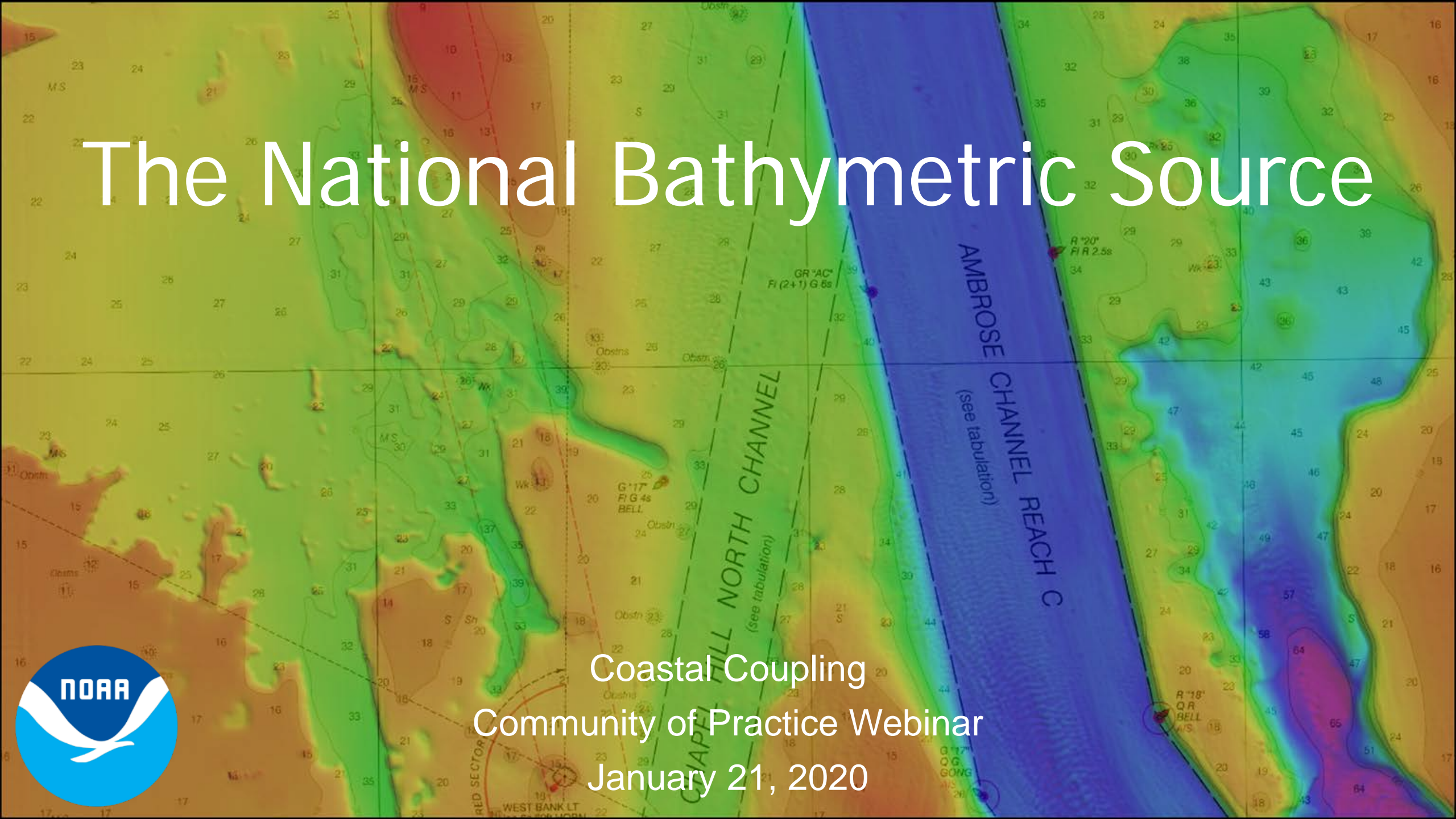


# The National Bathymetric Source

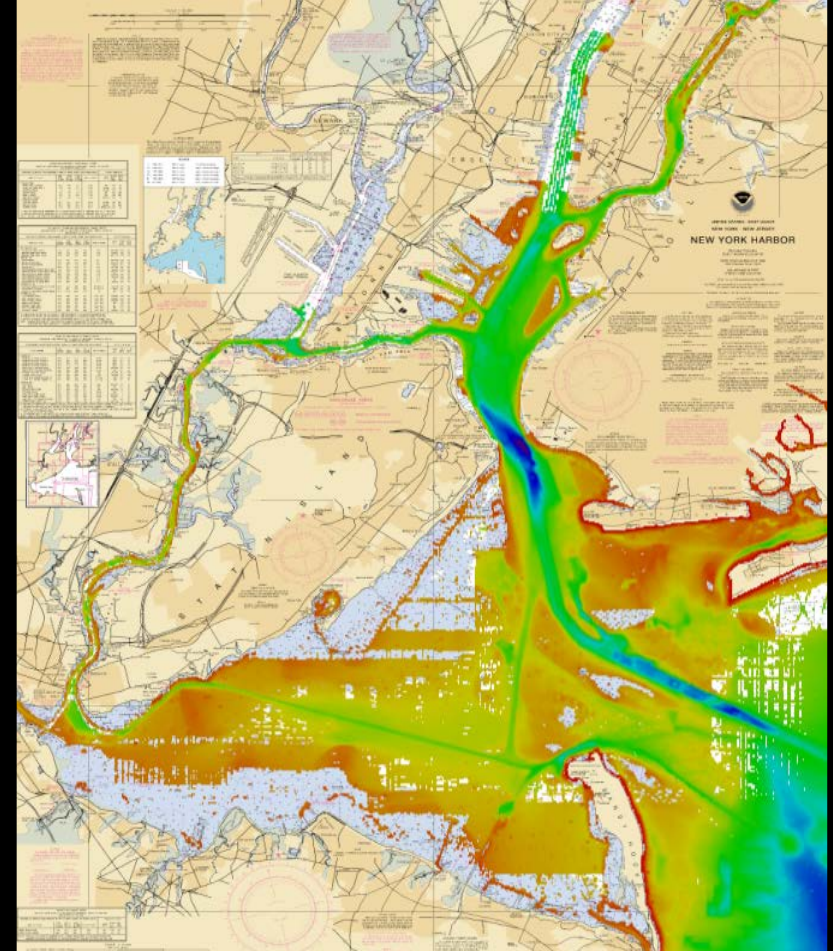
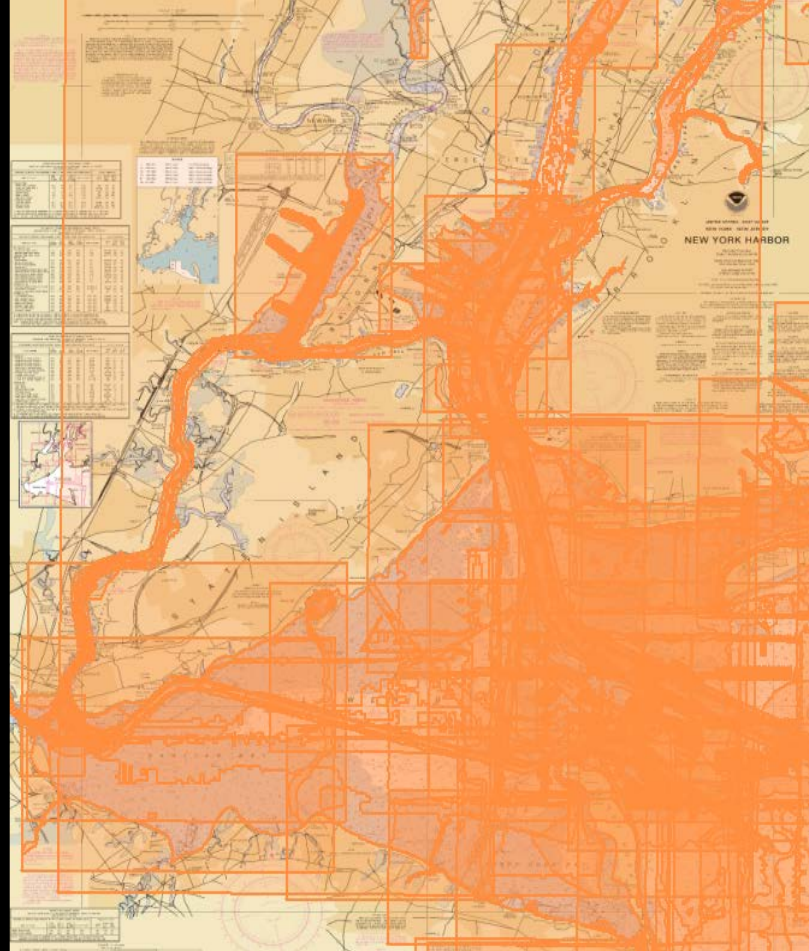
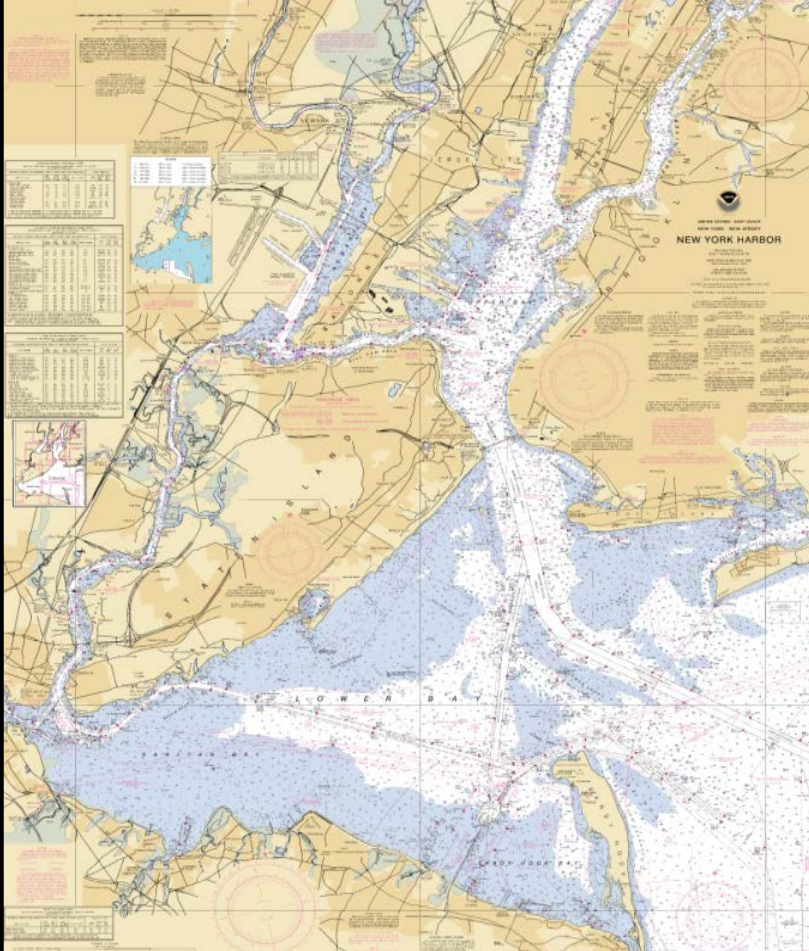


Coastal Coupling  
Community of Practice Webinar  
January 21, 2020





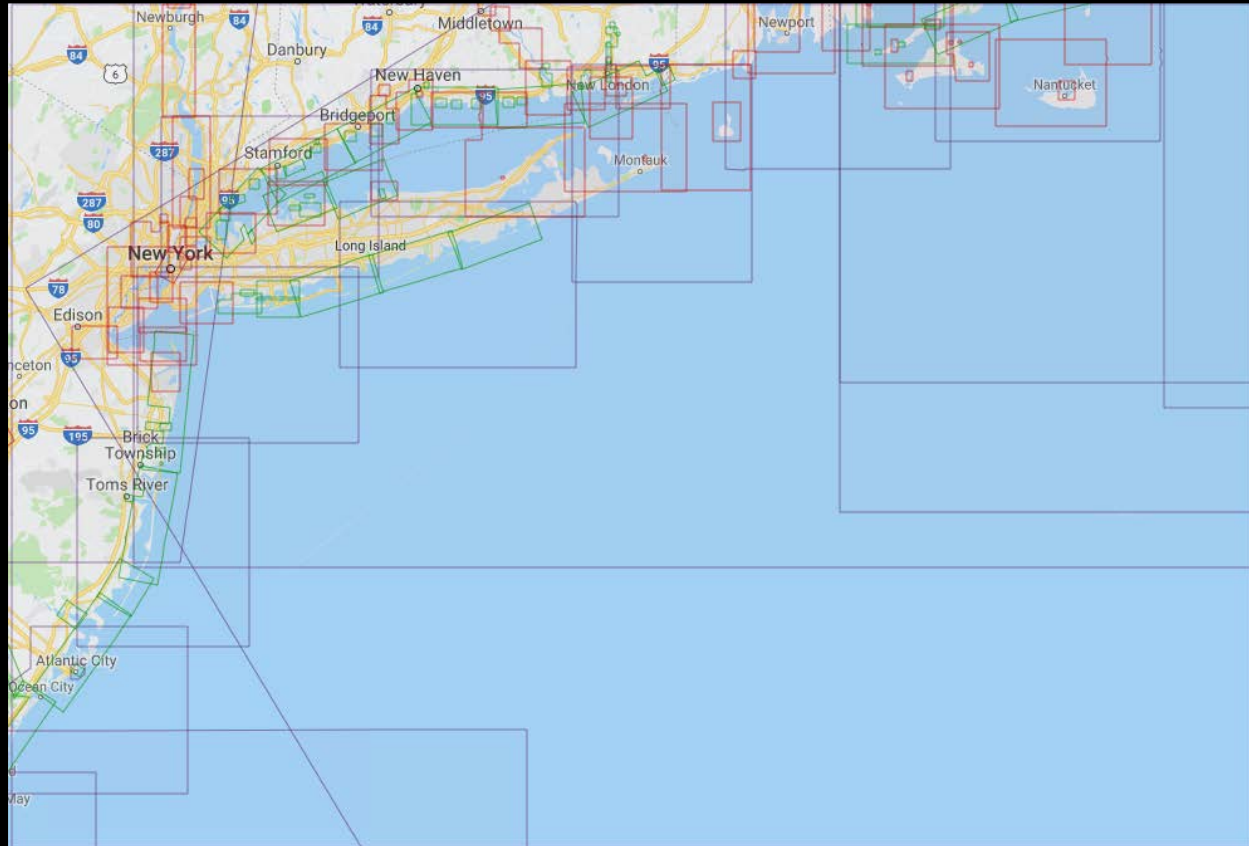
# Bathymetry Compilation



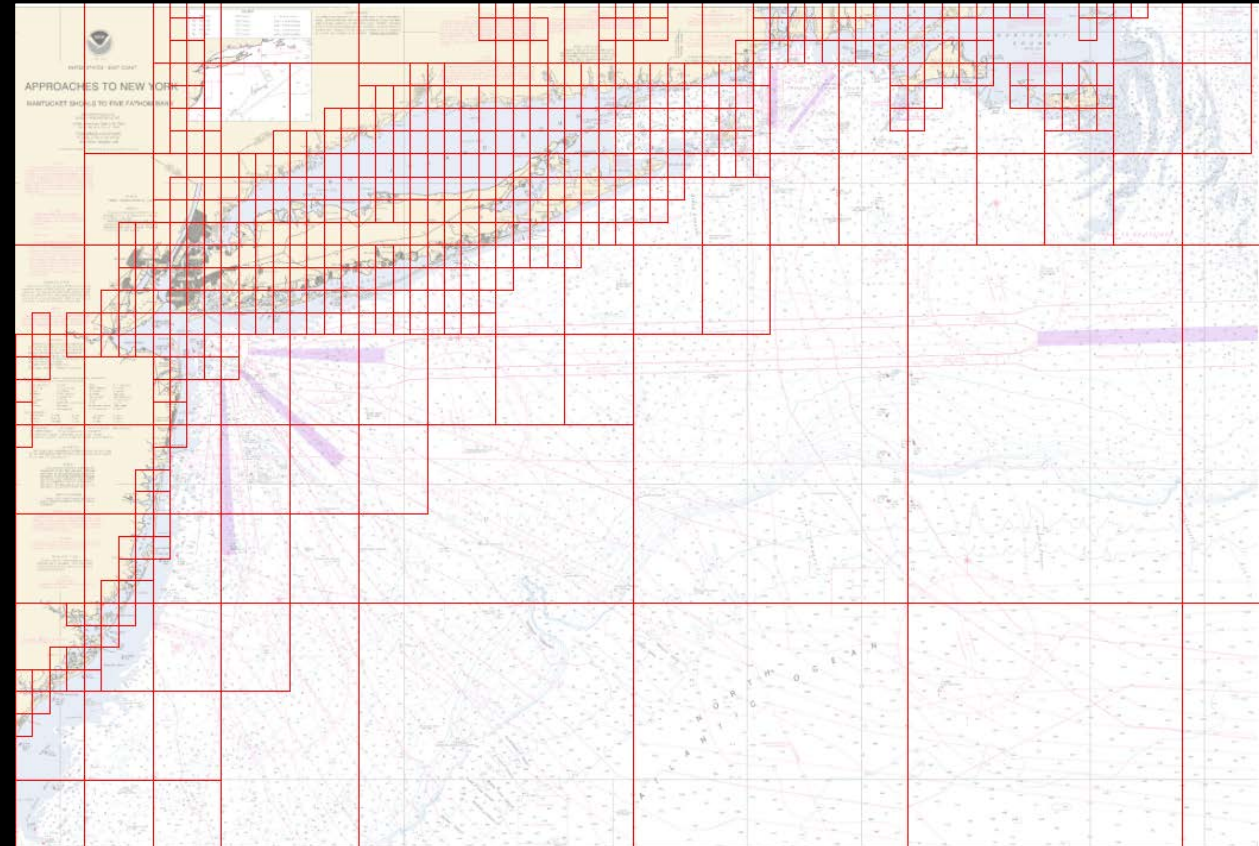




# Chart Rescheme



Existing Chart Suite

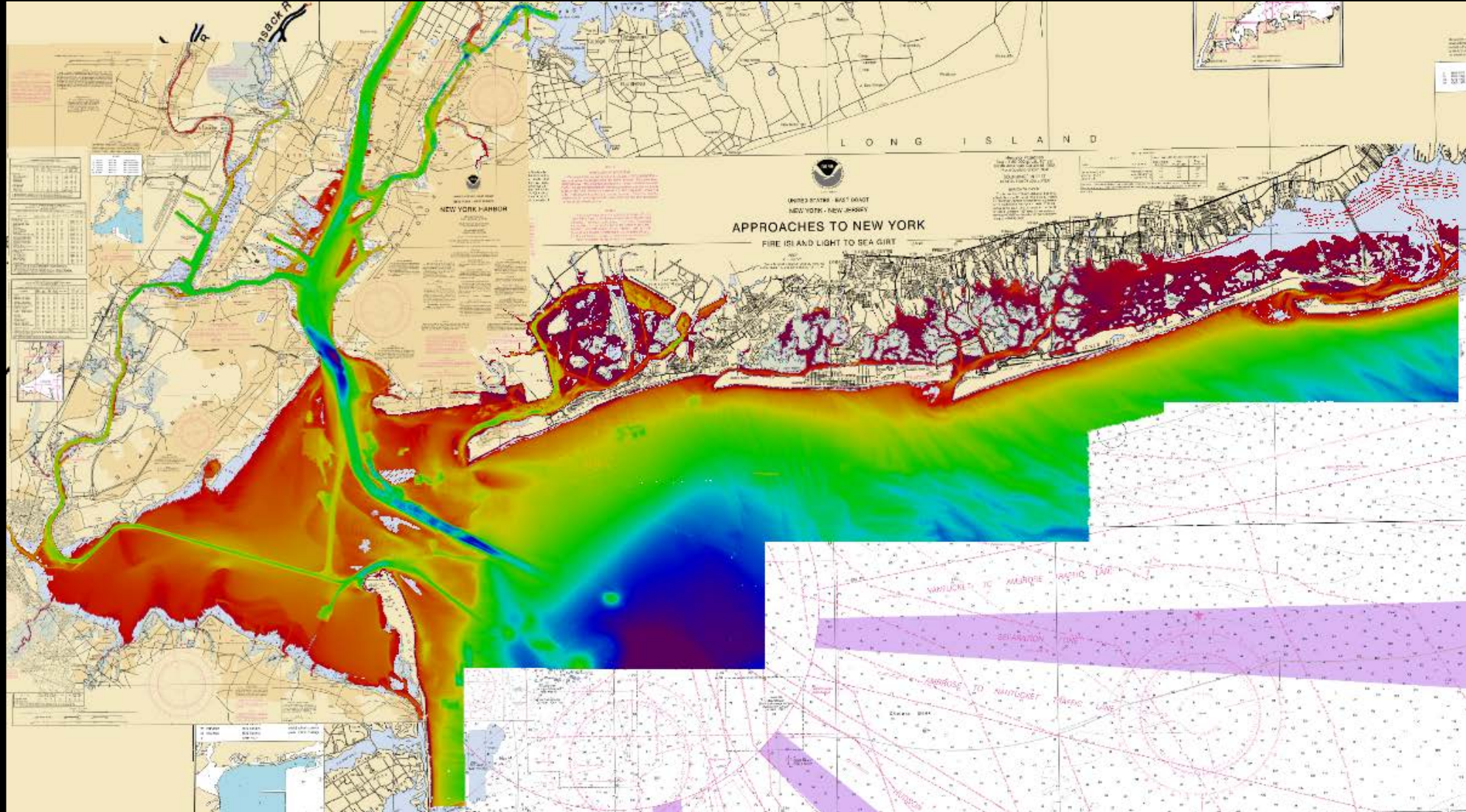


Next Generation



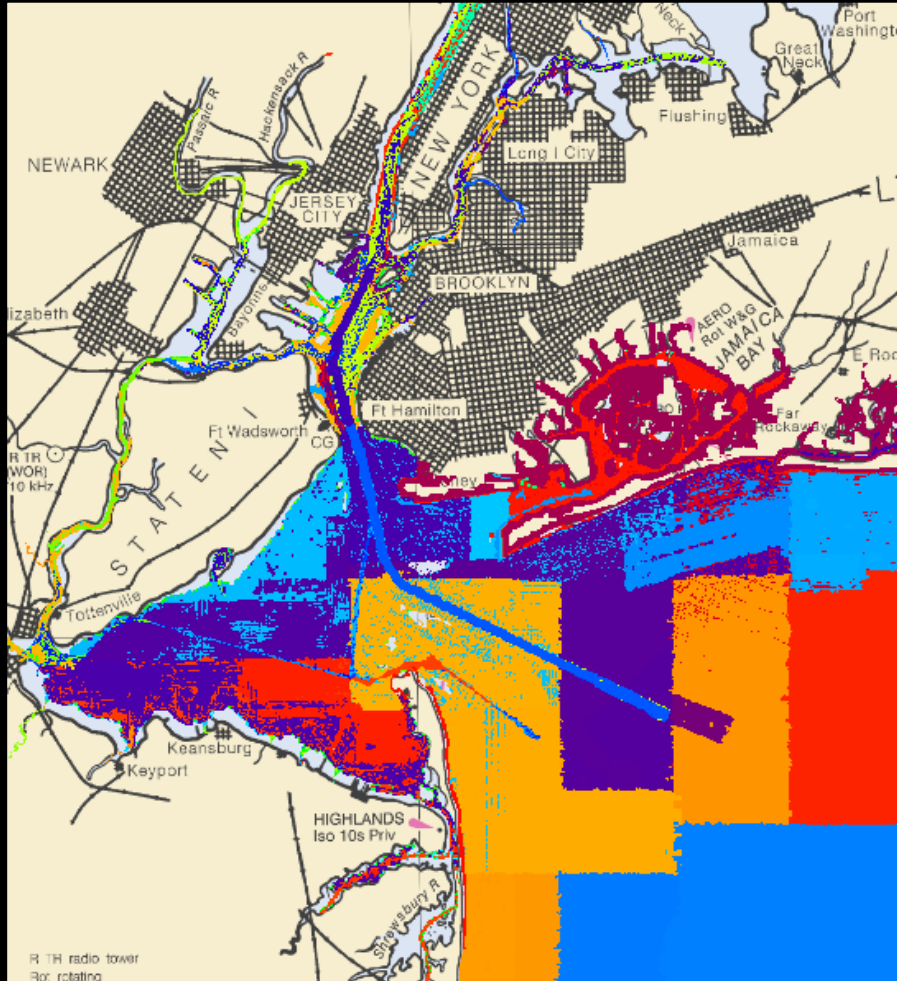


# National Bathymetric Source Project (NBS)

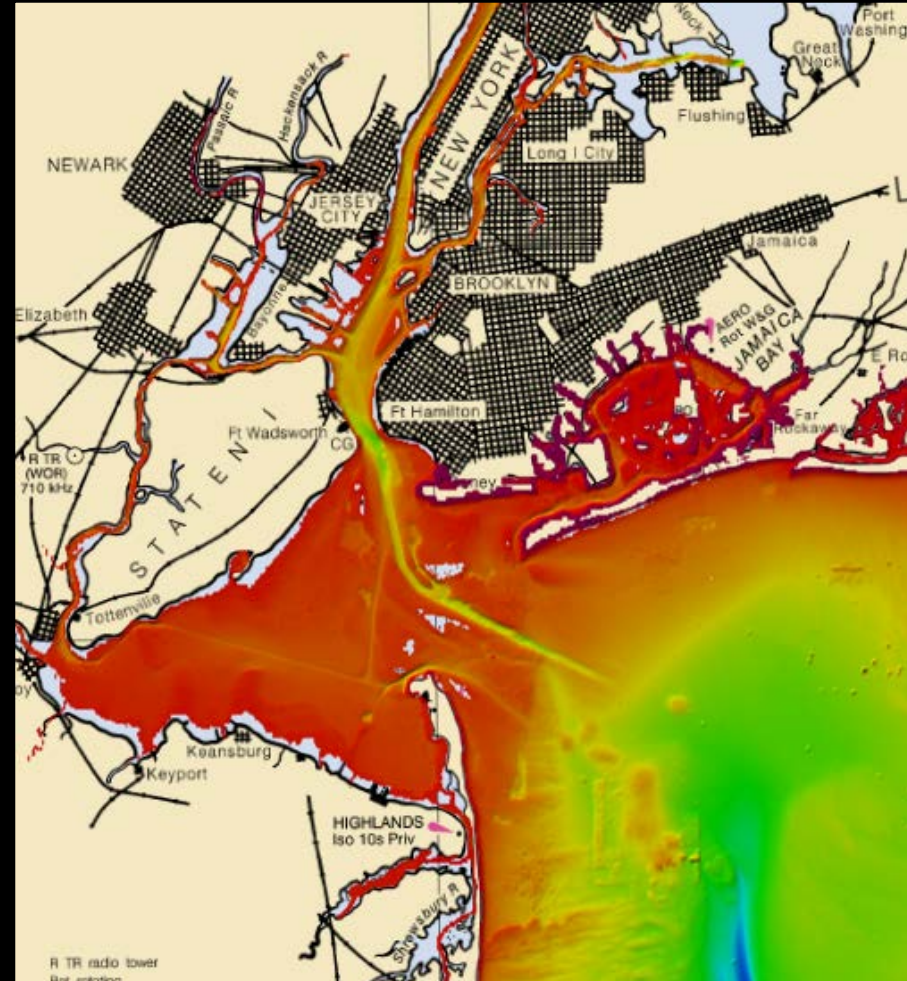




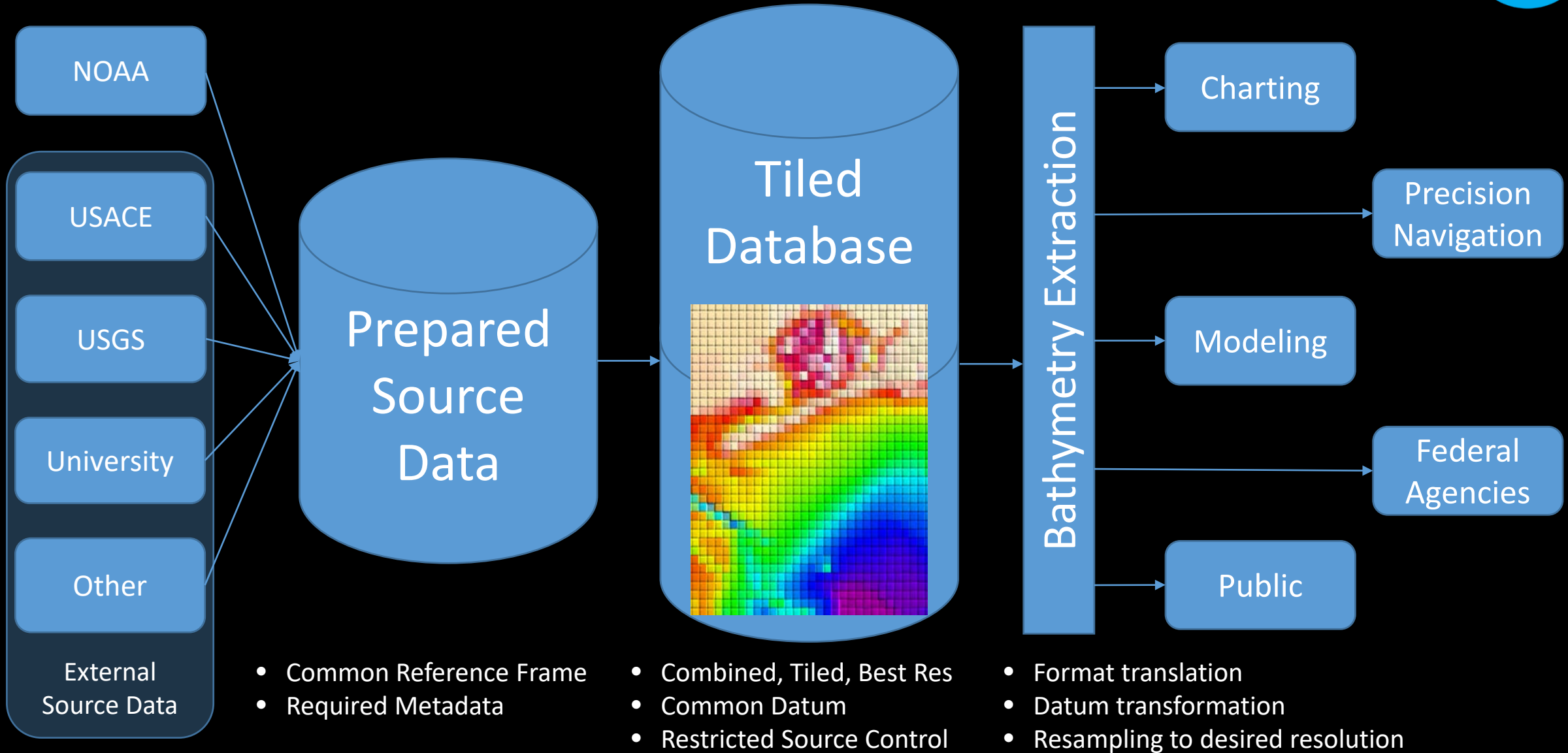
# Data-Driven Workflow



Data Sources



Data Product



NOAA

USACE

USGS

University

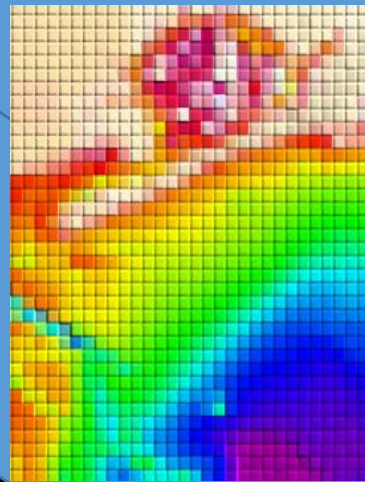
Other

External Source Data

Prepared Source Data

- Common Reference Frame
- Required Metadata

Tiled Database



- Combined, Tiled, Best Res
- Common Datum
- Restricted Source Control

Bathymetry Extraction

Charting

Precision Navigation

Modeling

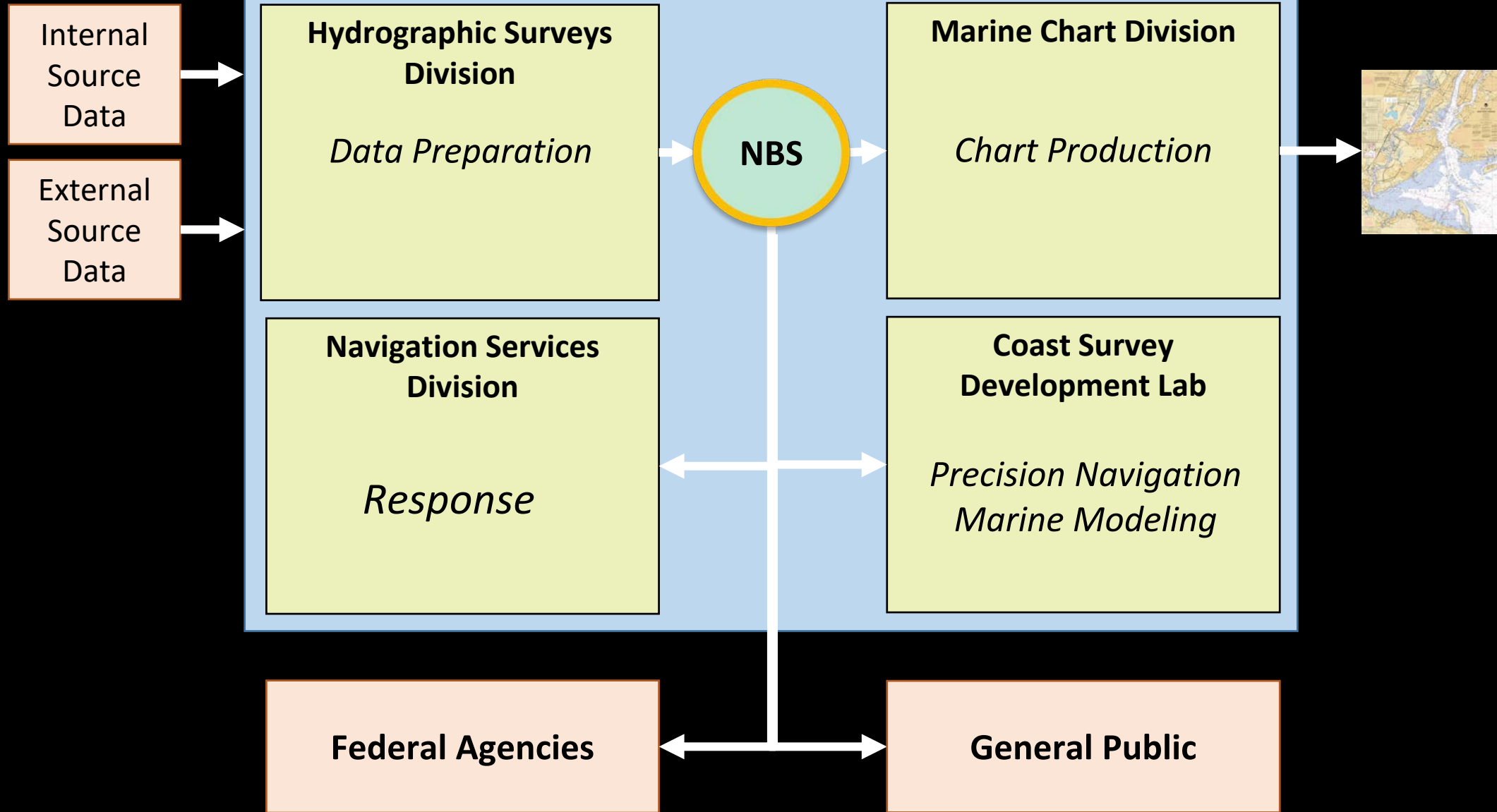
Federal Agencies

Public

- Format translation
- Datum transformation
- Resampling to desired resolution

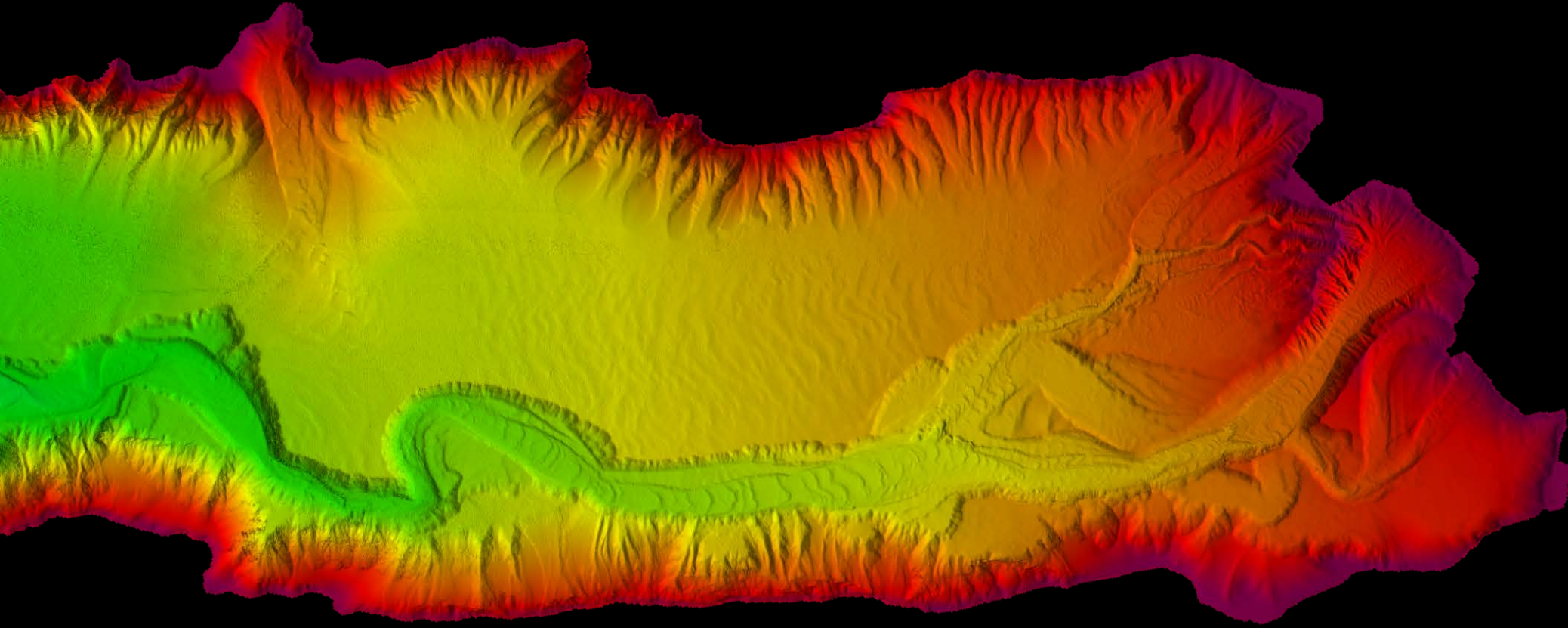
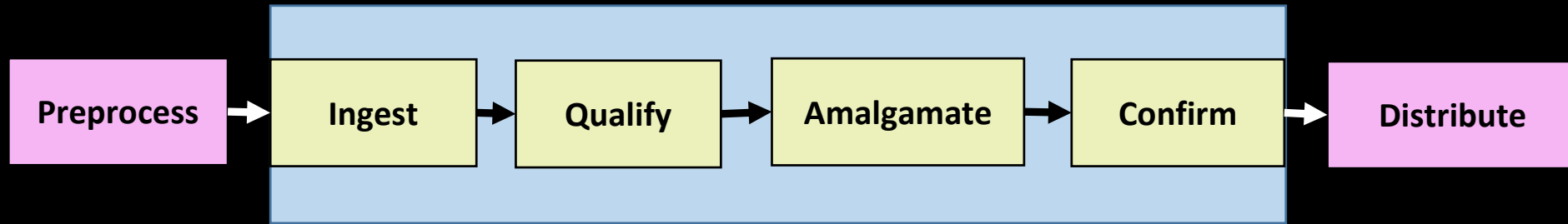


# Office of Coast Survey





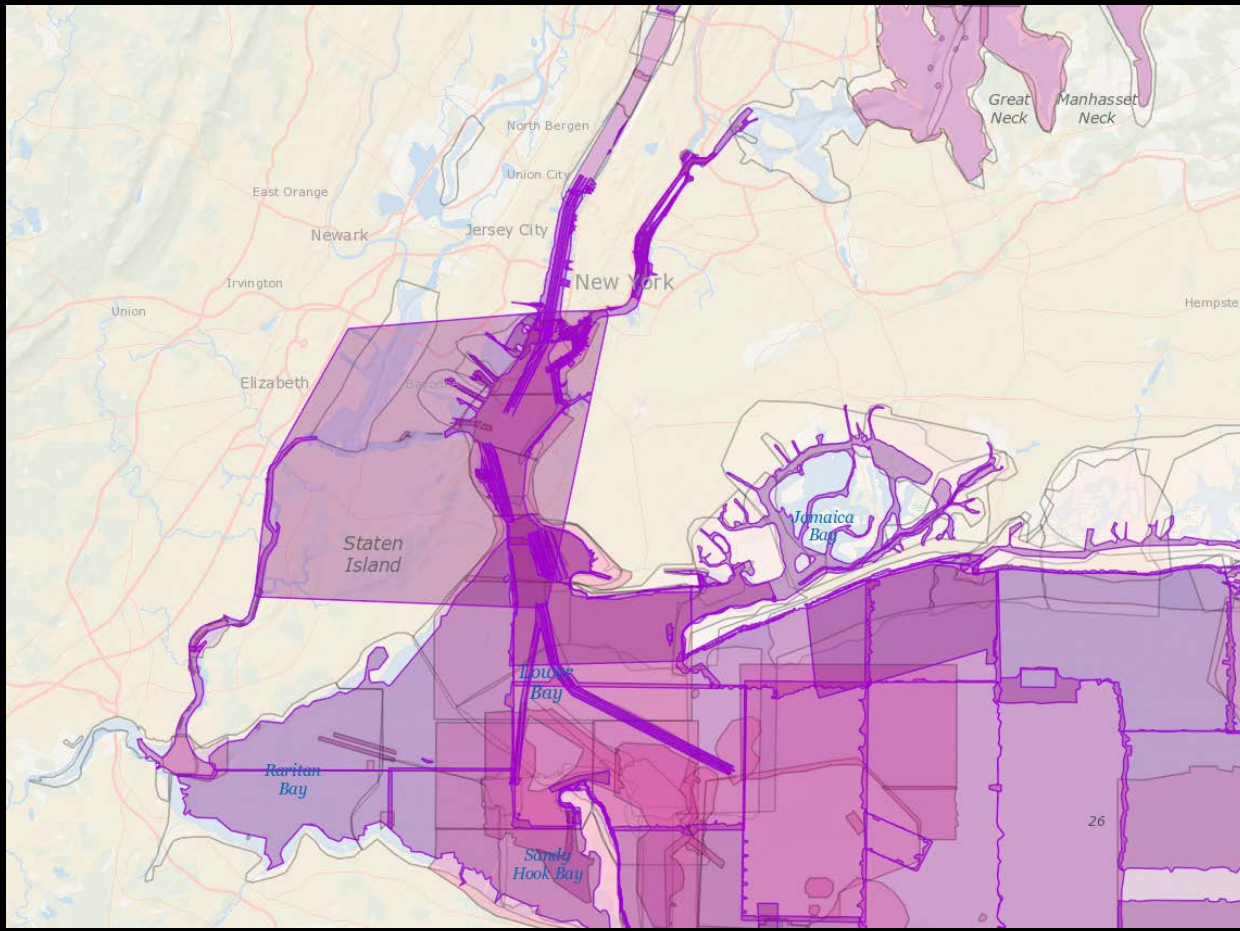
# NBS Workflow







# NBS: Sourcing Data



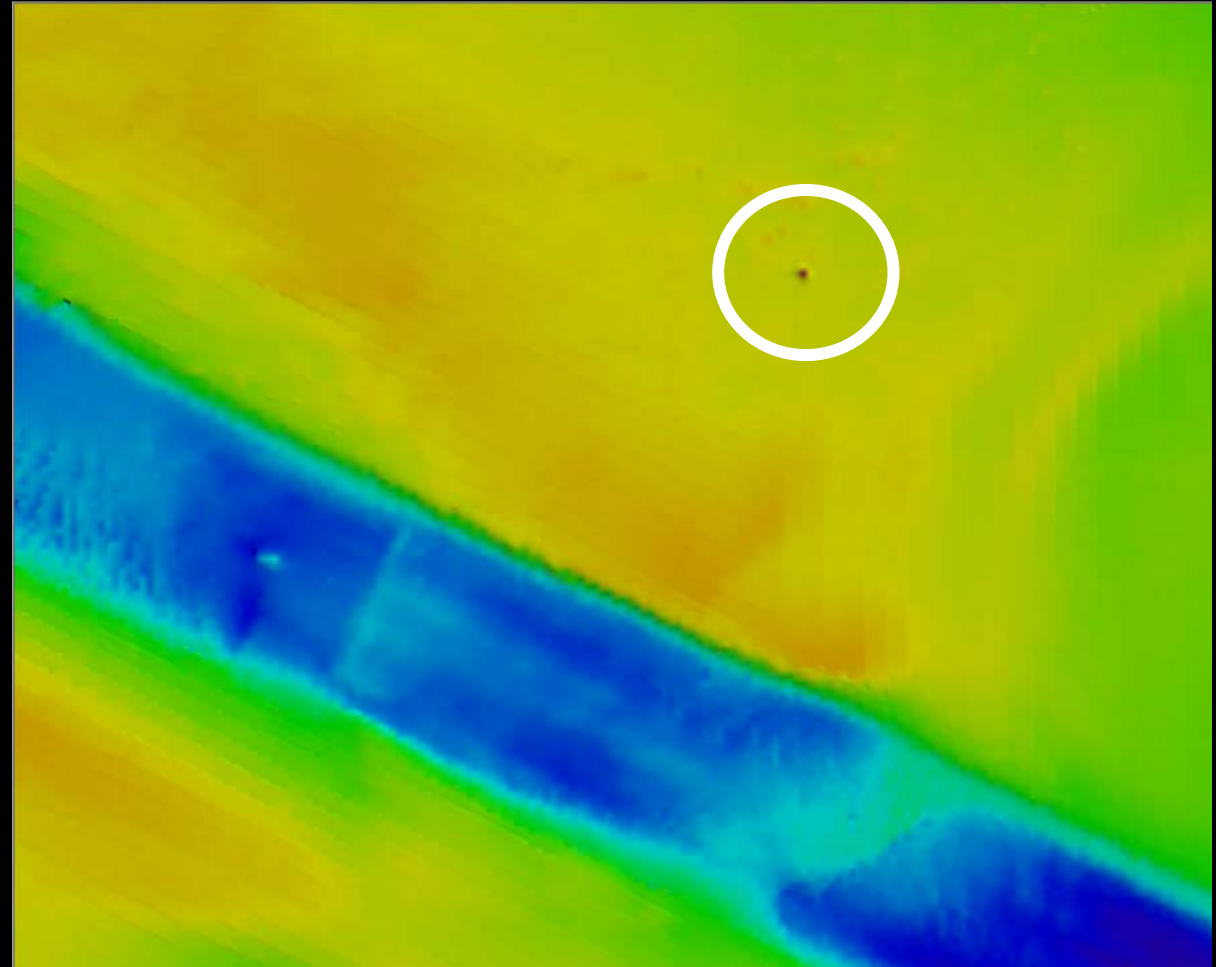
NOAA NCEI



USACE eHydro

# NBS Workflow: Preprocess

- Hydrographic eye as been applied
  - Data is clean
  - Metadata is correct
- All data is machine readable
  - Open formats
  - Standard formats





# Greenaway Stool of Hydrography

## 1) How deep is it?

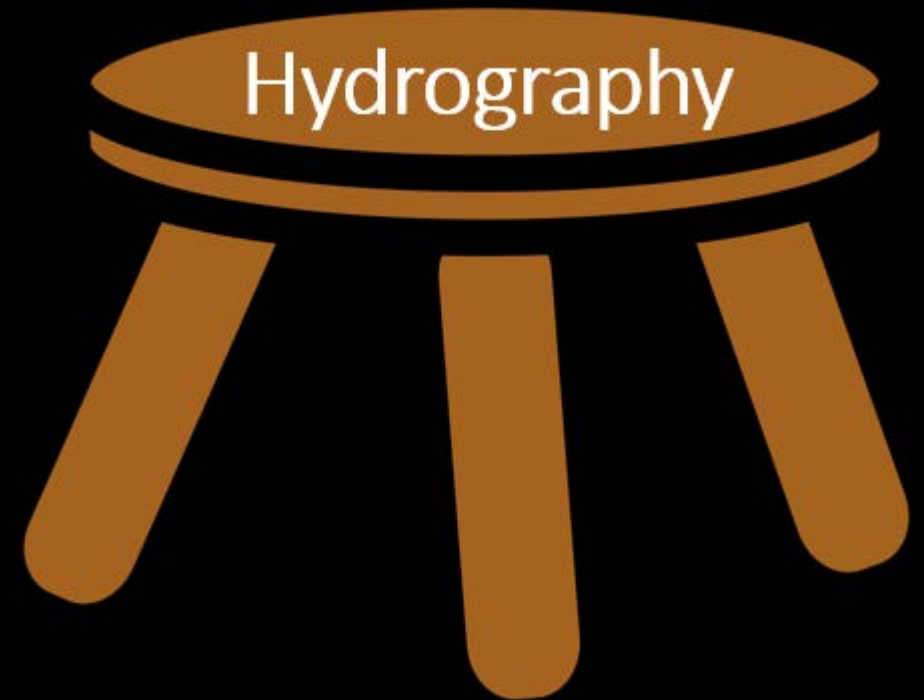
- Datum
- Units

## 2) How well do we know it?

- Quality of Bathymetry (S-101)

## 3) Who provided the data?

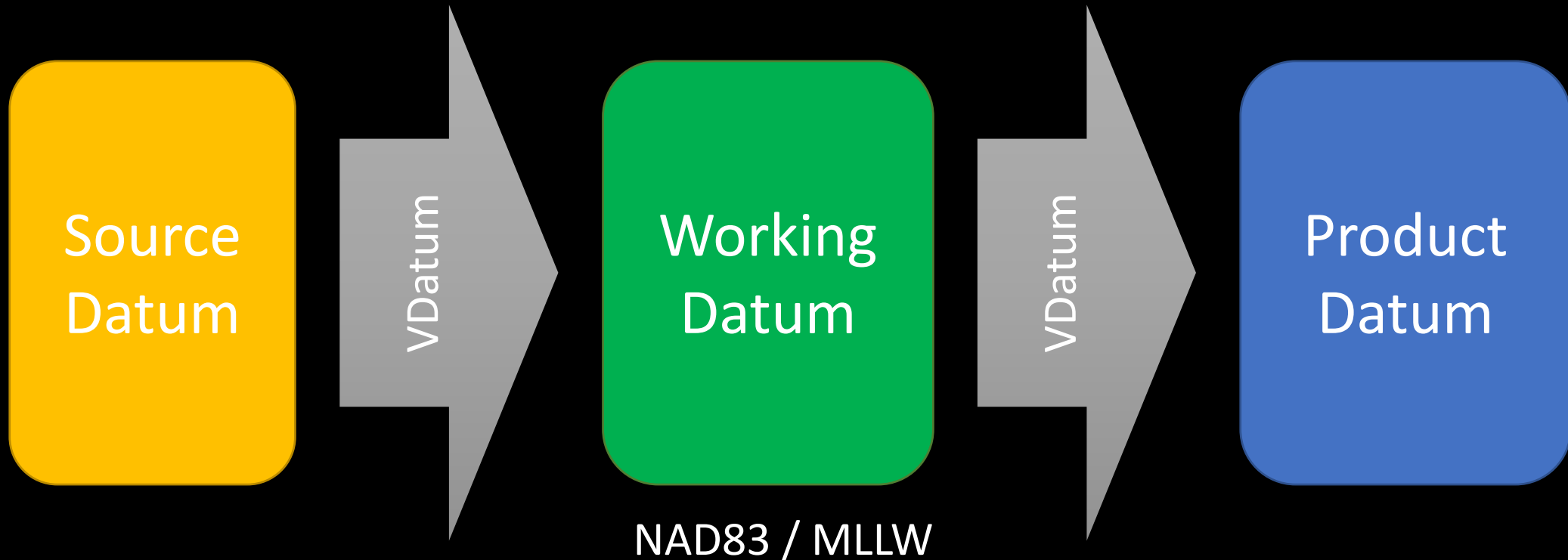
- Survey name, date, and authority
- License





# NBS Workflow: Ingest

## Datum Transformation

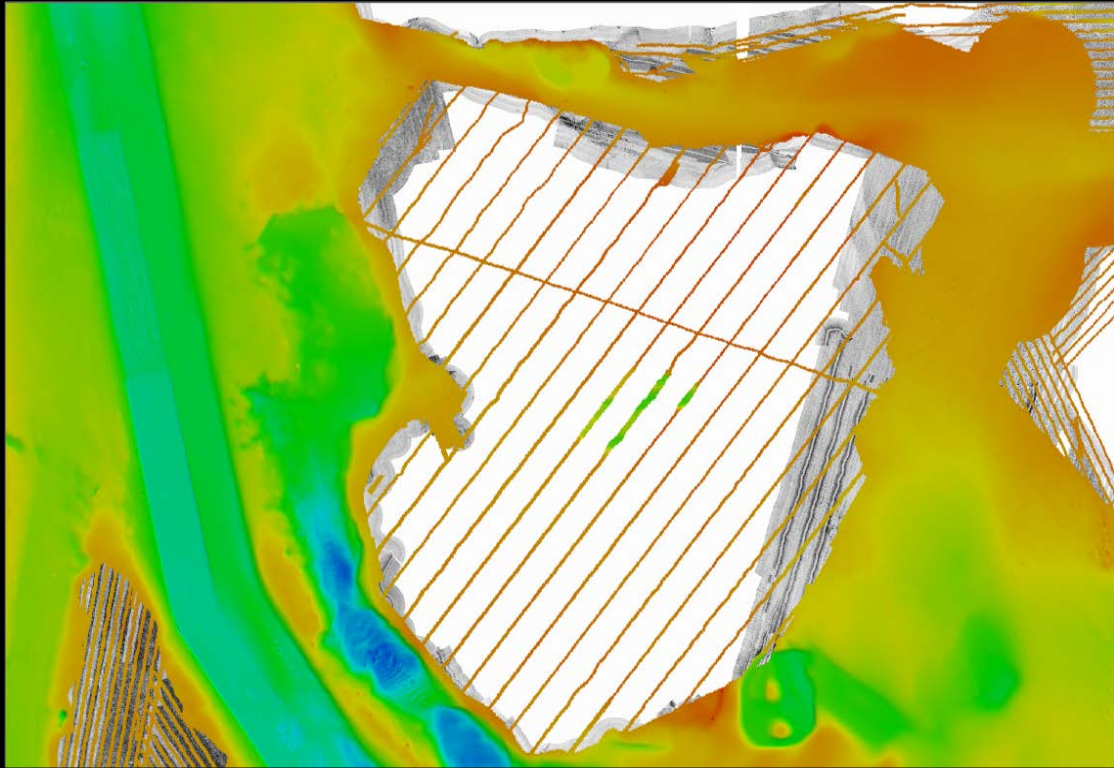




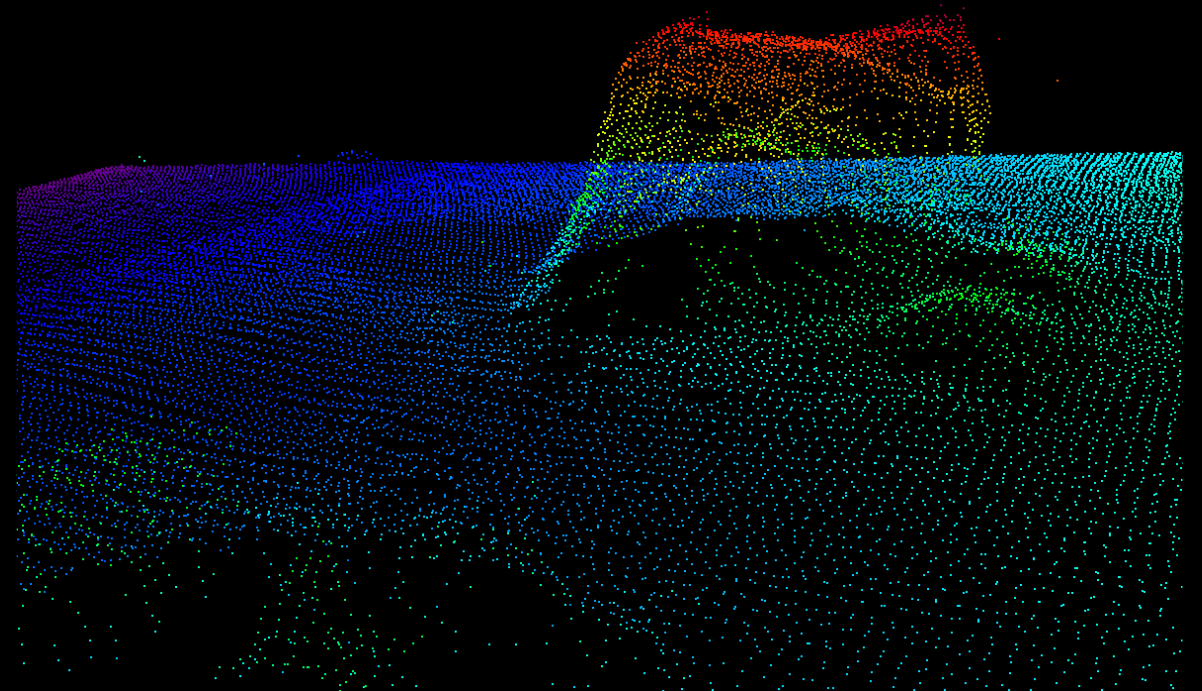
# NBS: Combine Bathymetry

Supersession based on Quality:

Coverage, Feature Detection, and Uncertainty



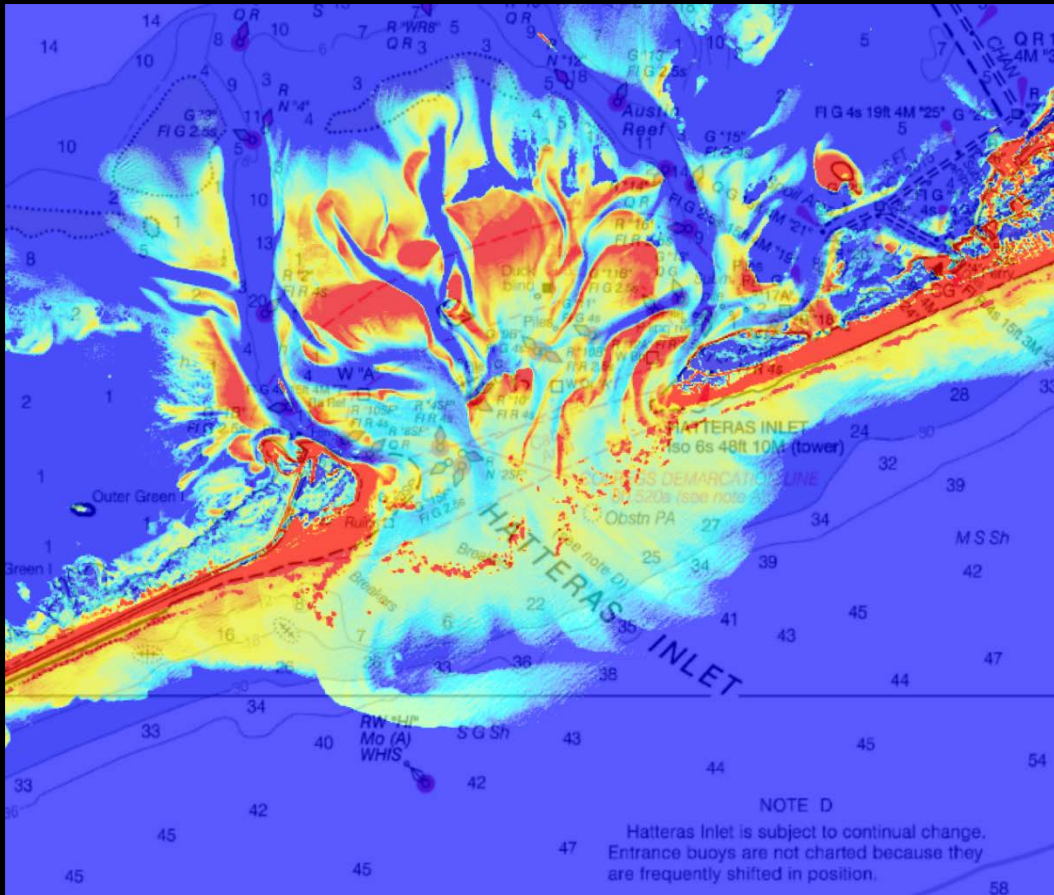
Coverage



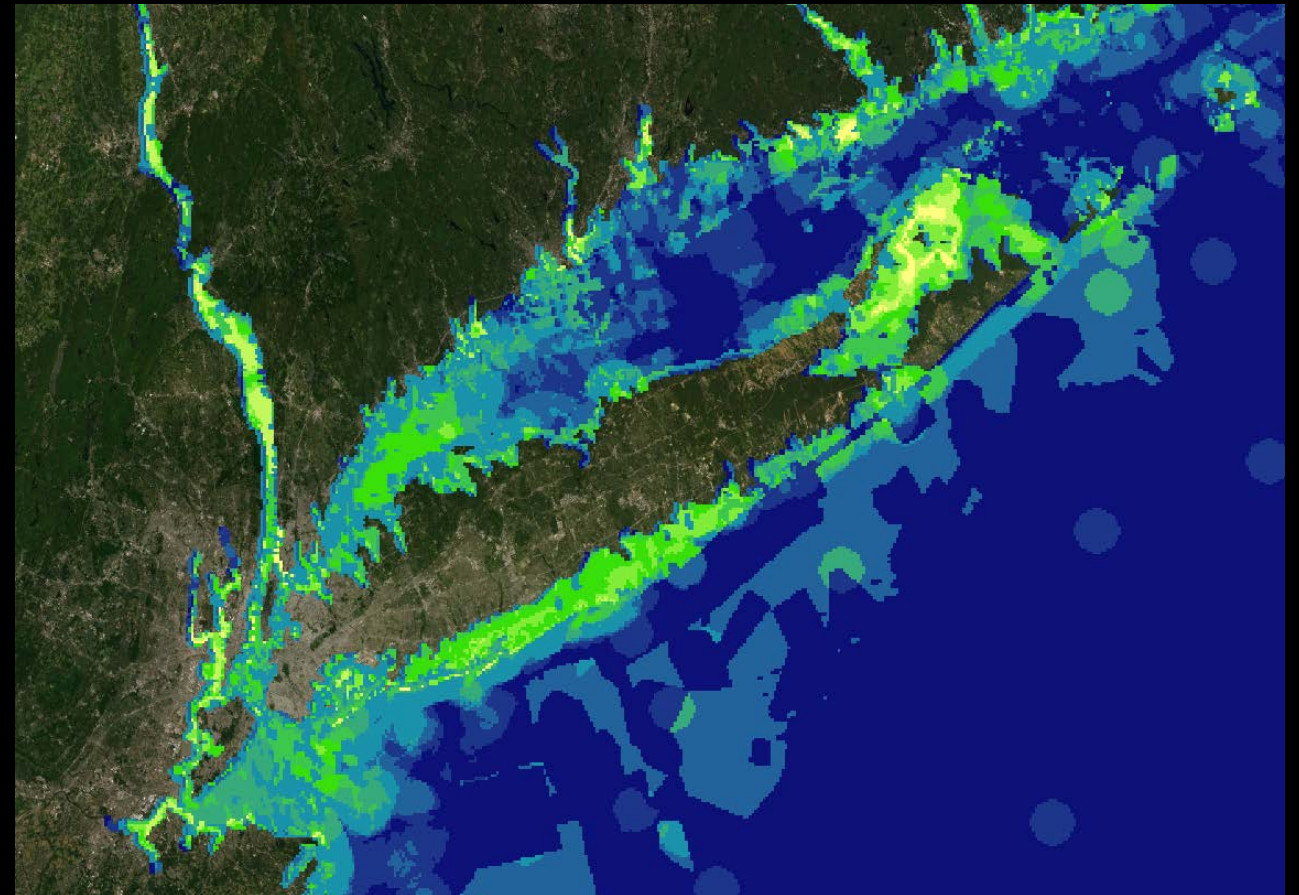
Features



# NBS: Quality Degradation



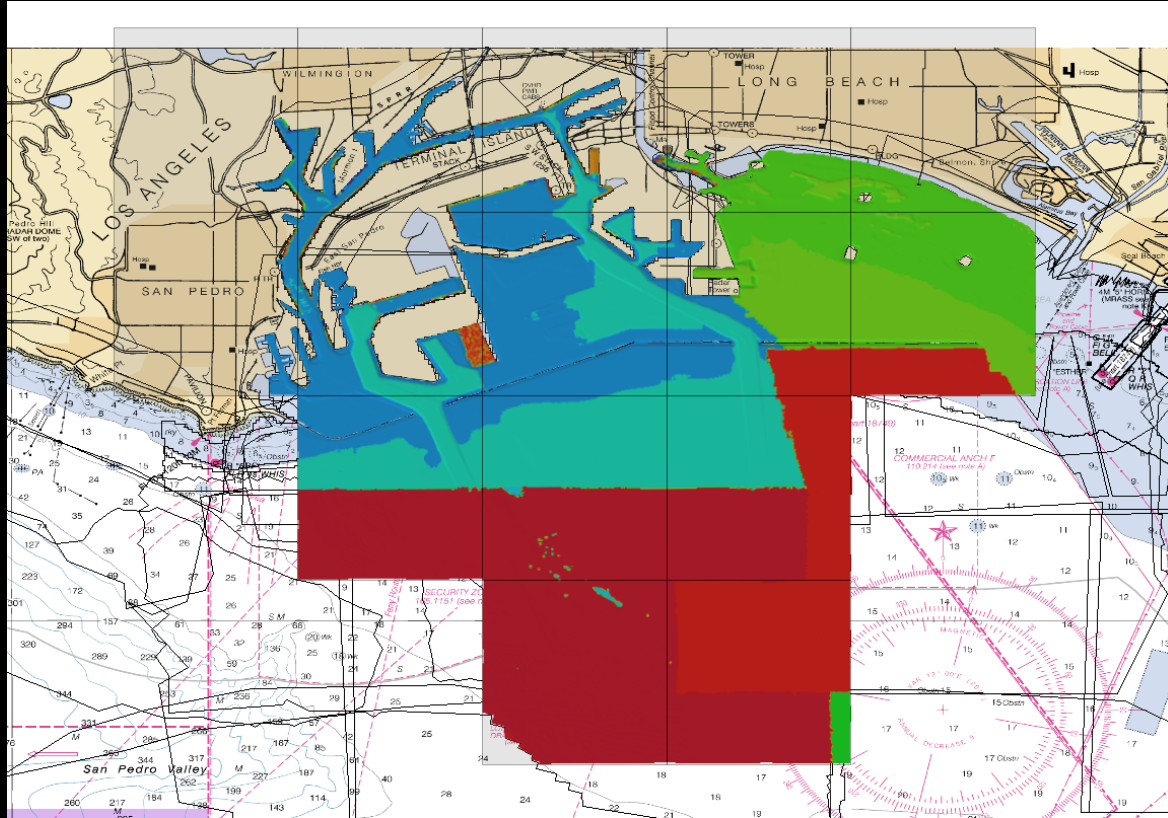
Temporal and Spatial Changeability



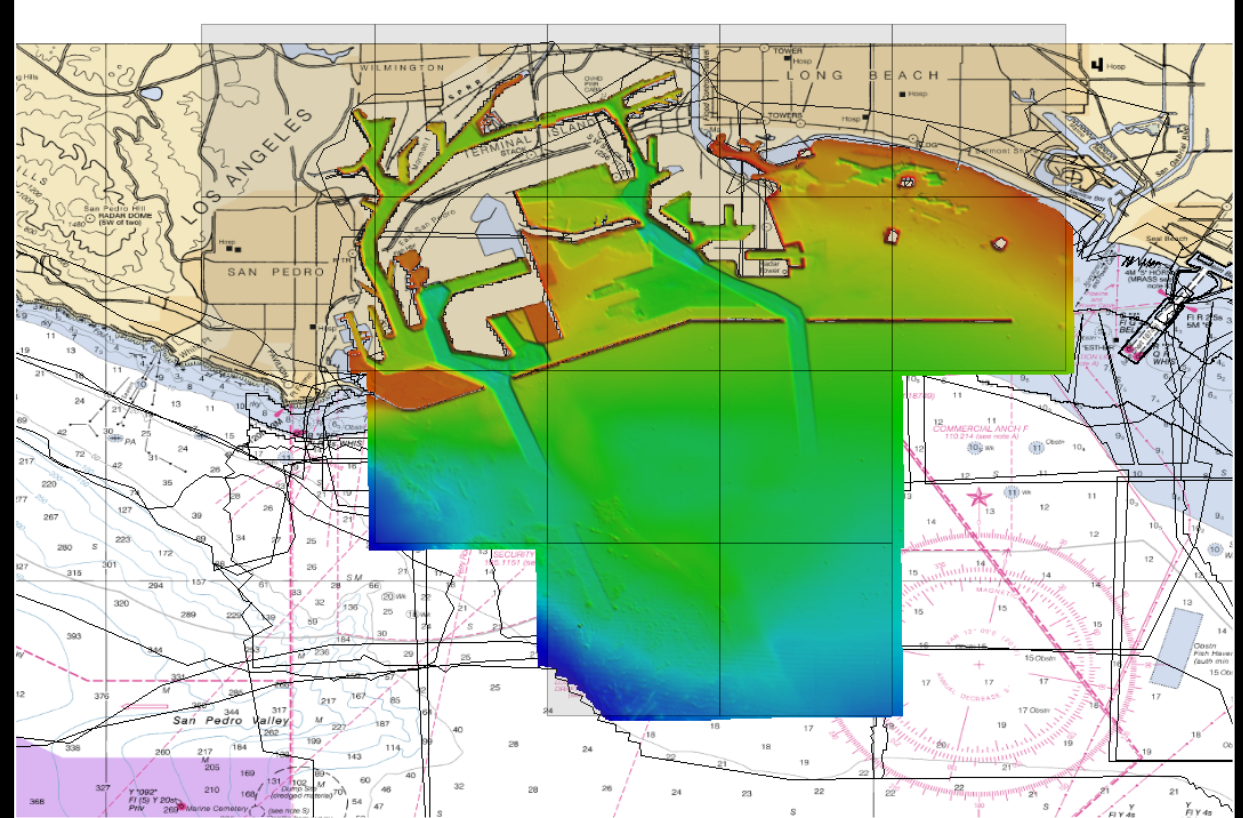
Hydrographic Health Model's Decay Coefficient



# NBS: Result Confirmation



Sources



Bathymetry



# S-102 Bathymetry



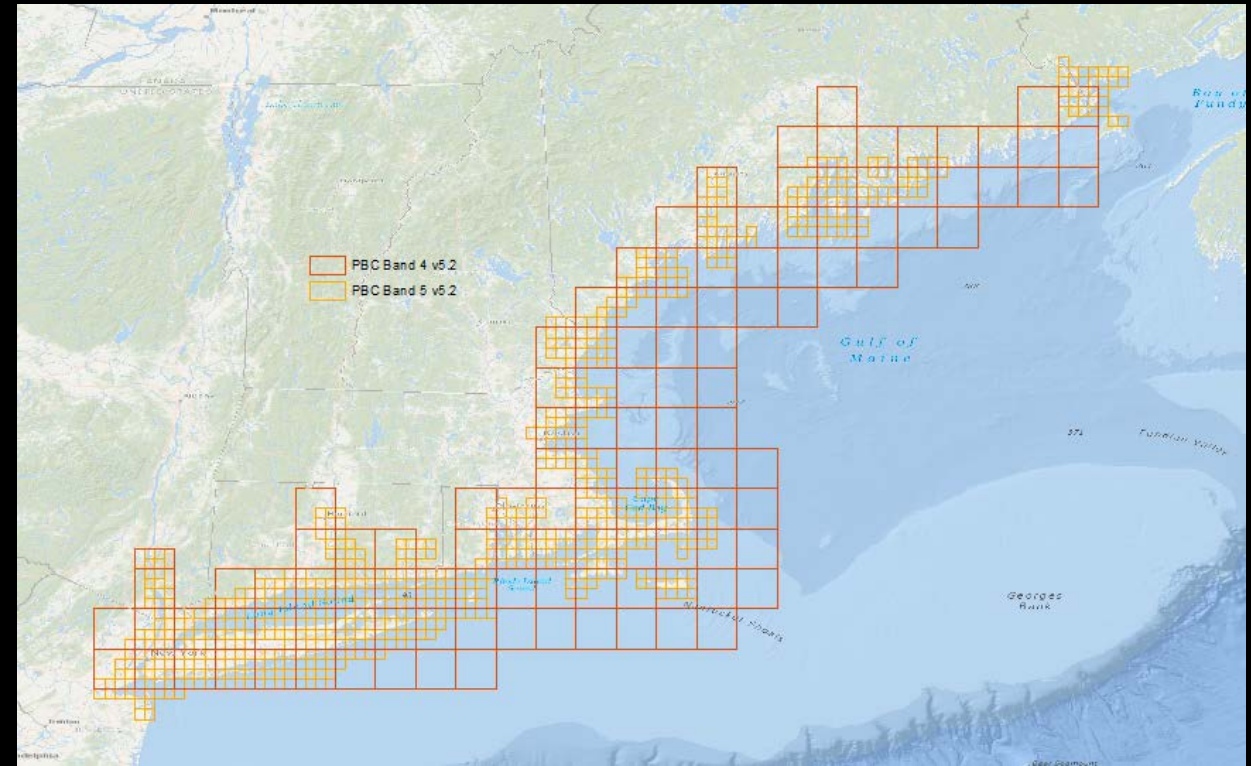
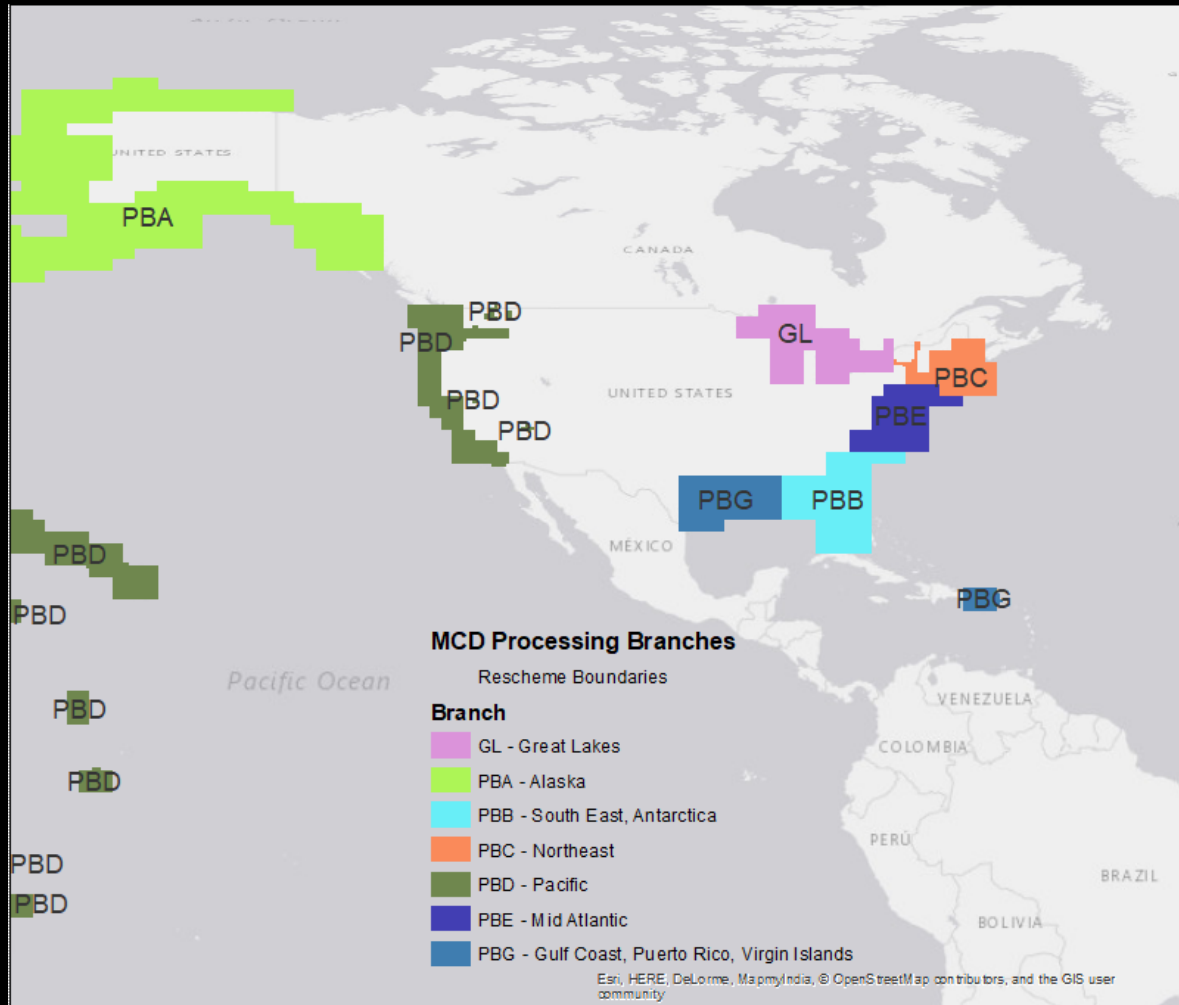
Image Credit: Korea Hydrographic and Oceanographic Agency

Image Credit: S-102 Demonstrator Project





# NBS: Build-out



## Next generation of chart products

Band 5: 4m resolution NBS product

Band 4: 8m resolution NBS product



Thank you

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Katrina.Wyllie@noaa.gov

