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Best Practices in Geospatial Metadata

Liz Woolcott
Utah State University

A. Neatrou

S. McIntyre

R. Wittmann

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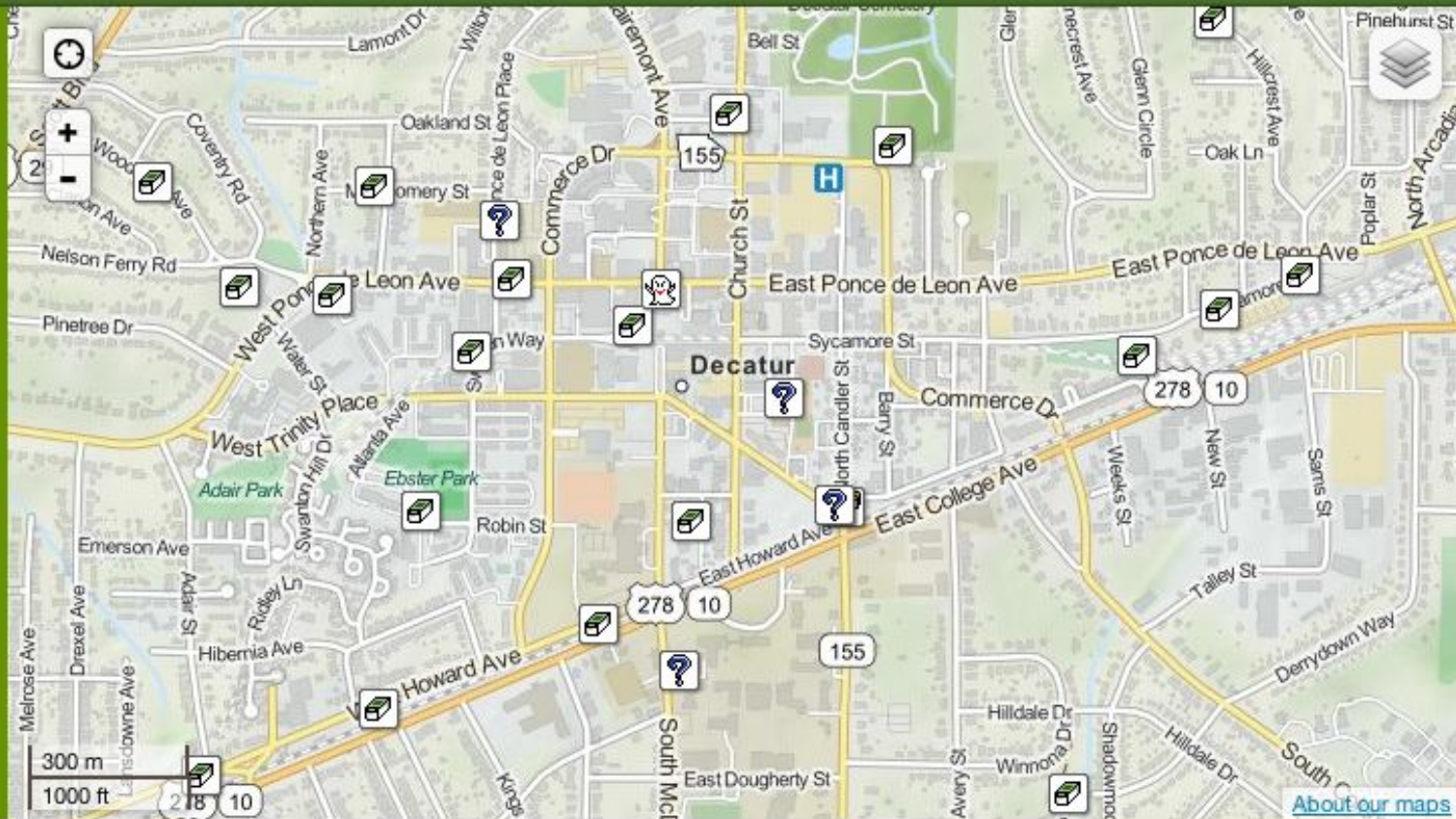
Woolcott, Liz; Neatrou, A.; McIntyre, S.; and Wittmann, R., "Best Practices in Geospatial Metadata" (2014).
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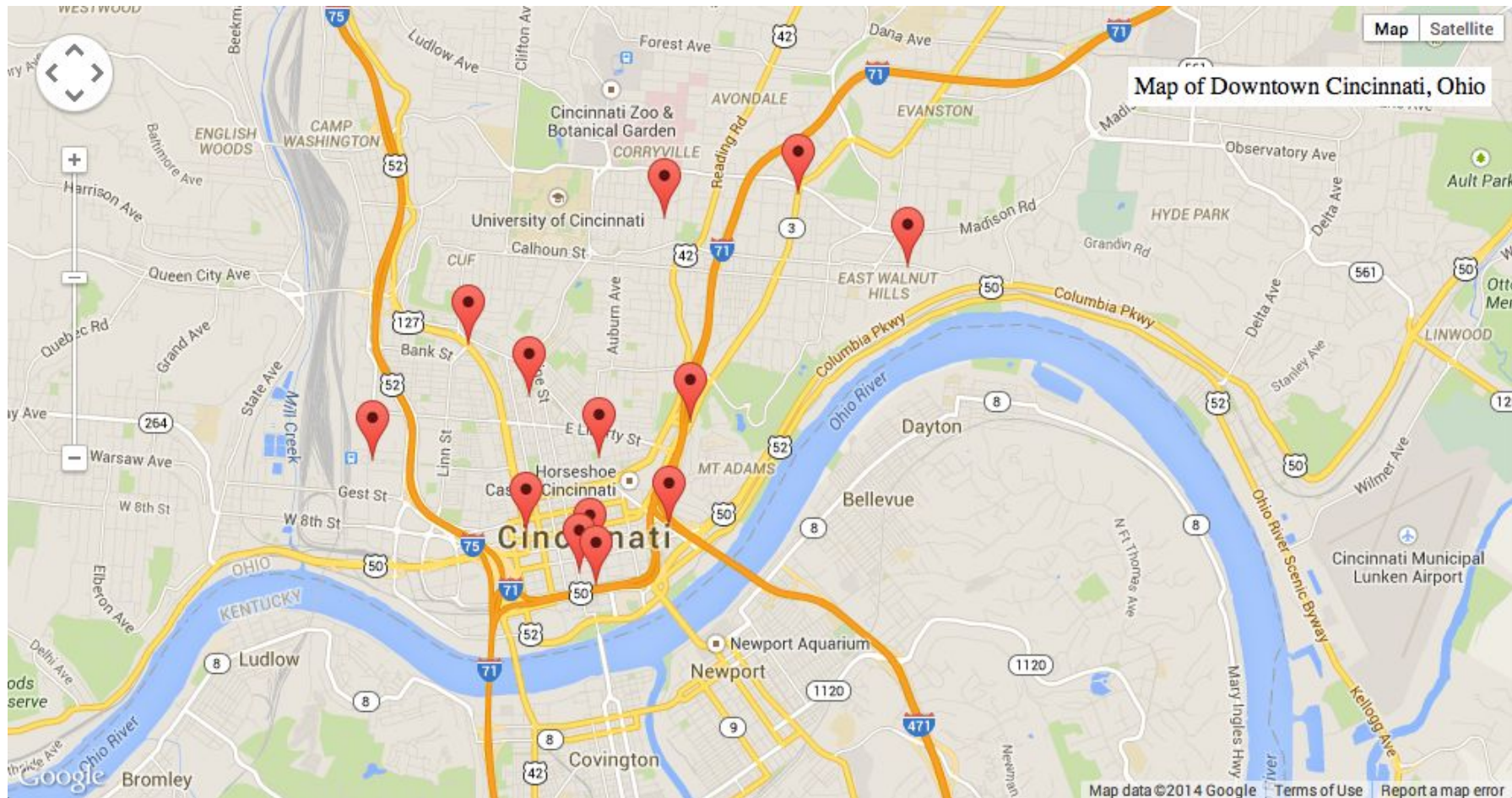


Best Practices in Geospatial Metadata

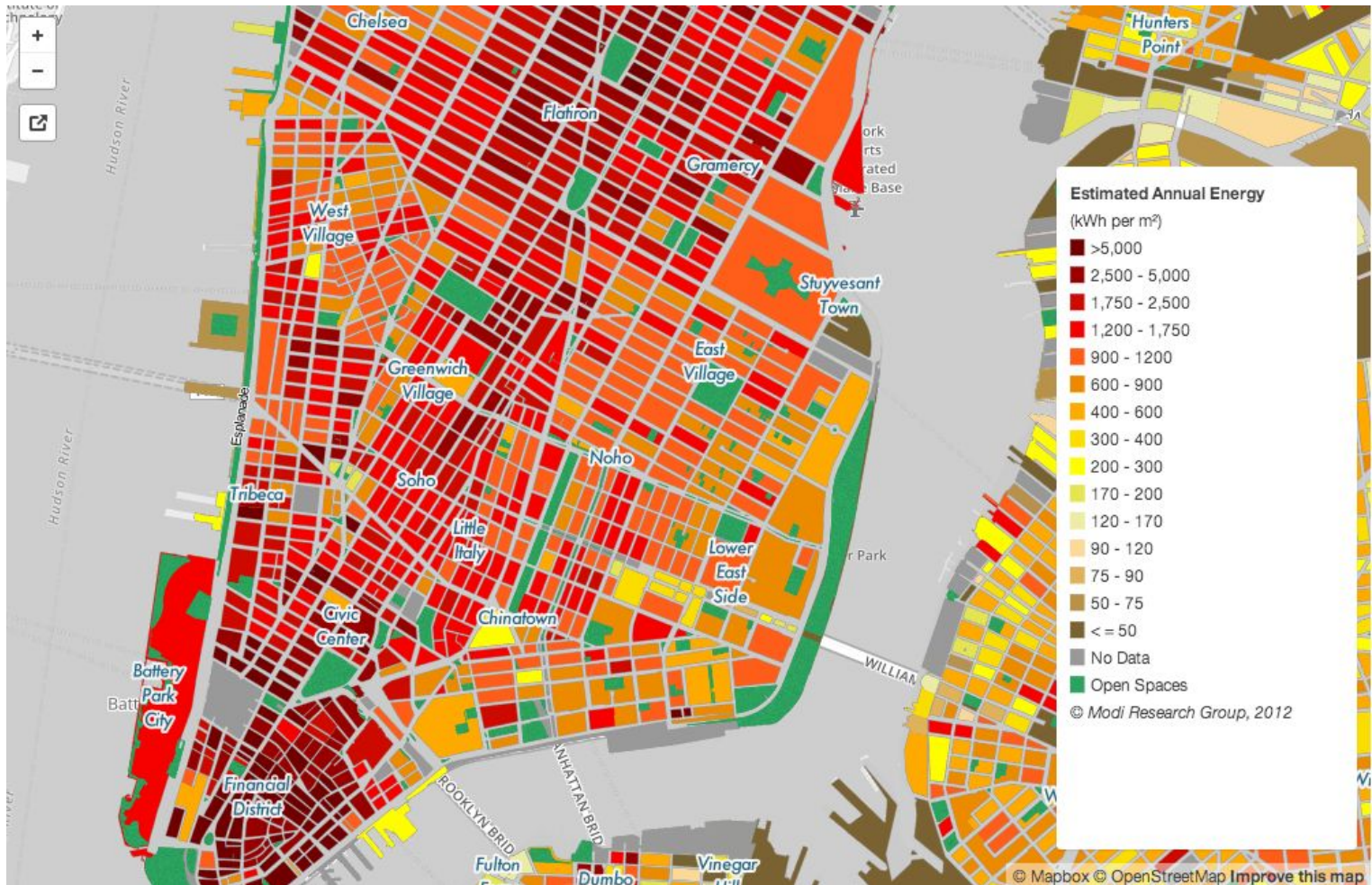
Working Session
DLF Forum 2014



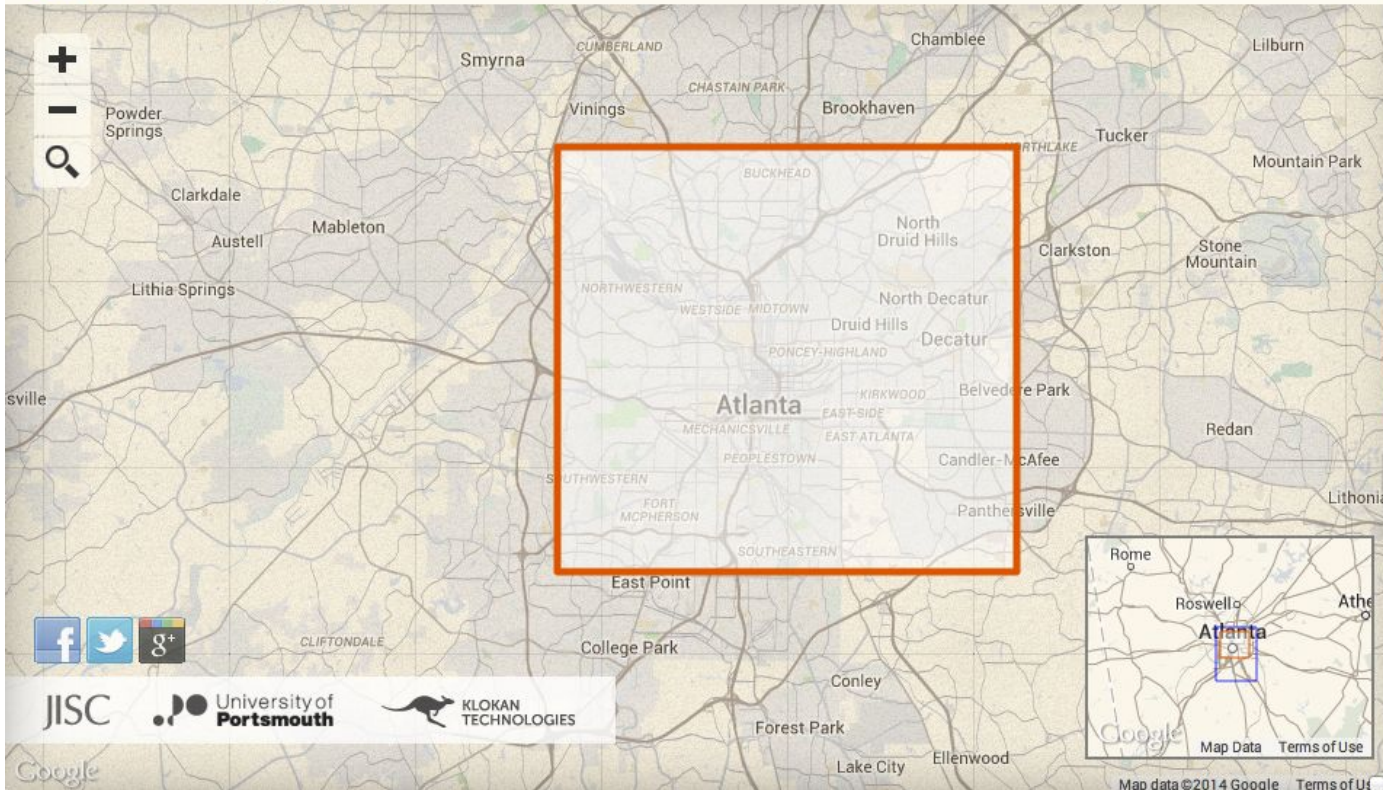
Geocaching.com, search on geocaching sites near Decatur, GA



Ohio Memory Project, "Then and Now" maps



Estimated Total Annual Building Energy Consumption at the Block and Lot Level for NYC



Atlanta (Georgia).

1:44 352
1956 - Shell Oil Company



Map illustrating the Siege of Atlanta

1865 -



Map illustrating the Siege of Atlanta, Ga.

1:47 520
1864 - Poe, Orlando M.



Map V illustrating the Military Operations of the Atlanta Campaign.

1:84 000
1877 - U.S. War Department, Chief of Engineers



Atlanta Campaign 4th-5th epochs.

1:130 000
1895 - United States. War Department

Siege of Atlanta.



JISC

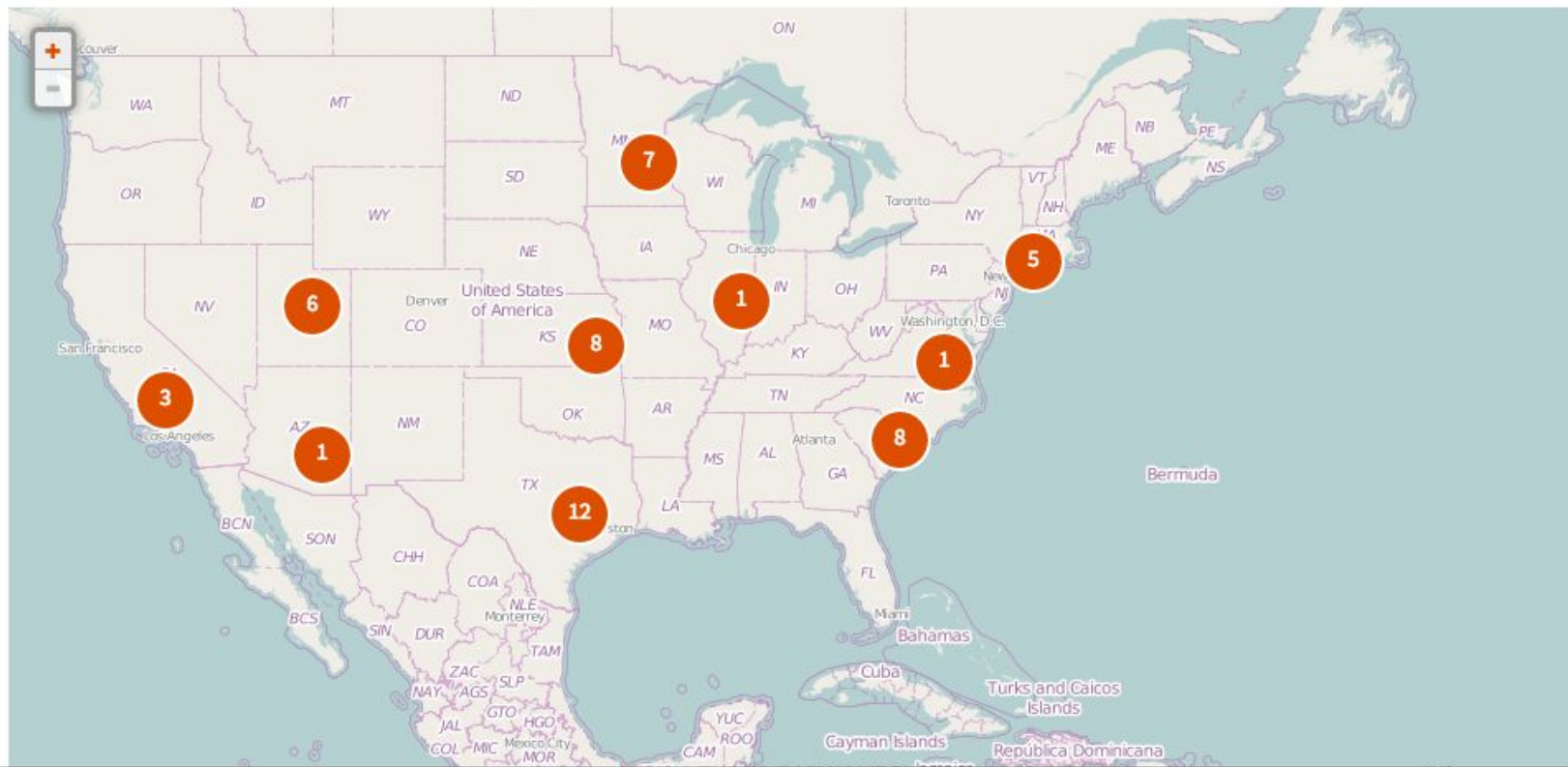
University of Portsmouth

KLOKAN TECHNOLOGIES

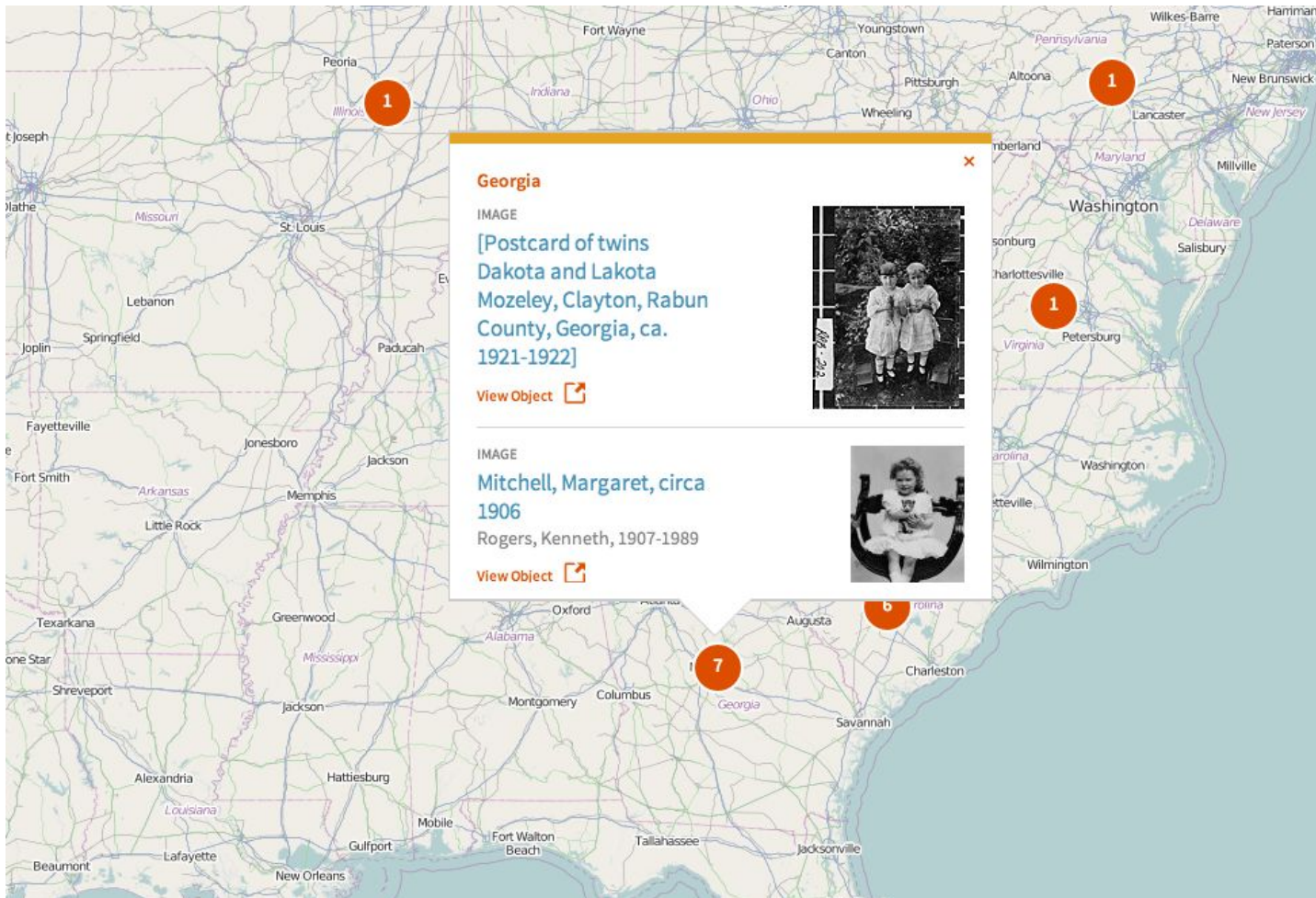
Your search for **Kitten** returned 197 results.

Only results with location data are shown below.

Show >



Digital Public Library of America, search on "kitten"



Georgia

IMAGE

[Postcard of twins
Dakota and Lakota
Mozeley, Clayton, Rabun
County, Georgia, ca.
1921-1922]



[View Object](#)

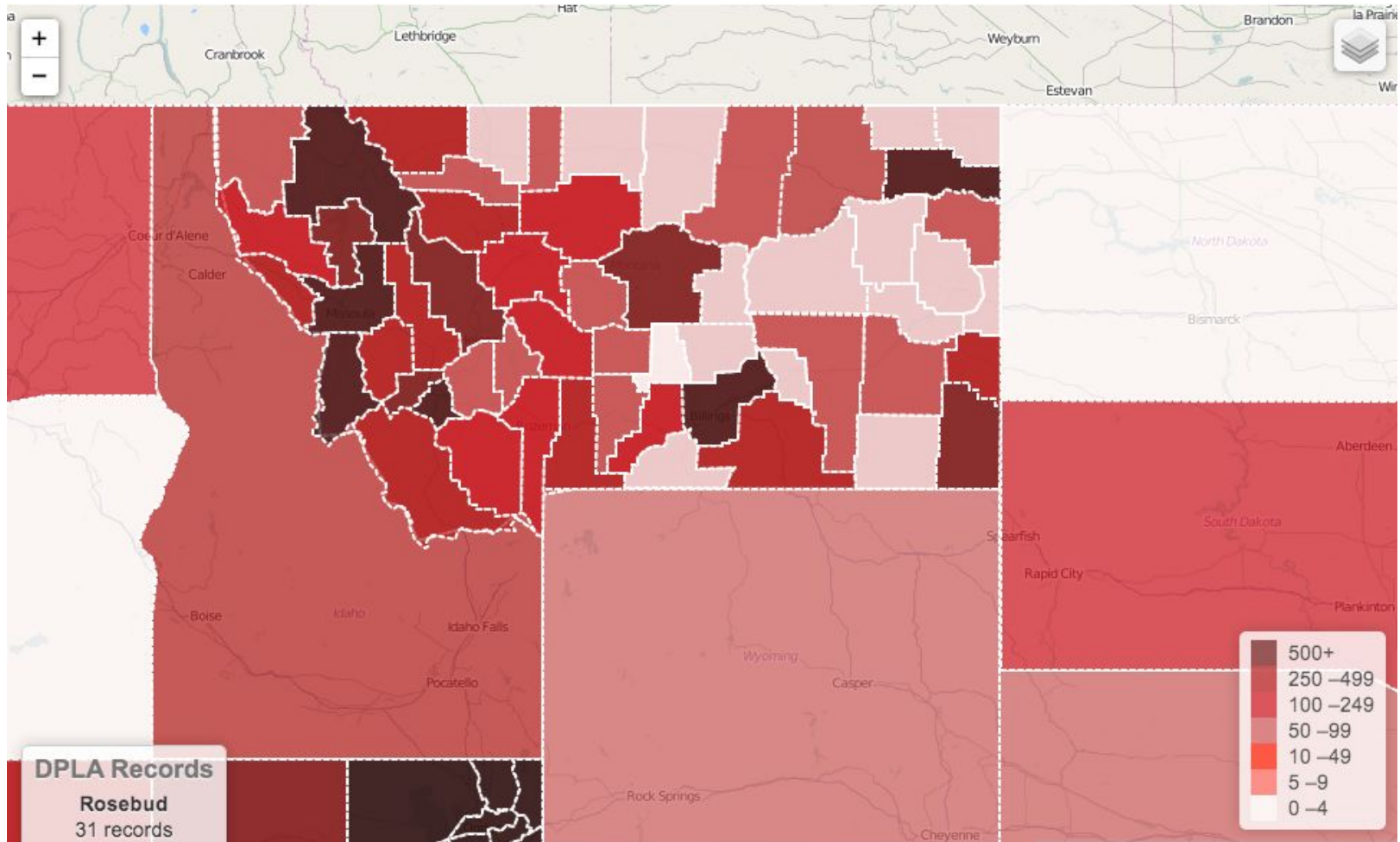
IMAGE

Mitchell, Margaret, circa
1906

Rogers, Kenneth, 1907-1989



[View Object](#)



Digital Public Library of America, app: "DPLA State by State"

Geospatial metadata quicksand

- Insufficient terms
- Ambiguous terms
- Formats that are difficult for machines to parse

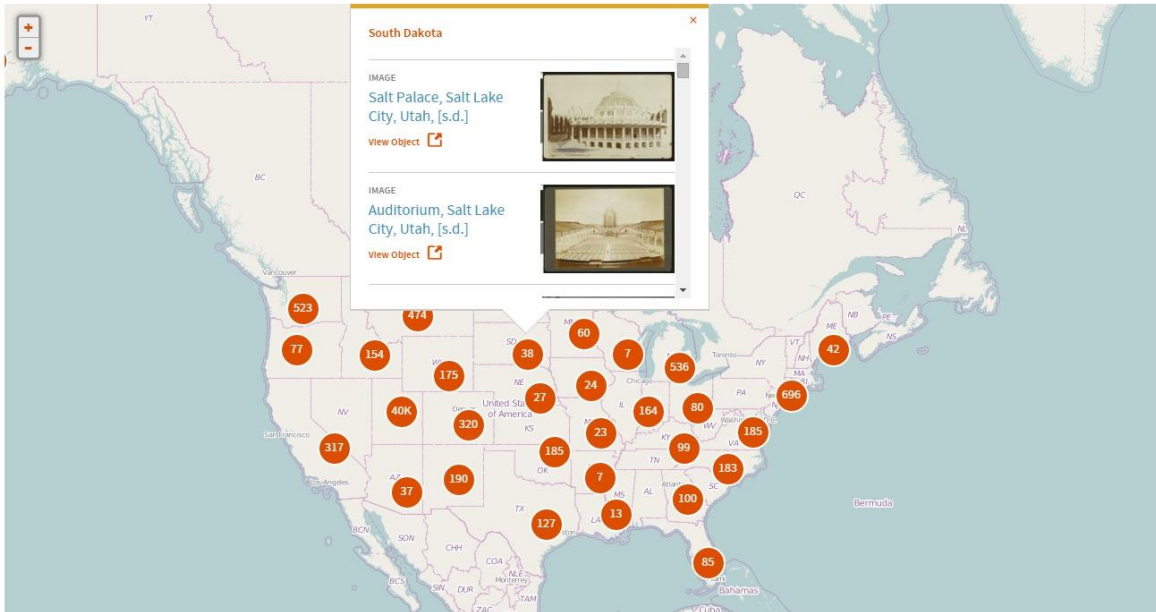


Salt Lake City -- not in South Dakota

Your search for **salt lake city** returned 39,757 results. Only results with location data are shown below.

Refined by: Utah ×

Show ▶



Location information or not?

[← back to search results](#)

Search the Library



Salt Palace, Salt Lake City, Utah, [s.d.]

Save To...

Share



Partner	University of Southern California. Libraries
Contributing Institution	California Historical Society
Publisher	University of Southern California. Libraries

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Description

Photograph of a large dome structure called the "Salt Palace", in Salt Lake City, Utah, [s.d.]. A large structure stands at center, with a two-story base and a large dome for a rooftop. A long flight of stairs leads up to the entrance, at left, while poles bearing an assortment of flags stand atop the roof, surrounding the dome. In the background, at left, a line of trees can be seen, while the mountains can be vaguely discerned in the distance.

Location

Salt Lake City
Utah
USA
s.d.] 

St. Thomas, Nevada -- not in Barbados

By Format ▾

Contributing Institution ▾

Partner ▾

By Date ▾

By Language ▾

By Location ▲

Barbados ×	
Saint Thomas	2
Mead, Lake	2
Clark	2



IMAGE

Photograph looking southeast through the remains of the post office in St. Thomas, Nevada, 1948

Russell, William S

The remains of the St. Thomas post office and Harry Gentry's store with Lake Mead in the background. Bureau of Reclamation typed notes appended to back of photo: Boulder Canyon Project--Nevada--Region 3 St. Thomas, Nevada, was founded by the Mormons in 1855. In its heyday there were about 800 residents in the village. The "Main Street" was a part of the old Arrowhead Trail, which led from Salt Lake City, Utah to Los Angeles, California. In Jun...

[View Object](#)



IMAGE

Photograph of two cars abandoned by their owners in St. Thomas, Nevada, April 11, 1948

Russell, William S

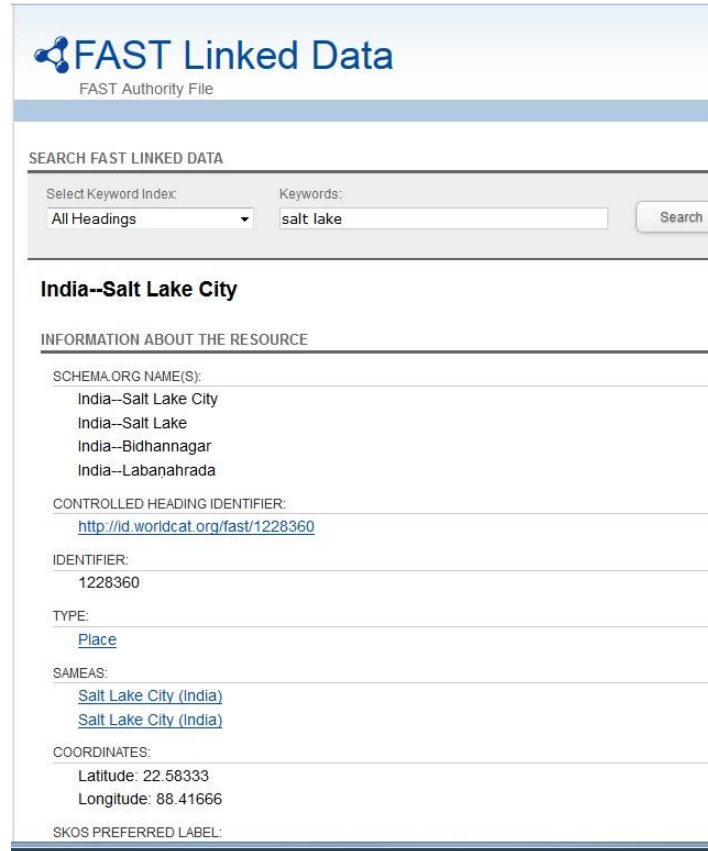
Remains of two cars, most likely near the remains of Hugh Lord's shop, in St Thomas, Nevada, when the town emerged from the waters of Lake Mead in 1945. Bureau of Reclamation typed notes appended to back of photo: Boulder Canyon Project--Nevada--Region 3 St. Thomas, Nevada, was founded by the Mormons in 1855. In its heyday there were about 800 residents in the village. The "Main Street" was a part of the old Arrowhead Trail, which led from Sal...

[View Object](#)



Local names, global audiences

- “Salt Lake” could mean:
 - Salt Lake City, UT
 - Salt Lake County, UT
 - The Great Salt Lake
 - Salt Lake City, West Bengal, India



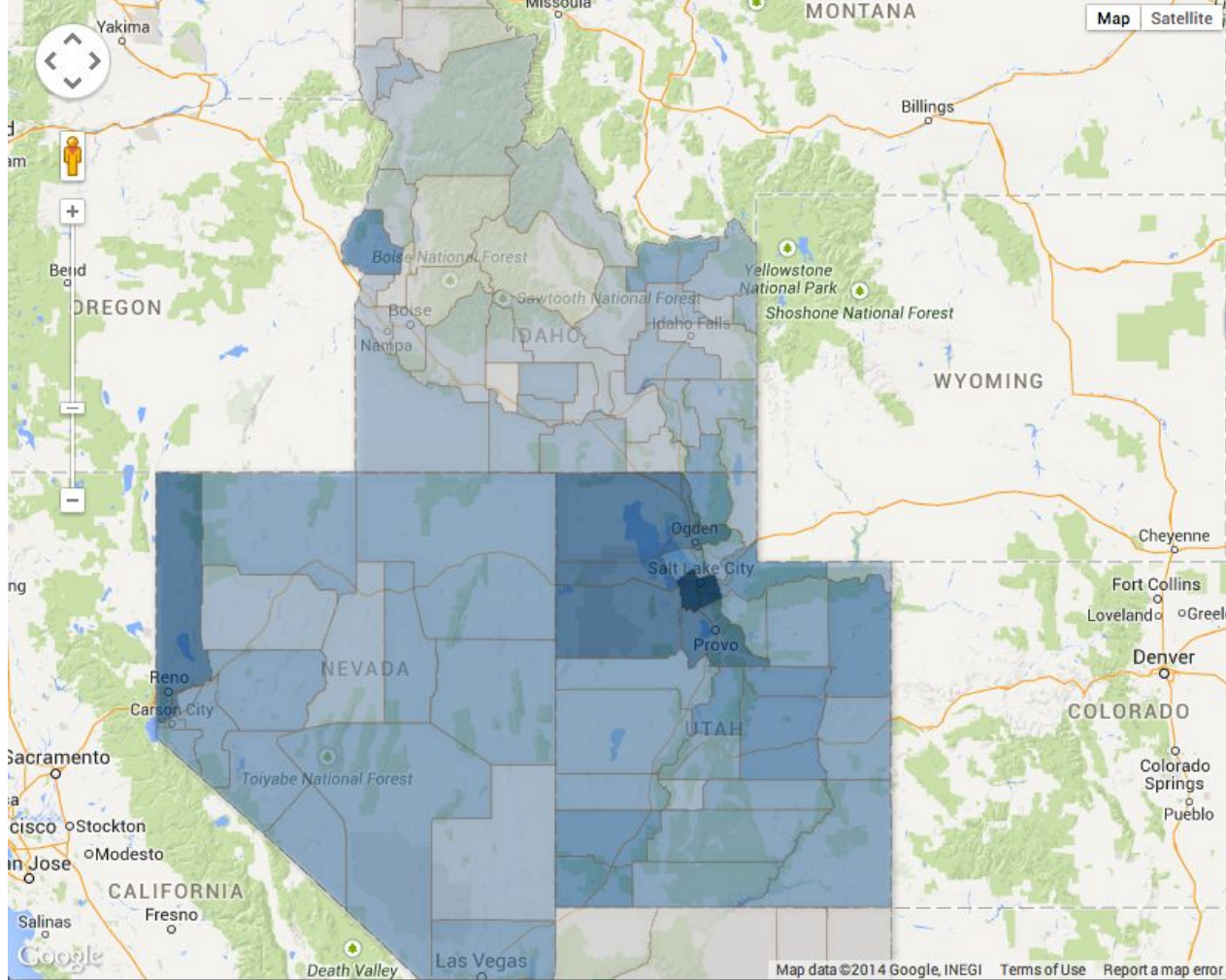
The screenshot displays the FAST Linked Data search interface. At the top, the logo for FAST Linked Data is shown, with the text 'FAST Authority File' below it. The main search area is titled 'SEARCH FAST LINKED DATA' and contains a search form with a 'Select Keyword Index' dropdown menu set to 'All Headings', a 'Keywords' input field containing 'salt lake', and a 'Search' button. Below the search form, the results for 'India--Salt Lake City' are displayed. The section is titled 'INFORMATION ABOUT THE RESOURCE' and lists several fields: 'SCHEMA.ORG NAME(S)' with values 'India--Salt Lake City', 'India--Salt Lake', 'India--Bidhannagar', and 'India--Labanahrada'; 'CONTROLLED HEADING IDENTIFIER' with the URL 'http://id.worldcat.org/fast/1228360'; 'IDENTIFIER' with the value '1228360'; 'TYPE' with the value 'Place'; 'SAMEAS' with two links: 'Salt Lake City (India)' and 'Salt Lake City (India)'; 'COORDINATES' with 'Latitude: 22.58333' and 'Longitude: 88.41666'; and 'SKOS PREFERRED LABEL'.

Place name problems

- Colorado City, AZ
- Nevada City, CA
- Nevada City, MT
- Nevada County, CA
- Virginia, St. Louis Co., MN
- Virginia City, MT
- Boulder, CO
- Boulder, MT
- Boulder, UT
- Boulder City, NV

County name isn't enough

- Teton County, MT
- Teton County, WY
- Humboldt County, NV
- Humboldt County, CA
- Humboldt County, IA
- Washington County, UT
- Washington County, ID
- Washington County, OH
- Washington County, MD
- Washington County, GA
- Washington County, MS
- Washington County, NC
- Washington County, PA



Mountain West Digital Library, demo map

More problems

Report by
Dorotea Szkolar
MWDL metadata intern
Summer 2012

Recommendations for Geospatial Metadata Standards for Digital Collections in the Mountain West Digital Library

Report prepared for the
Utah Academic Library Consortium
Digitization Committee

By Dorotea V. Szkolar
MWDL Intern

8/01/2012

Coordinate formats

- Numbers:
 - decimal degrees
 - degrees/minutes/seconds
- Directions:
 - (+) and -
 - W, N, E, and S
 - westlimit, northlimit, eastlimit, and southlimit
- Placement:
 - In same field
 - In different fields



Field mapping

- Dublin Core
 - coverage
 - spatial
 - subject



How to get out?

- Investigate recommendations and best practices for MWDL community
- Learn more about controlled vocabularies
- Learn more about mapping applications



Westley rescues Buttercup from the lightning sand in *The Princess Bride*.

MWDL Geospatial Discovery Task Force

Findings

Task Force Charge

1. **Identify existing** geospatial metadata practices
2. **Develop guidelines** for standardizing
3. **Creating map-based search interfaces**
4. **Identify and share tools**

<https://sites.google.com/site/mwdlgeospatial/>

Phase One

Three subgroups:

1. Review previous report
2. Identify low hanging fruit
3. Identify map-based interfaces

Task Force Timeline: Phase One

July 31, 2013 – First Meeting

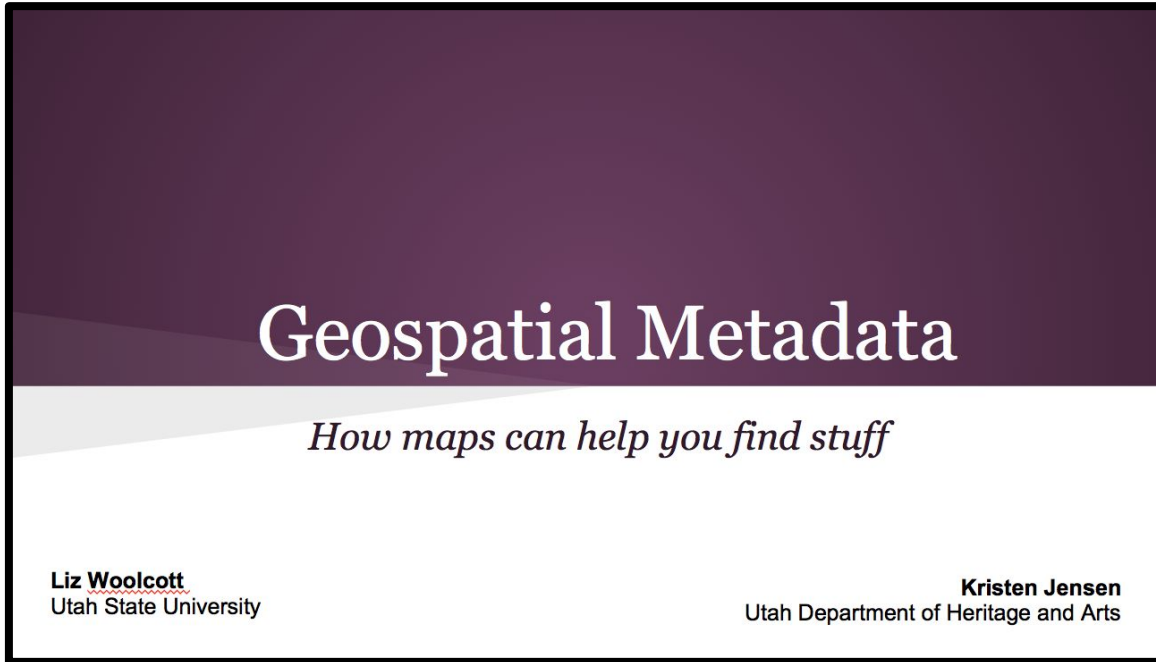
Sept. 5, 2013 – Website/Listservs set up

Sept. 24, 2013 - Finalize charge

Oct. – Nov. 2013 – Subgroup working period

Dec. 13, 2013 – Subgroups report

Phase One: Webinar Report



Geospatial Metadata

How maps can help you find stuff

Liz Woolcott
Utah State University

Kristen Jensen
Utah Department of Heritage and Arts

Geospatial Discovery Task Force report (webinar): https://video.utah.edu/media/t/0_hoq01kon

Community notes from webinar: https://docs.google.com/document/d/16B_Lbc6B4hO7I0sppEKeJKErRsOtWU6Thf2_JTbaJs0/edit

Phase Two

Three more subgroups:

1. Controlled vocabularies
2. Coordinate data and GIS perspectives
3. Map-based Interfaces

Task Force Timeline : Phase Two



Current Recommendation: 1

All standards and practices adopted by the metadata review board should be compliant with the ISO 19115:2003* Geographic Information--Metadata standard

*Task Force will review the latest released standard ISO 19115-1:2014 in the coming months

Current Recommendation: 2

Since MWDL contributors may need to use *varied* controlled vocabularies, we recommend that a geospatial metadata format and selected controlled vocabulary be **highly recommended but not enforced**.

Current Recommendation: 3

There is a clear preference for expressing coordinates in latitude-longitude as **decimal degrees** over the degrees-minutes-seconds format.

Ex. Mount McKinley:

Latitude: 63.540777

Longitude: -151.723614

Latitude: N 63° 32' 26.7972"

Longitude: W 151° 43' 25.0108"

Current Recommendation: 4

It is recommended that partners keep all the elements of a single term **within a single iteration of the field**. For example, don't split latitude and longitude. Repeat spatial field for each new entity.

Current Recommendations: 4 ex.

For example: Mt. McKinley

Lat/Long expressed:

<dcterms:spatial>63.540777, -151.723614</dcterms:spatial>

Controlled Vocab expressed:

<dcterms:spatial>Mount McKinley, Denali National Park and Preserve, Alaska</dcterms:spatial>

URI expressed:

<dcterms:spatial><http://geonames.org/5868589></dcterms:spatial>

All together:

<dcterms:spatial>63.540777, -151.723614; Mount McKinley, Denali National Park and Preserve, Alaska; <http://geonames.org/5868589></dcterms:spatial>

Current Recommendation: 5

Partners should map geospatial metadata field (s) to the Dublin Core spatial refinement of coverage (dcterms:spatial), which can be done at the collection level. The OAI provider for the repository hosting the collection should support provision of qualified Dublin Core if possible.

Current Recommendation: 6

The spatial coverage refinement (dcterms:spatial) **is highly recommended** for all new collections harvested by MWDL.

Current Recommendation: 7

Where converting legacy data may be too difficult, partners can **add an additional separate field** mapped to the Dublin Core term `spatial (dcterms:spatial)` with basic, minimal geospatial metadata (at least at country and state level), in accordance with upcoming recommendations for controlled vocabulary.

Next Steps:

1. Select a recommended controlled vocabulary
2. Investigate best ways to represent geospatial information
 - a. Tools
 - b. Software
 - c. Techniques/Best Practices
3. Look further into GeoJSON vs. KML

Next Steps:

4. Review the formatting and syntax of Points and Boxes, particularly in regards to the DCMI Box/Encoding Schemes:

- a. DCMI Box Encoding Scheme at <http://dublincore.org/documents/dcmi-box/>

Example: name=Western Australia; northlimit=-13.5; southlimit=-35.5;
westlimit=112.5; eastlimit=129

- b. DCMI Point Encoding Scheme at <http://dublincore.org/documents/dcmi-point/>

Example: name=Perth, W.A.; east=115.85717; north=-31.95301

Example: east=148.26218; north=-36.45746; elevation=2228; name=Mt. Kosciusko

Next Steps:

5. Develop regional gazetteer
 - a. Investigate ways to integrate this into the recommended controlled vocabulary
6. Develop actionable plans to deal with legacy data
 - a. List of common find and replace scenarios
 - b. Analyze current top five strategies used to assign geospatial metadata, estimate cost and workflow needed to convert legacy data

Use Cases

“I just want my metadata harvested and showing up on DPLA’s map. I want my items to be represented at least at the State level in DPLA’s map.”

“I don’t have any geographic metadata and I want to get started assigning coordinates to things in my collection.”

“I want to create a walking tour of a buildings collection (historic homes of 1925) and need different points expressing street level locations (points + photo).”

“I’m not interested in coordinate data but I’m interested in putting in city, state, town information and I want to get started with linked data.”

“I want to display county outlines instead of just a point in the middle of the county.”