

# 3D Nation Elevation Subcommittee

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# Introduction

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The goal of the 3D Nation Elevation Subcommittee of the FGDC is to continually improve the national elevation mapping foundation by coordinating the topographic, coastal, and bathymetric mapping activities across the Federal government. The concept of 3D Nation serves as a unifying structure for all national elevation efforts, and provides a consistent set of standards and objectives for an authoritative foundation to support national needs

Members include:

Bureau of Land Management  
Bureau of Ocean Energy Management  
Defense Installation Spatial Data Infrastructure  
Department of Homeland Security  
Department of Transportation  
Federal Aviation Administration  
Federal Emergency Management Agency  
National Aeronautics and Space Administration  
National Geospatial-Intelligence Agency  
National Oceanic and Atmospheric Administration  
National Park Service

National Science Foundation  
Natural Resource Conservation Service  
Office of Surface Mining Reclamation and Enforcement  
Tennessee Valley Authority  
United States Census Bureau  
United States Army Corps of Engineers  
United States Coast Guard  
United States Fish & Wildlife Service  
United States Forest Service  
United States Geological Survey  
United States Navy

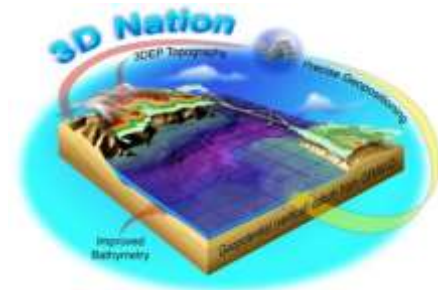
Champions: RDML Shep Smith, NOAA  
Dr. Mike Tischler, USGS



# NGDA Data Themes and Data Sets

- ❖ The following data themes and data sets fall under the purview of the 3D Nation Elevation Theme Subcommittee

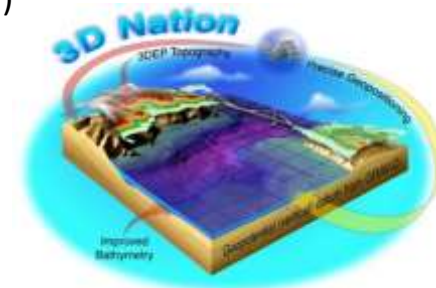
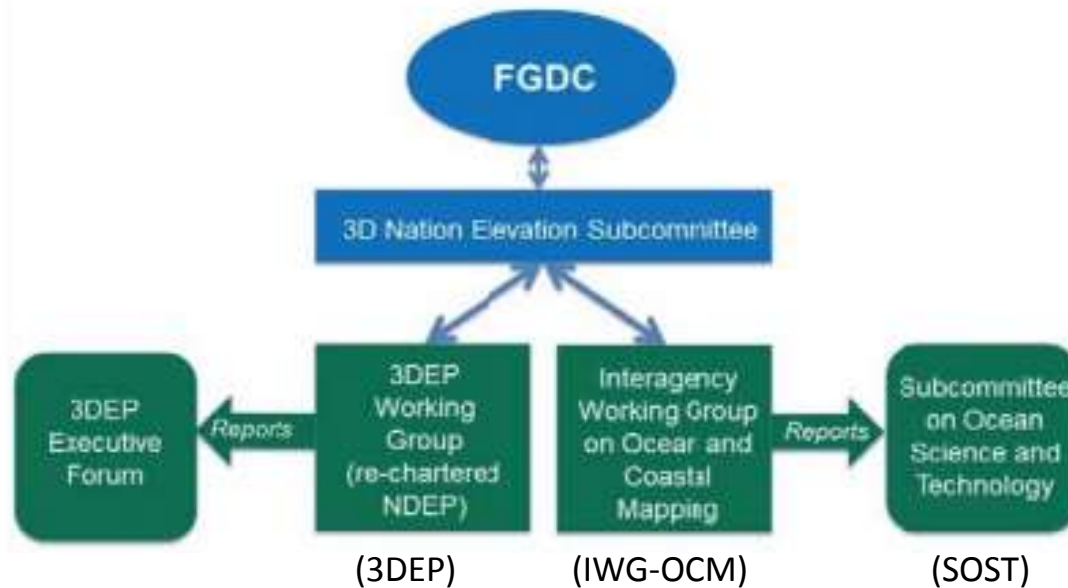
Elevation Theme National Geospatial Data Asset Datasets		Dataset Manager Agency
1	1 meter Digital Elevation Models (DEMs) - USGS National Map	DOI-USGS
2	1/3rd Arc-second Digital Elevation Models (DEMs) - USGS National Map	DOI-USGS
3	5 meter Alaska Digital Elevation Models (DEMs) - USGS National Map	DOI-USGS
4	Digital Elevation Models from NOAA/NCEI	DOC-NOAA
5	Global Multi-Resolution Terrain Elevation Data	DOI-USGS
6	Lidar Point Cloud - USGS National Map	DOI-USGS
7	MultiBeam Bathymetric Data Base (MBBDB)	DOC-NOAA
8	National Flood Hazard Layer (NFHL)	DHS-FEMA
9	NCEI Marine Trackline Geophysics Database	DOC-NOAA
10	NOS Hydrographic Surveys Collection	DOC-NOAA
11	Shuttle Radar Topography Mission (SRTM)	DOI-USGS
12	U.S. Coastal Lidar Elevation Data - Including the Great Lakes and Territories, 1996 – present	DOC-NOAA



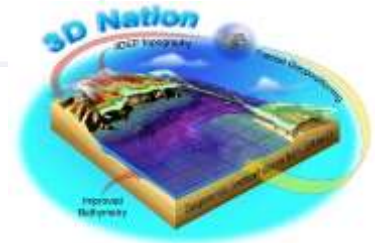
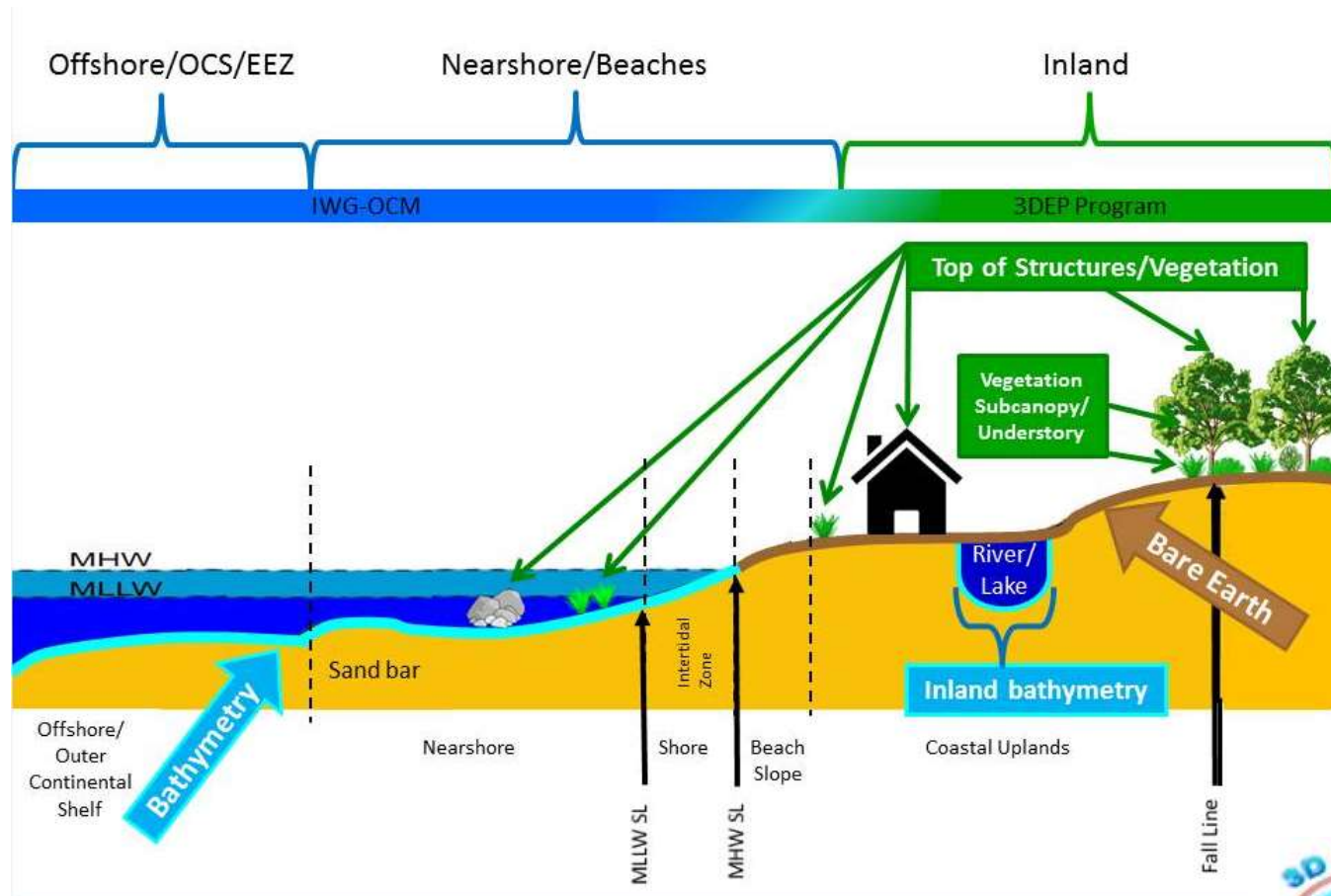
# Governance

The Elevation Theme co-leads are the U.S. Geological Survey for terrestrial elevation and the National Oceanic and Atmospheric Administration (NOAA) for bathymetric elevation.

The co-leads and their partners coordinate closely on all aspects of elevation theme management through the following structure:



# Governance

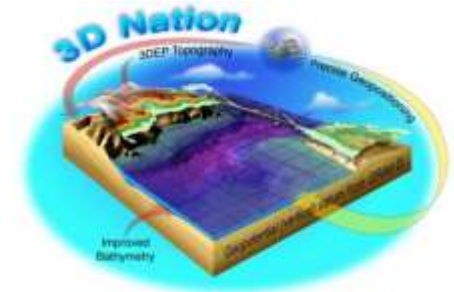




# Recent Meetings – 3D Nation Elevation Theme

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- ❖ Annual Coordination and Operational Meetings:
  - ❖ Recent and Upcoming Regional Focus Groups
    - Pacific Northwest Topobathymetric Models and Applications Workshop (2016)
    - Great Lakes Coastal Mapping Summit (April 2017)
    - SE Region (early Fall 2017)
  - ❖ JALBTCX Workshop (June 2017)
- ❖ Quarterly Coordination and Operational Meetings:
  - ❖ IWG-OCM
  - ❖ 3DEP Executive Forum
- ❖ Monthly Coordination and Operational Meetings:
  - ❖ 3DEP Working Group

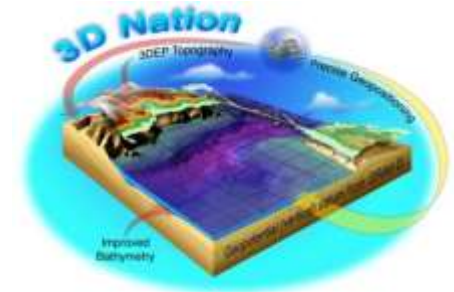


# Recent Meetings – 3D Nation Elevation Theme

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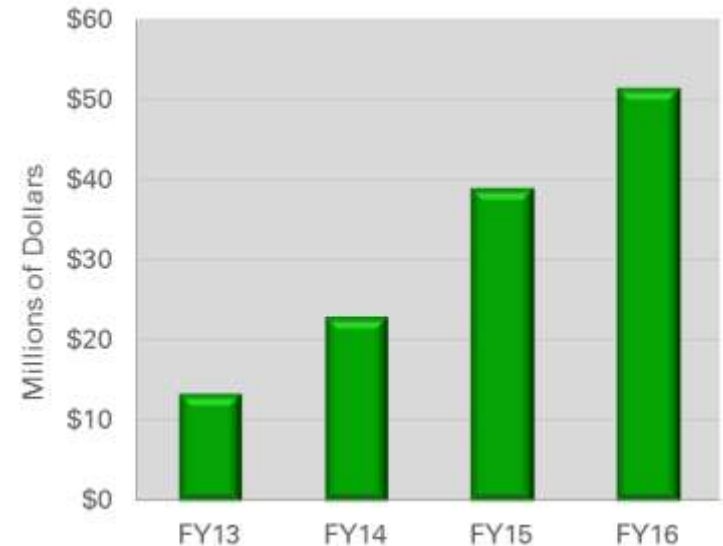
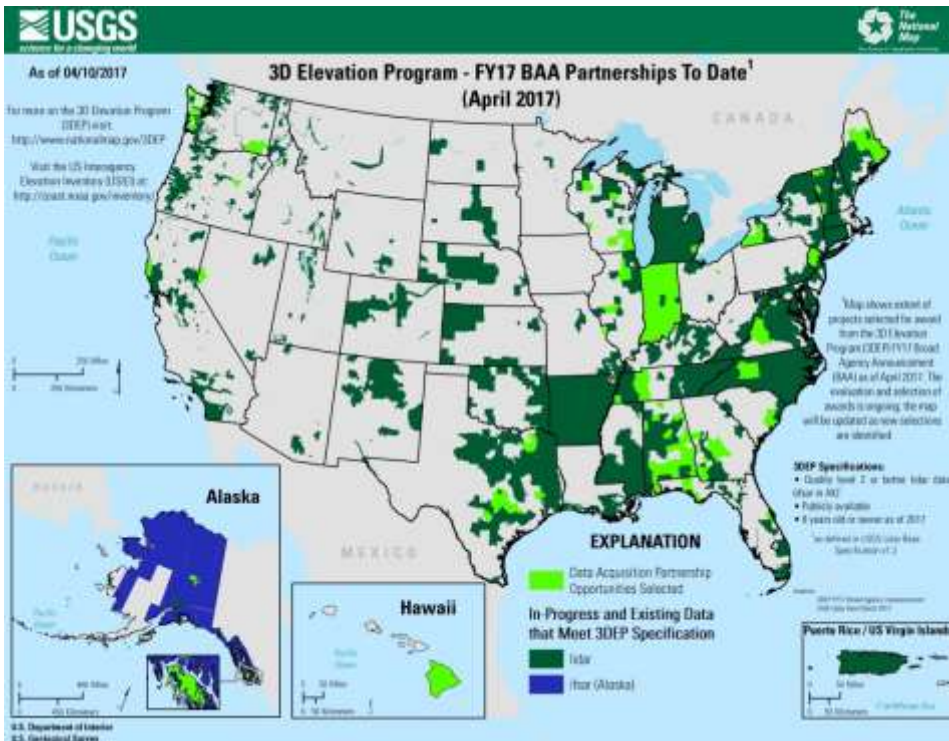
## 3DEP Executive Forum and Working Group

- ❖ The topics discussed at these meetings include:
  - 3DEP Policy, Strategies and Best Practices
  - Funding and Cost Share Models
  - 3DEP Multi-Year Acquisition Plan
  - 3DEP National Tiling Scheme
  - Collaboration with NSGIC and AASG to develop 3DEP Acquisition Plans for each US state and territory
- ❖ Some of the outcomes arising from this meeting include:
  - Funding Strategies to support the 3DEP plan to collect nationwide lidar by 2023; flexible plan to adjust to increased or reduced funding
  - Multi-agency collaboration resulting in 3DEP acquisition strategies that satisfy the mission needs and spread the cost among 3DEP stakeholders
  - Multi-agency assessment and adoption of new technologies

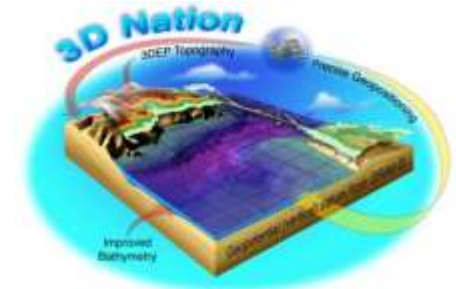


# Recent/Future Developments/Projects

- 3DEP Broad Agency Announcement



3DEP Lidar Data Acquisition Funding (QL2 or better, all partners)



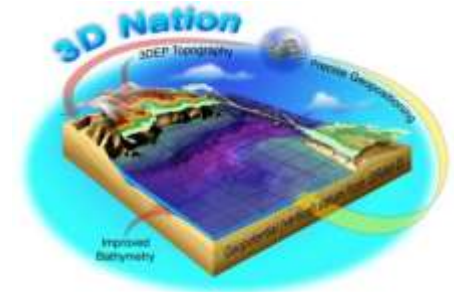


# Recent Meetings – 3D Nation Elevation Theme

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## IWG-OCM

- ❖ The topics discussed at these meetings include:
  - OCM Policy, Strategies and Best Practices on standards, data stewardship
  - Funding and Cost Share Models
  - Mapping data acquisition plans using U.S. Federal Mapping Coordination site
  - 3D Nation and National Ocean Policy implementation actions
  - Satellite-derived bathymetry
  
- ❖ Some of the outcomes arising from this meeting include:
  - National Coastal Mapping Strategy 1.0/2.0 and implementing components
  - NEEA-Oceans and Coasts
  - Regional Summits

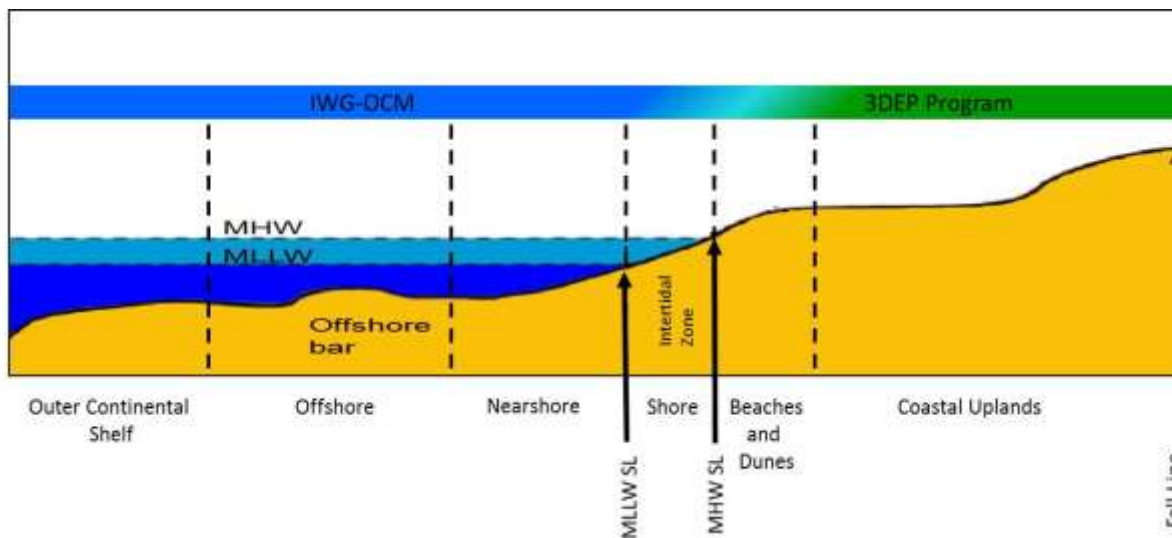


# National Coastal Mapping Strategy 1.0

## Coastal Lidar Elevation for a 3D Nation

### Components:

- Regional Coastal Mapping Summits for coordination
- Common standards – Bathymetry Quality Levels aka 3DEP topo QL's
- Whole life cycle approach to data
- R&D on new tools/techniques for data collection and use.

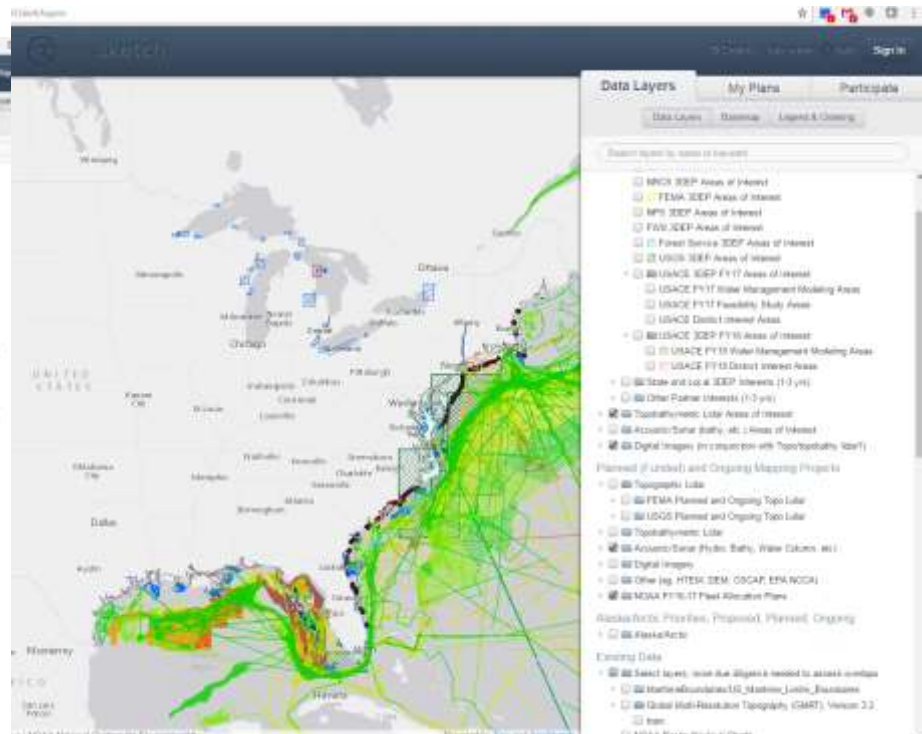


3D Nation?  
Refresh cycle?  
ROI?  
NEEA-like study?

# Recent/Future Developments/Projects

- Seasketch

NOAA sponsored Seasketch site: [U.S. Federal Mapping Coordination](http://seasket.ch/hwpR3E-MxO), *A Demonstration Site for Federal Mapping Data Acquisition* (<http://seasket.ch/hwpR3E-MxO>)



# Mapping a 3D Nation: Requirements and Benefits Study Design Part 2

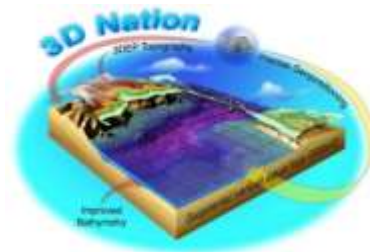
## Also known as NEEA-Oceans and Coasts

- Refresh the National Enhanced Elevation Assessment (NEEA) for the years beyond the initial 8-year acquisition program
- Understand inland and nearshore bathymetric data requirements and benefits
- Understand offshore bathymetric data requirements and benefits
- Understand how requirements and benefits dovetail in the nearshore coastal zone

# Next Steps

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- ❖ In the coming months, the 3D Nation Elevation Theme hopes to accomplish/discuss:
  - Increase utilization of the NGDA Elevation Theme Community Page
  - Complete the Elevation Theme Implementation Plan; report activity and accomplishments in support of theme goals
  - Evaluate elevation data not currently included in the set of NGDA datasets and as appropriate advocate for managing as a capital asset.
  - Explore, Recommend and incorporate interactive Maps and Applications to support the development of 3DEP Acquisition Plans for each state
    - Coastal States will include consideration of both topographic and bathymetric needs to assure coordination in the coastal zone
    - Will meet federal requirements for publishing information on the Geoplatform





# Questions?

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