

Federal GIS Conference 2014

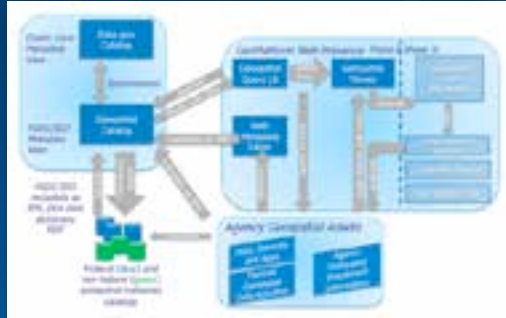
February 10–11, 2014 | Washington DC



Working With Metadata in ArcGIS

@martenhogeweg

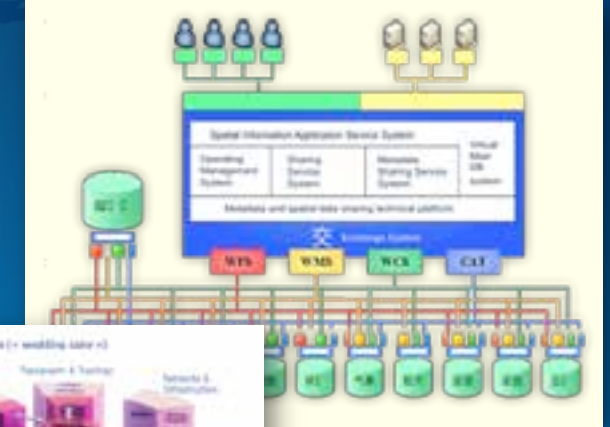
Geospatial Data is Being Shared by Governments Across the Globe



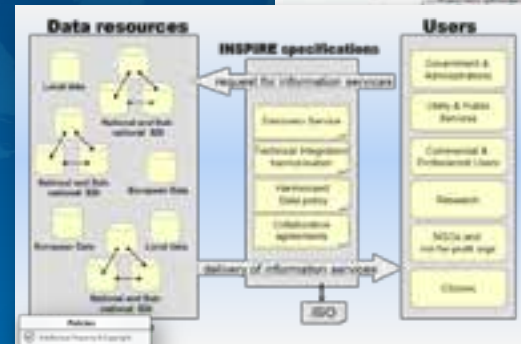
US



Russia



China



EU



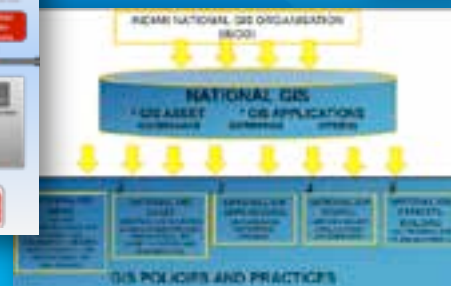
Geneva, Switzerland



Bogotá, Colombia



Abu Dhabi



India



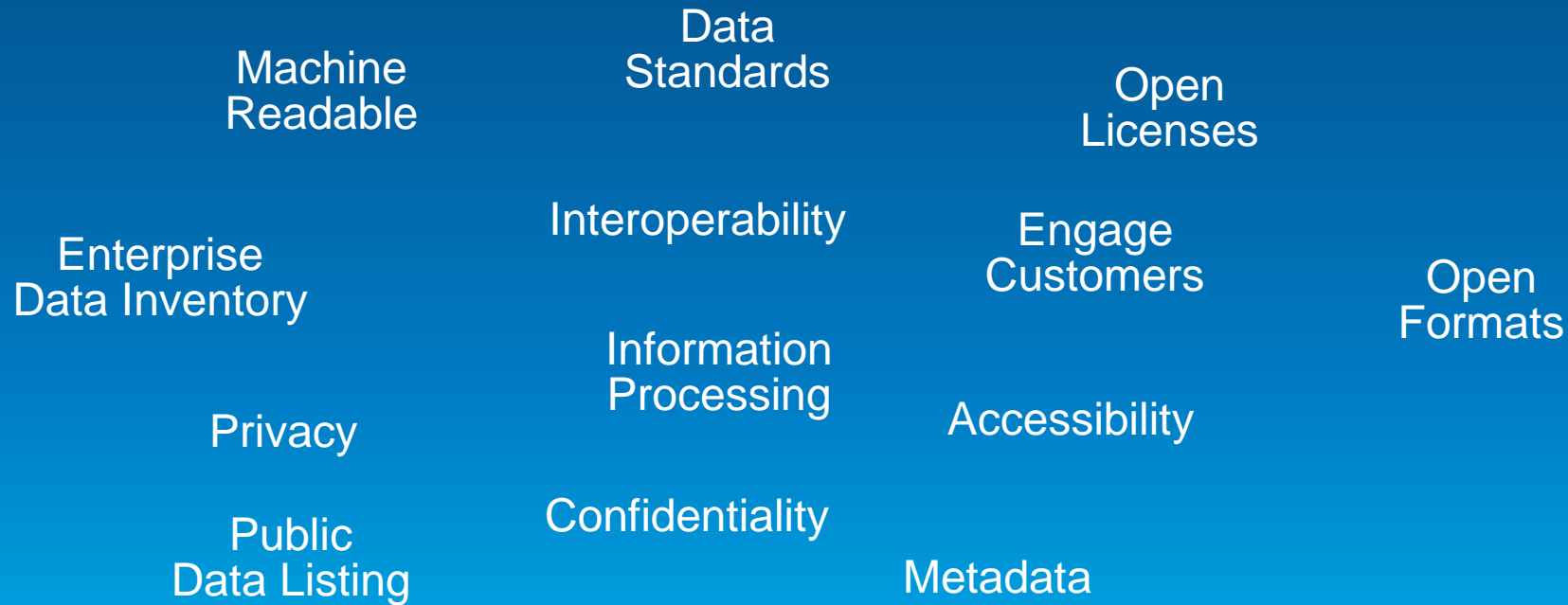
Singapore



Indonesia

Data Sharing Requirements Confirmed by Open Government Policy

Agencies shall take the following actions to improve the management of information resources throughout the information's life cycle and reinforce the government's presumption in favor of openness...



<http://project-open-data.github.io/policy-memo/>



Data Sharing Is Key to The Success of SDI

- Share as much as possible
- Share current data
- Know what you share
- Make data widely usable
- Ensure data is machine readable
- Use open formats and API



Every Society Needs Some Rules

- Data Sharing Agreements
- Education on Policies and Best-practices
- Host and Maintain SDI Components
- Collaboration



Data Models Provide Structure

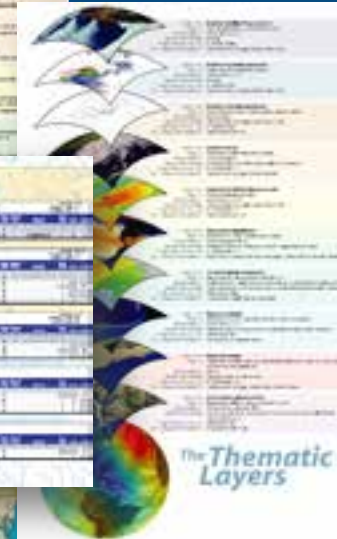
- Content
- Relationships
- Topology
- Semantics
- Syntactics
- Assets

- What Models do your Partners Use?

Geographical Names

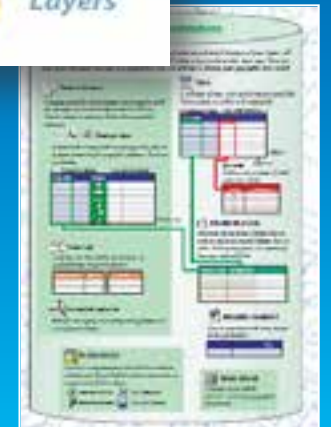
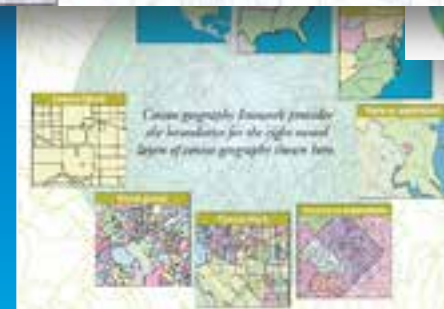


Protected Sites

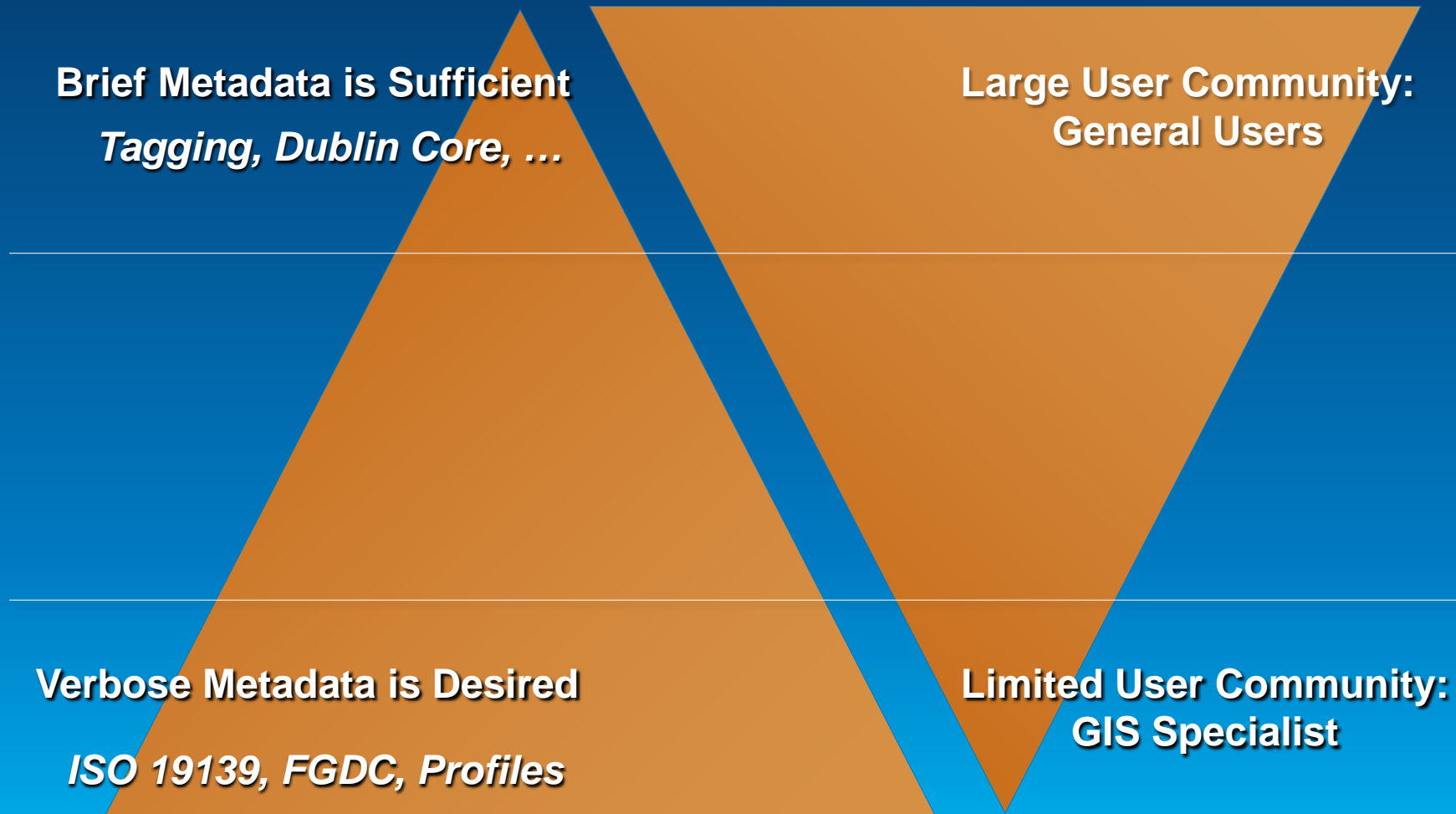


Hydrography

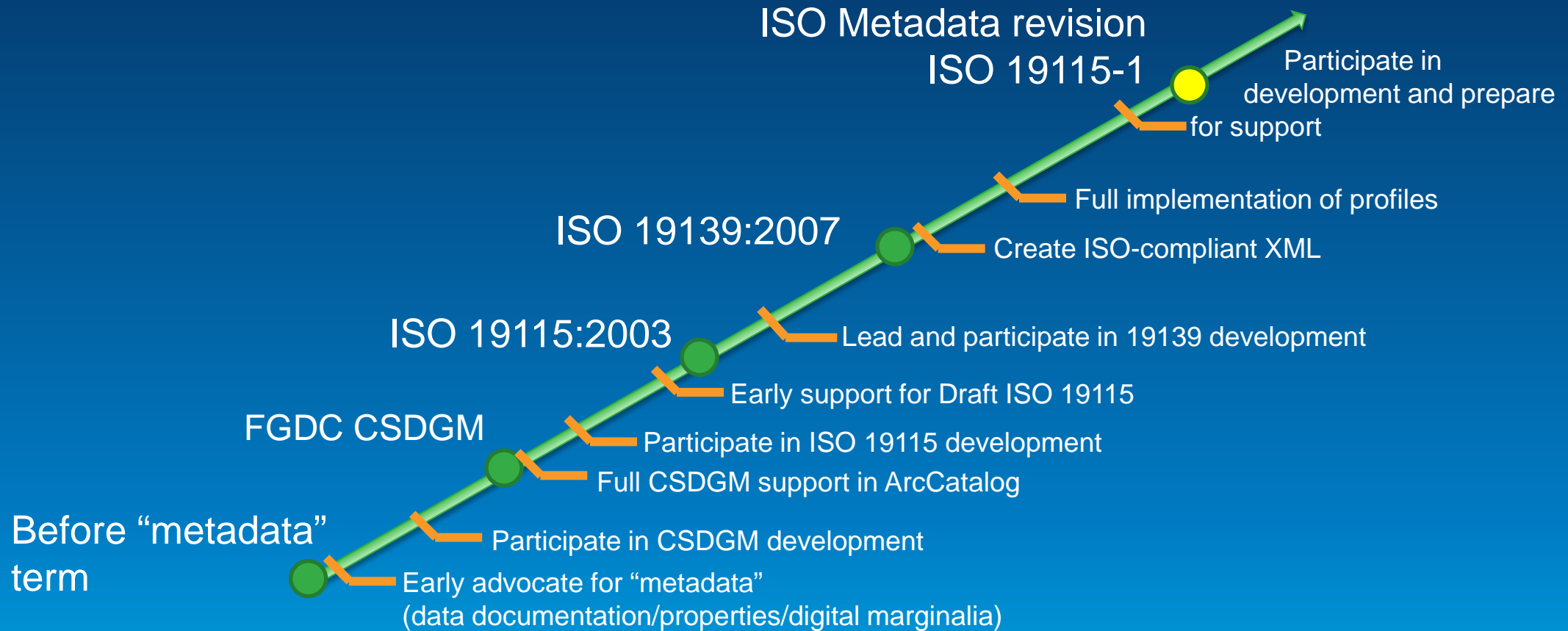
Cadastre



Metadata Supports Different Use(r)s



Metadata @ Esri



Overview of Metadata Standards

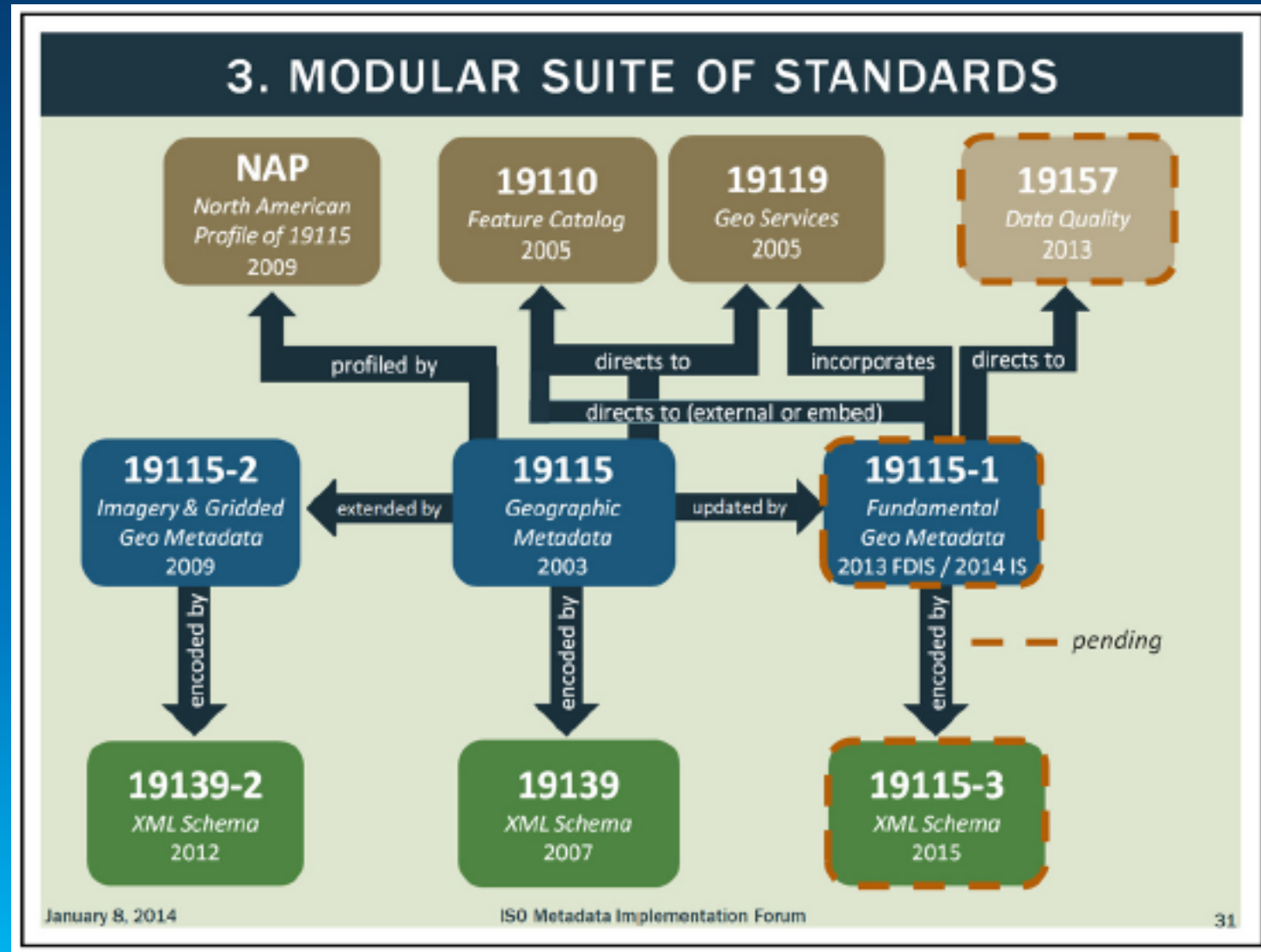
http://www.fgdc.gov/metadata/events/iso-geospatial-metadata-implementation-forum/index_html

WHICH ISO STANDARDS?

- **Emphasis will be on ISO 19115: Geospatial Metadata**
- **Additional standards will be addressed as relevant:**
 - ISO 19115-1: Metadata: Part 1 – Fundamentals (pending revision to 19115)
 - ISO 19115-2: Imagery & Gridded Data Extension
 - ISO 19119: Geospatial Services
 - ISO 19110: Feature Catalog
 - ISO 19139: Geographic Information – XML Schema
 - ISO 19157: Data Quality
 - ISO 19115 North American Profile (NAP) best practices
 - & others

Overview of Metadata Standards

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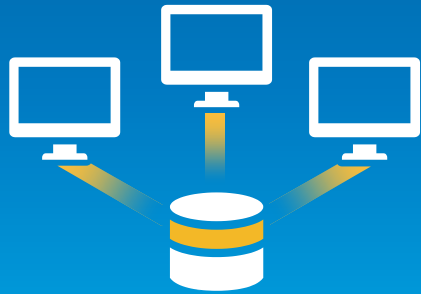


Working with Metadata in ArcGIS

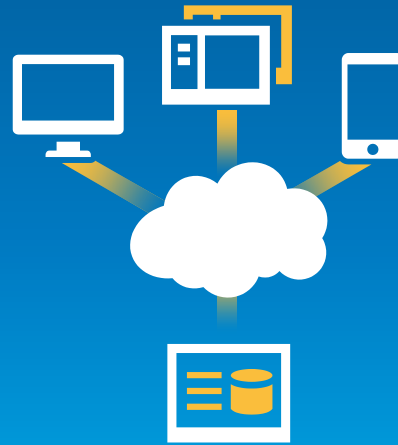
- Describe Data
- Share Web Services
- Register with Portals



File Based



Database Centric



Server Centric



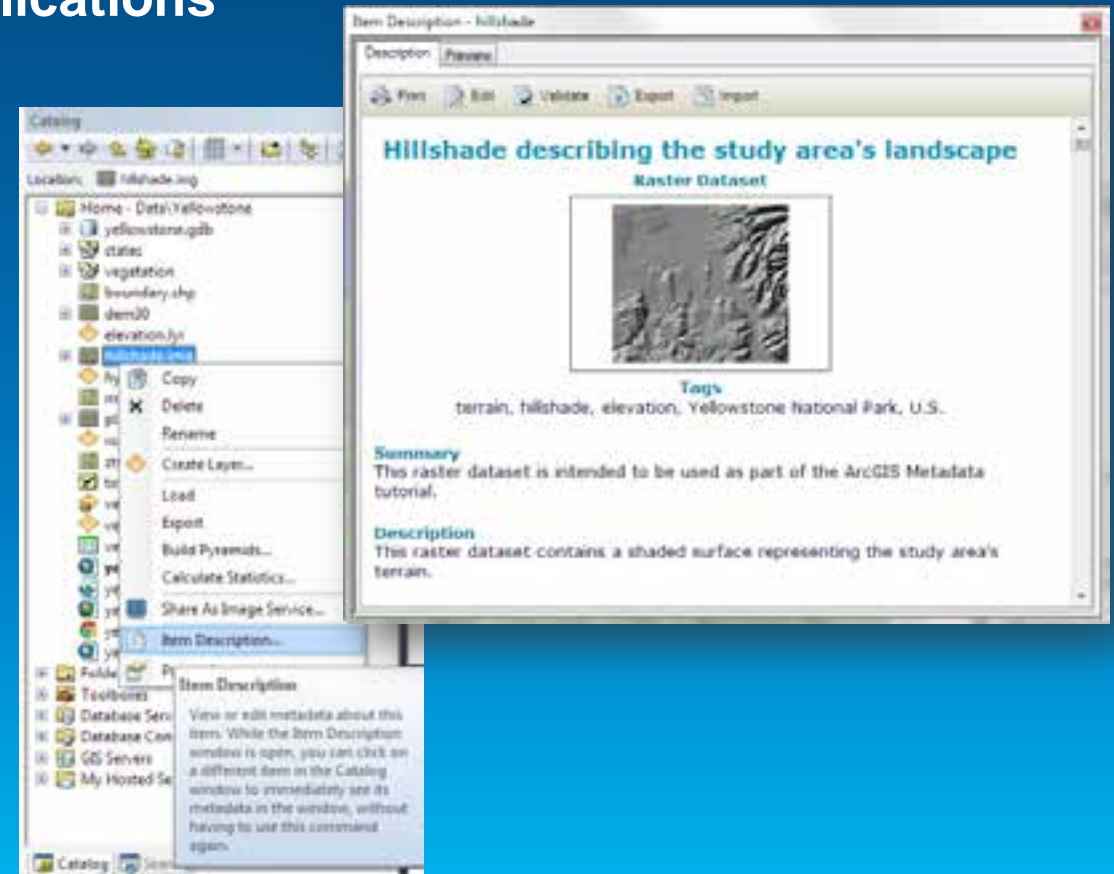
Web Centric

Describe Data

```
1 <metadata>
2   <idinfo>
3     <citation>
4       <citeinfo>
5         <origin>Marten Hogeweg, Esri</origin>
6         <pubdate>20140202</pubdate>
7         <title>huurobjecten</title>
8       </citeinfo>
9     </citation>
10    <descript>
11      <abstract>simple map</abstract>
12      <purpose>simple map</purpose>
13    </descript>
14    <timeperd>
15      <timeinfo>
16        <rngdates>
17          <begdate>20140202</begdate>
18        </rngdates>
19      </timeinfo>
20      <current>started publishing this again</current>
21    </timeperd>
22    <status>
23      <progress>Complete</progress>
24      <update>None planned</update>
25    </status>
26    <spdom>
27      <bounding>
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31        <southbc>50</southbc>
32      </bounding>
33    </spdom>
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36        <themekt>None</themekt>
37        <themekey>3click</themekey>
38        <themekey>poi</themekey>
39      </theme>
40    </keywords>
41    <accconst>None</accconst>
42    <useconst>None</useconst>
43    <datacred>FOR</datacred>
44  </idinfo>
45  <dataqual>
46    <logic>N/A</logic>
47    <complete>N/A</complete>
48    <lineage>
```

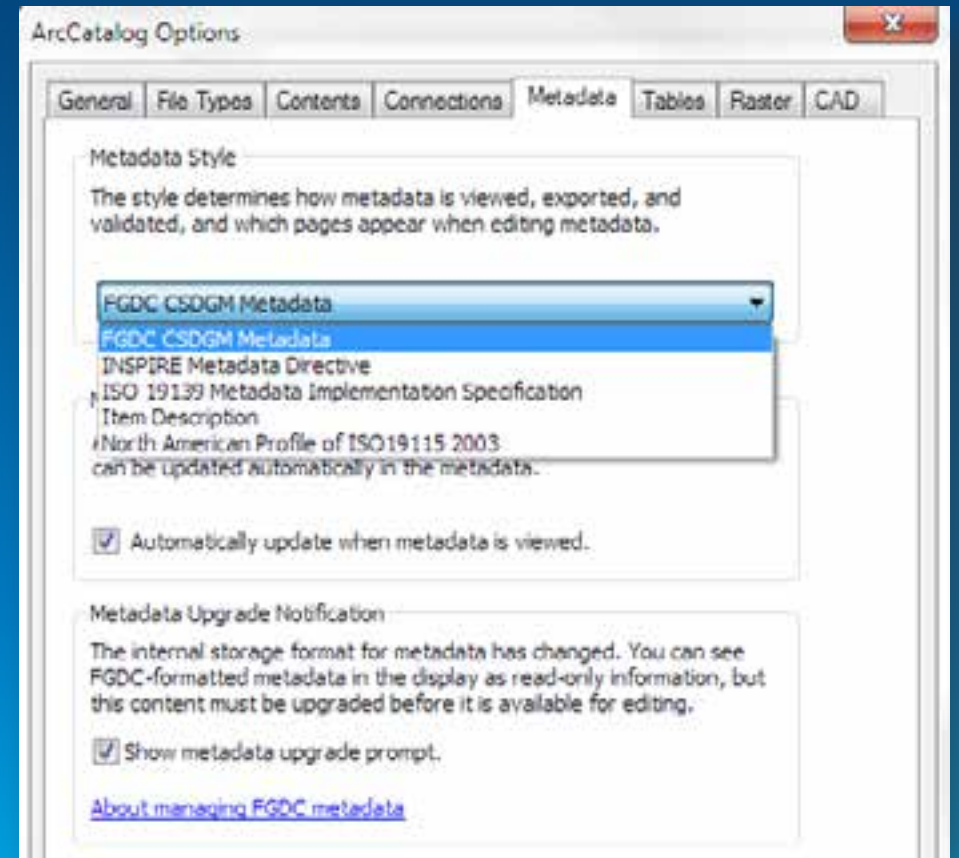
Describe Data

- For datasets, services, tools, maps, layer files...
- Description Tab in ArcGIS for Desktop applications
 - ArcCatalog
 - Item Description window
- Properties dialog box
 - maps, globes, scenes, layer files



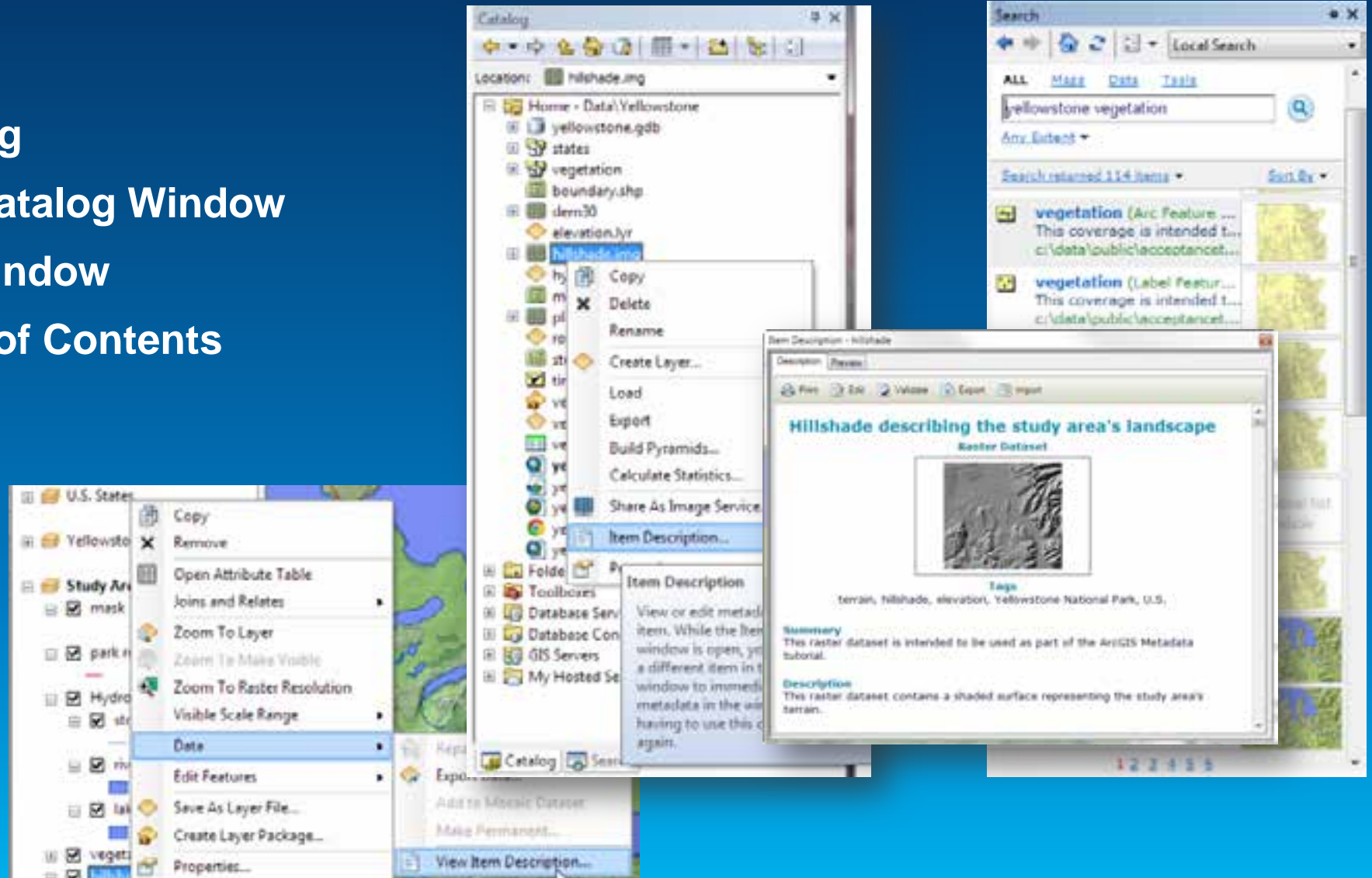
Setting your metadata style

- **Default metadata style: Item Description**
 - Quickly document items
 - Support discovery when items are published
 - Portion of an item's full metadata
- **Full metadata—use another style**
- **Options dialog box in any ArcGIS for Desktop application**
- **Style affects elements and validation rules**
- **ArcGIS Metadata is superset of metadata concepts**



Editing Metadata

- From ArcCatalog
- From ArcMap Catalog Window
- From Search Window
- From the Table of Contents



DEMO

Describe Data

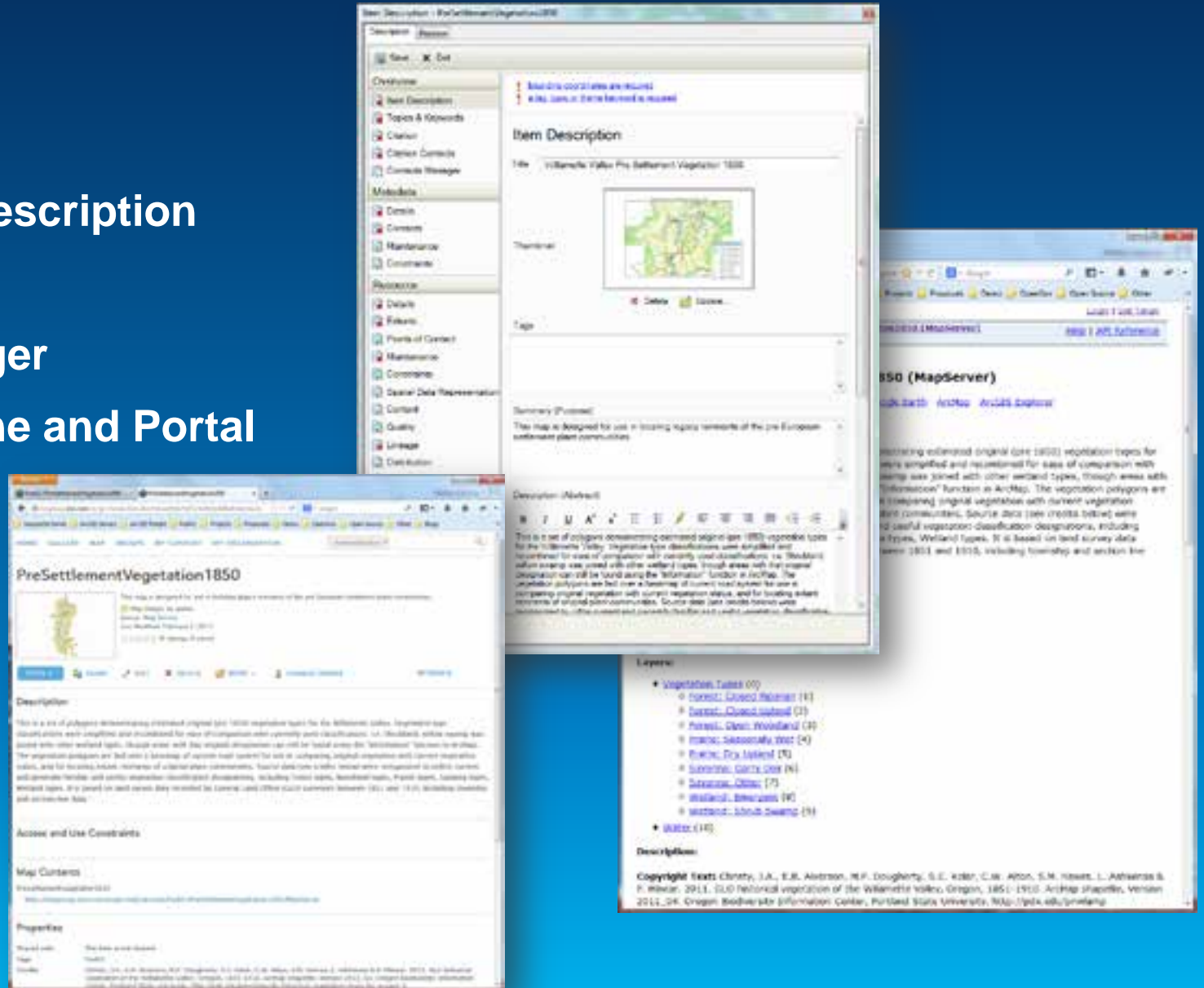
```
1 <metadata>
2   <idinfo>
3     <citation>
4       <citeinfo>
5         <origin>Marten Hogeweg, Esri</origin>
6         <pubdate>20140202</pubdate>
7         <title>huurobjecten</title>
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19      </timeinfo>
20      <current>started publishing this again</current>
21    </timeperd>
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23      <progress>Complete</progress>
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39      </theme>
40    </keywords>
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43    <datacred>FOR</datacred>
44  </idinfo>
45  <dataqual>
46    <logic>N/A</logic>
47    <complete>N/A</complete>
48    <lineage>
```


Share Web Services



Share Web Services

- ArcGIS Server Takes Map Description
- Edit in ArcGIS for Desktop
- Edit in ArcGIS Server Manager
- Carries over to ArcGIS Online and Portal for ArcGIS
- Access full metadata from REST endpoint

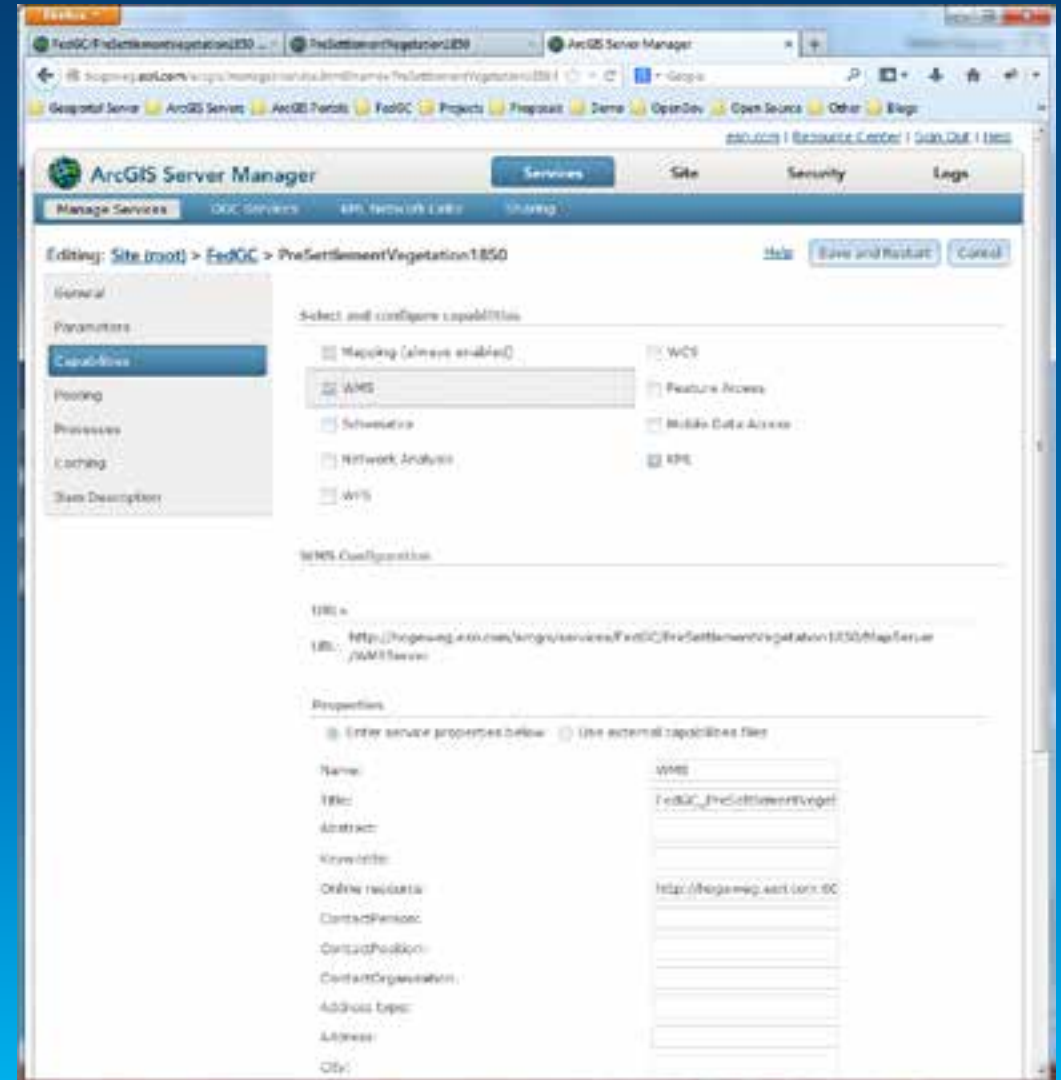


Share Web Services – OGC Interfaces

- Edit in ArcGIS Server Manager
- Edit Description of WMS, WFS, WCS individually
- Possibly Use External Capabilities File
- Use ISO19119 Metadata in Addition to Capabilities

```
- <WMT_MS_Capabilities version="1.1.1" updateSequence="31442">
- <Service>
  <Name>OGC:WMS</Name>
  <Title>GeoServer Web Map Service</Title>
- <Abstract>
  A compliant implementation of WMS 1.1.1 plus most of the SLD 1.0 extension (dynamic styling).
  Can also generate PDF, SVG, KML, GeoRSS
  </Abstract>
- <KeywordList>
  <Keyword>WFS</Keyword>
  <Keyword>WMS</Keyword>
  <Keyword>GEOSERVER</Keyword>
  </KeywordList>
```

NOT LIKE THIS



DEMO

Share Web Services



Register with Portals

Esri Spatial Data Infrastructures Team

 [EDIT SETTINGS](#)

 [INVITE USERS](#)

 [VIEW STATUS](#)

 [RENEW](#)

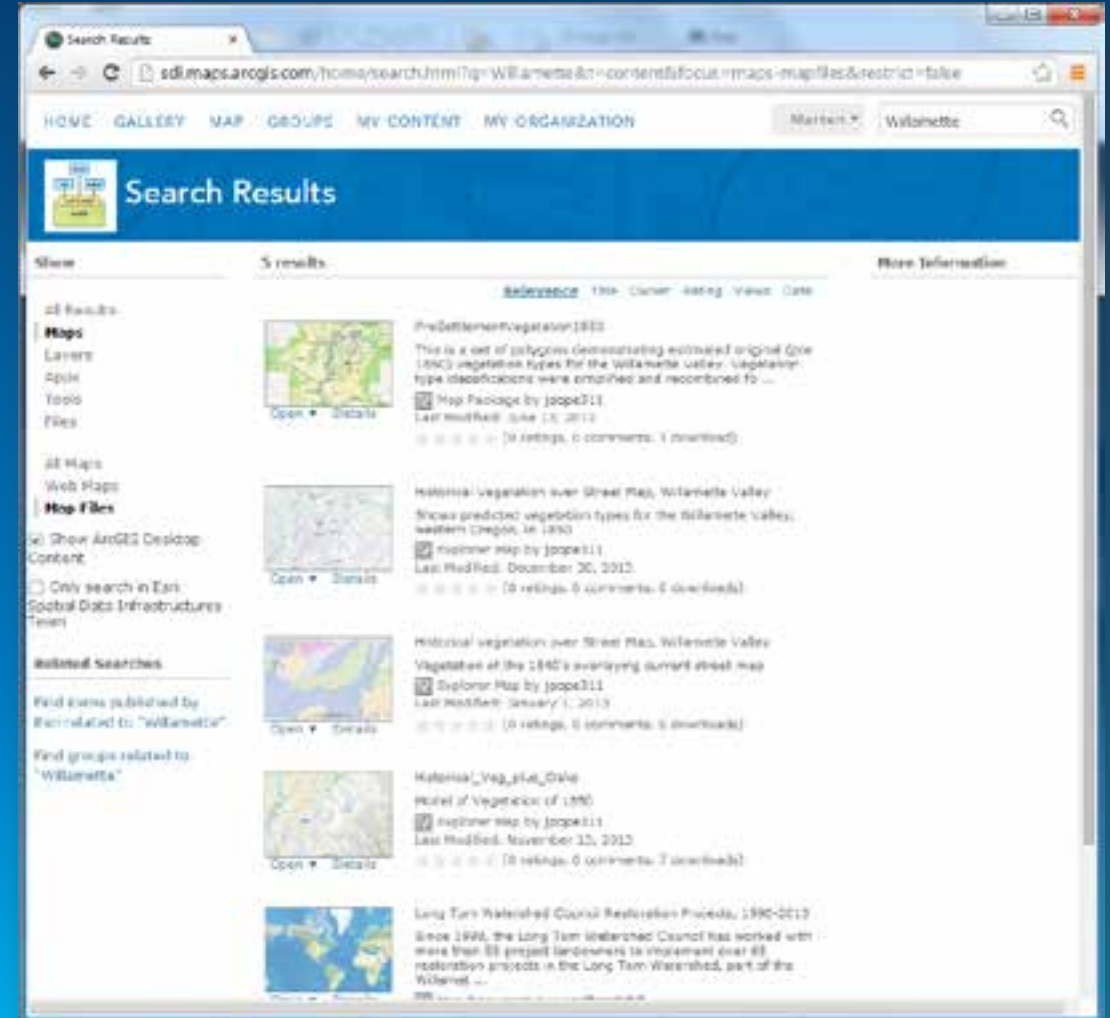
Members

Viewing:

▲Name	Username	Last Login	Role
Christine White	ceggers	Feb 4, 2014	<input type="text" value="Publisher"/>
Clive Reece	creece	Jan 9, 2014	<input type="text" value="Administrator"/>
Marten Hogeweg	mhogeweg.sdi	Feb 7, 2014	<input type="text" value="Administrator"/>
Roberto Lucchi	rlucchi	Feb 3, 2014	<input type="text" value="Administrator"/>
Urban MacGillivray	urban_sdi	Not yet	<input type="text" value="Administrator"/>
ZhongPing Guo	zguo	Not yet	<input type="text" value="Publisher"/>

Register with Portals – ArcGIS Online / Portal for ArcGIS

- Collaborative, cloud-based GIS platform
- Create, share, and access maps, apps, and data
- Integral part of the ArcGIS system
- Online or In-house



ArcGIS Online – More Than Data, More Than Metadata

- **People**

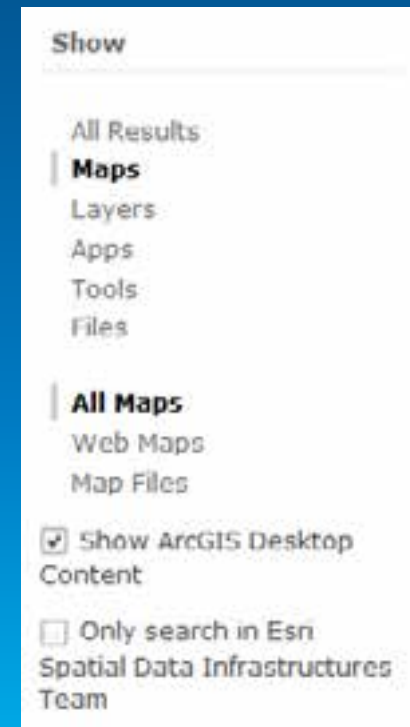
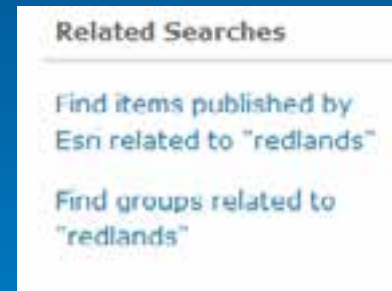
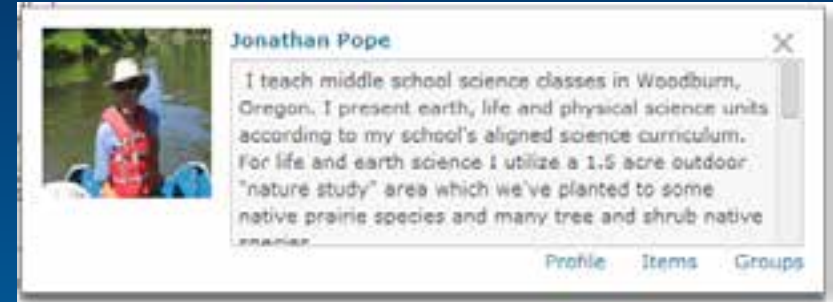
- Profiles
- Rating of items
- Number of Views

- **Groups**

- Access Control
- Organization of Portal Content

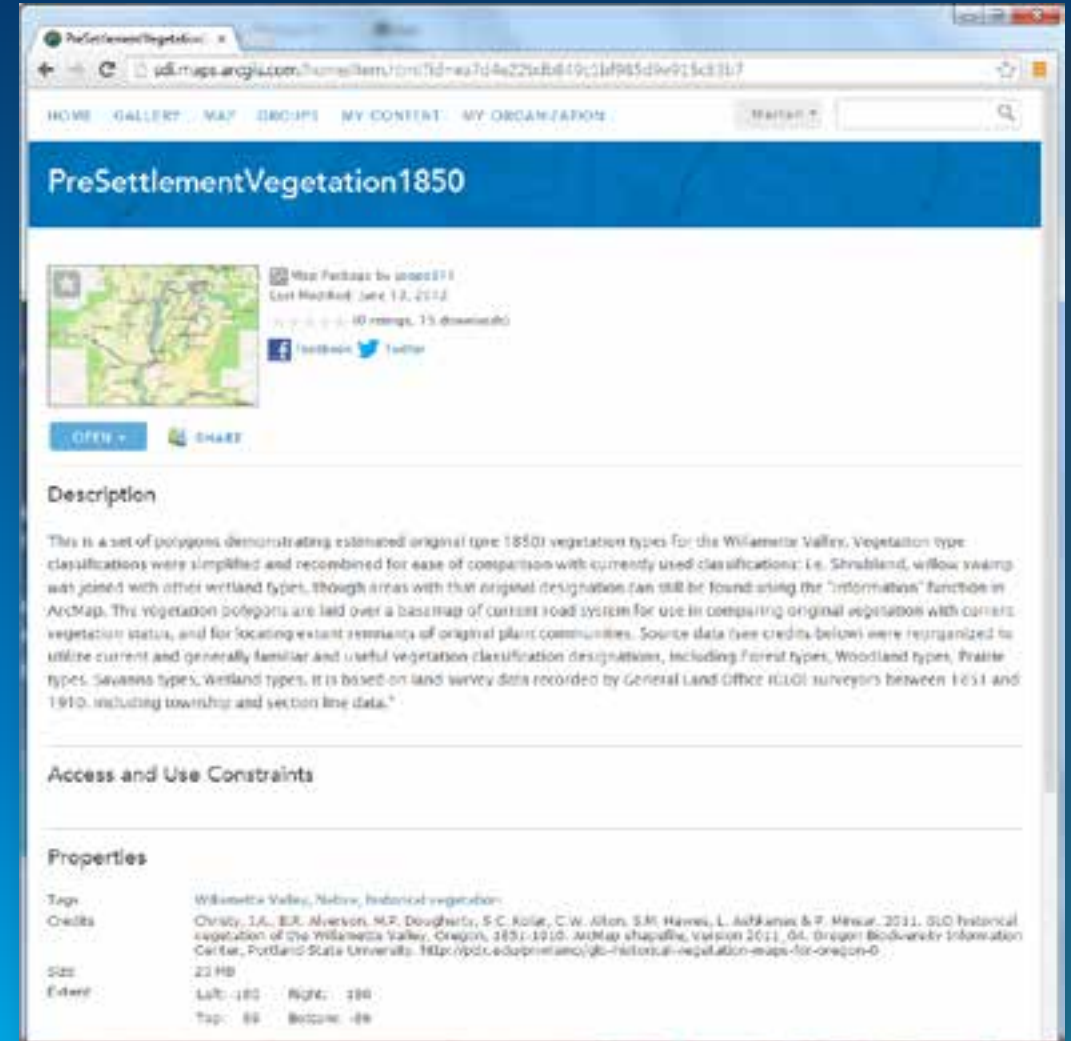
- **New Item Types**

- Webmaps
- Groups
- Templates
- Apps



ArcGIS Online – Item Description

- Title
- Summary
- Description – rich text
- Access and Use Constraints – rich text
- Tags
- Credits
- Extent
- ArcGIS Online Behaviors



The screenshot shows the ArcGIS Online interface for an item titled "PreSettlementVegetation1850". The page includes a navigation bar with links for HOME, GALLERY, MAP, GROUPS, MY CONTENT, and MY ORGANIZATION. Below the title, there is a thumbnail map, a metadata section with "Map Package by user211", "Last Modified: June 12, 2012", and "10 ratings, 15 downloads". Social media icons for Facebook and Twitter are also present. The main content area is divided into sections: "Description", "Access and Use Constraints", and "Properties".

Description

This is a set of polygons demonstrating estimated original type 1850 vegetation types for the Willamette Valley. Vegetation type classifications were simplified and recombined for ease of comparison with currently used classifications: i.e. Shrubland, willow swamp was joined with other wetland types, though areas with that original designation can still be found using the "Information" function in ArcMap. The vegetation polygons are laid over a basemap of current road system for use in comparing original vegetation with current vegetation status, and for locating extant remnants of original plant communities. Source data (see credits below) were reorganized to utilize current and generally familiar and useful vegetation classification designations, including Forest types, Woodland types, Prairie types, Savanna types, Wetland types. It is based on land survey data recorded by General Land Office (GLO) surveyors between 1851 and 1870, including township and section line data.

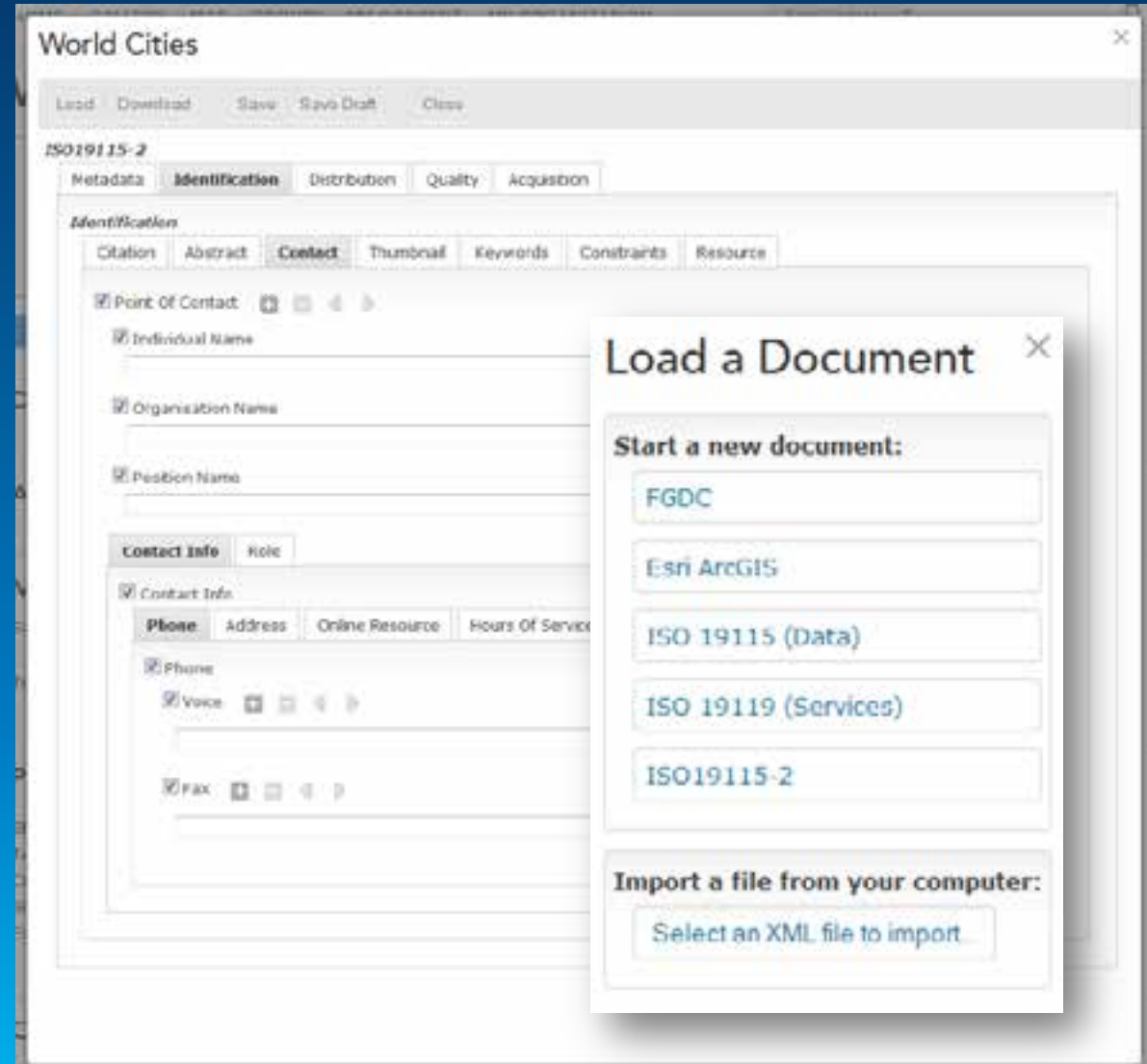
Access and Use Constraints

Properties

Tags	Willamette Valley, Native, Historical vegetation
Credits	Christy, J.A., E.R. Alverson, M.R. Dougherty, S.C. Kolar, C.W. Alton, S.M. Hayes, L. Ashkanis & P. Mearns. 2011. GLO Historical Vegetation of the Willamette Valley, Oregon, 1851-1910. ArcMap shapefile, version 2011_04. Oregon Biodiversity Information Center, Portland State University. http://pdx.edu/primerano/glo-historical-vegetation-maps-for-oregon-0
Size	22 MB
Extent	Left: -125 Right: 126 Top: 66 Bottom: -66

Portal for ArcGIS – Item Description AND Full Metadata

- **Geoportal Server Metadata Editor**
- **Standards-based Metadata**
 - Dublin Core
 - FGDC
 - ISO (profiles)
 - YourCustomProfileAsWell
- **Import/Export Metadata XML**
- **Geoportal Server Validation Engine**
- **Synchronize Certain Elements with Item Description**



DEMO

Register with Portals

Esri Spatial Data Infrastructures Team

 EDIT SETTINGS  INVITE USERS  VIEW STATUS  RENEW

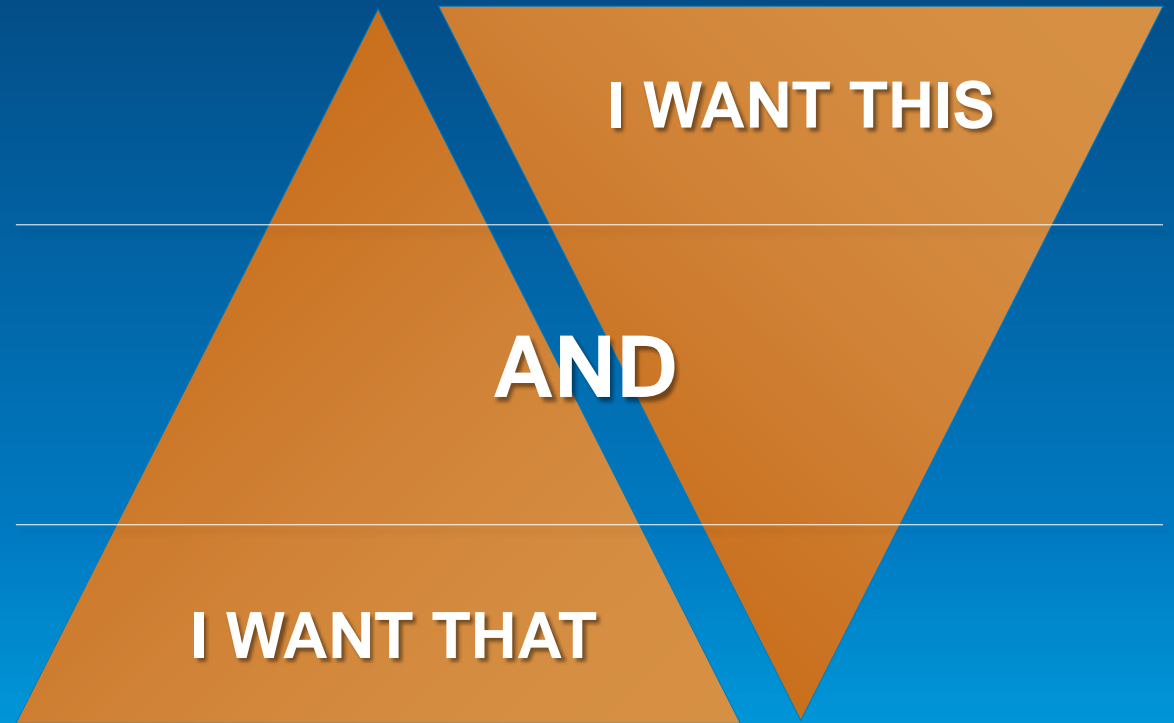
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Urban MacGillivray	urban_sdi	Not yet	<input type="text" value="Administrator"/>
ZhongPing Guo	zguo	Not yet	<input type="text" value="Publisher"/>

The Power of AND

- Minimalistic user experience
AND rich functionality
- Simple descriptions
AND complete metadata
- Work with our content
AND everyone else's
- Great taste AND 0 calories
- Outsource everything
AND do it myself
- Publish once
AND share everywhere



Federal GIS Conference 2014

February 10–11, 2014 | Washington DC



**Don't forget to complete
a session evaluation form!**

Federal GIS Conference 2014

February 10–11, 2014 | Washington DC



Networking Reception

Smithsonian National Museum of Natural History

Tuesday, 6:30 PM–9:30 PM

Bus Pickup located on L Street

Federal GIS Conference 2014

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Print your customized Certificate of Attendance!

Printing stations located in Hall B
and the 140/150 Room Concourse.

Federal GIS Conference 2014

February 10–11, 2014 | Washington DC



GIS Solutions EXPO, Hall B

Monday, 12:30 PM–6:30 PM

Tuesday, 10:45 AM–4:00 PM

- Exhibitors
- Hands-On Learning Lab
- Technical & Extended Support
- Demo Theater
- Esri Showcase

Federal GIS Conference 2014

February 10–11, 2014 | Washington DC



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Add a day to your Fed GIS experience and register to attend the Esri DevSummit Washington DC. Stop by the registration counter to sign up.



Understanding our world.