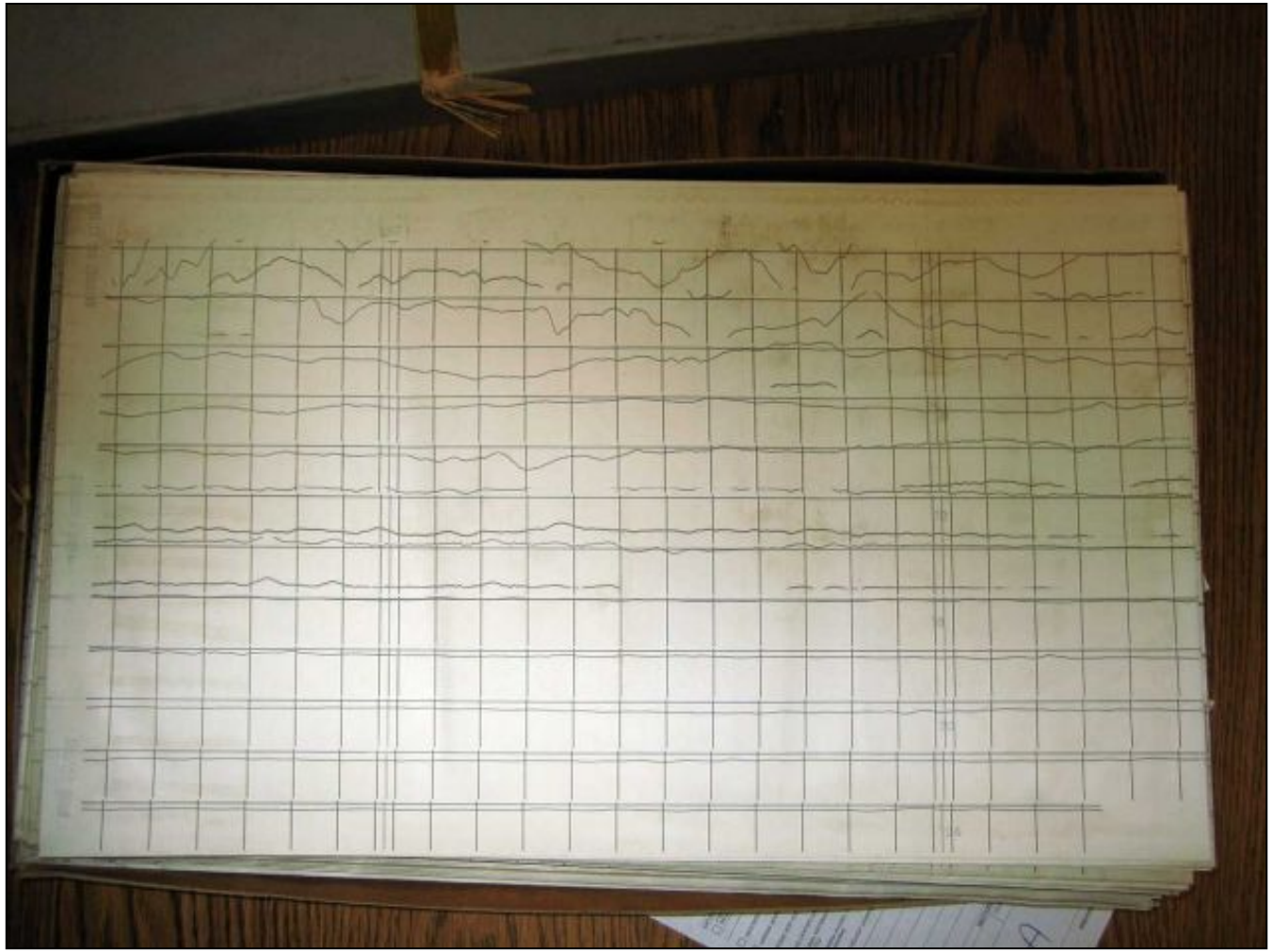
Transition will take several years and increase interoperability

Best way to get the most out of our transition is to meet the data in the Cloud

The Dream: Both Providers and Users will never have to ship/download a TB of data, can use all of the data directly



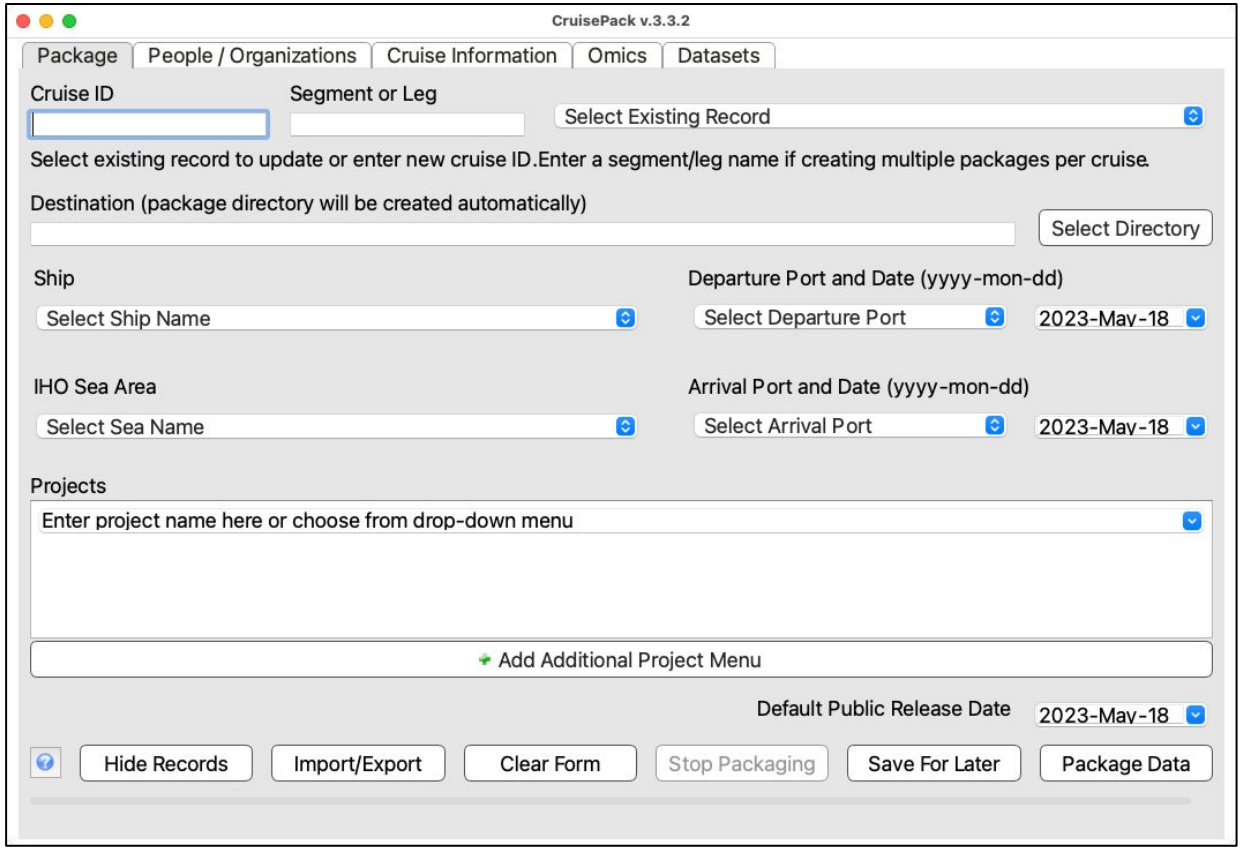
Why Metadata Matters



How WE Can Help YOU

NCEI has developed CruisePack

- Data packaging tool that builds consistent submissions and helps populate full metadata
- Used by NOAA Data Rescue Project
  - OER and NOS are looking to incorporate into their workflows
- Decreases the time to archive/discovery
- Easy to use GUI with reusable components



https://www.ncei.noaa.gov/products/cruisepack