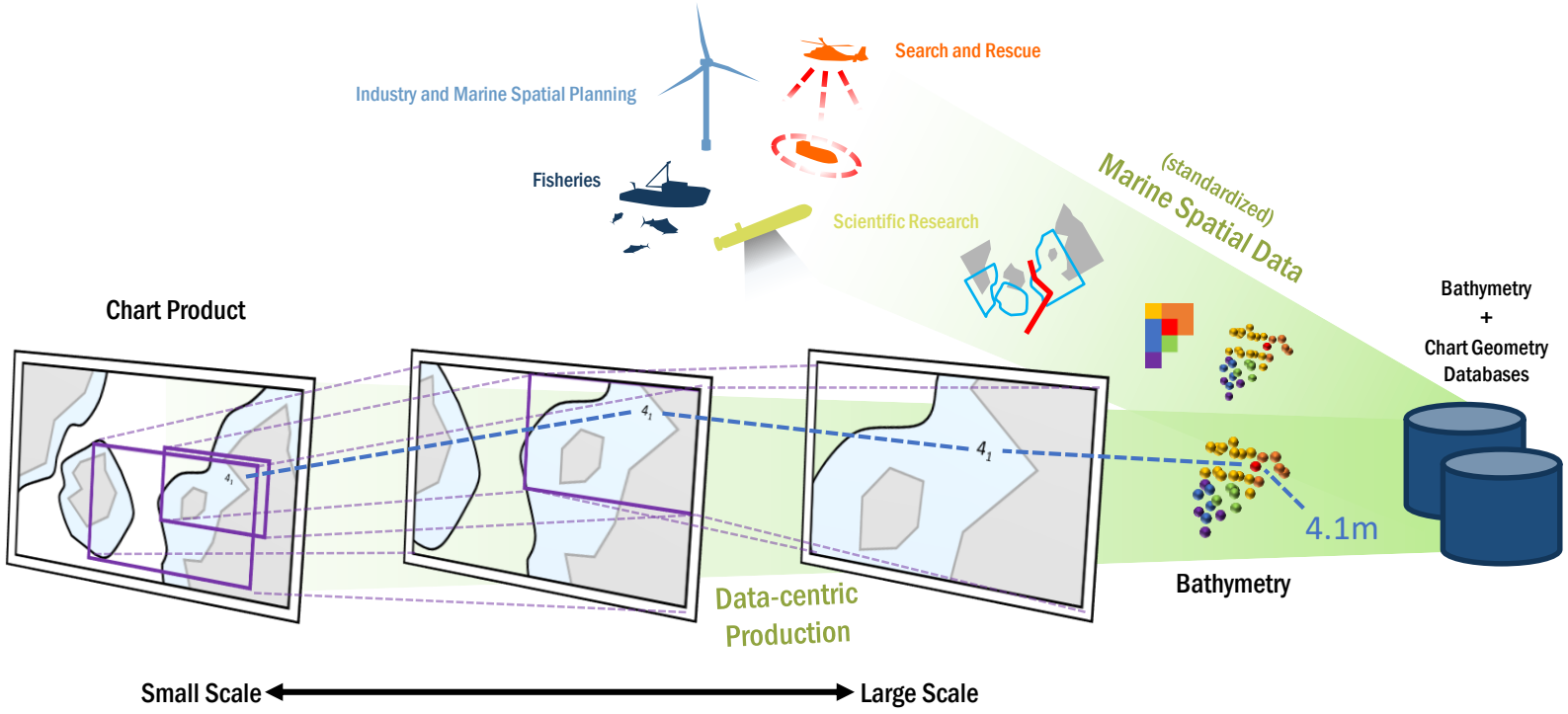
Marine Spatial Data Infrastructure Working Group

United States of America (USA) National Report

POLICY AND GOVERNANCE

United States of America, MSDI

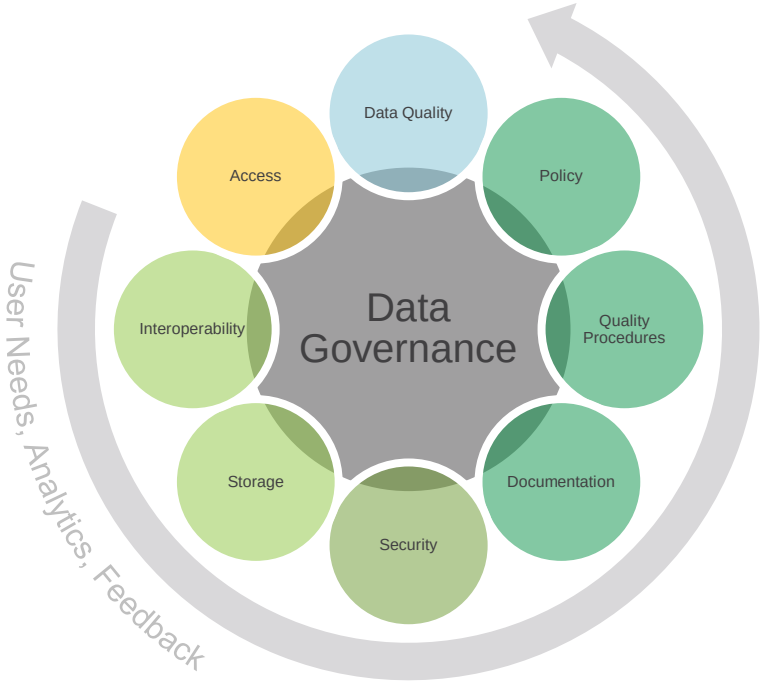
Data-Centric Production and MSDI



Data Governance

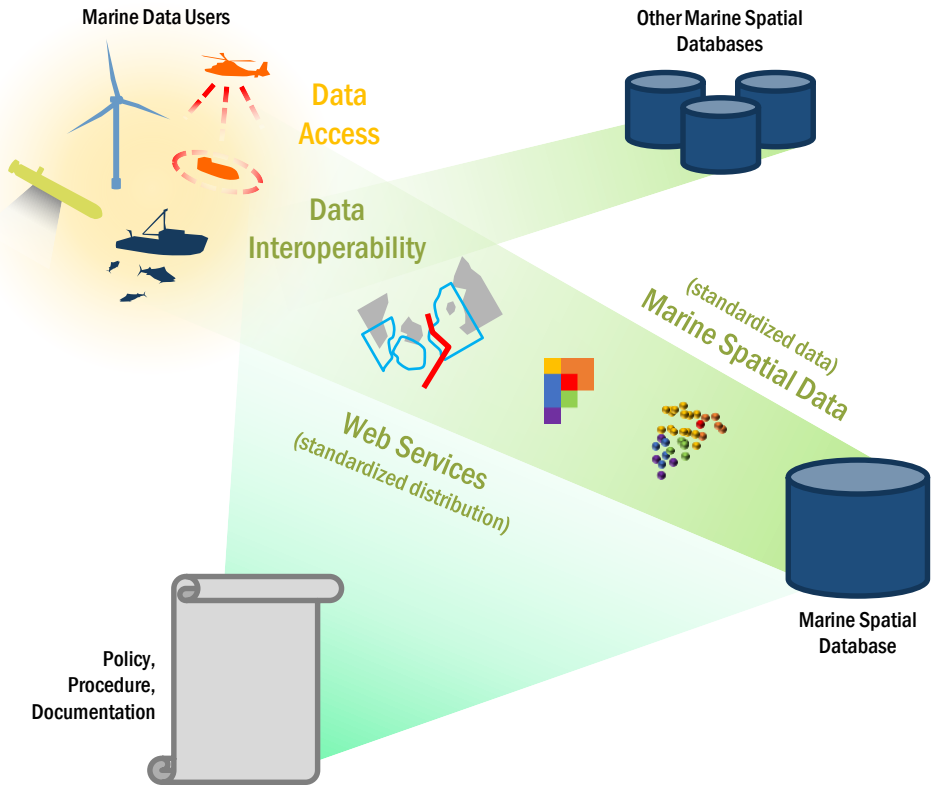
- Objective
  - Facilitate the handling, accessibility, and quality of data.

- General Data Governance Components
  - Data Quality
  - Policy
  - Quality Procedures
  - Documentation
  - Security
  - Storage
  - Interoperability
  - Access



Policies in a Data Governance Model

- Policies drive the data governance model.
- Policies can be executive in nature or embedded within each component of the model.
- Sound policies and handling procedures lead to high quality and highly accessible data.



Policy

National Policies / Legislation

- ***Presidential Executive Order 13840*** – Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States.

- ***Geospatial Data Act of 2018 (GDA)***

- ***Foundations for Evidence-Based Policymaking Act of 2017***
  - Title II – Open Government Data Act

H. R. 302

One Hundred Fifteenth Congress

of the

United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Wednesday, the third day of January, two thousand and eighteen

An Act

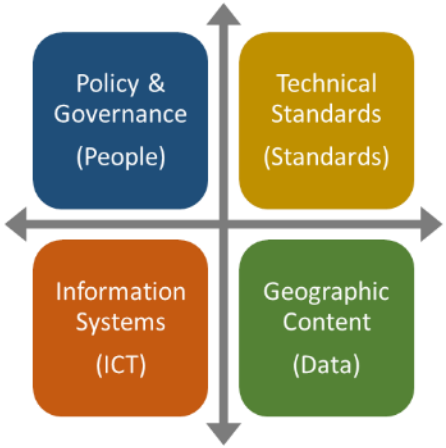
To provide protections for certain sports medicine professionals, to reauthorize Federal aviation programs, to improve aircraft safety certification processes, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

NOAA Office of Coast Survey

MARINE SPATIAL DATA INFRASTRUCTURE (MSDI) STRATEGY

Marine Spatial Data Infrastructure (MSDI) -
From shipping to energy exploration, activities at sea have increased, just as they do on land. In order to ensure sustainable use of the oceans, prioritizing marine activities is essential and relies on a vast amount of Geospatial Information. MSDI is a tool that enables easier and more convenient access to various Marine Spatial Data. It is comprised of data, technical standards, information systems, policy and people. Coast Survey plays a pivotal role in the development of the United State's MSDI.



Why Marine Spatial Data Infrastructure?

Blue Economy - Support sustainable use of ocean resources through data access.

Open Data - Compliance with U.S. Federal Open Data Policies and the G8 Open Data Charter, among others.

Efficiency - Reduce manual data creation and enable machine to machine analytics to improve timeliness of data delivery.

Decision Making - Unlock the power of Geospatial Information that exist within Navigational Charts in order to better inform decision makers.

Coast Survey's MSDI Strategy

- Develop core datasets from the Coast Survey Nautical Information System.
- Deliver core datasets via web-enabled services.
- Collaborate with Federal, State, Local, and Private partners on data dissemination.
- Develop internal Data Policy & Governance to ensure the integrity of core datasets.
- Engage with International partners through the International Hydrographic Organization (IHO) MSDI Working Group (MSDIWG).

What constitutes an MSDI ?

Policy & Governance (People) - Builds a linkage to regional, national, or organizational strategy for sharing and exchanging information. Requires willingness to cooperate between various organizations that create, share, and use information to implement policy.

Technical Standards - International Standards for geographic information exist or are being developed and , in many areas, sector-based standards are being put in place that depend on these over-arching standards.

Information Systems - Technical Infrastructure (both hardware and software) enable the delivery of data and services to allow the viewing, sharing, transformation and downloading of data.

Geographic Content - Arguably the most important component of MSDI. Data can be broken into two main categories: **Reference Information** including any geographic feature that is used as a location reference for other information (often referred to as the data that "most people use most of the time") and **Application Information** known as the outer layer information which is generally application or business specific.

Office of Coast Survey
NAUTICALCHARTS.NOAA.GOV

Office of Coast Survey
National Oceanic and Atmospheric Administration

INFORMATION SYSTEMS

United States of America, MSDI

Information Systems

- Charting Information / Production Databases
  - National Bathymetric Source (NBS)
  - Nautical Information System (NIS)
- Server Infrastructure
  - GIS Servers (Internal & External)
  - Database Servers (Internal & External)
  - Physical vs. Virtual….
- Software
  - Esri
  - Caris
  - Seven Cs
  - Etc.

TECHNICAL STANDARDS

United States of America, MSDI

Technical Standards

- ***IHO S-100 Standard***
- ***Open Geospatial Consortium (OGC) Standards***
- ***Federal Geographic Data Committee (FGDC) Metadata Standards***

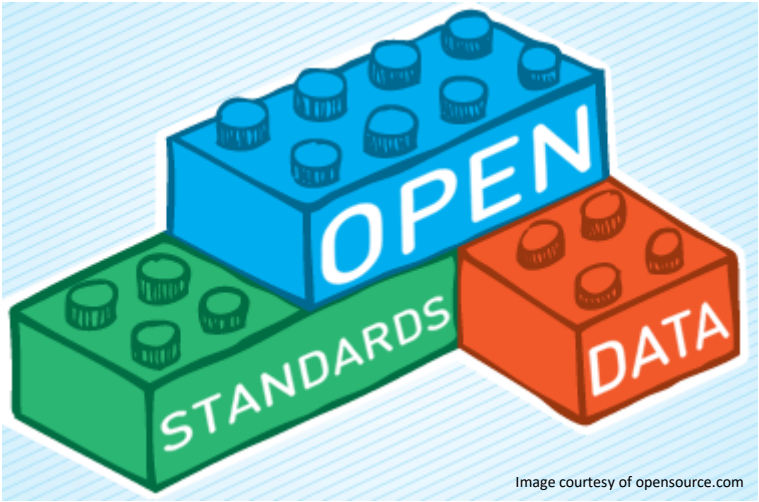


Image courtesy of opensource.com

GEOGRAPHIC CONTENT

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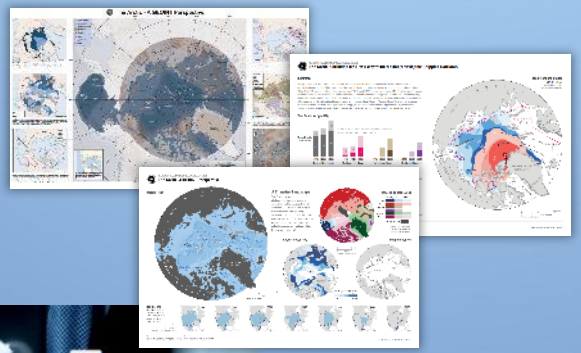
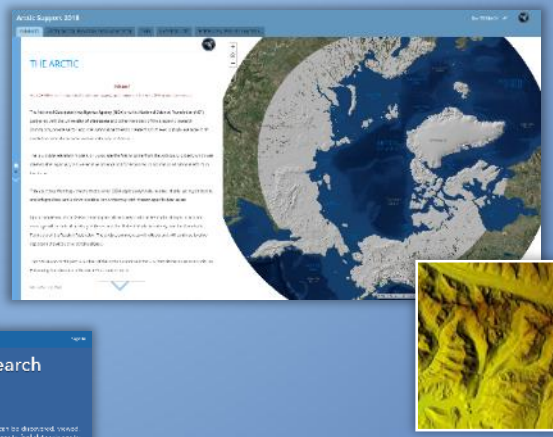
NGA GEOINT Services – Arctic Support

NGA GEOINT SERVICES

Map Products





ArcticDEM

https://nga.maps.arcgis.com

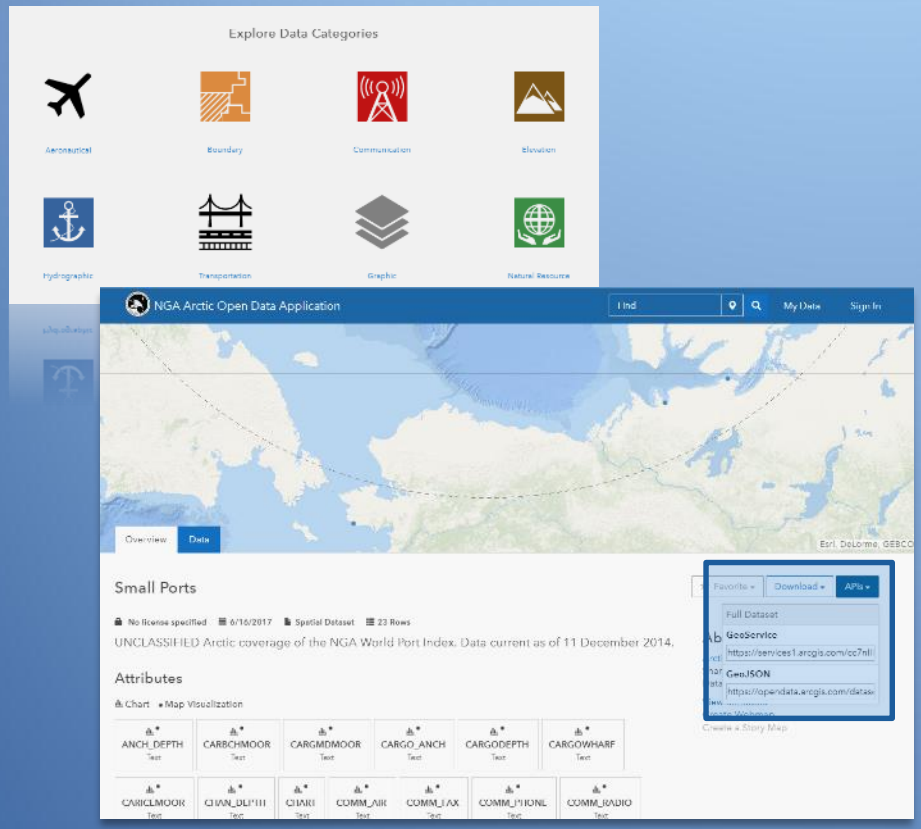
Data Discovery & Download

NAVAL METEOROLOGY AND OCEANOGRAPHY COMMAND

NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY UNITED STATES OF AMERICA

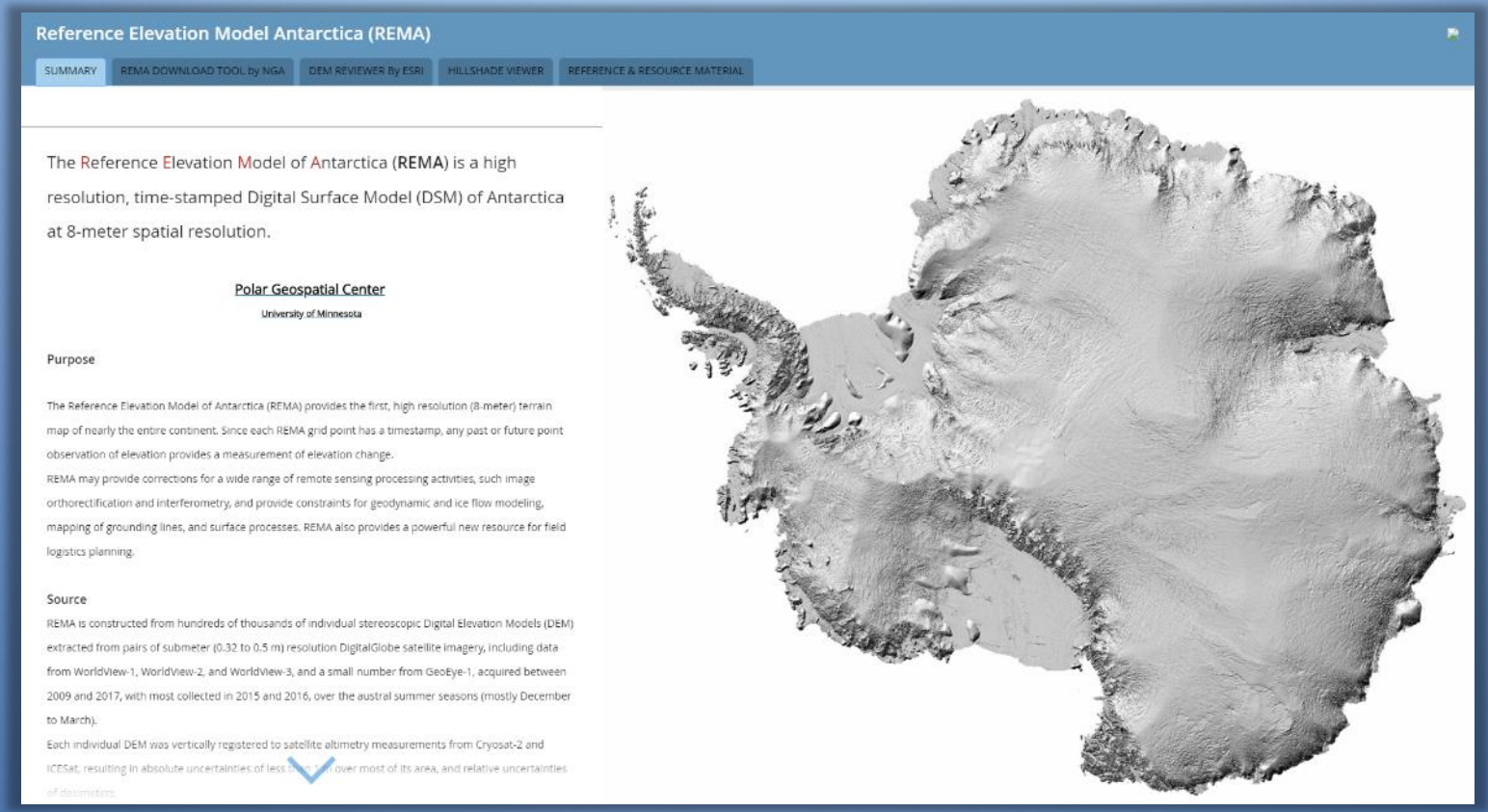
NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION U.S. DEPARTMENT OF COMMERCE

NGA Arctic Open Data

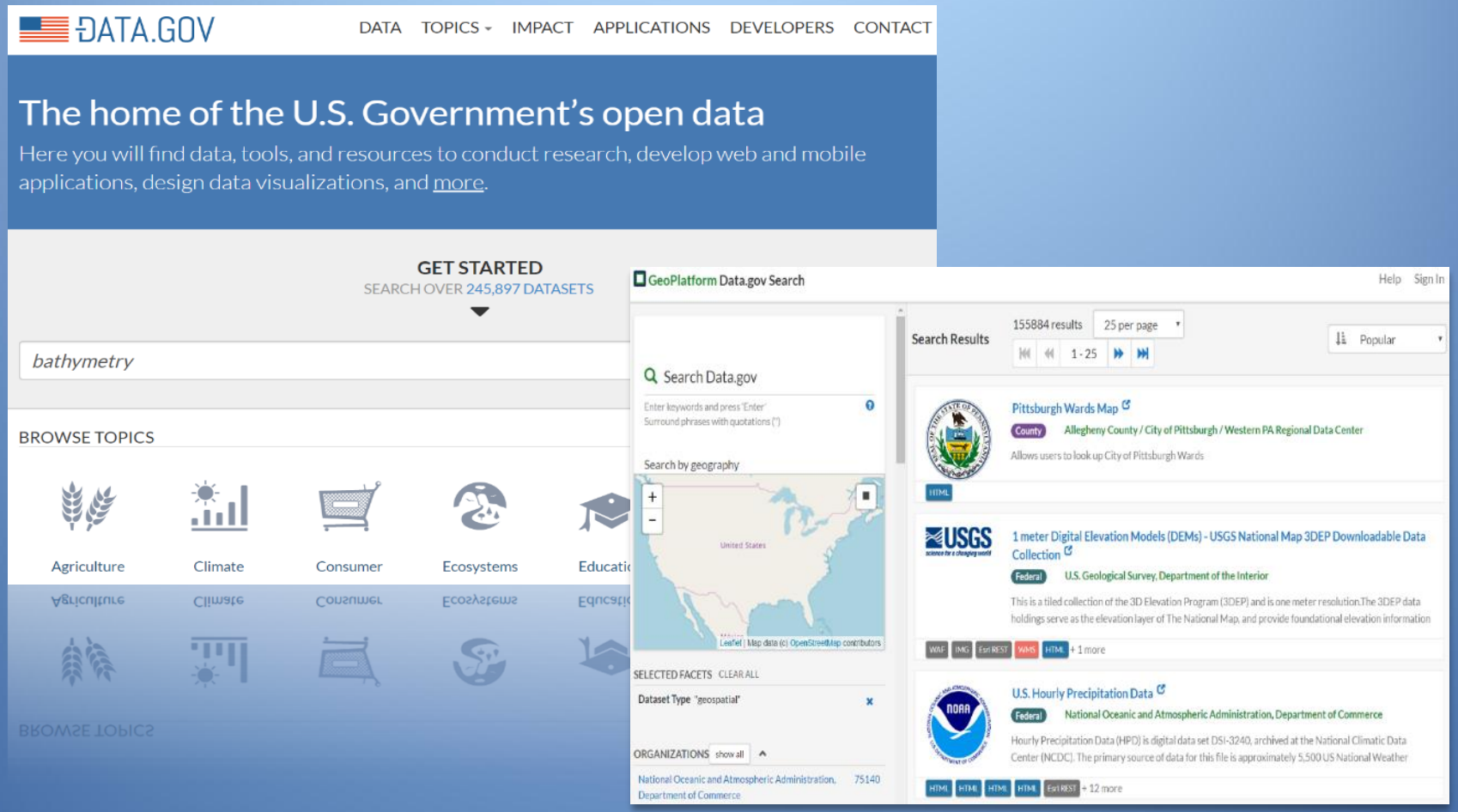


- **Downloadable and Service-Enabled**
  - Airfields
  - Maritime Boundaries and Submissions
  - Sea Ice Extents
  - Search and Rescue Zones
  - Energy Resource Potential from USGS
  - Natural Earth Features
  - Natural Resource Potential
  - NAVTEX Sites
  - Shipping and Hydrography
  - World Port Index

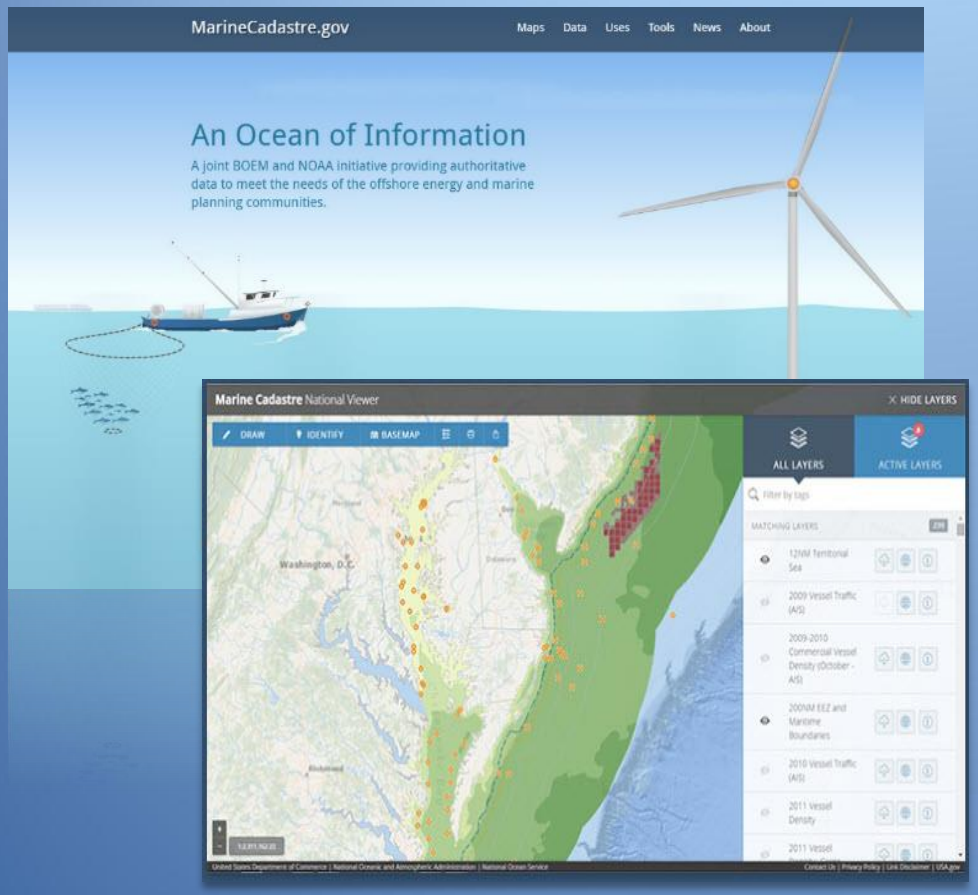
Reference Elevation Model Antarctica (REMA)



National SDI



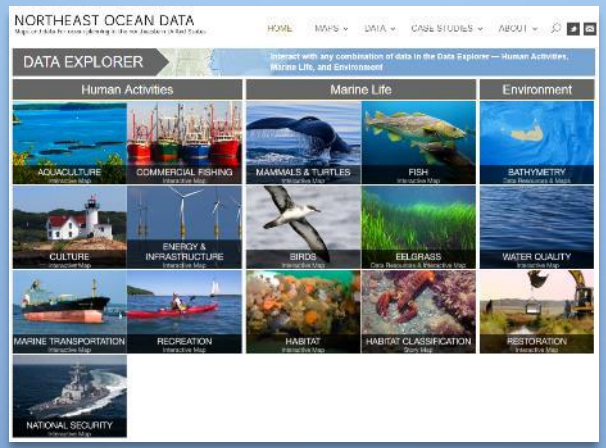
Marine Cadastre



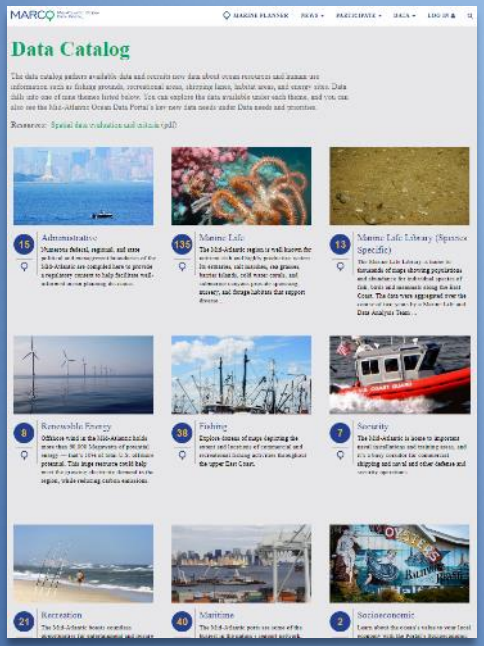
- MarineCadastre.gov provides direct access to authoritative and trusted datasets.
  - Provides data , tools, and technical support for US Ocean Planning
  - 27+ data providers contributing over 280 data layers
  - Downloadable and Service Enabled
  - National Data Viewer

US Regional Ocean Data Catalogs/Portals

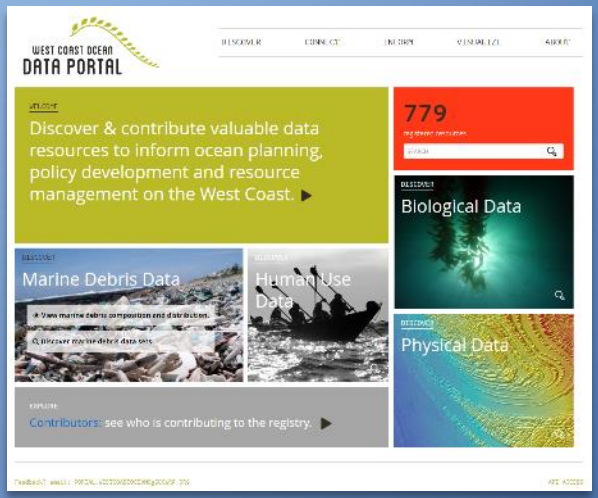
http://www.northeastoceandata.org/



http://portal.midatlanticocean.org



http://portal.westcoastoceans.org/



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NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY UNITED STATES OF AMERICA

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US - International MSDI Participation

- IHO MSDIWG
- IHO Arctic Regional Hydrographic Commission (ARHC)
  - Arctic Regional MSDIWG (ARMSDIWG)
- IHO Meso American & Caribbean Sea Hydrographic Commission (MACHC)
  - MACHC/MSDIWG
- UN-GGIM Working Group on Marine Geospatial Information (WG-MGI)
- OGC Marine Domain Working Group (Marine DWG)
- Marine Spatial Data Infrastructure Concept Development Study (MSDI-CDS)