Map and GIS Resources in Institutional Repositories: Issues & Recommendations

Kathy Weimer
Coordinator of Map and GIS Services and Collections
Texas A & M University Libraries

Texas Digital Library Conference
May 30, 2007
Presentation Overview

- Map and GIS Resources in Libraries
- Map Digitization Projects
  - Environmental Scan, Who is Doing What
  - Map Scanning Registries
- Geospatial Libraries & GIS in Digital Libraries
- Value of IR for Map and GIS resources
  - Geospatial metadata - utilized
- Collaboration
- Issues and Challenges
Map Resources

- Print Maps
  - Variety of Subjects
  - Series/Publishers
  - Users in Virtually All Disciplines
Geographic Information Systems

- Variety of Subjects
- Data Publishers
- Users in Virtually All Disciplines
Map Digitization in Libraries

- **What**
  - Historic Materials
  - Fragile
  - High Use

- **Why**
  - Preservation
  - Service via Internet
  - Grant Funding

- **Who**
  - University Libraries
  - Special Collections
  - Archives
Libraries with Large Map Digitization Programs

- Library of Congress, American Memory, Maps Collections
- Harvard Library Map Collection
- University of Texas - PCL
- Numerous Others!
Map Digitization Registries

- Clearinghouses for government document digital projects
  - ALA Government Documents Round Table
  - Government Printing Office

- Map Scanning Registries
  - Western Association of Map Libraries
  - ALA Map and Geography Round Table

- National Geologic Map Database co-hosted by:
  - USGS National Cooperative Geologic Mapping Program
  - Association of American State Geologists

- *Need for a centralized source (Besser)
GIS & Geospatial Libraries

- Contain digitized maps, GIS files and satellite imagery
- Some examples:
  - NCGDAP: North Carolina Geospatial Data Archiving Project (North Carolina State University Libraries)
  - Cornell University Geospatial Information Repository
  - Alexandria Digital Library (UC-Santa Barbara)
  - NGDA: National Geospatial Digital Archive
  - Harvard Geospatial Library
  - GRADE: Geospatial Repository for Academic Deposit and Extraction (a DSpace project in the UK)
Advantages of DSpace

- **DSpace** – open-source digital repository system — Purpose is to:
  - Promote the development of scholarly digital collections
  - Preserve the collections for long-term access

- Searchable through Google Scholar and configured for OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting)

- Metadata uses Dublin Core or DC Qualified
Map Materials in IRs

- Survey in 2005 by Coalition for Networked Information (CNI)
- Assess the deployment of IRs in the US
- Findings regarding maps:
  - 9 repositories had map materials in their IR
  - 12 more plan to include maps by 2008
Geologic Atlas of the United States

- Published by USGS, 1894-1945, 227 folios
- Locations surveyed for economic geology aspects
- Include text, maps, photographs
- Audience was initially geologists
- Now are used by historians, planners, educators, environmentalists
- Complete set owned & digitized at TAMU Libraries
## The Digital Repository at Texas A&M University

### Browsing by Date

Jump to a point in the index:  
(Choose month) [ ]  
(Choose year) [ ]  
Or type in a year: [ ]  

**Ordering With Oldest First**

Showing items 1-21 of 227.

<table>
<thead>
<tr>
<th>Date of Issue</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1894</td>
<td>Ringgold folio, Georgia - Tennessee</td>
<td>Hayes, C. W. (Charles Willard), 1859-1916</td>
</tr>
<tr>
<td>1894</td>
<td>Placerville folio, California</td>
<td>Turner, Henry Ward, 1877- joint author</td>
</tr>
<tr>
<td>1894</td>
<td>Kingston folio, Tennessee</td>
<td>Hayes, C. W. (Charles Willard), 1859-1916</td>
</tr>
<tr>
<td>1894</td>
<td>Sacramento folio, California</td>
<td>Lindgren, Waldemar, 1860-1939</td>
</tr>
<tr>
<td>1894</td>
<td>Chattanooga folio, Tennessee</td>
<td>Hayes, C. W. (Charles Willard), 1859-1916</td>
</tr>
<tr>
<td>1894</td>
<td>Pikes Peak folio, Colorado</td>
<td>Cross, Whitman, 1654-1949</td>
</tr>
<tr>
<td>1894</td>
<td>Sewanee folio, Tennessee</td>
<td>Hayes, C. W. (Charles Willard), 1859-1916</td>
</tr>
<tr>
<td>1894</td>
<td>Anthracite-Crested butte folio, Colorado</td>
<td>Emmons, Samuel Franklin, 1841-1911; Cross, Whitman, 1854-1949; Eldridge, George Homans, 1854-1905</td>
</tr>
</tbody>
</table>
Putting Geospatial Metadata to Work

- Coordinates from each map in Geologic Atlas
- ‘Coverage.spatial’ ‘Coverage.box’ ‘Coverage.point’
- Using metadata and Yahoo!Maps API – create a map-based interface to leverage geographic content of the folios.
- Yahoo!Map version is up –
  http://labs.di.tamu.edu:8080/geofolios/handle/123456789/2
Yahoo!Map Interface
Collaboration for the Geologic Atlas of the United States

- Map Librarian
- Geology Librarian
- Metadata Librarian
- Programmers
- Student workers
- Digitization staff
Larger Issues for Geospatial Resources

- Map-Based Interfaces i.e. Spatial context
- Preservation and File Formats
- Repository Design / Usability
- Geospatial Consortium
- Geospatial Rights Management
- Versions / Updates of Content
Challenges

- Gather unique GIS data from faculty for IR
- Exploit new technologies for Map-based Interfaces (Google Mashup)
- Collaborate widely
- Research Teams to Follow:
  - National Geospatial Digital Archive (Library of Congress, UC-Santa Barbara, Stanford)
  - Open Geospatial Consortium, Inc.
Join Forces with Map Librarian!

- Talk to the map librarian at your institution
  - Learn about their scanning efforts
  - Inform them about OAI and IRs

- Seize the momentum already in place in map librarianship

- Bring Map and GIS scholarship into your IR
Future Additions to Geologic Atlas

Additional Access for Users

- Adding geologic formation names to metadata
- Converting map image to GIS data file and add that GIS file to IR
- Exploring GoogleEarth Mashup for access to folio and map overlays
Reading

- Open Archives Initiative - OAIster [http://oaister.umdl.umich.edu/](http://oaister.umdl.umich.edu/)