



Building Custom Geoportals Using GIS Portal Toolkit 9.3.1

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Outline

- **Role of GIS Portals in Data Sharing and Discovery**
- **What Is GIS Portal Toolkit?**
- **Architecture**
 - Webapp, database, lucene, interfaces (servlet, REST, CSW)
 - Map viewer, directed search, harvest, csw clients
- **Customization Options:**
 - User Interface look-and-feel
 - Changing Navigation
 - Integrating with Content Management Systems
 - Implementing Metadata Profiles
 - Customizing Search
 - Use your own Map Viewer
 - Using REST/CS-W interfaces

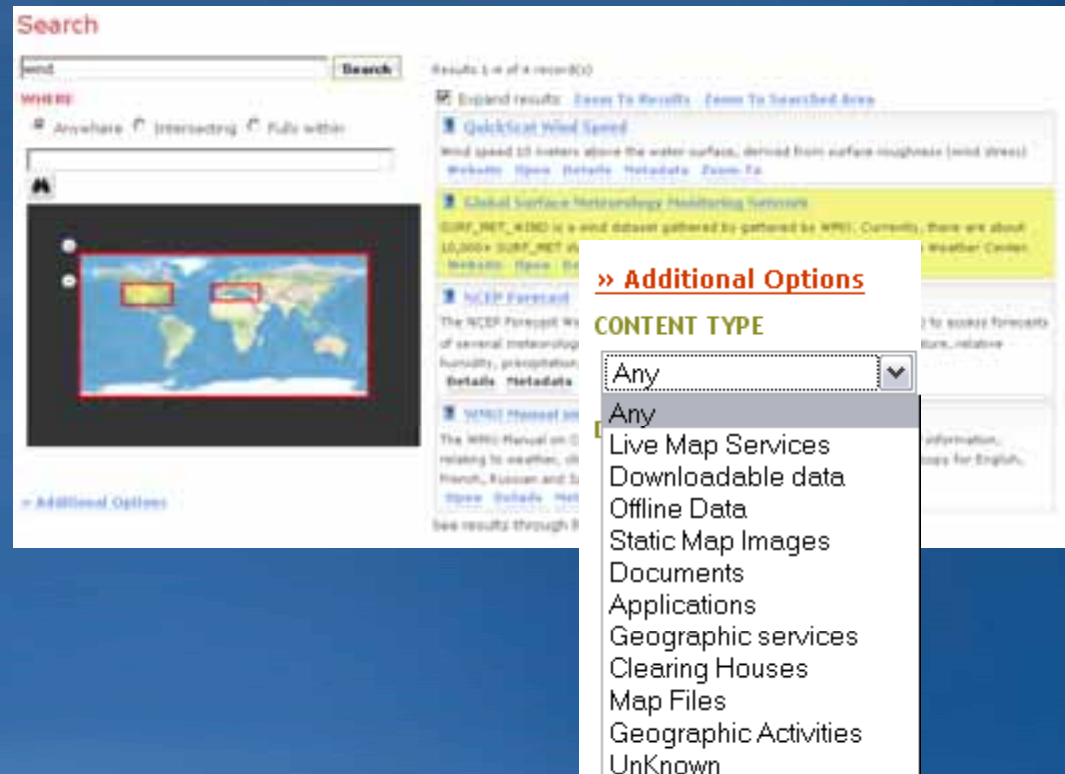
Use Case: “I want to find data ...”

- **Solution:**

- Simple keyword search
- Advanced options for experts
- Smart matching and ranking
- Search results must be simple to understand ... yet contain detail for power-users



Search



Search

wind

WHERE

Anywhere Intersecting Full within

Results 1 of 4 records(0)

Expand results [Go to Results](#) [Go to Searched Area](#)

QuickScan Wind Speed
Wind speed 10 meters above the water surface, derived from surface roughness (wind stress)
[Website](#) [Open](#) [Details](#) [Metadata](#) [Zoom In](#)

Global Surface Meteorology Monitoring System
GSMN_NET_4IND is a wind dataset gathered by gathered by WPI. Currently, there are about 10,000+ GSMN_NET_4IND datasets.
[Website](#) [Open](#) [Details](#) [Metadata](#)

NCIP Forecast
The NCEP Forecast W... of several meteorology forecasts, precipitation.
[Details](#) [Metadata](#)

WIND Forecast
The WIND Forecast is... relating to weather, in French, Russian and S...
[Open](#) [Details](#) [Met](#)

See results through 8

>> Additional Options

CONTENT TYPE

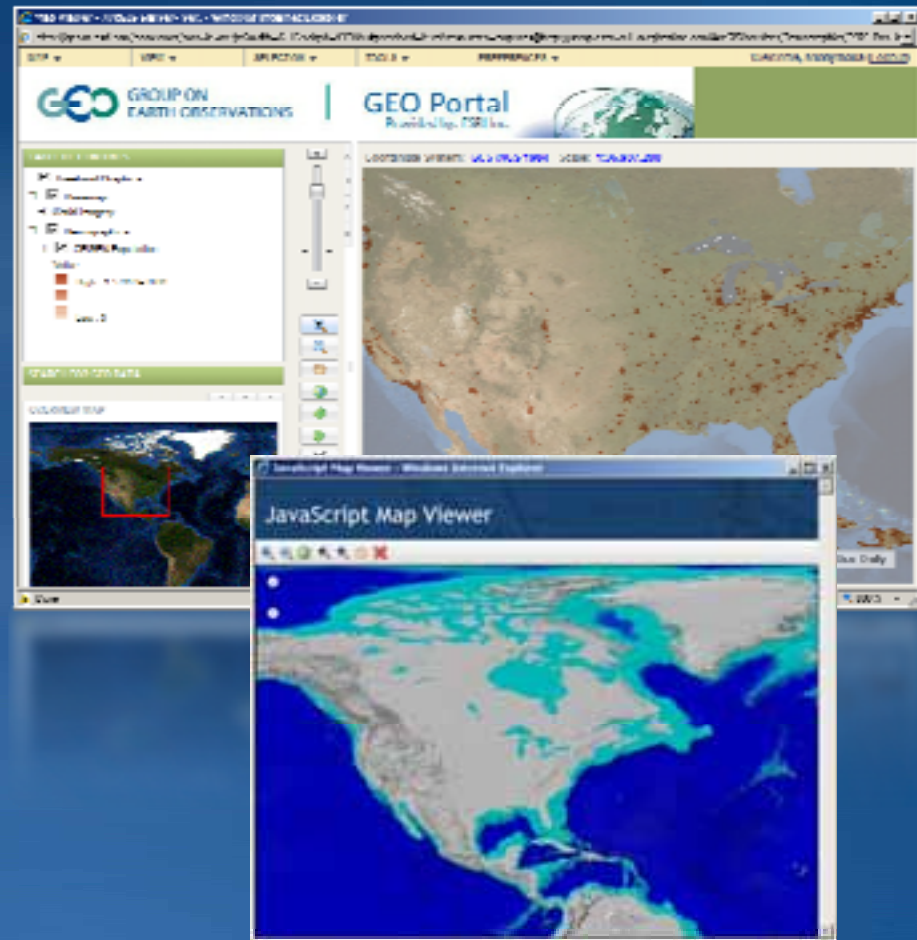
Any

- Any
- Live Map Services
- Downloadable data
- Offline Data
- Static Map Images
- Documents
- Applications
- Geographic services
- Clearing Houses
- Map Files
- Geographic Activities
- Unknown

Use Case: “I want to make a map ...”

- **Solution:**

- Browser-based map viewer that can combine data services from one or more GIS data sources
- Provide Lightweight Alternative
- Determine Requirements for
 - *map navigation*
 - *printing*
 - *selection queries*
 - *data exploration*
 - *direct use of online Web services*
 - *fuse multiple services into a single map*
 - *Annotation*



Use Case: “I want to download data ...”


- **Solution:** Provide page with simple choices for:
 - Selecting area
 - Selecting data
 - Setting options
 - Deliver download link through email

Download

e-mail address:

Output file format:

Projection:



Places

- Hospitals
- Schools

Transportation

- Major Roads
- Minor Streets

Hydro

- Rivers and Lakes
- Streams

Land Records

- Buildings
- Parks

Use Case: “I want to advertise my data ...”

- **Solution:**

- Give user choices for publishing metadata:

- Create metadata online
- Upload metadata
- Register SDI catalog site for harvesting

- Support metadata standards

Register New Item

To register a new item, a form is displayed.

Create Repository

On behalf of: mhog...

Level of Detail: Simple Detailed

ID: Value will be generated upon saving.

Repository UUID: Value will be generated upon saving.

Protocol Type: ESRI IMS Z39.50 OAI WAF CSW

Name:

Host Url:

On behalf of File

Profile:

- ArcIMS 9.3 CSW 2.0.2 OGCCORE
- CompuSult WES CSW 2.0.1 OGCCORE
- ArcGIS Online
- terra catalog CSW 2.0.2 AP ISO
- terra catalog CSW 2.0.0 AP ISO
- EXCAT CSW 2.0.2 OGCCORE
- SRU CSW 2.0.2 Gateway to Z39.50
- IONIC CSW 2.0.0 ebRIM
- ArcIMS 9.2 CSW 2.0.1 ebRIM
- NASA CSW 2.0.2 AP ISO
- CompuSult WES9 CSW 2.0.0 OGCCORE
- INSPIRE CSW 2.0.2 AP ISO
- CSW 2.0.2 AP ISO
- GeoNetwork CSW 2.0.1 EBRIM
- ArcIMS 9.2 CSW 2.0.0 OGCCORE
- ArcIMS 9.3 CSW 2.0.2 OGCCORE**
- ArcGIS Server Image Catalog
- ArcIMS 9.1 CSW 2.0.0 OGCCORE
- ArcIMS 9.2 CSW 2.0.1 OGCCORE
- degree CSW 2.0.2 AP ISO
- GEOSS CSW 2.0.2 EBRIM

Metadata

The GIS category

Please select a metadata theme keyword. Each keyword is inserted directly in the metadata. Metadata with an ISO topic category is metadata. See an example of metadata.

word:

Please select a metadata theme keyword.

How often

Use Case: “I want to know when new data is available ...”

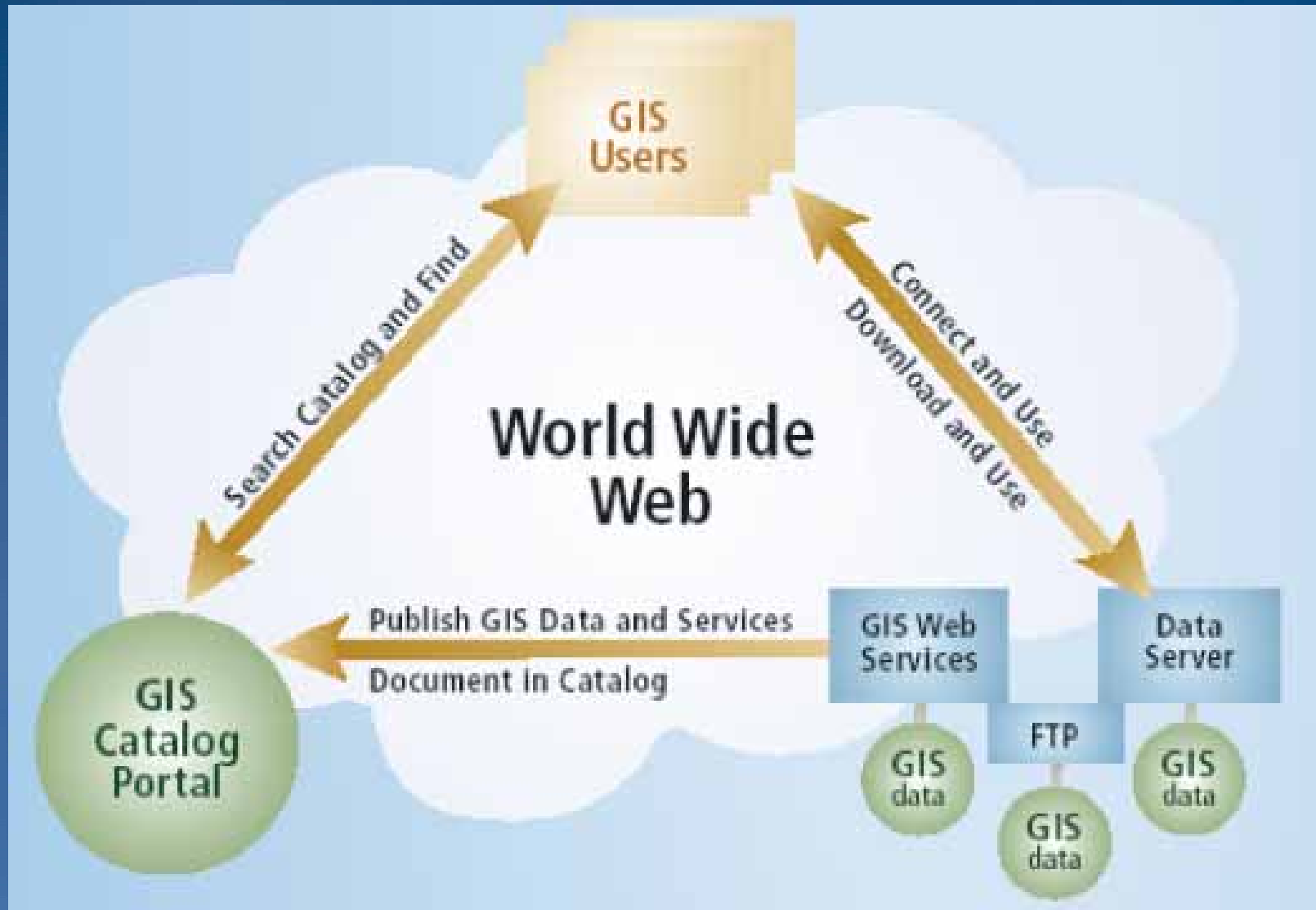
- **Solution:**

- User specify search criteria
- Give user link to a geoRSS feed
- User subscribes to geoRSS feed

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

The screenshot shows a web browser interface with a yellow background. The main content area displays a feed titled "GIS Portal GeoRSS." Below the title, there is a paragraph explaining that the feed contains frequently updated content and that subscribing will add it to the Common Feed List. A "Subscribe to this feed" button is visible. Below this, there is a section for "ArcVoyager Canada's Climate" with a green arrow icon and a brief description of the map service. To the right, a "Displaying 3 / 3" indicator is visible. Overlaid on the browser is an "Internet Explorer" dialog box titled "Subscribe to this Feed". The dialog box contains an RSS icon, a text input field for the name "My Custom Search GeoRSS.", a dropdown menu for "Create in:" set to "Feeds", and a "New folder" button. At the bottom of the dialog are "Subscribe" and "Cancel" buttons. A footer note states: "Your computer will periodically check online for updates to subscribed feeds, even when Internet Explorer is not running. [What's a feed?](#)"

Provides, Catalogs, and Users



Discover Resources from Geoportals

- Central resource for easily accessing, storing, and sharing content
- Includes a library of maps that the entire SDI community can work with.
- Search geographic information, sign up for an account, sign in, and utilize communities/groups



What is the GIS Portal Toolkit?

- Purpose: *Enable Discovery and Use of Geospatial Resources*
- Enables you to build a GIS Portal with the following capabilities:
 - Finding Resources
 - View Resource Descriptions
 - View Map Services
 - Connect to Other Resources
 - Register Resources
 - Download Data
 - Manage the Catalog
 - Harvesting from other Catalogs



Standards-based = OGC + ISO + INSPIRE + FGDC + ...

GIS Portal Toolkit Components



Relation to ArcGIS Online

- At 9.3.1, ArcGIS Online is **additional source for geospatial data and services** for GIS Portal Toolkit users
- At 9.3.1, GPT can search ArcGIS Online
- At 9.4, organizations can enhance their Enterprise Catalog Services with **OGC Catalog Service interface** provided by GIS Portal Toolkit.
- At 9.4, GIS Portal Toolkit complements content managed in Enterprise Catalog Services with **content from external, standards-based catalog services**.
- At 9.4, GIS Portal Toolkit complements Enterprise Catalog Services by providing **structured, standards-based, metadata descriptions of geospatial resources**.

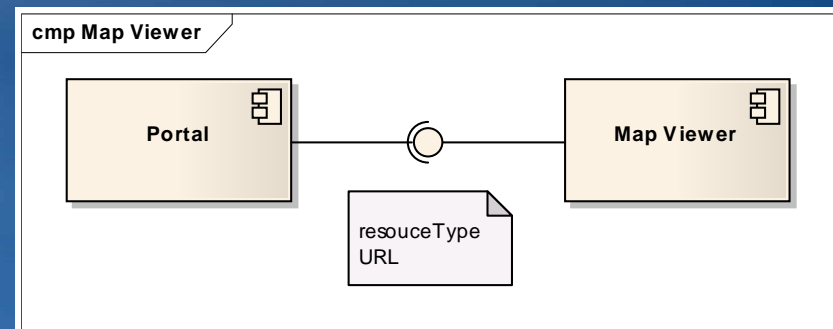
Customizing GIS Portal Toolkit

- **User Interface Look-and-Feel**
- **Metadata Profiles**
 - ISO 19139
 - INSPIRE, North American Profile
 - FGDC
 - Dublin Core
 - ...
- **Change Map Viewer**
- **Discover Resources from CS-W Catalogs**
- **Using the REST Interface**

Change Map Viewer

GPT 9.3.1

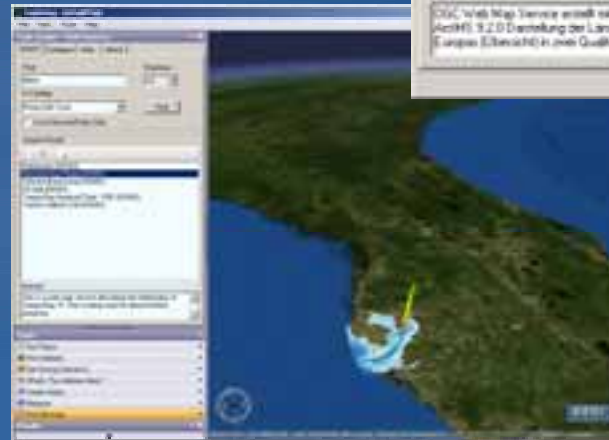
- GPT 9.3 Ships with Template Java ADF Viewer
- Free Template Java ADF Viewer available from Resource Center
<http://resources.esri.com/arcgisserver/adf/java/index.cfm?fa=codeGalleryDetails&scriptID=15960>
- Includes Source Code
- GPT Map Viewer Configurable
- Integration based on simple interface:
 - <http://server/viewer?resources=map:resourceType@URL>



http://marth:8080/preview/?resources=map:aims@http://www.geographynetwork.com/ESRI_Satellite

Discover Resources from CS-W Catalogs

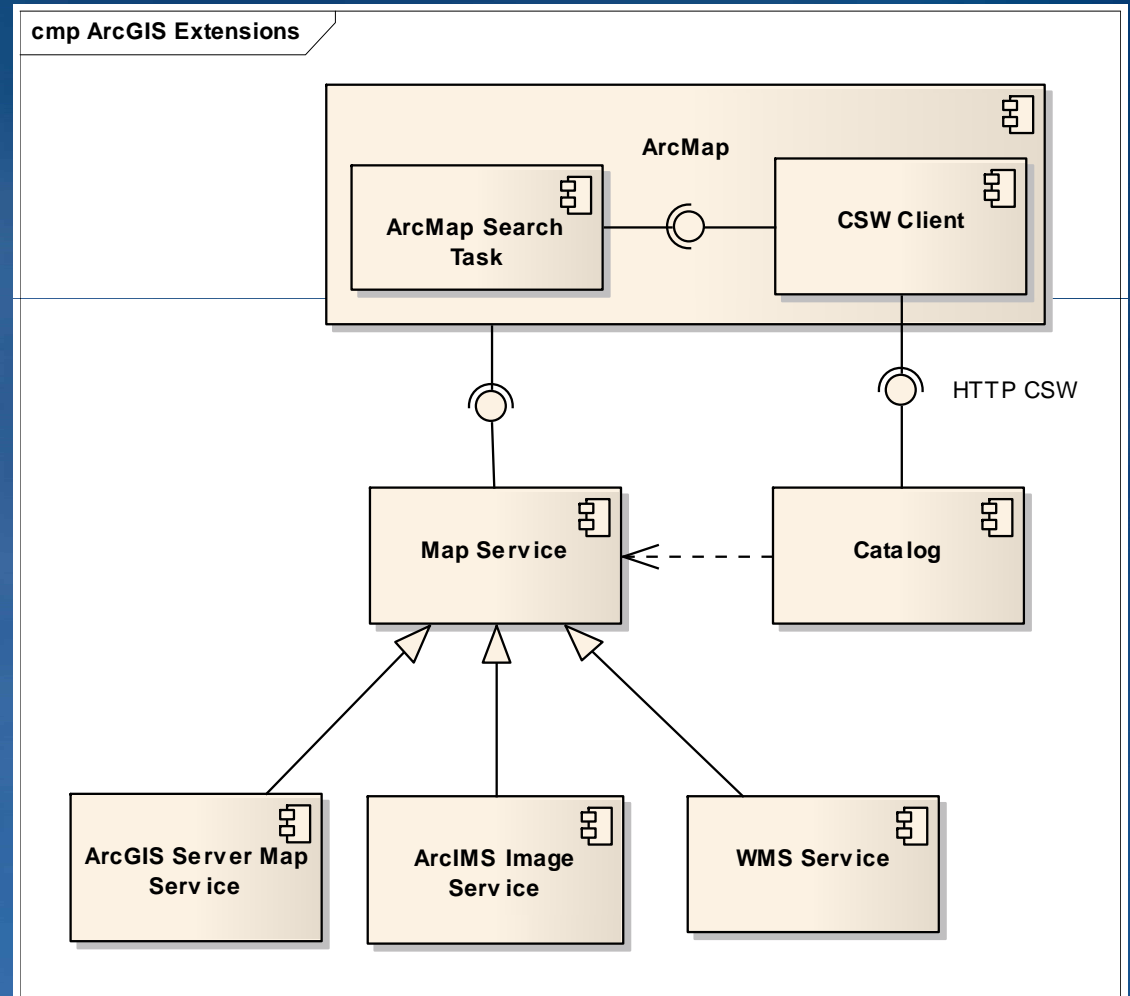
- Search Task for ArcMap & ArcGIS Explorer
 - Search CS-W Catalogs
 - View Metadata Footprints
 - Add to Map/Globe
 - Common Architecture
 - Common User Experience



<http://www.esri.com/software/arcgis/extensions/gis-portal-extensions/index.html>

Discover Resources from CS-W Catalogs

- ArcMap Search and ArcGIS Explorer Search Tasks, and GPT 9.3 are clients to OGC CS-W services
- Support Specific Implementations and Application Profiles
- Abstract Details of Individual CS-W services



Discover Resources from CS-W Catalogs

GPT 9.3.1

- Every GIS Portal may search other catalogs through CS-W
- Every GIS Portal may search ArcGIS Online
- Directed search complements harvesting

Other Collections

ESRI GEOSS Clearinghouse

- ArcGIS Online
- EPA GeoData Gateway
- CSW-SRU Gateway
- ESRI GEOSS Clearinghouse**
- GMU CSISS Catalogue Server
- Geospatial One-Stop

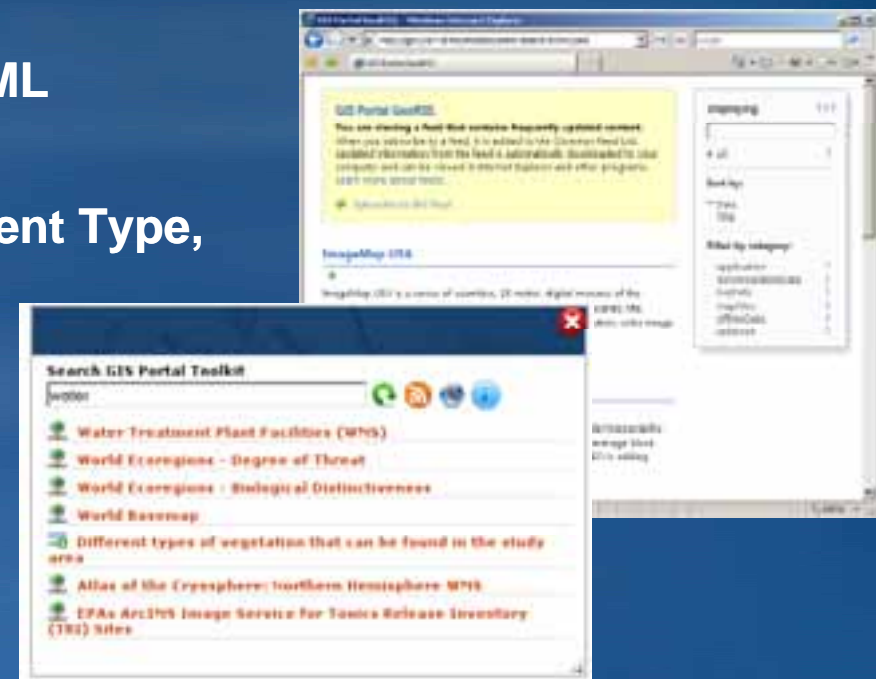
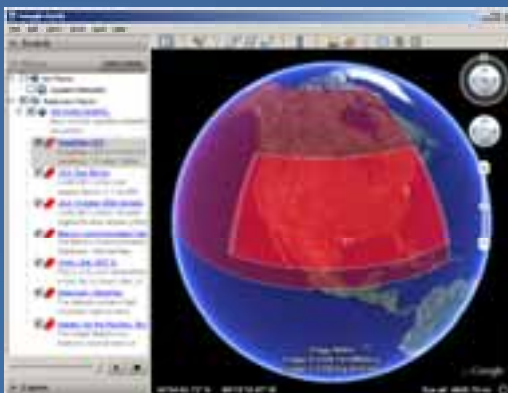
Anywhere Intersecting Fully within



<http://marth/GPT9>

Using the REST Interface

- Simple REST-style Interface
- Supports OpenSearch
- Supported Output Formats:
 - GeoRSS, ATOM, HTML, and KML
- Supported Filters:
 - Free Text, Spatial Extent, Content Type, Data Category, Update Date
- Control style, target
- Search Widget



<http://geoss.esri.com/geoportals/rest/find/document>

<http://marth/GPT9/widgets/search.html>

Questions?

- Contact us at portal@esri.com
- Visit: <http://www.esri.com/gisportal>