Sharing and Accessing Remote Sensing Data for Wetland Analysis

James Klassen
jklassen@sharedgeo.org

SharedGeo
• 2 countries
• 8 states
• 1 province
• Several regional organizations
• Lots of counties, watershed districts, cities ....
Hyperspectral (EO-1)
Elevation
Stereo
3D Models
Standardized Metadata

**IDENTIFICATION INFORMATION**

<table>
<thead>
<tr>
<th><strong>Citation Information</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Originator</strong></td>
</tr>
<tr>
<td><strong>Publication Date</strong></td>
</tr>
<tr>
<td><strong>Title</strong></td>
</tr>
<tr>
<td><strong>Geospatial Data Presentation</strong></td>
</tr>
<tr>
<td><strong>Form</strong></td>
</tr>
<tr>
<td><strong>Online Linkage</strong></td>
</tr>
</tbody>
</table>

**Abstract**

GLEI complex-specific watersheds

Complexes represent the "ecological unit" evaluated by a sampling event (locale). Where possible these have been drawn to include as many subprojects as possible. This may mean stretching a subproject's normal definition of "ecological unit", but is a trade-off to allow subproject overlap.

Complexes are identified by arbitrary unique numbers in the complex_num field of the a_locale table. Locales that share the same complex_num value are in the same complex.

Watersheds have a one-to-one relationship with complexes and share their arbitrary unique id numbers. In some cases where complexes exist up stream from each other, their corresponding watersheds overlap.

**Purpose**

Complex-specific Watersheds are watersheds defined as land area draining into a GLEI Complex. They provide a logical unit for summarizing the results of multiple GLEI investigators

<table>
<thead>
<tr>
<th><strong>Time Period of Content</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calendar Date</strong></td>
</tr>
<tr>
<td><strong>Currentness Reference</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Status</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Progress</strong></td>
</tr>
<tr>
<td><strong>Maintenance and Update Frequency</strong></td>
</tr>
</tbody>
</table>
Catalog Standards

- Catalog Web Service (CS-W)
- CSW is a standards-compliant way to serve metadata about data, services
- Metadata can be harvested from other data catalog and/or service
  - CSW, Z39.50, WAF, WMS, GeoNetwork nodes
Spatial Data Catalog

Harvests and catalogs metadata and services

A catalog web service (CSW) is published. This can be queried from the web map and more.
Spatial Data Services

SharedGeo Services
(imagery, data, metadata)

Other Services
(TNM, GeoBase)

GeoNetwork Node

CoMap

Search for data
Search results
Spatial Data Services

SharedGeo Services (imagery, data, metadata)

Internet

Other Services (TNM, GeoBase)

GeoNetwork Node

QGIS

Search results

Search for data

Services

metadata

Services
Spatial Data Services

SharedGeo Services (imagery, data, metadata)

GeoNetwork Node

Search for data

Search results

Other Services (TNM, GeoBase)

Trailer
Collaborative Mapping

Contains
USGS
Any Field
Contains
Protected area

Query returned about 2 results.

GeoMOOSE 2.6.1
Lat, Lon: 50.954, -93.088 USNG: 15UVS9344
Collaborative Mapping
But what does it all mean?

- Two watersheds
- Different methods
Not all in the same language

- All the data matches if it all your own
- How combine across organizations?
Standards

**How standards proliferate:**
(See: A/C chargers, character encodings, instant messaging, etc)

**Situation:**
There are 14 competing standards.

**14?! Ridiculous! We need to develop one universal standard that covers everyone's use cases.**

**Yeah!**

**Soon:**

**Situation:**
There are 15 competing standards.

[link](http://xkcd.com/927/)
<xml version="1.0" encoding="UTF-8"/>
  <idinfo>
    <citeinfo>
      <origin>Natural Resources Research Institute</origin>
      <pubdate>Unknown</pubdate>
      <title>GLEI Complex-specific Watersheds</title>
      <geoform>vector digital data</geoform>
      <onlink>http://gisdata.nrri.umn.edu/nrgisl/proj/GLEI2/shapefiles/glei_watersheds.shp</onlink>
    </citeinfo>
  </idinfo>
  <descript>
    <abstract>GLEI complex-specific watersheds Complexes represent the "ecological unit" evaluated by a sampling event (locale). Where possible these have been drawn to include as many subprojects as possible. This may mean stretching a subproject's normal definition of "ecological unit", but is a trade-off to allow subproject overlap. Complexes are identified by arbitrary unique numbers in the complex_num field of the a_locale table. Locales that share the same complex_num value are in the same complex. Watersheds have a one-to-one relationship with complexes and share their arbitrary unique id numbers. In some cases where complexes exist up stream from each other, their corresponding watersheds overlap.</abstract>
    <purpose>Complex-specific Watersheds are watersheds defined as land area draining into a GLEI Complex. They provide a logical unit for summarizing the results of multiple GLEI investigators</purpose>
  </descript>
</metadata>
<form method='get' action="/nrgisl/proj/GLEI2/shapefiles/glei_watersheds.shp">
    <div style='display:none'><input type='hidden' name='csrfmiddlewaretoken' value='ea3fb89533d536b1fa627cece80c3f71' /></div>
    <p>Pick a format for</p>
    <p>proj/GLEI2/shapefiles/glei_watersheds.shp</p>
    <p>from GLEI Complex-specific Watersheds</p>
    <select name='format'>
        <option value='Shapefile ZIP'>Shapefile ZIP</option>
        <option value='KMZ'>KMZ</option>
        <option value='DBF only'>DBF only</option>
    </select>
    <input type='submit' value='Get data'/>
</form>

<p>Note that large files, particularly line / polygon data, may cause the server to time out if "KMZ" mode is selected, so use "Shapefile ZIP" instead if that happens.</p>
Need Standardized Semantics

- Standard formats
- Standard semantics
• Data users: There are tools to help you find data

• Data producers: Make your data available
Thank you

Jim Klassen  jklassen@sharedgeo.org