Limitations to use of OGC spatial web services

Jonathan Moules

Maps for the Web, September 2020
• The Discovery Problem
• GeoSeer
• Thoughts/Conclusions
The Discovery Problem
**WMS** (Web Map Service)
- Serves pre-rendered, pre-styled maps
- 1.0 – April 2000
- 1.3.0 (latest) – March 2006

**WMTS** (Web Map Tile Service)
- Serves pre-rendered, pre-styled maps tiles
- For Basemaps
- 1.0.0 (only) – April 2010

**WFS** (Web Feature Service)
- Serves raw vector data
- 1.0.0 – May 2002
- 2.0.2 (latest) – March 2014

**WCS** (Web Coverage Service)
- Serves raw raster data
- 1.0.0 – Oct 2005
- 2.1 (latest) – August 2018
<table>
<thead>
<tr>
<th>Portal Type</th>
<th>Number</th>
<th>Appx. Number of Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKAN</td>
<td>194 Instances</td>
<td>10,000*</td>
</tr>
<tr>
<td>CSW</td>
<td>151 Instances</td>
<td>21,000</td>
</tr>
<tr>
<td><a href="http://opendata.arcgis.com">http://opendata.arcgis.com</a></td>
<td>-</td>
<td>800</td>
</tr>
<tr>
<td><a href="http://inspire-geoportal.ec.europa.eu">http://inspire-geoportal.ec.europa.eu</a></td>
<td>-</td>
<td>13,000+</td>
</tr>
<tr>
<td>Spatineo</td>
<td>-</td>
<td>36,000</td>
</tr>
<tr>
<td>GeoSeer</td>
<td>-</td>
<td>186,170</td>
</tr>
</tbody>
</table>

Table shows the **approximate** number of live distinct Services that can be found within a certain data-portal or type of data-portal

* Over a third of these are the US NOAA
+ Over half of these are one German Agency ([www.geoportal.rlp.de](http://www.geoportal.rlp.de))
(Data from June 2019)
GeoSeer
GeoSeer

The spatial data search engine

Search over 1.8 million distinct spatial GIS **WMS** (Web Map Service), **WFS** (Web Feature Service), **WCS** (Web Coverage Service), and **WMTS** (Web Map Tile Service) datasets hosted on over 220,000 live services from around the world.

Search Tips

- **British Columbia** or **geology Australia** or **rivers Asia** - Search spatially.
- **tree preservation 27700** - Include an EPSG code to prefer results in that projection.
- **arbol Spain** - Not all layers are in English, try the official language.
- **wcs Germany chart** - Search for a specific service (wcs, wmts, wfs, wms). We'd suggest only including one service in a search.
- **York -“New York”** - Standard search features are supported too. Exact phrase searching (wrap with "") and exclude (prefix with -) work.
- **wms (Alps | Himalayas)** - Boolean logic - by default GeoSeer puts an AND between all your search terms meaning **all terms are mandatory** in the result. You can use OR with the pipe: | instead to expand the search results, and brackets ( ) for grouping.

Latest blog post: 2020-06-04 - What’s the most deployed geospatial server software?
Blog RSS Feed 📣
GetCapabilities Documents

<?xml version="1.0" encoding="UTF-8"?>
    <Service>
        <Name>WPS</Name>
        <Title>Scottish Government - Marine Scotland Maps - Web Map Service</Title>
        <Abstract>An OGC compliant Web Map Server used to deliver spatial data to the National Marine Plan Interactive (NMPi) web mapping application and associated services. If using this service in desktop GIS, you must ensure you have appropriate licences for any layers.</Abstract>
        <KeywordList>
            <Keyword>WFS</Keyword>
            <Keyword>WPS</Keyword>
            <Keyword>GEOSEVER</Keyword>
            <Keyword>Marine Scotland</Keyword>
            <Keyword>Marine Plan</Keyword>
        </KeywordList>
        <ContactInformation>
            <Contact Person>
                <Contact Person>Marine Planning Team</Contact Person>
            </Contact Person>
            <Contact Organization>Marine Scotland</Contact Organization>
        </Contact Information>
    </Service>
</GetCapabilities>

This view service is provided for Marine Scotland Maps (maps.marine.gov.scot). Consult Marine Scotland Information (marinescotland.gov.scot) and metadata for Tireless Information.
<table>
<thead>
<tr>
<th></th>
<th>GeoSeer</th>
<th>CKAN</th>
<th>CSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Hosts</td>
<td>5,002</td>
<td>259 (5.18%)</td>
<td>461 (9.22%)</td>
</tr>
<tr>
<td>Number of Services</td>
<td>215,699</td>
<td>7,783 (3.61%)</td>
<td>7,971 (3.7%)</td>
</tr>
<tr>
<td>Number of Datasets</td>
<td>2,044,644</td>
<td>65,959 (3.23%)</td>
<td>130,065 (6.36%)</td>
</tr>
</tbody>
</table>

Only includes hosts/services/datasets that were live in December 2019.

Note: CKAN numbers *exclude* the USA’ data.gov CKAN portal because their API is different from the other 190 out there.

From: https://www.geoseer.net/blog/?p=2020-01-10_dataportal_problems
Dataset Metadata - Abstracts

Table showing Dataset percentages with meaningful abstracts, grouped by Service Type
More @https://www.geoseer.net/stats/extents.php
GeoSeer Usage

Table showing number of GeoSeer web searches
(Note: completely free)
Thoughts/Conclusions

- People are terrible at filling in metadata
- Little call for service/data discovery
- Federation of data portals = too many to be useful
- Question: How many services exist to “share”? How many just for host data for own portals?
Questions, Comments, etc. Welcome!

GeoSpatial Web Service Search Engine: www.geoseer.net

Contact: jonathan.moules@geoseer.net