

NARC

Building Regional Communities

Collecting and Creating Accurate and Appropriate GIS Metadata

Tuesday, August 3, 2010, 1 pm ET

The meeting will be starting shortly. Here are a few items that will help you navigate and participate in the webinar.

1. Audio Options – Select one:

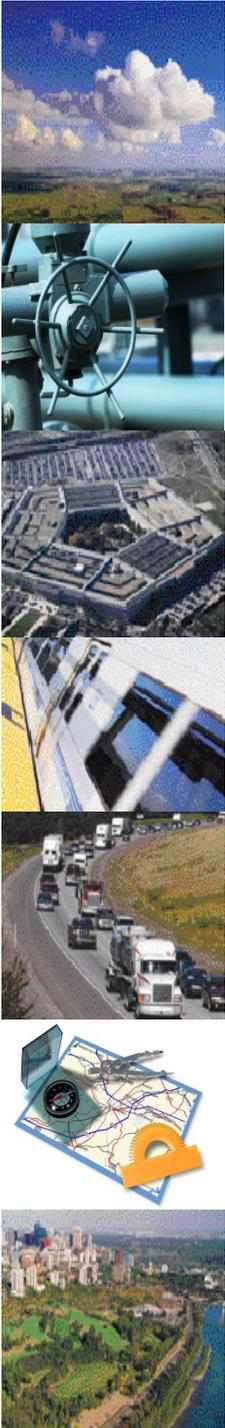
- a. **PREFERRED** - Telephone (Codes are provided in the box at the top right hand corner of your webinar screen – login procedures are similar to conference call.)
- b. Microphone and Speakers through computer (VOIP)

2. Technical Questions – Please call Lindsey Riley at 202.679.6116 or email lindsey@narc.org.

3. Asking Questions During the Webinar – You are muted (in listening mode only) throughout the webinar unless you are a presenter.



To ask a question, please “raise your hand” by clicking on this icon near your audio controls. You will be recognized and unmuted. Or, you can type question into the “Questions” box and this will be answered as quickly as possible.





Metadata for OGC-based Geospatial Services

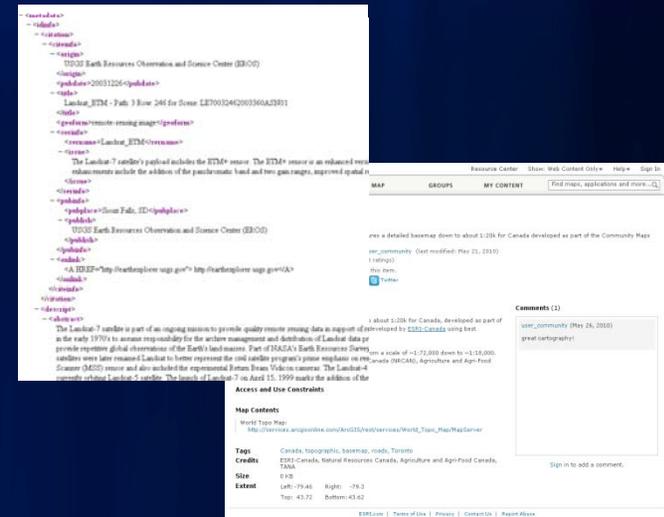
Part 2: Services

Geoff Mortson

PART 1: METADATA (REVIEW)

Importance of Metadata

- Protects investment in data
- Helps users understand data
- Enables discovery
- Limits liability
- Provides evidence of prudent data stewardship
- Reduces workload associated with questions about data
- Cuts overall costs



Data Sharing Results in a Continued Process



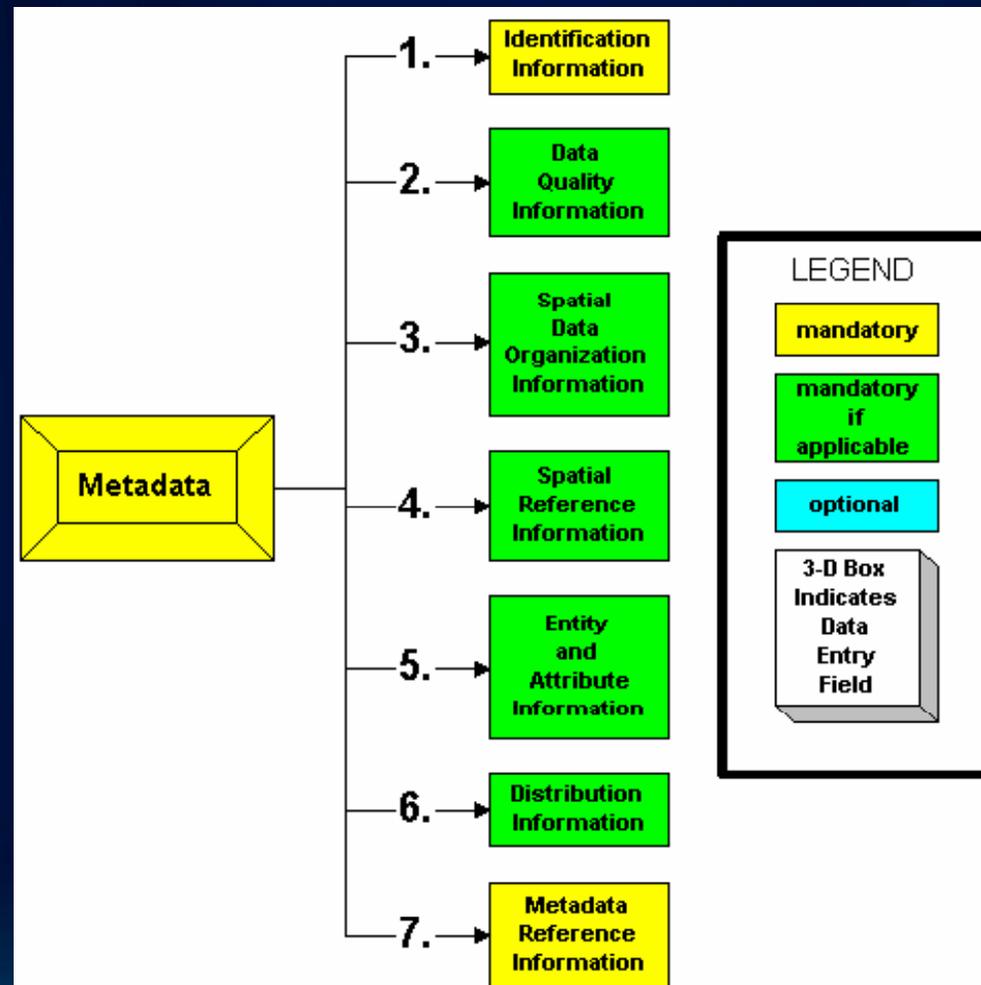
Metadata Standards

- **Dublin Core Metadata Initiative – support a broad range of purposes, not just geospatial resources.**
- **Content Standard for Digital Geospatial Metadata (CSDGM) – commonly referred to as “FGDC Metadata standard”**
- **International Organization of Standards (ISO) – several geospatial metadata standards exist under this organization:**
 - **ISO 19115 Geographic Information – Metadata**
 - **ISO 19119 Geographic Information – Services**
 - **ISO 19139 Geographic Information – Metadata - XML schema implementation**

Metadata Profiles

- **Modifications to a metadata standard that has been adopted by a standards body, agency, or organization.**
- **A profile may:**
 - **reduce the overall number of metadata elements that were originally included in a standard.**
 - **further restrict optional metadata elements, making it mandatory where before it was optional; or not make mandatory elements optional.**
 - **further restrict the values allowed in a metadata element.**

FGDC Metadata Standard Resource



Improve Metadata Capture

- **Develop organizational processes and procedures**
- **Understand metadata standards fit**
- **Map metadata fields to workflows**
- **Utilize metadata creation and validation tools**

Metadata Tools

- **Creation**

- Xtme/Tkme
- ArcCatalog
 - EPA Metadata Editor
- ArcGIS Server Geoportal Extension

- **Validation**

- Metadata parser (mp)
- Geospatial Metadata Validation Service
- ArcGIS Server Geoportal Extension
- PLTS Metadata Check

- **Transform tools**

- Keep up to date on www.fgdc.gov

Exercise Questions

- What is the data element tag that holds the url for the resource? **<onlink>**
- What is the last compound element tag prior to the following data element tags?
<westbc>, **<eastbc>**, **<northbc>**, **<southbc>**
<bounding>
- What is the tag of the Theme Topics?
<themekt> **<themekey>**
 - Where do those theme topics come from? **ISO 19115 Topic Category**
- What is the last section tag in the xml document? **<metadata>**



PART 2: SERVICES

Training Outcomes

- Explain the value of web services
- Understand the types of web services
- Creating web services
- Learn about how people can discover your services



Goals

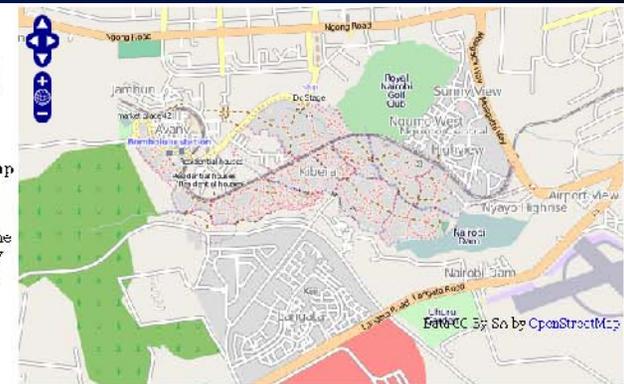
- Learn
- Leverage
- Leave and Lead



VALUE OF WEB SERVICES

A story about Kibera, Nairobi, Kenya

MAP KIBERA



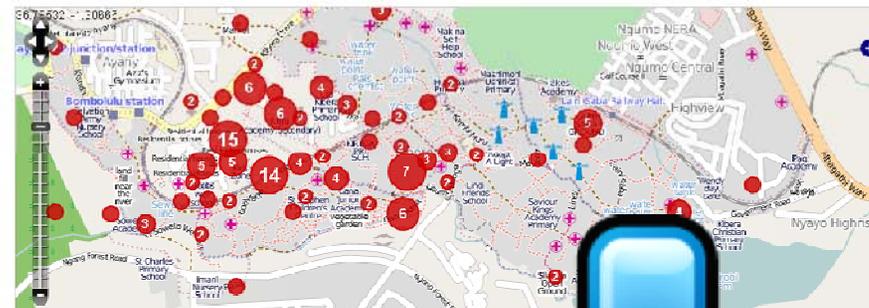
and open map
09
y known as
Clark spect on the
of the geography
ossible to have
oc improve the
ny young
digite. :map u.

VOICE of KIBERA



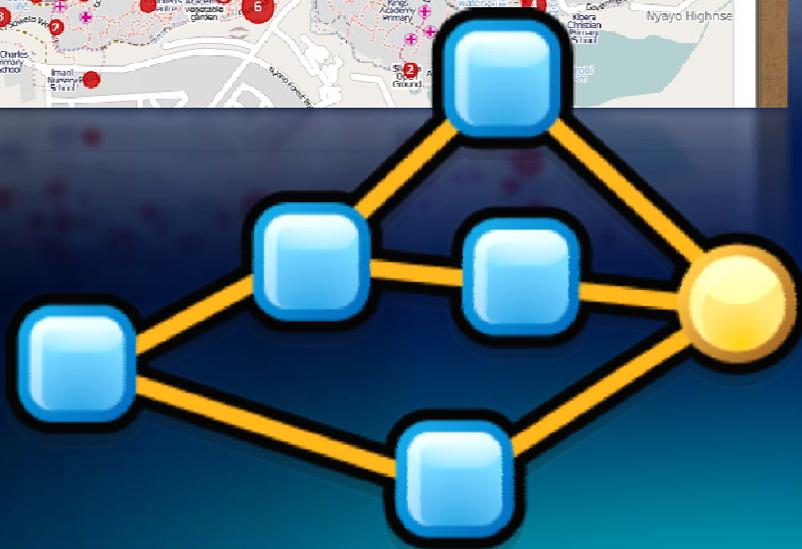
COMMUNITY MEDIA SHARING A VOICE FOR CHANGE

HOME REPORTS CONTACT US ABOUT US SUBMIT TO 3002 [SUBMIT A REPORT](#)



[Security](#) [Education](#) [Water/Sanitation](#)

[Discuss](#) [Voice of](#) [Download](#) [Contact](#)



Dataset Value

- **A dataset is not valuable unless it is accurate**
 - A dataset found today may change tomorrow
 - Web services deliver the changes
- **A dataset is not valuable unless it is used**
 - A dataset cannot be used if it cannot be found
 - Users go to the web first

A story about the oil spill

Gulf of Mexico response

Gulf of Mexico response



Subsea operational update:

- For the last 12 hours on July 3 (noon to midnight), approximately 9,040 barrels of oil were collected and approximately 4,120 barrels of oil and 28.6 million cubic feet of natural gas were flared.

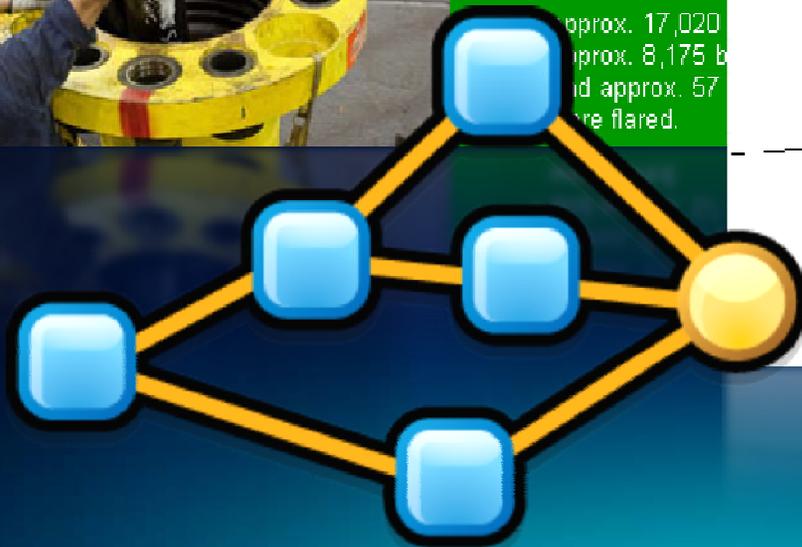
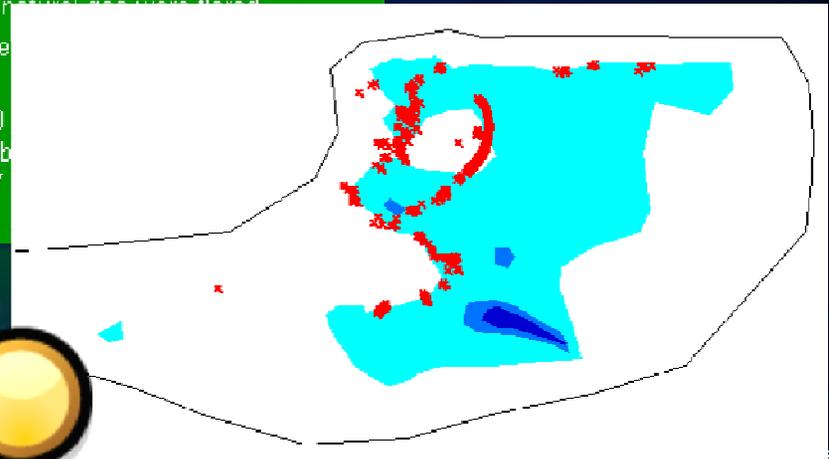
- On July 3, total oil released was:

approx. 17,020

approx. 8,175 b

and approx. 57

were flared.



Inter-organizational Mash Ups



Uncle Sam says, “Share!”

- **Open Government Directive**
 - <http://www.whitehouse.gov/open/documents/open-government-directive>
 - Make high value datasets public online
- **Data.gov**
 - Valuable to you
 - Searches Geospatial OneStop as well
 - Open so users can mash up with quality data



The power of services – especially ones that use standard protocols – is that they can be served by one group, discovered by another, and used in an infinite number of client applications.



- Conservation
 - Science/Modeling
 - Natural Resources
 - Congestion
 - Crime
 - Defense/Security
 - Pollution
 - Agriculture/Forestry
 - Business Efficiency
 - Biodiversity
 - Oceans
 - Global Warming
 - Human Health
 - Land Use
 - Population
 - Public Safety
 - Development
 - Logistics
 - Urbanization
 - Humanitarian Relief
 - Emergency Management
 - Education
 - Energy
 - Facility Management
- 

TYPES OF SERVICES

Web Map Service (WMS)

- International specification for serving and consuming dynamic maps on the Web.
- Client applications work with a WMS service by appending parameters to the service's URL. Example operations include:
 - Requesting metadata about the service (GetCapabilities)
 - Requesting a map image (GetMap)
 - Requesting information about features in the map (GetFeatureInfo [optional])
 - Requesting user-defined styles (GetStyles)
 - Requesting legend symbols (GetLegendGraphic)

Communicating with WMS

- Each operation supported by a compliant WMS server is an HTTP uniform resource locator (URL).
- Obtain WMS service's service level metadata, map image, or attribute values of a feature by sending a URL request to the server
- View responses in the browser either as an XML document or an image

WMS Requests and Responses

- GetCapabilities –

- http://sampleserver1.arcgisonline.com/ArcGIS/services/Specialty/ESRI_StatesCitiesRivers_USA/MapServer/WMServer?service=WMS&request=GetCapabilities&version=1.3.0

- GetMap –

- http://sampleserver1.arcgisonline.com/ArcGIS/services/Specialty/ESRI_StatesCitiesRivers_USA/MapServer/WMServer?VERSION=1.3.0&REQUEST=GetMap&CRS=CRS:84&BBOX=-178.217598,18.924782,-66.969271,71.406235&WIDTH=765&HEIGHT=360&LAYERS=0,1,2&STYLES=,Symbolizer&EXCEPTIONS=application/vnd.ogc.se_xml&FORMAT=image/png&BGCOLOR=0xFFFFFFFF&TRANSPARENT=TRUE

WMS Requests and Responses (cont'd)

- **GetFeatureInfo –**

- http://sampleserver1.arcgisonline.com/arcgis/services/Specialty/ESRI_StatesCitiesRivers_USA/MapServer/WMServer?REQUEST=GetFeatureInfo&SERVICE=WMS&VERSION=1.1.1&LAYERS=0&STYLES=default&FORMAT=image/png&BGCOLOR=0xFFFFFFFF&TRANSPARENT=TRUE&SRS=EPSG:4326&BBOX=-125.192865,11.2289864971264,-66.105824,62.5056715028736&WIDTH=1044&HEIGHT=906&QUERY_LAYERS=0&X=103&Y=462

- **GetStyles –**

- <http://sampleserver1.arcgisonline.com/arcgis/services/OGC/SanFrancisco/MapServer/WMServer?Service=WMS&Request=GetStyles&Version=1.3.0&Layers=pizzastores,highways,blogkgroups>

WMS Requests and Responses (cont'd)

- **GetLegendGraphic –**

- http://sampleserver1.arcgisonline.com/arcgis/services/OGC/SanFrancisco/MapServer/WMServer?Service=WMS&Request=GetLegendGraphic&Version=1.1.1&Layer=blockgroups&Style=population_dist&Format=image/png&Width=128&Height=64&transparent=false&bgcolor=0xffff00&SLD=http://zeon/resources/cr/CR53077/sld.xml

- **GetMap with TIME parameter –**

- http://sampleserver1.arcgisonline.com/arcgis/services/OGC/Fire/MapServer/WMServer?VERSION=1.3.0&REQUEST=GetMap&CRS=CRS:84&BBOX=-111.232092,43.910823,-109.455485,45.339498&WIDTH=626&HEIGHT=504&LAYERS=fire&STYLES=&EXCEPTIONS=application/vnd.ogc.se_xml&FORMAT=image/png&BGOLOR=0xFFFFFFFF&TRANSPARENT=TRUE&TIME=1988-08-01T00:00:00/1988-08-11T00:00:00

Web Feature Service (WFS)

- **Open specification for serving geographic features over the Web**
- **WFS service returns actual features with geometry and attributes that clients can use in any type of geospatial analysis.**
- **WFS services also support filters that allow users to perform spatial and attribute queries on the data**

Web Feature Service Filter Encoding

- OGC OpenGIS Filter Encoding Implementation Specification (FE) version 1.1 examples:

Geometry	Spatial	Logical	Comparison	Sort
Envelope	BBOX	And	EqualTo	SortBy*
Point	Equals	Or	NotEqualTo	
MultiPoint	Disjoint	Not	LessThan	
MultiCurve	Intersects		GreaterThan	
MultiSurface	Crosses		LessThanOrEqualTo	
	Touches		GreaterThanOrEqualTo	
	Within		Like	
	Contains		Between	
	Overlaps		NullCheck	

WFS Response

- A web feature service may respond to a **GetFeature** request in one of two ways:
 - It can either generate a complete response document or;
 - Simply return a count of the number of features that a **GetFeature** request would return.

FeatureID of WFS

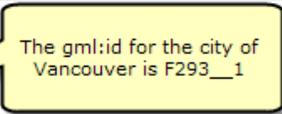
- **FeatureID parameter can be used in GetFeature requests to request specific features in a WFS service**
 - **For example: There is a FeatureType called Cities in a WFS service. If you do a GetFeature request for the Cities, the response will include the gml:id for each feature.**
 - **URL example:**
`http://exampleserver/arcgis/services/wfs_services/ArcSDE_wfs/GeoDataServer/WFSServer?request=getfeature&typename=cities`

FeatureID of WFS (cont'd)

- The FeatureID for the city of Vancouver would be cities.F293__1. The following request could be used to specifically request the city of Vancouver using the FeatureID:

http://bobmk/arcgis/services/wfs_services/ArcSDE_wfs/GeoDataServer/WFSServer?request=getfeature&featureid=cities.F293__1

```
<gml:featureMember>
- <wfs_services_ArcSDE_wfs:cities gml:id="F293__1">
  <wfs_services_ArcSDE_wfs:OBJECTID>1</wfs_services_ArcSDE_wfs:OBJECTID>
  <wfs_services_ArcSDE_wfs:NAME>Vancouver</wfs_services_ArcSDE_wfs:NAME>
  <wfs_services_ArcSDE_wfs:CAPITAL>N</wfs_services_ArcSDE_wfs:CAPITAL>
  <wfs_services_ArcSDE_wfs:PROV_NAME>British Columbia</wfs_services_ArcSDE_wfs:PROV_NAME>
  <wfs_services_ArcSDE_wfs:POPULATION>1380729</wfs_services_ArcSDE_wfs:POPULATION>
- <wfs_services_ArcSDE_wfs:SHAPE>
  - <gml:Point>
    <gml:pos>49.159999847 -123.069999695</gml:pos>
  </gml:Point>
  </wfs_services_ArcSDE_wfs:SHAPE>
</wfs_services_ArcSDE_wfs:cities>
</gml:featureMember>
```



Web Coverage Service (WCS)

- **Web Coverage Service (WCS) provides an open specification for sharing raster datasets on the Web**
- **WCS returns data in a format that can be used as input for analysis and modeling**
- **Raster datasets made available through WCS services are referred to as coverages**

WCS Actions

- You can do three things with a WCS:
 - **GetCapabilities**--Returns service-level metadata and a brief description of the data collection
 - **DescribeCoverage**--Returns a full description of one or more coverages
 - **GetCoverage**--Returns a coverage in a well-known coverage format

WCS GetCapabilities Example

- **GetCapabilities**—Returns service-level metadata and a brief description of the data collection
 - <http://rasterserver/arcgis/services/Redlands/ImageServer/WCSServer?SERVICE=WCS&VERSION=1.0.0&REQUEST=GETCAPABILITIES>

WCS DescribeCoverage Example

- **DescribeCoverage**—Returns a full description of one or more coverages
 - <http://rasterserver/arcgis/services/Redlands/ImageServer/WCSServer?SERVICE=WCS&VERSION=1.0.0&REQUEST=DescribeCoverage&COVERAGE=1> (where 1 represents the coverage name)

WCS GetCoverage Example

- **GetCoverage**—Returns a coverage in a well-known format. The supported formats are GeoTIFF, NITF, HDF, JPEG, JPEG2000, and PNG.
 - `http://rasterserver/arcgis/services/Redlands/ImageServer/WCSServer?SERVICE=WCS&VERSION=1.0.0&REQUEST=GetCoverage&COVERAGE=1&CRS=EPSG:4326&RESPONSE_CRS=EPSG:4326&BBOX=-123.16302068,45.26023952,-122.34267034,45.67147138&WIDTH=500&HEIGHT=500&FORMAT=jpeg`

Keyhole Markup Language (KML)

- **Keyhole Markup Language (KML) is an XML-based file format used to represent geographic features in applications such as Google Earth and ArcGIS Explorer.**
- **KML allows you to draw points, lines, and polygons on maps and globes and share them with others.**
- **Can also designate text, pictures, movies, or links to other GIS services that appear when the user clicks the feature**

Catalog Service for the Web (CSW)

- **OGC Catalog Service for the Web defines common interfaces to discover, browse, and query metadata about data, services, and other potential resources**
- **Sample Operations for a CSW include:**
 - **GetCapabilities—Returns service-level metadata and a brief description**
 - **DescribeRecord—Returns a full description of one or more records**
 - **GetRecords—Returns a record**
 - **GetRecordById—Returns a record by a unique identifier**

CSW Core Queryables

Name	Definition	Data type
Subject ^a	The topic of the content of the resource ^b	CharacterString
Title ^a	A name given to the resource	CharacterString
Abstract ^a	A summary of the content of the resource	CharacterString
AnyText	A target for full-text search of character data types in a catalogue	CharacterString
Format ^a	The physical or digital manifestation of the resource	CharacterString
Identifier ^a	An unique reference to the record within the catalogue	Identifier
Modified ^c	Date on which the record was created or updated within the catalogue	Date-8601
Type ^a	The nature or genre of the content of the resource. Type can include general categories, genres or aggregation levels of content.	CodeList ^f
BoundingBox ^d	A bounding box for identifying a geographic area of interest	BoundingBox, See Table 2
CRS ^e	Geographic Coordinate Reference System (Authority and ID) for the BoundingBox	Identifier
Association	Complete statement of a one-to-one relationship	Association, See Table 3

^a Names, but not necessarily the identical definition, are derived from the Dublin Core Metadata Element Set, version 1.1:ISO Standard 15836-2003 (February 2003)

^b Typically, a Subject will be expressed as keywords, key phrases or classification codes that describe a topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme.

^c DCMI metadata term <<http://dublincore.org/documents/dcmi-terms/>>.

^d Same semantics as EX_GeographicBoundingBoxclass in ISO 19115.

^e If not supplied, the BoundingBox CRS is a Geographic CRS with the Greenwich prime meridian.

^f A "CodeList" is a CharacterString taken from an authoritative list of CharacterStrings or Identifiers. The authority may optionally be identified in the value.

CSW GetCapabilities example

- **GetCapabilities**—Returns service-level metadata and a brief description
- <http://geoss.esri.com/geoportal/csw/discovery?request=GetCapabilities&service=CSW&version=2.0.2>

CSW GetRecords example

- GetRecords—Returns a record
- <http://geoss.esri.com/geoportal/csw/discovery?request=GetRecords&service=CSW&version=2.0.2>
- ```
<csw:GetRecords xmlns:csw="http://www.opengis.net/cat/csw/2.0.2" version="2.0.2"
service="CSW" resultType="RESULTS" startPosition="1"
maxRecords="10"><csw:Query typeName="csw:Record"
xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:ogc="http://www.opengis.net/ogc"
xmlns:gml="http://www.opengis.net/gml"><csw:ElementSetName>full</csw:ElementSet
Name><csw:Constraint version="1.0.0"><ogc:Filter><ogc:And><ogc:PropertyIsLike
wildCard="*" escape="\ "
singleChar="%"><ogc:PropertyName>AnyText</ogc:PropertyName><ogc:Literal>water<
/ogc:Literal></ogc:PropertyIsLike></ogc:And></ogc:Filter></csw:Constraint></csw:Quer
y></csw:GetRecords>
```

## CSW GetRecordById example

- **GetRecordById**—Returns a record by a unique identifier
- <http://gptogc.esri.com/geoportal/csw?service=CSW&request=GetRecordById&version=2.0.2&ElementSetName=full&ID={32B0B4BC-E58D-4EF6-9A9D-9B60408620C9}>

## Example: Data.gov

- Geodata.gov – existing initiative in geospatial domain
- Data.gov – new initiative to transparent government
- Data.gov looked at building another catalog for data
- Geodata.gov and Data.gov collaborated
- Geodata.gov now supplies Data.gov with 270,000+ downloadable datasets through an OGC Web Service



## Sensor Observation Service (SOS)

- **The standard defines a web service interface for the discovery and retrieval of real time or archived data produced by all kinds of sensors like mobile or stationary as well as in-situ or remote sensors**
  - **GetCapabilities: Returns a service description containing information about the service interface and the available sensor data.**
  - **DescribeSensor: Returns a description of one specific sensor, sensor system or data producing procedure containing information like position of sensor, calibration, input- and outputs, etc.**
  - **GetObservation: Provides pull-based access to sensor observations and measurement-data via a spatio-temporal query that can be filtered by phenomena and value constraints.**

## SOS Example

- <http://sdf.ndbc.noaa.gov/sos/server.php>
- <http://gptogc.esri.com/geoportal/catalog/search/resource/livedata-preview.page?uuid={D706E3DE-24FF-459E-A0B3-6B51D7968FB1}&url=http%3A%2F%2Fsdf.ndbc.noaa.gov%2Fsos%2Fserver.php&info=http%3A%2F%2Fgptogc.esri.com%2Fgeoportal%2Frest%2Fdocument%3Ff%3Dhtml%26id%3D%257BD706E3DE-24FF-459E-A0B3-6B51D7968FB1%257D>

**YOUR DATA + WEB SERVICES**

# How to expose your data as a web service

- **Cut red tape**
  - LOE: High
- **Cut tech tape**
  - LOE: Medium
- **Be prepared to maintain**
  - LOE: Medium
- **Do the work**
  - LOE: Low
- **Register your services**



## How to do the Work

- Prepare dataset for publishing
  - Clean data
  - Identify fields with meaningful labels
  - Create/update metadata
- Create map document that contains the dataset
  - Symbolize data so users can easily interpret it
  - Consider resource's scale
  - Consider basemap
  - Display Labels
- Publish the service
- See Creating Effective Web Maps seminar page at [www.esri.com/events/seminars/webmaps/index.html](http://www.esri.com/events/seminars/webmaps/index.html)

## Items to keep in mind for Services

- **Be "RESTful", and support open standards**
- **Be integrate-able with simple clients and APIs available to users**
- **Be easily discovered**

# **USERS + YOUR WEB SERVICES**

# Register your services: Why?

- How will users know your service exists?
- Searching for services can be hard

Web [Images](#) [Videos](#) [Maps](#) [News](#) [Shopping](#) [Gmail](#) [more](#) ▼

**Google**

About 48 results (0.44 seconds) [Advanced search](#)

**Everything**  
More

Show search tools

**Did you mean:** ["request=GetCapabilities service=WMS" +river](#)

[OGC:WMS NOAA Charts, Unclipped, NOT FOR NAVIGATION This service ...](#)  
EPSG:102006 KUCHIAK\_RIVER\_TO\_KUKPOWRUK\_PASS KUCHIAK RIVER TO KUKPOWRUK PASS KUCHIAK\_RIVER\_TO\_KUKPOWRUK\_PASS noaa\_chart\_16102\_1 Chart\_16102\_1 This layer is ...  
[wms.alaskamapped.org/cgi-bin/charts\\_nc.cgi?SERVICE...1... - Cached](#)

[FEMA: Mapping Information Platform: NOPAGETAB\\_NFHLWMS](#)  
Nov 30, 2008 ... Status information and **river** subbasins are displayed at map scales smaller than 1:300000, ... **REQUEST=GetCapabilities&SERVICE=WMS ...**  
[www.msc.fema.gov/webapp/wcs/storeservlet/info?... - Cached](#)

[\[PDF\] NFHL Web Map Service \(WMS\)](#)  
File Format: PDF/Adobe Acrobat  
**REQUEST=GetCapabilities&SERVICE=WMS**. • Responds to GetMap requests through the ... **River** marks labeled with their **river** mark number. 1:32000. Streets (from ...  
[www.fema.gov/library/file?type=publishedFile&file... - Similar](#)

[View / Download / Print - Federal Emergency Management Agency](#)  
**REQUEST=GetCapabilities&SERVICE=WMS** \* Responds to GetMap requests through ... 1:32000 no lower **River** Distance Markers **River** marks labeled with their **river** ...  
[www.fema.gov/library/file?type=file&file=nfhl\\_wms.txt... - Cached](#)

[US Environmental Protection Agency, Office of Water 20100108 EPA ...](#)  
... water data and impaired water features reflecting **river** segments, lakes, ....  
/WMSServer?request=GetCapabilities&service=WMS ArcGIS Server WFS Service ...  
[catalog.geodata.gov/geoportal/csw/discovery?getxml...6B1B... - Cached](#)

[\[DOC\] Week end 4-3-09](#)  
File Format: Microsoft Word - [View as HTML](#)  
Jan 15, 2010... USGS Tributary, ID; Rock **River**, Vermont; Spokane, Washington; Stephenson, .... /MapServer/WMSServer?request=GetCapabilities&service=WMS ...  
[eros.usgs.gov/ecms/documents/AboutUs/Weekly\\_Report\\_01152010.doc](#)

# Register your services: Where?

- GOS/ Data.gov
- ArcGIS.com
- GIS Portals

**Manage My Metadata**

Dataset name  Status

Metadata owner  Content Type

Dataset uuid

Updated date between  and  (mm-dd-yyyy)

**1 Document found** For selected records:

| <input type="checkbox"/> | Action | <a href="#">DOCUUID</a>                | <a href="#">Dataset Name</a> | Owner    | Method  | Update Date         |   |         |
|--------------------------|--------|----------------------------------------|------------------------------|----------|---------|---------------------|---|---------|
| <input type="checkbox"/> |        | {D57FFAC8-4E51-9AAB-A614-2C41B81FCE1F} |                              | ceeggers | Unknown | 2009-12-11 14:55:06 | U | a.gov N |

For selected records:

- Delete
- Delete
- Transfer Ownership
- Check Online Status
- Share with data.gov
- Don't share with data.gov

## GIS Portal Examples

- [Data.gov and Geospatial One-stop](#)
- [NOAA NCDC Geoportal](#)
- [Washington State Geospatial Clearinghouse](#)
- [IDENA](#)
- [ESRI Geoportal extension Beta site](#)
- [Italy Geoportal](#)

## Service Quality

- **Service Status Checker – FGDC created tool that validates, tests and scores spatial web services.**
- **It currently supports the following services:**
  - **WMS**
  - **ESRI ArcIMS Image**
  - **WFS**
  - **Z39.50**
  - **Web Accessible Folder (WAF)**
- **Future support will include:**
  - **CSW**
  - **WCS**
  - **SOS**

# Service Status Checker in GOS

- Service Status Checker has been integrated into GOS to help users assess the reliability of a service.

The screenshot displays the geodata.gov website interface. The top navigation bar includes links for Home, Search, Maps, Marketplace, Communities, Statistics, and Help Center. The search results page shows a list of documents, with the first result being 'FWS Wetlands WMS CONUS'. A detailed report for this service is shown on the right, including registration information, a service report card with a 97.38% score, validation details, and daily test results.

**Service Status Checker Report for 08-02-10 05:52 am**

**Registration Information**  
 Service information was registered through the GOS.  
 ID: 17BB-3816-2332-46985BC73014  
 Title: FWS Wetlands WMS CONUS  
 URL: <http://wetlandswms.er.usgs.gov/wmsconnector/corri>  
 WMS

**Service Report Card**  
 Valid Registration:   
 GetMap Status:   
 GetMap Score (0-100): **97.38%**

**Validation**  
 This test determines if the registered service URL is valid or invalid.  
 Registered Service: [http://wetlandswms.er.usgs.gov/wmsconnector/com.esri.wms.EsriMap/USFWS\\_WMSS\\_0](http://wetlandswms.er.usgs.gov/wmsconnector/com.esri.wms.EsriMap/USFWS_WMSS_0)  
 This is a valid registration. A WMS service must provide a GetCapabilities or GetMap service URL.

**Daily Test Results**  
 The objective of a WMS service is to provide map images to clients. For this reason, the GetMap test is the main operation tested and scored.

| TEST                    | STATUS | INTERACTIVE TEST         | RESPONSE | SCORE(0-100) |
|-------------------------|--------|--------------------------|----------|--------------|
| <a href="#">GetMap:</a> |        | <a href="#">Test Now</a> | 3.39 sec | 97.38%       |

The following table summarizes the full suite of tests performed on this service:

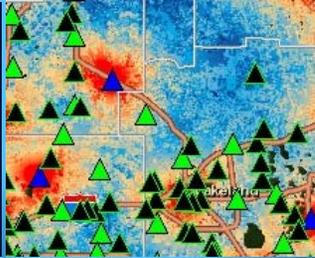
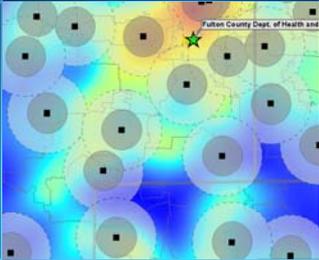
| TEST                             | STATUS | INTERACTIVE TEST         | ERROR ID |
|----------------------------------|--------|--------------------------|----------|
| <a href="#">HTTP:</a>            |        | <a href="#">Test Now</a> | -        |
| <a href="#">GetCapabilities:</a> |        | <a href="#">Test Now</a> | -        |
| <a href="#">GetMap:</a>          |        | <a href="#">Test Now</a> | -        |

**Interactive Map Layer Viewer**  
 Click [here to View all Layers](#) from this Service

Records 1 to 12 of 14,576 documents (0.446 seconds)

**FWS Wetlands WMS CONUS**  
 Geospatial Wetlands Digital Data within the continental United States in Open GIS Consortium (OGC) Web Map Service format. This data set represents the extent, approximate location and type of wetlands and deepwater habitats in the conterminous United States. These data delineate the areal

| Icon | Status    | Service Availability Score    |
|------|-----------|-------------------------------|
|      | Excellent | 76-100                        |
|      | Good      | 51-75                         |
|      | Not Good  | 26-50                         |
|      | Bad       | 0-25                          |
|      | Unknown   | Insufficient data.            |
|      | N/A       | Information is not available. |



# Demo

Create service

Find services using  
Geodata.gov

Explore the Service  
Status Checker

# **EXERCISE: PART 2**

## Service Exercise

- Search for live services in geodata.gov.  
<http://gos2.geodata.gov/wps/portal/gos>
- Search for 'USGS Water Watch'
  - Question 1 and 2 will pertain to this service
- Search for 'PDC Meteorology Service'
  - Questions 3-6 will pertain to this record



## Exercise Questions

Search for 'USGS Water Watch'

1. What is the Url for this service?
2. What type of service is this?



Search for 'PDC Meteorology Service'

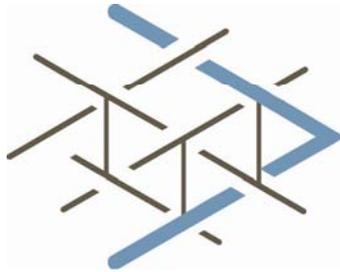
3. What is the Url for this service?
4. What type of service is this?
5. What is the Service status score for this record?
6. What is the avg response time?



**QUESTIONS?**



**ESRI**



**NARC**

*Building Regional Communities*

*Acknowledgement*

The project described in this publication was supported by Cooperative Agreement Number G10AC00236 from the United States Geological Survey. Its contents are solely the responsibility of the authors and does not necessarily represent the official views of the USGS.