

DATA PORTALS AND CATALOGS SESSION

Environmental Data Management
Committee 2012 Conference

SESSION OVERVIEW

- Introduction to Data Portals and Catalogs
 1. Geoportals Server
 2. Geospatial Platform
- Update on NOAA and National level efforts related to these technologies
- Open Discussion Forum
- Technical Breakout Sessions

OBJECTIVES

Session Objectives:

- Introduce geospatial data portals and catalogs that are either in use or emerging at the NOAA and National levels.
- Describe the current and future landscapes of these emerging technologies as they align with agency and National efforts for geospatial data access and discovery.
- Provide a forum for technical discussion of geoportal implementations in NOAA and a technical training session on the NOAA GeoPlatform.

GEOPORTALS & GEOPLATFORMS

What “you,” the end users, data stewards and data managers want to know . . .

1. Underlying Technologies

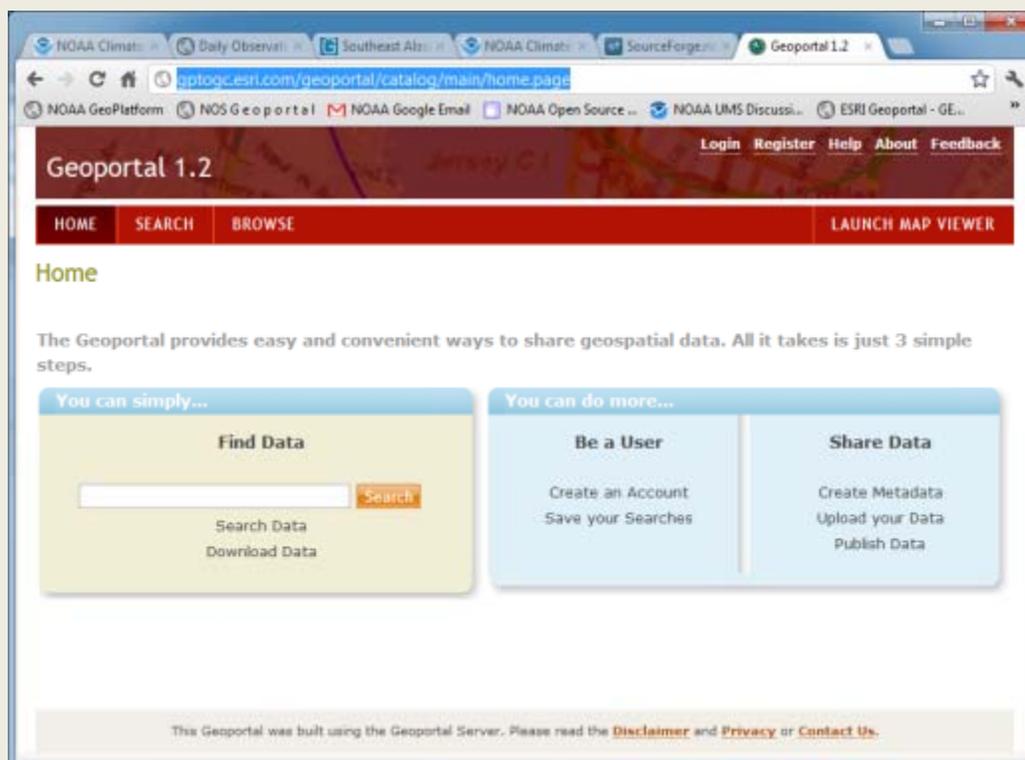
2. NOAA Coordination and Management

3. NOAA Implementation

GEOPORTAL SERVER

What is the Geoportal Server?

Data producers can register their geospatial resources for users to discover and consume. The geoportal does not duplicate these resources but stores and catalogs the metadata of the resources as well as the information to access those resources.



GEOPORTAL SERVER

1. Underlying Technology

- Esri Geoportal Server
- Also available via Open Source [Source Forge](#)
- Key Features:
 - Data Cataloging
 - Data Publishing
 - FGDC, ISO Inspire, Dublin Core Metadata Standards
 - Data Discovery
 - Federated Search
 - Geoportal Administration
 - Manage users, harvesting schedules, etc.

GEOPORTAL SERVER

2. NOAA Coordination and Management Approach

- Grass roots effort led to more streamlined approach as Geoportal technology evolved
- 2012 Created the NOAA Geoportal Server WG
- NOAA Geoportal Wiki Website for collaboration, shared documentation, custom code library, etc.
- User & Developer Usability Testing/Survey

GEOPORTAL SERVER – NOAA SITES



Search

Use the capital letters for boolean operators:
AND OR NOT
wildcard characters

Records shown from: This Site
Click here to select different site or quality

Additional Options

Clear All

WHERE
"Intersecting" and "Fully within" find the extent of the search map below

Anywhere Intersecting Fully within



Search

Search metadata numbers including site, abstract, and keywords

Search (q) Search Clear All

Records shown from: NOAA OER YouTube Channel

This Site 15 Results

NOAA OER YouTube Channel 4 Results

NOAA Geoportals OER 2 Results

Select sites where research will be distributed

This Site

NOAA OER YouTube Channel

NOAA Geoportals OER

When

When the map is distributed, and/or when "Intersecting" or "Fully within"

Anywhere Intersecting Fully within

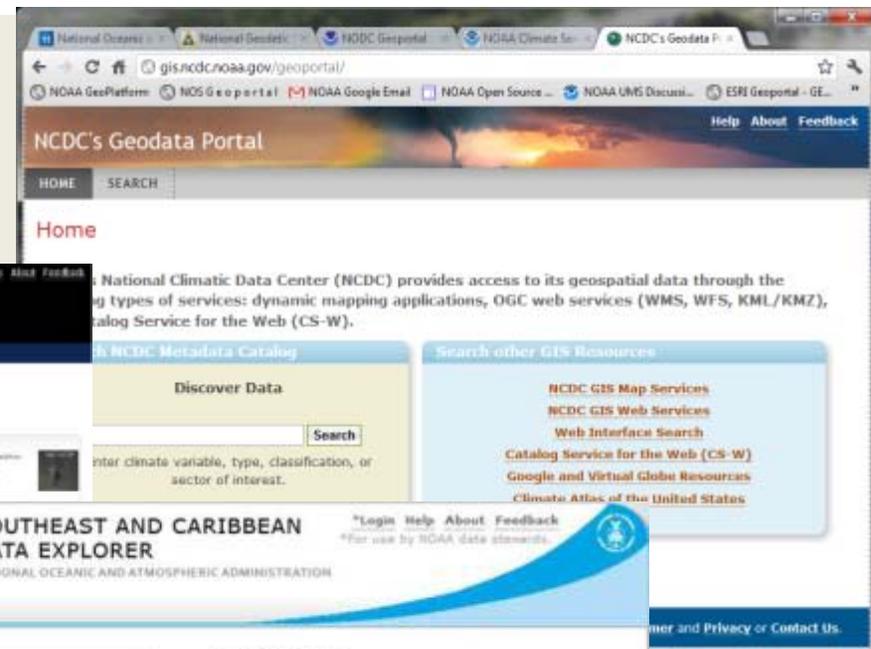
When

From

To

Additional Options

The OER Geoportals was built using the Geo



National Climatic Data Center (NCDC) provides access to its geospatial data through the following types of services: dynamic mapping applications, OGC web services (WMS, WFS, KML/KMZ), and Catalog Service for the Web (CS-W).

Discover Data
Enter climate variable, type, classification, or sector of interest.

Search other GIS Resources
NCDC GIS Map Services
NCDC GIS Web Services
Web Interface Search
Catalog Service for the Web (CS-W)
Google and Virtual Globe Resources
Climate Atlas of the United States



NOAA SOUTHEAST AND CARIBBEAN DATA EXPLORER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Find Data
Search
Advanced Search



Welcome to the Southeast and Caribbean Data Explorer
The Southeast and Caribbean Data Explorer provides public access to NOAA geospatial data within the land areas of North Carolina, South Carolina, Georgia, Florida, Puerto Rico, and the US Virgin Islands, and the marine environment directly adjacent to these lands. This one-stop shop for NOAA geospatial data within the region can be searched by keyword, topic, or location.

The Southeast and Caribbean Data Explorer was built using the ArcGIS Server Geoportals Extension 9.3.1. Please read the Disclaimer and Privacy or Contact Us.

GEOPLATFORM BACKGROUND

Q - Where does the term 'Geospatial Platform' originate?

A - President's Budget, Fiscal Year 2011

"In 2010 and 2011, Federal data managers for geospatial data will move to a portfolio management approach, creating a Geospatial Platform to support Geospatial One-Stop, place-based initiatives, and other potential future programs. The Geospatial Platform will explore opportunities for increased collaboration with Data.gov, with an emphasis on reuse of architectural standards and technology, ultimately increasing access to geospatial data."

BACKGROUND

Q – Why is there a national Geospatial Platform and a NOAA GeoPlatform?

A – Timeline

- **May – December 2010:** Geospatial Platform Roadmap developed; vetted with OMB and agencies
- **Spring 2011:** SOW developed for national Geospatial Platform
- **Summer 2011:** Contract award for national system; agency-specific contracts awarded [NOAA, EPA, USDA, DOI]
- **Fall 2011:** Geospatial One-Stop migrated to geo.data.gov; National Geospatial Platform released

NOAA → NATIONAL/FEDERAL



NOAA GEOPLATFORM - PROTOTYPE

Web-based application that provides a central location for NOAA staff and constituents to share, discover, and access NOAA's distributed geospatial maps, applications, services, and tools.



CORE TECHNOLOGY

- **Esri's Portal for ArcGIS**
 - IaaS provided by Amazon Web Services (EC2)
 - SaaS provided by Esri Professional Services
 - Content and data managed by NOAA
- **Content types [separate process than Geoportal Server]**
 - Services (KML, OGC web services, ArcGIS Server services)
 - Applications and Websites + maps created on GeoPlatform
- **Easy-to-use online map viewers for visualizing data [functionality not provided via Geoportal Server]**
- **Ability to create groups to foster collaboration**

NOAA CUSTOMIZATIONS

- Customized to allow for both internal [NOAA] collaboration and external [public] use
 - Workflow developed to manage public and private content
- Federated search capability of other NOAA catalogs (Geoportal Server) that display results within the GeoPlatform
- No data or service hosting via NOAA GeoPlatform
[could be added to contract if required]

MANAGEMENT

- **Funded by NOAA OCIO; managed via GIS Committee**
- **Implementation Teams**
 - Technical
 - Content
 - Governance
- **Established Content Review Board**
 - Responsible for reviewing and approving any content that users wish to make available to the public
- **Close coordination with national Geospatial Platform**
 - Development of SOWs
 - Documenting and sharing experiences and requirements

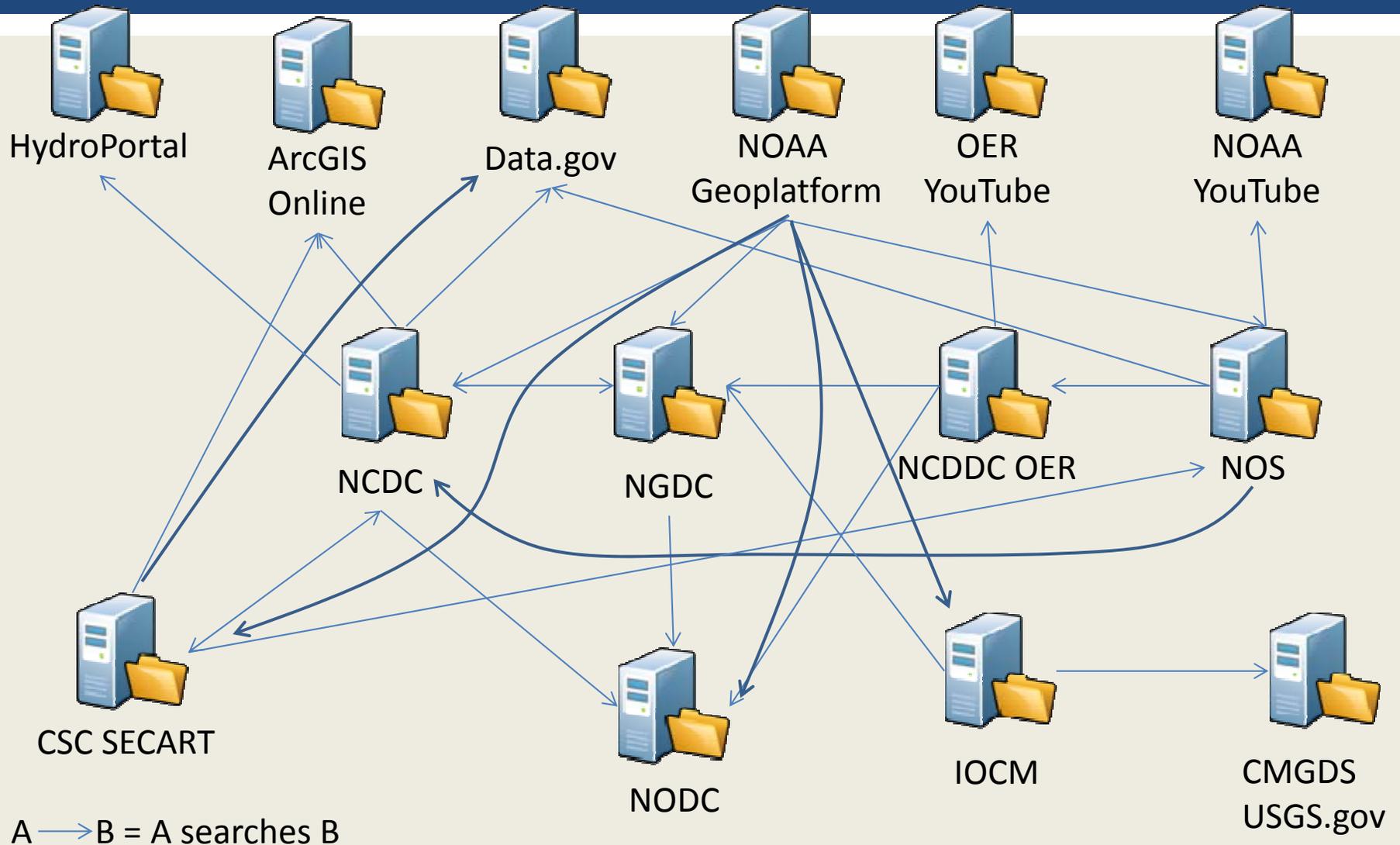
CHALLENGES & CONSIDERATIONS

- Simplify participation for data and service stewards
→ enhance publishing process; tighter coupling of Geoportal Server and ArcGIS Portal
- Address requirements for NOAA participation → not required now, should it be while still in prototype phase and working technical issues?
- NOAA engagement with national Geospatial Platform
→ OMB requires annual \$\$\$ (NOAA's share ~\$225K + in-kind FTE); how to maximize NOAA's benefit
- *Access to shared services: multi-tenant hosting for data and services; FISMA certified; contract mechanism for agencies; other ideas?*

PORTALS & PLATFORMS - RELATIONSHIPS

- Current state and where we want NOAA to be in near future with Portals & Catalogs'
- National Landscape: current state of portals & catalogs
 - Data.gov, Geo.data.gov, ocean.data.gov
 - National Geospatial Platform
- Vision for NOAA Data Cataloging

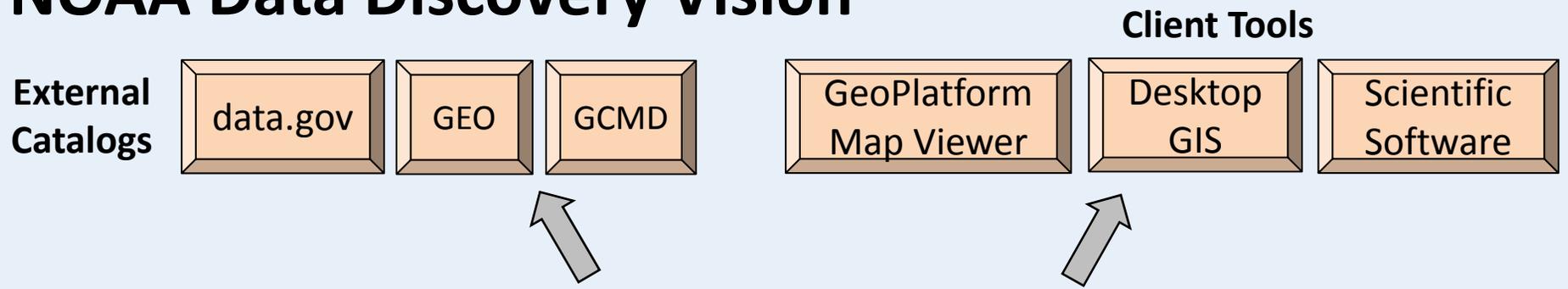
FEDERATED SEARCH IN NOAA



HARVESTING NOAA INTO GEO.DATA.GOV

- **Web-Accessible Folder**
 - NGDC
 - NCDDC OER
 - NOAA NOS
 - NOAA CoRIS
 - NOAA DART
- **CS-W**
 - None(!), while all NOAA Geoportals support CS-W

NOAA Data Discovery Vision

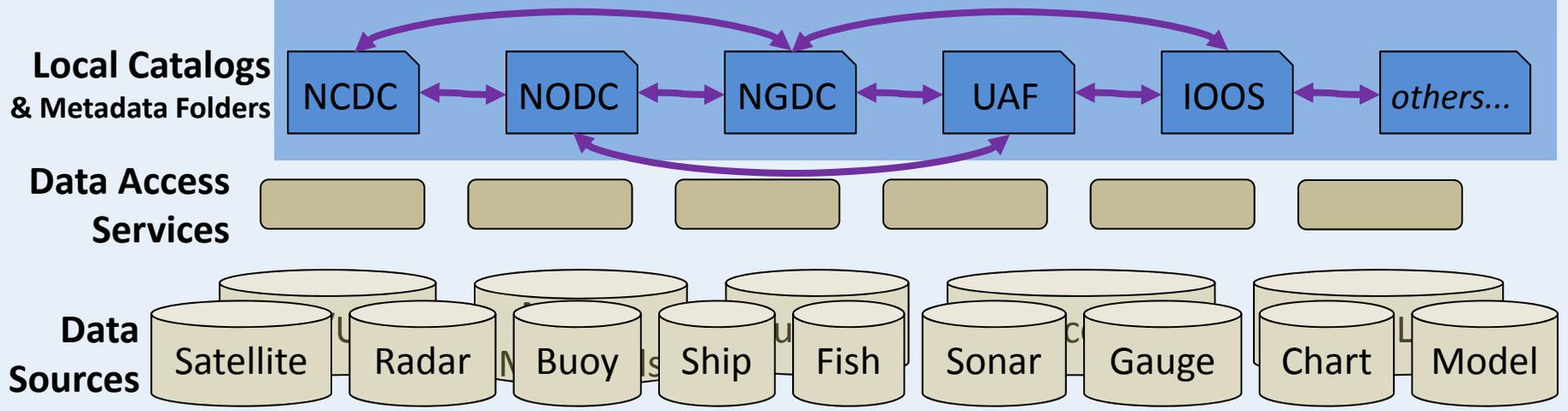


NOAA data cataloging

Find NOAA data by:

- Location
- Time
- Phenomenon
- Other characteristics

without knowing NOAA organization



OPEN DISCUSSION

- **Open Discussion**
- **Q&A**

BREAKOUT SESSIONS:

Attendees Choose Breakout Session of Interest:

- 1. NOAA Geoportal Servers and Catalogs –**
 - Highlight several NOAA Geoportal sites, capabilities and customizations
- 2. NOAA GeoPlatform – Technical demonstration**

BREAKOUT 1 – GEOPORTAL SERVER

Breakout 1 – Geoportal Server

BREAKOUT 1: GEOPORTAL SERVER

Select NOAA Geoportal Server demos

- NODC Geoportal, (L.Yuanjie)
- OER Data Explorer (J. Mize)
- CoRIS Geoportal (S. O'Connor)

NOAA Data Management Dashboard

- Geoportal Metrics
- Developer Tools and Customizations - [Source Forge](#)



NATIONAL OCEANOGRAPHIC DATA CENTER (NODC)

- Data discovery and access – Web interface
- Experimenting for granule level data discovery
- Data visualization options
- Demo data.nodc.noaa.gov/geoportal

OCEAN EXPLORATION & RESEARCH (OER) DATA EXPLORER

The screenshot shows the OER Data Explorer website. At the top, there is a banner with the NOAA logo and the text "data explorer beta release". Below the banner is a navigation menu with "HOME", "DATA SEARCH", and "SEARCHTIPS". The main content area is titled "Home" and contains a paragraph about NOAA's Office of Ocean Exploration and Research. Below this, there are two search boxes: "Search OER metadata to..." and "Search other OER information resources". The first search box has a "Discover Data" section with a search input field and a "Search" button. The second search box has an "Other Sources" section with links to "OER Digital Atlas", "OER Okeanos Atlas", "OER Regional Atlases", and "OER Publications Bibliography". At the bottom, there is a footer with the text "The OER Geoportal was built using the Geoportal Server. Please read the [Disclaimer](#) and [Privacy](#) or [Contact Us](#)."

OCEAN
EXPLORATION & RESEARCH

Help About Feedback

data explorer
beta release

HOME DATA SEARCH SEARCHTIPS

Home

NOAA's Office of Ocean Exploration and Research conducts interdisciplinary ocean science investigations of unknown and poorly known ocean areas and seeks to catalyze discovery, description, and better understanding of our ocean frontiers through bold and innovative exploration. OER's information management strategy ensures that the scientific data and value-added information produced as a result of NOAA's exploration program are appropriately managed.

OER provides access to its geospatial data through the following types of services: dynamic mapping applications, OGC web services (WMS, KML/KMZ), and Catalog Service for the Web (CS-W).

Search OER metadata to...

Discover Data

Search

Enter expedition name, year, or geographic location of interest..

Search other OER information resources

Other Sources

- [OER Digital Atlas](#)
- [OER Okeanos Atlas](#)
- [OER Regional Atlases](#)
- [OER Publications Bibliography](#)

The OER Geoportal was built using the Geoportal Server. Please read the [Disclaimer](#) and [Privacy](#) or [Contact Us](#).

CORAL REEF INFORMATION SYSTEM (CORIS)

The screenshot displays the CoRIS Geoportal interface in a Mozilla Firefox browser. The page title is "CoRIS Geoportal - Mozilla Firefox" and the URL is "cois.noaa.gov/geportal/catalog/evan/home.page". The NOAA logo and "CoRIS noaa's coral reef information system" are visible at the top. The navigation menu includes "CORIS SITE HOME", "SEARCH", "BROWSE", and "SEARCH TIPS".

The search results page shows a search for "bpi" with 71 records. The results are listed as follows:

- 1** [Expand results](#) [Zoom To Results](#) [Zoom To Searched Area](#)
- 1** [CRED Fagatele Bay National Marine Sanctuary Bathymetric Position Index Habitat Zones 2004](#)
Bathymetric Position Index (BPI) Zones derived from derivatives of Simrad EM-3000 multibeam bathymetry (3 m resolution). BPI zones are surficial characteristics of the seafloor based on a bathymetric position index value range at a broad scale and slope v...
- [Download](#) [Website](#) [Metadata Details](#) [XML Metadata](#) [Zoom To](#)
- 2** [CRED Fagatele Bay National Marine Sanctuary Bathymetric Position Index Habitat Structures 2004](#)
Bathymetric Position Index (BPI) Structures are derived from derivatives of Simrad EM-3000 multibeam bathymetry (1 m and 3 m resolution). BPI structures are surficial characteristics of the seafloor based on a bathymetric position index value range at a c...
- [Download](#) [Website](#) [Metadata Details](#) [XML Metadata](#) [Zoom To](#)
- 3** [Bathymetric Position Index \(BPI\) Structures 5m grid derived from gridded bathymetry of Saipan Island, Commonwealth of the Northern Marianas](#)
BPI Structures are derived from a focal mean analysis on bathymetry and slope. The bathymetry grid (5 m cell size) is derived from two sources: Multibeam bathymetry collected by Coral Reef Ecosystem Division aboard NOAA R/V AHI, and NOAA Ship H'ialakai. ...
- [Download](#) [Website](#) [Metadata Details](#) [XML Metadata](#) [Zoom To](#)
- 4** [Bathymetric Position Index \(BPI\) Structures derived from gridded bathymetry of Swains Island, Territory of American Samoa, USA](#)
BPI Structures are derived from gridded (40 m cell size) multibeam bathymetry, collected aboard R/V AHI and NOAA ship H'ialakai. BPI Zones was created using the Benthic Terrain Modeler (<http://www.ccc.noaa.gov/products/btm/>). Cell values represent one of...
- [Download](#) [Website](#) [Metadata Details](#) [XML Metadata](#) [Zoom To](#)
- 5** [Bathymetric Position Index \(BPI\) Zones derived from gridded bathymetry of Swains Island, Territory of American Samoa, USA](#)
BPI Zones are derived from gridded (40 m cell size) multibeam bathymetry, collected aboard R/V AHI and NOAA ship H'ialakai. BPI Zones was created using the Benthic Terrain Modeler (<http://www.ccc.noaa.gov/products/btm/>). Cell values represent one of 4 d...
- [Download](#) [Website](#) [Metadata Details](#) [XML Metadata](#) [Zoom To](#)
- 6** [Bathymetric Position Index \(BPI\) Structures 20 m grid derived from gridded bathymetry of Baker Island, Pacific Remote Island Areas, Central Pacific.](#)

The left sidebar contains search filters:

- Additional Options**
- Records shown from: This Site
- WHEN**
- Intersecting Fully within
- Start Date: (yyyy-mm-dd)
- End Date: (yyyy-mm-dd)
- WHERE**
- Anywhere Intersecting Fully within

A world map is displayed at the bottom left, showing the distribution of coral reefs and search results. The map includes labels for "Arctic Ocean", "North Pacific Ocean", "North Atlantic Ocean", "South Atlantic Ocean", "Indian Ocean", and "Antarctic".

BREAKOUT 1: GEOPORTAL SERVER

- **Geoportal Community Coordination, Collaboration & Resources**
 - Overview of [NOAA Geoportal Wiki](#) (Jaci)
 - Develop a common “NOAA Geoportal Technical Wish List” for Esri – future versions/releases of Geoportal Server

**IDEAS ABOUT A
STANDARDS BASED
APPROACH TO NOAA
GEOPORTAL
IMPLEMENTATION**

**Matt Austin
NESDIS/TPIO**

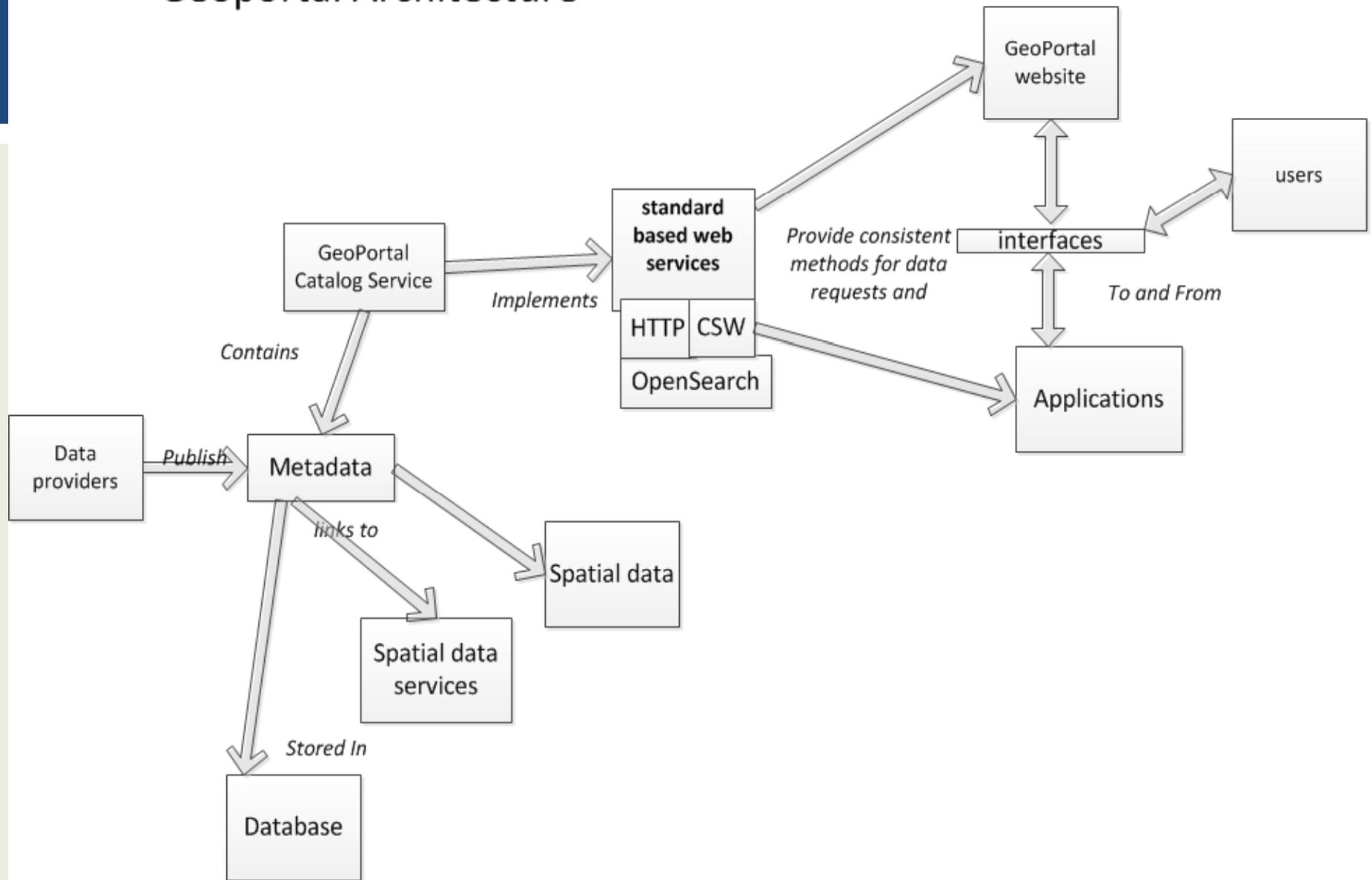
GOALS

- NOAA needs to decide on consistent standard based guidelines for GeoPortal implementation as a catalog service that will provide useful results for both human and machine applications/interfaces
- ESRI should implement sections of the OGC CSW catalog Service standards that will simplify use of the catalog service and increase functionality.

DEFINITIONS

- **Portal-** A Website that acts as a starting point for browsing the Web which links to data
- **Catalog-** A list of contents of something
- **Service-** supplying a useful commodity to a user
- **Web service-** a method of communication between two electronic devices over the web
- **standard-** Any norm, convention or requirement
- **Geoportal-** A standards based Portal and a web service for spatial data catalogs of metadata

Geoportal Architecture



USE CASES FOR GETTING DATA

- (Human) User searches data provider geoportal web interface and gets results
- User searches a user interface that uses the geoportal catalog service(s) in another application or user interface. Users needs standards to ensure they get what they asked for
- Machine- Program searches web for data and service. Needs standards and metadata to get the correct data automatically

SCENARIO

- **Geoportal admin installs software. Does customization to their Geoportal interface for their user community.**
- **Decides what type of metadata is most important to their user community. FDGC or ISO**
- **Chooses what metadata to index for their user community Decides what parts of standards are relevant for their user community**

BIGGER PICTURE SCENARIO

- User attempts to search all NOAA Geoportal instances for geospatial data. Does not get complete results because each Geoportal implementer decided different attributes were important and were not indexed the same
- Since a single metadata standard is not being used by all the Geoportals detail information that the user requests is not searched
- User gets conflicting duplicate results because multiple Geoportal have the same metadata

APPLICATION SCENARIO

- Application attempts to search NOAA Geoportal using OGC CSW protocol
- Geoportal has only implemented part of the OGC Catalog Services standard protocol. The simpler common query language is unavailable for programmers to make use of so they have to look at long OGC CSW spec
- The request involves wanting to find data that falls within a complex geometry such as the Channel Islands Marine Sanctuary Boundary. Geoportal has only implemented part of the OGC filter specification can only search for data within the bounds of the Sanctuary.

BREAKOUT 2 - GEOPLATFORM

Breakout 2 - NOAA Geoplatform

BREAKOUT 2: NOAA GEOPLATFORM OUTLINE

- **Site Capabilities**
- **Site Specifics – User Roles**
- **Site Specifics - Groups**
- **Demonstration**

BREAKOUT 2: NOAA GEOPLATFORM CAPABILITIES

- **Capabilities**
 - **Hosts geospatial content [only stores site-specific record] :**
 - **Services (KML, OGC web services, ArcGIS Server services)**
 - **Applications and Websites**
 - **Maps created on the NOAA GeoPlatform**
 - **Allows for both internal [NOAA] collaboration and external [public] use**
 - **Customized workflow to manage public and private content**
 - **Quickly and easily visualize data in an easy-to-use online map**

BREAKOUT 2: NOAA GEOPLATFORM SITE SPECIFICS – USER ROLES

- **Three levels of Users:**
 - **Public:**
 - Do not have ability to login or create an account; cannot save content or maps
 - Do have ability to search for content and create maps using the map viewer
 - **NOAA Users:**
 - Do have the ability to create an account, log in, and save content
 - Do have the ability to create PRIVATE groups and share content within those groups
 - Do not have the ability to share content DIRECTLY with PUBLIC groups
 - **Administrators**
 - Two per line office
 - Do have the ability to everything that NOAA users can do
 - Do have the ability to create public groups and share content with the public
- All of this information available in the “[Guide for Adding Content to NOAA GeoPlatform](#)”

BREAKOUT 2: NOAA GEOPLATFORM SITE SPECIFICS – GROUPS

- Groups are a way to organize and share content around a specific topic of common activity
- There are two types of groups:
 - **Private Groups:**
 - Created by NOAA users
 - They are not visible to the public; the only way to view them and their content is to become a member of the group
 - You must be invited by the Group owner to become a member
 - **Public Groups:**
 - Are only created by Administrators
 - They are visible to anyone, including Public Users
 - You cannot join a Public Group
 - There is a review process in order to make your content available to Public Groups
- All of this information available in the “[Guide for Adding Content to NOAA GeoPlatform](#)”

BACKUP SLIDES

GEOPORTAL SERVER

NOAA Geoportal Site Inventory

- [NOAA Geoportal Server Matrix](#) – Working inventory document that lists all NOAA Geoportal Servers in development and/or public and includes key features, custom code or functionality implemented, etc.

Geoportal Server (Internal) Community Resources:

- Group Email: noaa.geoportal@noaa.gov
- [NOAA Geoportal Server Wiki](#) – resources include:
 - Shared Code
 - Documentation & Support for ISO 19115/1911x
 - How to configure OpenDAP Viewer in Geoportal
 - Working with Custom Locator Services
 - Customizing the Browse Catalog

Geoportal Server (External) User Community

- Esri Geoportal Server Source Forge - <http://sourceforge.net/projects/geoportal/>

Search

Search metadata content, including title, abstract, and keywords

Records shown from: OER data explorer

[Click here to select different site or configure search.](#)

OER data explorer

Select sites where the search will be distributed

You may select up to 5 sites.

- OER data explorer
- YouTube
- NGDC Geoportal CSW
- NODC Geoportal CSW

GEOGRAPHIC AREA

Zoom the map to desired area, and choose "intersecting" or "fully within"

- Anywhere
- Intersecting
- Fully within

DATE OF CONTENT

- Dates overlap range
- Dates within range

From: (yyyy-mm-dd)

To: (yyyy-mm-dd)

Additional Options

Search

Search metadata content, including title, abstract, and keywords

Records shown from: OER data explorer
Click here to select different site or configure search.

OER data explorer	2 Results
YouTube	0 Results

Select sites where the search will be distributed
You may select up to 5 sites.

OER data explorer
 YouTube
 NGDC Geoportal CSW
 NODC Geoportal CSW

GEOGRAPHIC AREA

Zoom the map to desired area, and choose "intersecting" or "fully within"

Anywhere Intersecting Fully within



DATE OF CONTENT

Dates overlap range Dates within range

From: (yyyy-mm-dd)

To: (yyyy-mm-dd)

Additional Options

Results 1-2 of 2 record(s)

Expand results [Zoom To Results](#) [Zoom To Searched Area](#)

- World Ocean Atlas (2005) - Climatological Mean Seawater Temperature - Points**
This service is an extraction of the quarter degree World Ocean Atlas (2005) Climatological Mean Seawater Temperature database. Temperature units are in degrees celsius. World Ocean Atlas (WOA) is a set of objectively analyzed (1 degree grid) climatological fi...
[Open](#) [Preview](#) [Globe \(.kml\)](#) [ArcGIS \(.nmf\)](#) [ArcGIS \(.lyr\)](#) [Metadata Details](#) [Metadata XML](#) [Zoom To](#)
- World Ocean Atlas (2005) - Climatological Mean Seawater Temperature - Contours**
This service is derived from contours based on the extraction of the quarter degree World Ocean Atlas (2005) Climatological Mean Seawater Temperature database. Temperature units are in degrees celsius. World Ocean Atlas (WOA) is a set of objectively analy...
[Open](#) [Preview](#) [Globe \(.kml\)](#) [ArcGIS \(.nmf\)](#) [ArcGIS \(.lyr\)](#) [Metadata Details](#) [Metadata XML](#) [Zoom To](#)

See results through REST API: [GEORSS](#) [ATOM](#) [HTML](#) [FRAGMENT](#) [KML](#) [JSON](#) [CSV](#)

Search

Search metadata content, including title, abstract, and keywords

Okeanos

Records shown from: YouTube
Click here to select different site or configure search.

[OER data explorer](#)

53 Results

YouTube

11 Results

Select sites where the search will be distributed

You may select up to 5 sites.

- OER data explorer
- YouTube
- NGDC Geoportal CSW
- NODC Geoportal CSW

GEOGRAPHIC AREA

Zoom the map to desired area, and choose "intersecting" or "fully within"

Anywhere Intersecting Fully within



DATE OF CONTENT

Dates overlap range Dates within range

From: (yyyy-mm-dd)

To: (yyyy-mm-dd)

Additional Options

Results 1-11 of 11 record(s)

Expand results [Zoom To Results](#) [Zoom To Searched Area](#)

[Stream 2 - NOAA Ship Okeanos Explorer Live Video Feed](#)

Visit Our Website - [oceanexplorer.noaa.gov](#) See Our Other Live Feeds - [oceanexplorer.noaa.gov](#) What Are You Seeing? You are watching a video feed from the NOAA ship Okeanos Explorer as it investigates the deep waters of the northern Gulf of Mexico. The vide...

[Open](#) [Preview](#)



[NOAA Ship Okeanos Explorer: Gulf of Mexico 2012, Deep-Sea Marine Life](#)

From March to April 2012, a team of scientists and technicians both at-sea and on shore will conduct exploratory investigations on the diversity and distribution of deep-sea habitats and marine life in the northern Gulf of Mexico. The video footage was ca...

[Open](#) [Preview](#)



[Stream 1 - NOAA Ship Okeanos Explorer Live Video Feed](#)

Visit Our Website - [oceanexplorer.noaa.gov](#) See Our Other Live Feeds - [oceanexplorer.noaa.gov](#) What Are You Seeing? You are watching a video feed from the NOAA ship Okeanos Explorer as it investigates the deep waters of the northern Gulf of Mexico. The vide...

[Open](#) [Preview](#)



[NOAA Ship Okeanos Explorer: Mid-Cayman Rise 2011, Chemosynthetic Life in Atlantic waters 8/9/2011](#)

[NOAA Ship Okeanos Explorer: Galápagos Rift, New Hydrothermal Vent Discovered 7/23/2011](#)

[NOAA Ship Okeanos Explorer Extraordinary "Leg 3 Highlight" video Sangihe Talaud Region Indonesia](#)

[NOAA Ship Okeanos Explorer: INDEX-SATAL 2010: Google Earth Virtual Tour](#)

[NOAA Ship Okeanos Explorer Extraordinary "Leg 2 Highlight" video Sangihe Talaud Region Indonesia](#)

[NOAA Ship Okeanos Explorer Extraordinary "Highlight" video offshore Kona, Hawaii](#)

[NOAA Ship Okeanos Explorer Commissioning](#)

[NOAA Titanic Expedition 2004: Breathtaking Wreck Footage](#)

See results through REST API: [GEORSS](#) [ATOM](#) [HTML](#) [FRAGMENT](#) [KML](#) [JSON](#) [CSV](#)

Search

Search metadata content, including title, abstract, and keywords

Okeanos

Records shown from: DER data explorer

Click here to select different site or configure search.

DER data explorer

53 Results

YouTube

11 Results

Select sites where the search will be distributed

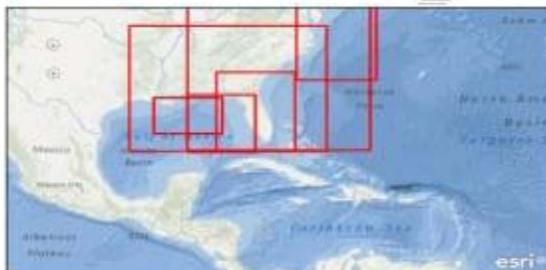
You may select up to 5 sites.

- OER data explorer
- YouTube
- NGDC Geoportal CSW
- NODC Geoportal CSW

GEOGRAPHIC AREA

Zoom the map to desired area, and choose "intersecting" or "fully within"

Anywhere Intersecting Fully within



DATE OF CONTENT

Dates overlap range Dates within range

From: (yyyy-mm-dd)

To: (yyyy-mm-dd)

Additional Options

Results 1-25 of 53 record(s) [1](#) [2](#) [3](#) [>](#) [Last](#)

Expand results [Zoom To Results](#) [Zoom To Searched Area](#)

- [KML representation of Little Hercules ROV Trackline for DIVE01 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE02 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE03 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE04 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE05 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE06 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE08 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE12 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE13 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE14 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE15 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [KML representation of Little Hercules ROV Trackline for DIVE16 during EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [Processed and gridded multibeam data in Google Earth KMZ format collected on NOAA Ship Okeanos Explorer during EX1202L3: Gulf of Mexico Exploration between 20120411 and 20120429](#)
- [EX1101: Ship Shakedown and Patch Tests on NOAA Ship Okeanos Explorer between March 16 and April 1, 2011](#)
- [EX1102: ROV and Camera Sled Integration and Shakedown on NOAA Ship Okeanos Explorer between April 4 and April 28](#)
- [EX1201: Ship Shakedown and Patch Tests on NOAA Ship Okeanos Explorer between 20100214 and 20120223](#)
- [EX0908 Transit to Hawaii \(EX0908\) on NOAA Ship Okeanos Explorer in Pacific Ocean, Hawaii between 20090728 and 20090808](#)
- [ROV Harbor Trials \(EX0902\) on NOAA Ship Okeanos Explorer in Washington, Oregon, California Coast between 20090425 and 20090430](#)
- [EX1105: Field Trials of EM302 Multibeam Sonar Water Column Backscatter on NOAA Ship Okeanos Explorer between 20110822 and 20110910](#)
- [EX1202L2 :Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20120319 and 20120407](#)
- [EX1203: Florida Escarpment and Straits Exploration on NOAA Ship Okeanos Explorer between 20120505 and 20120623](#)
- [EX1202L1: Gulf of Mexico Exploration on NOAA Ship Okeanos Explorer between 20100227 and 20120314](#)
- [EX1003 \(EX1003\) on NOAA Ship Okeanos Explorer in Hawaii to Guam between 20100519 and 20100603](#)
- [Water Column Exploration Field Trial I \(EX0904\) aboard the NOAA Ship Okeanos Explorer in the Gorda Ridge, off the coasts of Oregon and California, between 20090601 and 20090612](#)
- [EX1106: Exploration Mapping to Davisville, Rhode Island on NOAA Ship Okeanos Explorer between 20110915 and 20110928](#)

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Priority Arctic Regional Data



Explore the Arctic region's geospatial data compiled from various federal and non federal sources.

NOAA's GeoPlatform provides NOAA customers, partners, and staff members with a centralized platform for discovering and accessing much of NOAA's distributed geospatial data, services, and applications. To provide feedback, please take the [five-question survey](#). NOAA staff - see [this guide](#) for how to add your content to the GeoPlatform.

Economics: National Ocean Watch (ENOW) - Application



This map features socioeconomic data for coastal counties and states throughout the nation.

Web Map by [Coastal_Services_Center](#) (last modified: January 12, 2012)

☆☆☆☆☆☆ (0 ratings, 124 views)

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Description

This application presents spatial information about the Economics: National Ocean Watch (ENOW) data in the Web Mercator projection. ENOW contains annual time-series data for 448 coastal counties, 30 coastal states, and the nation, derived from the Bureau of Labor Statistics and the Bureau of Economic Analysis. It describes six economic sectors that depend on the oceans and Great Lakes and measures four economic indicators: Establishments, Employment, Wages, and Gross Domestic Product (GDP). The layers in this service display 2008 data. The entire dataset is available for download at <http://www.csc.noaa.gov/digitalcoast/data/enow/index.html>

View [FGDC Metadata](#).

Access and Use Constraints

None.

Map Contents

Economics: National Ocean Watch (ENOW):

http://csc.noaa.gov/arcgis/rest/services/enow/ENOW_CMSP_Registry/MapServer

Ocean_Basemap:

http://services.arcgisonline.com/ArcGIS/rest/services/Ocean_Basemap/MapServer

Tags

[csc](#), [socioeconomics](#), [ocean economy](#), [tourism](#), [recreation](#), [fishing](#), [marine construction](#), [marine transportation](#), [shipping](#), [dredging](#), [offshore oil and gas](#), [ship building](#)

Credits

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS). Coastal Services Center (CSC)

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- [Ocean & Coastal Mapping \(IOCM\) Inventory Geoport \(prototype\)](#)

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NOAA Seamless Raster Navigational Charts (RNC)

The NOAA_RNC MapService provides a seamless collarless mosaic of the NOAA Raster Navigational Charts.

Map Service by GeoPlatform_Admin (last modified: November 23, 2011)

★★★★☆ (2 ratings, 0 comments, 404 views)



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Electronic Navigational Chart Handler

Imports chart data into defined geodatabase feature classes; Assigns nautical chart symbology; Removes extraneous data layers

Web Mapping Application by Coastal_Services_Center (last modified: January 12, 2012)

☆☆☆☆☆ (0 ratings, 0 comments, 33 views)



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Precautionary Areas for Navigation in U.S. Waters

The GIS REST service for "Precautionary Areas for Navigation in U.S. Waters" provides raster maps of a routing measure comprising an area within defined limits whe ...

Map Service by James.Hawks (last modified: January 11, 2012)

☆☆☆☆☆ (0 ratings, 0 comments, 37 views)



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Gulf of Mexico Data Atlas

Based on the idea of a traditional atlas, the new Gulf of Mexico Data Atlas provides data access and answers to questions related to the physical environment, marine resources, and economic activity in the Gulf of Mexico.

Web Mapping Application by kathryn.rose (last modified: November 1, 2011)

☆☆☆☆☆ (0 ratings, 0 comments, 54 views)



Multipurpose Marine Cadastre

The Multipurpose Marine Cadastre is an integrated marine information system that provides authoritative and regularly updated ocean information, including offshore boundaries, infrastructure, human use, energy potential, and other data sets.

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Showing 121 results for 'navigation' from NOS Data Explorer Geoportal.

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- [Ocean & Coastal Mapping \(IOCM\) Inventory Geoportal \(prototype\)](#)

Previous 1 2 3 4 5 6 7 8 ... 13 Next



NOAA ENC Direct to GIS: Navigation Line

NOAA's ENC Direct to GIS web portal provides comprehensive access to display, query, and download all available NOAA ENC data in a variety of GIS/CAD formats for non-navigational purposes using Internet mapping service technology. A navigation line is a s...

[Website](#) [Details](#) [Metadata](#)



Office of Coast Survey's Collection of Raster Nautical Charts (RNC)

NOAA, National Ocean Service, Office of Coast Survey, Marine Chart Division is responsible to build and maintain a suite of more than 1000 nautical charts that are used by commercial and recreational mariners to navigate the United States and U. S. territ...

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NOAA Observing System Architecture (NOSA) Interactive Map Service

The NOAA Observing System Architecture (NOSA) has developed a baseline assessment of NOAA observing systems and capabilities, which includes a geospatial database with data for more than 85 observing systems from each of NOAA's Line Offices and several gl...

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NOAA Seamless Raster Navigational Charts (RNC)

The NOAA Seamless Raster Chart Server provides a seamless collarless mosaic of the NOAA Raster Navigational Charts (RNC). The RNC are a collection of approximately 2,100 charts and inset maps at varying scales and resolutions. Full information on the NO...

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NOAA Historical Tidal Current Data for the Coastal United States

Knowledge of the timing and strength of tidal currents is extremely important for safe navigation in coastal waters. Tidal currents are almost always the strongest current experienced by vessels operating offshore and for considerable distances inside bay...

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NOAA Tidal Current Data for the Coastal United States

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- NOAA Seamless Raster Navigational by GeoPlatform_Admin
- Anchorage Areas in U.S. Waters by James.Hawks
- Maritime Collision Regulation Lines f by James.Hawks
- Precautionary Areas for Navigation i by James.Hawks
- Dredge Disposal Areas Affecting Na by James.Hawks
- Restricted Areas in U.S. Waters by James.Hawks
- Ocean Basemap by GeoPlatform_Admin

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Search for layers to add

Find: navigation

Source: NOAA GeoPlatform

What kind of layers can I add

Results found

NOAA Seamless Raster Navigation
GeoPlatform_Admin

Storage Areas in U.S. Waters
James.Hawks

Maritime Collision Regulation Lines
James.Hawks

Cautionary Areas for Navigation
James.Hawks

Edge Disposal Areas Affecting Navigation
James.Hawks

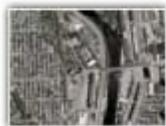
Restricted Areas in U.S. Waters
James.Hawks

Ocean Basemap
GeoPlatform_Admin

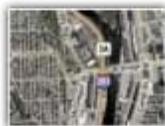
Select a basemap



Ocean Basemap



Bing Maps Aerial



Bing Maps Hybrid



Bing Maps Road



Imagery



Imagery with Labels



Streets



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Content submitted for review and approval to share externally to the general public

created by GeoPlatform_Admin on October 10, 2011



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Group for CSC staff to create and share content internally.

created by GeoPlatform_Admin on October 11, 2011



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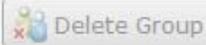
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Invitation List

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Status: private
Tags: private, group

Member

randy.warren

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Climate

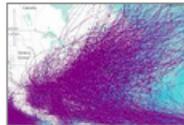
The Public Climate Group features maps, services, and applications related to Climate within NOAA. ▾

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Global Historical Hurricane, Cyclone, and Tropical Storm tracks

Historical hurricane, cyclone, and tropical storm tracks for the world dating back to the 1800's for some regions.
Map Service by Coastal_Services_Center (last modified: January 12, 2012)

☆☆☆☆☆ (0 ratings, 0 comments, 105 views)

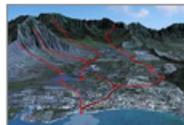


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Historical Hurricane Tracks Tool

This interactive mapping application easily searches and displays global tropical cyclone data.
Web Mapping Application by Coastal_Services_Center (last modified: January 12, 2012)

☆☆☆☆☆ (0 ratings, 0 comments, 65 views)



Open ▾ Details

Nonpoint-Source Pollution and Erosion Comparison Tool

Provides projections and maps of surface water runoff volumes, pollutant loads, pollutant concentrations, and total sediment loads.
Web Mapping Application by Coastal_Services_Center (last modified: January 12, 2012)

☆☆☆☆☆ (0 ratings, 0 comments, 19 views)



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Sea Level Rise and Coastal Flooding Impacts Viewer

A visual tool to display potential future sea levels, provide simulations, communicates the uncertainty of mapped levels, models marsh migration, overlays social & economic data, and examines increase in tidal flooding.
Web Mapping Application by Coastal_Services_Center (last modified: January 12, 2012)

☆☆☆☆☆ (0 ratings, 0 comments, 23 views)

Group Details

Owner: [GeoPlatform_Admin](#)

Status: public

Tags:

[climate](#), [fgc](#)

10 Members

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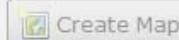
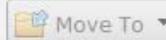
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<input type="checkbox"/>	▲ Title	Type	Modified	Shared	Size
<input type="checkbox"/>	Coastal Change Analysis	Web Map	Oct 19, 2011	Group	1 KB
<input type="checkbox"/>	Coastal Change Analysis	Map Service	Feb 29, 2012	Not Shared	1 KB
<input type="checkbox"/>	Demo for CMSP DTT	Web Map	Apr 26, 2012	Group	15 KB
<input type="checkbox"/>	Hurricanes	Map Service	Dec 21, 2011	Not Shared	1 KB
<input type="checkbox"/>	Land Cover Atlas	Web Mapping Application	Feb 29, 2012	Not Shared	1 KB
<input type="checkbox"/>	Multipurpose Marine Cadastre	Web Map	Sep 15, 2011	Group	1 KB
<input type="checkbox"/>	NC	Web Map	Oct 25, 2011	Everyone	1 KB
<input type="checkbox"/>	shipwrecks	Web Map	Mar 8, 2012	Not Shared	3 KB
<input type="checkbox"/>	Test for share with everyone	Web Map	Nov 30, 2011	Everyone	1 KB
<input type="checkbox"/>	Test Web App	Web Mapping Application	Apr 27, 2012	Not Shared	1 KB
<input type="checkbox"/>	test web app 2	Web Mapping Application	Apr 27, 2012	Not Shared	1 KB
<input type="checkbox"/>	WC Demo	Web Map	Oct 25, 2011	Not Shared	1 KB

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<input type="checkbox"/>	 Coastal Change Analysis	Web Map	Oct 19, 2011	Group	1 KB
<input type="checkbox"/>	 Coastal Change Analysis	Map Service	Feb 29, 2012	Not Shared	1 KB
<input type="checkbox"/>	 Demo for CMSP DTT	Web Map	Apr 26, 2012	Group	15 KB
<input checked="" type="checkbox"/>	 H...		Dec 21, 2011	Not Shared	1 KB
<input type="checkbox"/>	 La...		Feb 29, 2012	Not Shared	1 KB
<input type="checkbox"/>	 M...		Sep 15, 2011	Group	1 KB
<input type="checkbox"/>	 N...		Oct 25, 2011	Everyone	1 KB
<input type="checkbox"/>	 s...		Mar 8, 2012	Not Shared	3 KB
<input type="checkbox"/>	 T...		Nov 30, 2011	Everyone	1 KB
<input type="checkbox"/>	 T...		Apr 27, 2012	Not Shared	1 KB
<input type="checkbox"/>	 te...		Apr 27, 2012	Not Shared	1 KB
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