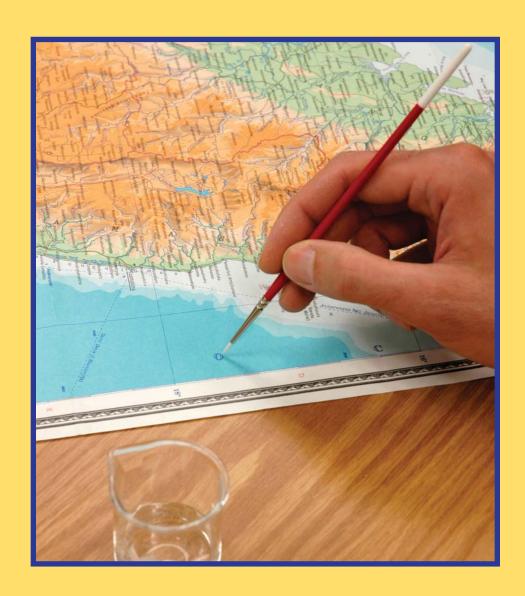


# Documents to the People

Winter 2006 | Volume 34, No. 4 ISSN 0091-2085

#### In This Issue

- A Teaching Moment
- Reviewing the Canada Year Book
- Illinois Historical Aerial Photography Digital Archive
- Where Are We with Coordinates?









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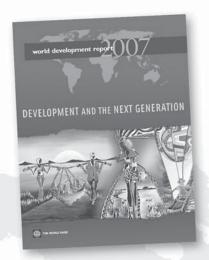


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DttP features articles on local, state, national, and international government information and government activities and documents the professional activities of GODORT. The opinions expressed by its contributors are their own and do not necessarily represent those of GODORT.

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#### Documents to the People

Winter 2006 | Volume 34, No. 4

#### Columns

Editor's Corner	4
From the Chair	
Washington Report	6
On the Range	٤
News from the North	9
Tech Watch	. 11
Articles	
Illinois Historical Aerial Photography Digital Archive Is Growing <i>Arlyn Booth</i>	. 15
Access and Preservation of Scientific and Cartographic	.20
Literature Using an Institutional Repository	
USGS's Geologic Atlas of the United States in DSpace	
Katherine H. Weimer, Rusty Kimball, Steven Bereyso,	
Brian Surratt, Adam Mikeal, and Alexey Maslov	
Map Scanning Registry	. 25
Christine Kollen	
WAML Scanning Projects Clearinghouse	. 29
Matt Paskus	
Circulating Maps Collections at Pennsylvania State University	.33
Preservation Challenges and Solutions	
Anne Behler, Beth Roberts, and Karen Dabney	
Where Are We With Coordinates?	.37
Colleen Cahill and Susan Moore	
Index to Advertisers	39

**About the cover:** The photograph on the cover is from Curtis Krebs, Photographer/Digitization Technician, Pennsylvania State University, and accompanies "Circulating Map Collections at Pennsylvania State University: Preservation Challenges and Solutions."

#### **Editor's Corner**

#### Michael Fry and John Lawton

Occasionally in life we are advised to "be careful what you wish for . . ." Indeed, we often get much more than that. Such was the case many months ago when we, the guest editors of this issue, shopped map-related article ideas to the *DttP* editorial team.

Although we were operating independently of each other, our situations were similar. We're both relatively new map librarians with (largely unfulfilled) publishing requirements standing between us and greater job security. For each of us, the overture to *DttP* was the scholarly equivalent of dipping a toe in the water.

Suffice it to say that we weren't prepared for *DttP*'s reply, which was, in effect, "Why don't you co-edit an entire *issue* of map-related articles?"

In other words, jump in.

Our initial reactions were similar ("Hey, quit pushing!"), but we agreed to jump, and before long we were outlining the issue, seeking out would-be authors, and reviewing article proposals.

Our goal for this issue of *DttP*—the first dedicated to maps and map librarianship—was simple: we hoped to assemble a collection of articles that, taken together, would give *DttP* readers one view of the map librarianship landscape. Many documents librarians are, by definition or necessity, at least minimally acquainted with the major government agencies and their map products. We hope this issue expands on that knowledge and gives you some insight into the issues, trends, and problems that currently shape our field.

Frankly, though, that's a tall order. Map librarianship—a title that seems increasingly antiquated, given the field's embrace of digital mapping technologies—is in a genuine period of transition, and one doesn't have to look far to find evidence of change.

A big concern to many of today's map librarians is the dwindling number of print maps distributed through the FDLP. Where depositories once received a fantastic variety of map and atlas titles from a long list of government agencies (*Ice Atlas of the Northern Hemisphere*, anybody?), we now survive almost entirely on a relatively bland ration of topo maps, nautical and aeronautical charts, and, when things get a little spicy, a Central Intelligence Agency map or two.

Many of the U.S. Geological Survey's (USGS) geologic map series have been discontinued, and those that remain active produce only a trickle of tangible products. The Defense Department's TPC, ONC, JNC, and GNC aeronautical chart series—in effect, the only affordable sources of international topography available to cash-strapped libraries—barely escaped being removed from public access, including the FDLP, in 2005. Map librarians breathed a sigh of relief when those charts were pardoned, but the actual effect on depositories was hardly felt; distribution had already slowed to a tiny handful of titles each year.

Now, even that staple of many print map collections, the USGS's 7.5-minute topographic map series, is soon to be pulled from the GPO pipeline. The USGS, no longer willing to bear the costs associated with producing, printing, and warehousing a full inventory of 55,000 sheets, has indicated its intention to stop lithographic printing and transition to a map-on-demand (MoD) model based on digital data. USGS has yet to officially pull the plug on print topo maps, but it seems the end is near. Still to be answered are several questions important to map librarians: How durable will the MoD products be? Will there be a distribution component to the program? Will historical cartographic data be archived and accessible?

On the brighter side, many agencies have worked overtime to make their maps available electronically. The Department of Agriculture, for example, offers a bewildering number of statistical and thematic maps online, and the USGS recently began the herculean task of cataloging, digitizing, and making publicly available every topographic map published by the USGS since 1879—all 300,000 of them.<sup>2</sup>

Unfortunately—and is this really a surprise?—web-based resources aren't yet as stable as their print counterparts. At the May 2006 Cartographic Users Advisory Council (CUAC) annual conference, a representative of the Bureau of Transportation Statistics (BTS) announced that the BTS Geospatial Information Program had lost funding and been forced to discontinue its web-based mapping service. CUAC has heard nothing to indicate that it might be resuscitated, and map librarians can only hope that BTS's mapping service—and similar electronic resources—will not only proliferate, but achieve an acceptable level of permanence.

To be sure, one issue of *DttP* is hardly enough room to cover a growing discipline. (Geographic Information Systems and geospatial data are two of many topics that we've not addressed here, though both are certainly deserving of our attention.) Still, we're pleased to offer a behind-the-scenes look at some recent and important projects, all of which bode well for public access to cartographic information.

Map digitization is certainly a hot topic these days, and it's encouraging to see libraries endeavoring to capture and make accessible both local (such as aerial photos of Illinois) and national resources (U.S. Geological Survey's historic Geologic Atlas of the United States).

Equally significant is the speed with which our colleagues in ALA's Map and Geography Round Table and the Western Association of Map Libraries provided workable solutions to a growing problem—namely, a somewhat centralized list of completed and ongoing cartographic digitization projects. Their map scanning registries are enormously beneficial resources to would-be digitizers hoping to share expertise and reduce duplication of effort, as well as to those of us needing to identify and access collections that might otherwise be invisible or off-limits.

Of course, digitization isn't the only means of increasing access to cartographic materials. Preservation of existing tangible materials is more important than ever, particularly

in an age when print is increasingly marginalized in favor of electronic. And what good are print *or* electronic resources if they can't ultimately be found? It may take time for searching OPACs by geographic coordinates to take root, but the concept—"show me maps of this place"—is compelling.

We'd like to express a sincere thank you to the *DttP* editorial team for their support and direction in assembling this issue of *DttP*. We're also in debt to the authors, whose willingness to submit timely contributions on a fairly tight schedule kept our own venture into the water from feeling like an unintentionally public skinny dip.

Enjoy your issue of DttP!

**Michael Fry**, Maps Librarian, University of Maryland, mwfry@umd.edu.

**John Lawton**, Interim Head, John R. Borchert Map Library, University of Minnesota, lawto019@umn.edu.

#### Notes and References

- 1. For details, see the Spring 2006 issue of *DttP* or www.nga.mil/NGASiteContent/StaticFiles/OCR/nga0517.pdf.
- 2. See the Historic USGS Topographic Map project at http://infotrek.er.usgs.gov/pls/htmldb/f?p=182:1:342119 8413713854611.

#### From the Chair

#### Aimée C. Quinn

Autumn is here, and with it come the midterm elections. I find one of the most exciting parts of working in documents is the diversity of material produced by the government that leads to the incredible range of questions from the academic community and the public. Yet I have always been puzzled by the lack of general knowledge of issues whenever elections come around. I can hardly remember the last time I talked with anyone who was well-versed on issues in their own community, much less in their state or the nation.

What are citizens talking about this year? A professor in the University of Illinois, Chicago, College of Social Work recently returned from doing field research in Mississippi and said that the only thing anyone wanted to talk about was the proposed constitutional amendment to ban gay marriage. But in Chicago it's a dead issue. Here, the big issue is immigration, and we have marches and protests blocking traffic all over the metro region. Yet on a recent trip to Phoenix, where I would have expected this to be on everyone's mind, I heard nothing on that issue. Perhaps it was just considered too hot for polite conversation? Everyone seems fixated on whatever is being discussed on their favorite shows or blog, or whichever way the political winds are blowing the strongest where they live. So I would urge us all as documents librarians to ask ourselves, how can we help our communities get a broader grasp of the issues that affect us all?

To that end, GODORT is developing an advocacy workshop that will help us assist users to communicate with our elected or appointed leaders. We hope to develop an advocacy network of librarians who want to work together to develop their skills. We need to pool our energy, enthusiasm, and expertise, not only to provide leadership for our patrons, but to better prepare and motivate ourselves to communicate our opinions to our government leaders.

GODORT is all about being involved and helping our patrons get involved. As I write this column, I am struck by the fact that the EPA has begun their plan to close their librar-



ies regardless of what the scientific, environmental, and library communities have said and in spite of the fact that the budget cuts they feared have not been approved. I truly do believe we can change the path of government—but only if we choose to get involved. Did you know that GPO received only fifteen

comments—less than one for every hundred depository libraries—on their "Essential Titles List" proposal? The same handful of librarians can be counted on to send comments and, I admit, I am a sporadic responder myself. Of course, GODORT wrote a letter to the GPO outlining our concerns with the proposal. This letter is available on our web site at www.ala.org/ala/godort/communications/letters2006/ETL-final1.pdf.

There was a Govdoc-l message recently that gave the URL to the Maine Military Historical Society archive, where Colonel Joshua L. Chamberlain sent his July 6, 1863, *After Action Report* describing the Battle of Gettysburg engagement of his forces. He prefaced his report by stating:

The inspiration of a noble cause involving human interests wide and far, enables men to do things they did not dream themselves capable of before, and which they were not capable of alone. The consciousness of belonging, vitally, to something beyond individuality; of being part of a personality that reaches we know not where, in space and time, greatens the heart to the limit of the soul's ideal, and builds out the supreme of character. <sup>1</sup>

I believe Chamberlain's words touch directly on how we, as members of the documents community, can work together to make great changes in the public access to government information.

In closing, I would like to encourage all readers to make a tax-deductible contribution to support the W. David Rozkuszka Scholarship.<sup>2</sup> This award benefits a library master's degree candidate who is currently working with government

documents in a library. As always, I look forward to hearing your thoughts.

#### References

- 1. Chamberlain, Joshua L. "Monument Dedication Ceremony, Gettysburg, PA. October 3, 1889." In *After Action Report* (CSI reprint). Fort Leavenworth, Kans.: U.S.
- Army, Combined Arms Center. www-cgsc.army.mil/carl/resources/csi/Chamberlain/CHAMBERLAIN.asp.
- 2. Check may be addressed to ALA/GODORT with a note in the memo field "Rozkuszka Scholarship." Pleae send checks to the GODORT Treasurer: Jill Moriearty (2007) General Reference, Marriott Library, University of Utah, 295 South 1500 East, Salt Lake City, UT 84112-0860.

## **Washington Report**

#### Mary Mallory

Since the previous "Washington Report" appeared in *DttP*, one especially significant government information access bill has become law, other less progressive legislative actions are underway, and the FY 2007 legislative branch appropriations are still to be finalized. Secrecy, overly broad classification of material, and lack of dissemination or publication of important information continues to negatively impact the availability of government data, documents, and records.

#### Legislative Branch

S. 2590, currently titled the Federal Funding Accountability and Transparency Act of 2006, was introduced by Senator Thomas Coburn (R-OK) on April 6, 2006. Original cosponsors in support of this bipartisan effort were Thomas Carper (D-DE), John McCain (R-AZ), and Barack Obama (D-IL). In brief, the bill requires full disclosure of all entities and organizations that receive federal awards, through a free, publicly available, searchable web site. Individual transactions less than \$25,000 would not be included, and nothing in the bill would require the disclosure of classified information. The bill was referred to the Senate Committee on Homeland Security and Governmental Affairs; its Subcommittee on Federal Financial Management, Government Information, and International Security held hearings on July 18, 2006. The committee filed its written report on September 8, 2006. The bill ended up with forty-seven cosponsors, passed both the Senate and the House, and was signed into law by the president on September 26 (P.L. 109-282). The development of a one-stop, near-comprehensive, no-fee resource of this magnitude to begin with FY 2007 awards and incorporate each fiscal year thereafter, is overdue and would provide contractors, developers, researchers, educators, and the public with an effective and convenient tool for obtaining details on government spending.

A measure that would most likely affect government transparency and accountability, S. 3774, To amend Title 18, United States Code, to prohibit the unauthorized disclosure of classified information, was introduced by Senator Christopher Bond (R-MO) on August 2, 2006. It would give the executive branch broad discretion in the prosecution of individuals, such as whistleblowers, who disclose government secrets. Proof that a disclosure was a threat to national security

would not be required. An identical, controversial section in the FY 2001 *Intelligence Authorization Act* was approved by Congress, but vetoed by President William J. Clinton in November 2000.

Congressional activity on two other bills under consideration could negatively impact Internet educational and instructional uses and ultimately lead to impeded or even less access to e-government information. Concerns over S. 2686, Communications, Consumer's Choice, and Broadband Deployment Act of 2006, revolve around the lack of specific network neutrality language in the bill text. In addition, H.R. 5319, the Deleting Online Predators Act (DOPA), has passed the House and has been discussed in the Senate. Its terminology remains too broad and unclear, and would block access to valuable web sites, including selected government information sources. In late July 2006, after its second reading in the Senate, it was referred to the Committee on Commerce, Science, and Transportation.

Neither the GPO's FY 2007 appropriations are known as of late September 2006, nor has a conference committee been named to resolve and complete the details. It is possible this may occur after the November 2006 elections. The Public Printer asked for \$151.5 million in his original budget request. This includes nearly \$100.3 million for the Congressional Printing and Binding Appropriation, \$43 million for the Salaries and Expenses Appropriation of the Superintendent of Documents, and \$8.2 million for GPO's revolving fund.

Other pertinent news is the retirement announcement of the Superintendent of Documents, Judith C. Russell. Ms. Russell plans to retire early next year. She has played key roles in designing the FDLP of the future, creating *GPO Access*, and repositioning the publications sales program. At this point in the evolution of the FDLP and the development of the FDsys, Ms. Russell's replacement will obviously be a critical appointment. For those who would like to keep up to date on FDsys, be sure to follow Daniel Cornwall's suggestion to subscribe to the FDSys at http://fdsys.blogspot.com ("New Discussions at FGI," Monday, Sept. 11, 2006, Govdoc-l).

# Executive Branch and Independent Establishments

Although the Government Accountability Office (GAO) issued a report on August 18, 2006, titled *Electronic Records Archives: The National Archives and Records Administration's Fiscal Year 2006 Expenditure Plan*, that demonstrated NARA's effectiveness in utilizing allocated funds to build the Electronic Records Archives

system, its FY 2007 appropriation will most likely be less than requested. *Transportation, Treasury, Housing and Urban Development, the Judiciary, and Related Agencies Appropriations Bill, 2007, Senate Report 109-293*, was issued on July 26, 2006, and appears to be the latest action on this appropriations bill. According to a September 6, 2006, press release (www.archives.gov/press/press-releases/2006/nr06-137.html), NARA has issued a progress report on National Declassification Initiatives (NDI). NARA reports that:

only seven new documents have been withdrawn since April 26 [2006]. All of these withdrawals have been carefully noted in the opened files so that their removal is transparent to researchers and all have been handled in accordance with the audit protocol. One of the documents has been declassified and is now back on the shelf. Agency decisions are still pending on the other items.

Last spring, the Environmental Protection Agency (EPA) proposed to dramatically reduce the amount of detail facilities had to report and disseminate to the public on a regular basis. In response to environmentalists, health-care professionals, researchers, librarians, and other advocates, the House prevented this from occurring. However, during the past several months, the Public Employees for Environmental Responsibility (PEER) have alerted the ALA Washington Office (ALA-WO), the ALA Social Responsibilities Round Table, and ALA/GODORT of drastic changes at the network of regional EPA libraries. The Chicago library, Region 5, has closed in advance of Congressional approval of the proposed EPA FY 2007 budget; it is expected that only four of the original libraries will continue in operation. The Dallas and Kansas City libraries, along with Chicago, served fifteen Midwestern and Southern states. Both were closed by September 30, 2006. Also, many of the laboratories will most likely either be closed or consolidated. A letter of protest, signed by representatives of 10,000 EPA scientists and researchers, portrayed the library plan as an attempt to suppress environmental and public health information. Region 7, which serves four states, Iowa, Kansas,

Missouri, and Nebraska, has a new administrator, John B. Askew. Whether or not he regards the library as an essential component of the facility remains to be seen.

Another specific case of lack of dissemination of data by an agency has recently been reported in the news, and that is the Federal Trade Commission's (FTC) continued collection of data on nicotine and tar content in cigarettes. The last study was published in 1999. Via its web site, the FTC could readily make this data available.

On a positive note, the Smithsonian Institute Archives is partnering with the Rockefeller Archive Center in a three-year born-digital records project titled the Collaborative Electronic Records Project. A focus of the project will be on the preservation of e-mail "because of its value for institutional memory, regulatory and legal compliance, governance oversight, and historical significance" (The Society of American Archivists, Official Word: The Government Records Section Newsletter, Summer 2006, p. 9, www. archivists.org/saagroups/gov/newsletters/grs\_newsletter\_2006\_summer.pdf).

The newest Institute of Museum and Library Services (IMLS) board members are Katherine M. B. Berger, trustee, Berger Collection Education Trust, Berryville, Va.; Karen Brosius, executive director, Columbia (S.C.) Museum of Art; Ioannis N. Miaoulis, president and director, Museum of Science, Boston; Christina Orr-Cahall, director, Norton Museum of Art, West Palm Beach, Fla.; and Kevin Starr, professor, University of Southern California, California State Librarian Emeritus. Their nominations were recently confirmed by the Senate.

#### From the Outside Looking In

OpenTheGovernment.org has produced its third annual report, *Secrecy Report Card 2006, Indicators of Secrecy in the Federal Government.* A copy is accessible at www.openthegovernment.org. Starting in 2005:

- the Foreign Intelligence Surveillance Court approved 2,072 orders, and rejected none;
- 9,254 National Security Letters were issued;

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Basic personal membership in ALA begins at \$50 for first-year members, \$25 for student members, and \$35 for library support staff (for other categories see www.ala.org/Membership).

Personal and institutional members are invited to select membership in GODORT for additional fees of \$20 for regular members, \$10 for student members, and \$35 for corporate members.

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- 106 new patents were kept secret;
- \$134 was spent creating new secrets for every \$1 spent releasing old ones;
- Seventeen percent of the Defense Department's FY 2006 budget is classified;
- FOIA requests continue to rise, and agencies can't keep up;
- the "state secrets" privilege has been used by the president at least twenty-two times since 2001; and
- President George W. Bush has issued 132 signing statements challenging more than 810 federal laws.

The report itself is in-depth on each of these matters, and should be recommended reading for all Americans. Don't overlook "Sensitive but Unclassified: An Incomplete Encyclopedia," which appears on pages 11–12 of the report.

For those of you who are inspired to "look in," the ALA-WO advises personalizing your messages to Congress. The ALA-WO is now offering free online advocacy training. This three-part online course, "Messaging and Talking with Congress: An Interactive Workshop," is led by Stephanie Vance of AdVanced Consulting. Further information can be found at www.advocacyclassroom.com/homepage.cfm.

### On the Range

# A Teaching Moment: Share Your Documents Knowledge with Colleagues

Brian W. Rossmann

"A teacher affects eternity; he can never tell where his influence stops."—Henry B. Adams.

Once upon a time, it was not uncommon for most federal depository libraries to have reference librarians and catalogers dedicated solely to providing access to collections of government documents. Well, maybe it wasn't all that long ago. But, my sense is that over the past decade, a significant number of libraries have merged documents departments into general reference, and as the number of tangible items delivered through the FDLP has dwindled, catalogers and support staff who worked primarily with documents are being assigned different duties. Indeed, in 1999 these issues were explored in a GODORT panel discussion at the ALA Annual Conference titled "To Merge or Not to Merge—What are the Questions? Integrating Documents Units into Reference or Technical Services." Some large libraries still retain documents departments, but even there documents librarians are being called on to staff the general reference desk or perform other duties in their organizations. What is particularly disheartening, as documents librarians with a lifetime of experience retire or move on to other challenges, is they are not being replaced with a younger generation that knows the ins and outs of locating government information, particularly the information that can only be found in older paper documents as opposed to what is available online.

While admittedly anecdotal, I also have noticed that fewer reference librarians seem comfortable with even the

most basic reference questions that involve locating information in paper government documents. Librarians, even those with years of experience, were accustomed to referring reference questions dealing with government documents to the documents librarian, so they never developed strong skills at locating government information. New colleagues, freshly minted in library schools—while they may be whizzes at creating complex web documents or blogging, and may be comfortable searching for online government information—are often stopped dead in their tracks when confronted with the prospect of locating a Senate report from the 59th Congress or an executive order issued during the Eisenhower administration. What I find most alarming about the future of government information in libraries is not that today's documents are being issued only in electronic format with its attendant issues of permanency, but that in the not-too-distant future there may not be many experts left who know how to find information in the paper documents in the library stacks.

One method of addressing this is for each of us to engage in some missionary work on behalf of our beloved documents collections. I don't mean for you to just climb onto your soapbox at every opportunity and proclaim their obvious (to you) intrinsic value; instead, take every chance you get to show and teach your colleagues, both new and old, what can be found in tangible documents and how. For example, I recently received a phone call while I was working in my office from one of my reference colleagues who was working with a student at the desk looking for some information from the 1910 Census. While it would have been easiest for me to just walk the student over to the shelf with the census volumes that he needed, I invited my colleague to accompany us, and used this as a teaching moment—not only for the patron with a question—but also for my colleague, who was not comfortable using older census materials. So I found myself showing both of them where the 1910 Census is located in our library and how to use it. Perhaps the next time my colleague has a patron seeking historical census information she will now be able to better manage on her own and pass along the knowledge that I shared with her to another student or colleague.

Here's another example. In my library, the run of bound volumes of the Serial Set goes through the end of the 95th Congress only after which it is available on microfiche. A colleague was faced with a patron seeking a House report from the 98th Congress and he was inclined to think that we apparently stopped getting the Serial Set at the end of the 95th Congress, as that's where the volumes ended on the shelf. Fortunately he involved me, and we were able to get the patron what he needed *and* my colleague now knows that some of our Serial Set holdings are in fiche (and online via our subscription). My colleague also now knows how to find specific reports and documents by number in the fiche collection. Again, I invited him along

while retrieving the material rather than just going off on my own and returning with it: another teaching moment.

So, if you know your way around your paper documents collection, you and your colleagues already know that you have important and valuable skills. But, don't keep this knowledge to yourself. Take every opportunity that presents itself to *teach* your colleagues about the collection and how to find information in it. It may be the only way that they will learn anything about legacy paper documents collections. These collections are a significant part of the country's historical, political, and social record. Considerable documents expertise will be required if students, scholars, and the public are to continue to use them.

#### News from the North

# Renewing the Canada Year Book

#### **David Sharp**

Recently, the *Statistical Abstract of the United States* (*SAUS*) was voted the number one print government document that librarians "can't work without in answering reference questions." No surprise there. The *SAUS* is a masterpiece: so much information packed into one book, with a strong, user-friendly index, and only \$39 for the hardcover edition, free on the Internet. The U.S. Census Bureau has also digitized older editions of the *SAUS* back to 1878, which has made searching for and accessing detailed historical data much easier for us those of us north of the border. Where else could a librarian in Ottawa find the budget of the U.S. Navy in 1833? Does \$8,901,356.75 sound about right? There may be other places to look for such statistics, but none are as obvious and reliable as the *SAUS*.

Does Canada produce something comparable to the SAUS? The answer is yes. Or perhaps I should say we did and will once again. Our comparable publication is called the Canada Year Book. Its provenance can ultimately be traced to the Year Book and Almanac of British North America for 1867, but after confederation it appeared in 1886 under the title Statistical Abstract and Record, in 1890 as the Statistical Year-Book of Canada, and then in 1906 under its current name, the Canada Year Book (CYB). Soon the CYB's trademark would be a mix of detailed statistics, topical prose analysis, charts and graphs, maps, and an overview of government business for the year.

But with the appearance of the 1992 CYB, on the "occasion of the 125th anniversary of Confederation," there was an effort to rebrand the publication to reach a wider audience. Although statistics and prose analysis are still to be found in the 1992 edition, those elements began to compete with "feature articles and archival photos that offer a more

personalized view."<sup>2</sup> Essentially, the CYB lost some of its statistical heft in favour of more coffee table appeal.

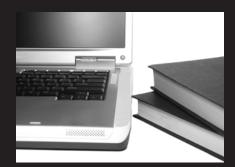
The *CYB*'s last print version was published in 2001. If you needed something more current, you could go to the *Canada e-Book*—essentially the 2001 print version slightly updated for the Internet.<sup>3</sup> The problem that Statistics Canada recognized with the *Canada e-Book* is that it was a paper book that masqueraded as an e-publication. Its five-thousandword text and archival qualities were designed for extended or leisurely print viewing, and that did not always translate well electronically.

The good news is that the *CYB* has been renewed and relaunched in both online and paper form this past spring. It will not be a clone of the *CYB* of historical times, but it promises to be just as useful. The new *CYB* has been designed with web viewing in mind, and the print version will be based on the web version, not the other way around. After analyzing sales patterns, Statistics Canada realized that the cost of the book, its irregular publication schedule, the movement toward e-publications, and a lack of commercial distribution all necessitated the redesign of its print version of the *CYB*.

To start, Statistics Canada has substantially revamped the content of the CYB with web viewing in mind. In place of its previous structure (the so-called "four pillars": The Environment, The People, The Economy, and The Nation, and their constituent fifteen chapters), it is now structured into twenty-five smaller subject categories. These twentyfive categories align themselves with the twenty-five categories currently found on Statistics Canada's Canadian Statistics web page. 4 Each of these twenty-five categories will contain a 750-word overview article, along with tables showing trend statistics for five observations (five years, five quarters, etc.). Each of the twenty-five categories will also have four focus articles of 250 words that explore topical events of the past year. These focus articles will not have trend tables, but will have short-term statistics and outlooks. A focus article I saw in pre-production, for example, looked at the recent rise of the Canadian currency on international markets and its inevitable economic impact on domestic industries.

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Each of the twenty-five subject categories will also contain charts and graphs that, once clicked, are designed to fit a standard 8 1/2" x 11" page and to print cleanly, even in black and white. The charts also will cover longer observation periods than the tables—as long as fifty years in some cases

The *CYB*'s new print edition will have the same structure as the electronic version. It too will have twenty-five subject categories, but its trend statistics will be a bit lengthier than the internet version, with as many as fifteen observations (fifteen years, fifteen quarters, and so on) per table. Statistic sources will be listed at the bottom of each table, chart, and graph and prose report, just as you would expect to find in the *SAUS*.

The new *CYB* will no longer be an expensive hardcover book. It will be published as a 6" x 9" almanac style paperback, about four hundred pages in length. It will contain no photographs and will avoid specialist jargon. However, it will continue to contain a glossary for difficult terms and concepts such as GDP, and it will continue to have a subject index. The publication schedule also is to be standardized, with a new edition arriving on either an annual or biennial basis

Other departments at Statistics Canada will also be helping with the relaunch. The Learning Resources department will be incorporating the new *CYB* into their primary and secondary school lesson plans, at the same time archiving the old *Canada e-Book* to preserve existing lesson plans. Statistics Canada even recruited schoolchildren for focus groups, asking them what colour they prefer for the cover—the children favoured red, a colour they overwhelmingly associated with our country (no doubt due to our red flag and ubiquitous government branding).

Other exciting news from Statistics Canada includes a project to digitize the first one hundred years of the *CYB* (1867–1967), in both official languages, which will make

more than 180,000 pages available on the Internet. But unlike the old *SAUS*, which is available as PDF downloads, these will be marked up in HTML/XML in order to adhere to the federal government's *Common Look and Feel for the Internet* policy.<sup>5</sup> Nonetheless, they will be fully searchable once complete. As for their plans to digitize the *CYB* after 1967, those are on hold. After 1967, proprietary artwork and commercial photography become more prominent in the *CYB*, bringing a series of copyright issues with them that will need to be addressed. The launch date for the first one hundred years of material, although not finalized, awaits only the last disbursement of funding from the project's co-sponsors, the Canadian Memory Fund and Heritage Canada.

With the *CYB*'s relaunch, and the digitization of the older volumes, Canada is moving one step closer again to producing something as useful for librarians as the United States' favourite reference resource.

**David Sharp**, Government Publications Librarian, Carleton University, david\_sharp@carleton.ca.

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#### **Tech Watch**

# Web 2.0 and the Government

Megan Dreger

#### What Is Web 2.0?

What better place to go for a definition of Web 2.0 than the Wikipedia, considered by many a preeminent example of Web 2.0? Their definition is a good one: "Web 2.0 is a term often applied to a perceived ongoing transition of the World Wide Web from a collection of websites to a full-fledged computing platform serving web applications to end users.

Ultimately Web 2.0 services are expected to replace desktop computing applications for many purposes."

The distinction between the traditional World Wide Web and Web 2.0 has also been described as follows: in the past, the web pages were broadcasted (in other words, the information went only one direction) and now Web 2.0 allows interaction, collaboration, and end-user manipulation of data. So it is the same web, but the existing technologies are being used to create an entirely different online experience. Some examples of Web 2.0 are flickr and del.icio.us as well as blogs, wikis, AJAX, and podcasts.

#### Government and Web 2.0

Why should government web sites include Web 2.0 features? A recent announcement of the Rhode Island Govtracker Services says it best:

It is simply unacceptable at this point in history that a citizen can use web services to track the movies he is renting, the weather around his house, and the books he's recently purchased but cannot as easily monitor data regarding the quality of his drinking water, legislation or regulations that will directly impact his work or personal life, what contracts are currently available to bid on for his state, or what crimes have recently occurred on his street. (www. gocc.gov/Members/sjwillis/weblog\_storage/blog\_07956)

Various government web sites have been experimenting with Web 2.0 technologies for some time. Here are some examples.

#### Blogs

Many government web pages include blogs (a listing can be found at http://govfeed.com/blogs). One of the strengths of blogs is the user's ability to interact, exemplified most clearly by the comments feature. However, most government blogs have the comment feature turned off. This may be due to privacy concerns, content concerns, lack of staff time to moderate, or spam. In any case, when there is no ability for interaction, it takes away the powerful social side of blogs and makes them a one-way or top-down form of communication like any other web page. Some people even argue that it is no longer a blog without that kind of interaction functionality. Here are a couple of examples:

- Mayor's Blog, District of Columbia: http://blog.mayor. dc.gov (comments allowed)
- Barack Obama's blog: http://obama.senate.gov/blog (comments turned off)

#### Wikis

Wikis are another feature that may be useful for government web pages. However, a recent hijacking of a UK.gov wiki doesn't bode well for the future of wikis on government web sites. That wiki (http://wiki.defra.gov.uk) has been purged of the spurious entries and is currently disabling new entries.

#### **Podcasts**

While not participatory in the same way as blogs or wikis, podcasts are often lumped in with Web 2.0 because they are a newer format (listings can be found at www.firstgov.gov/

Topics/Reference\_Shelf/Libraries/Podcasts.shtml and http://freegovinfo.info/node/174). Government examples include:

- NASACast: www.nasa.gov/multimedia/podcasting
- CDC: http://www2a.cdc.gov/podcasts

#### Video Podcasts

- City of Warren (MI) provides *TV Warren News* via video podcast (www.cityofwarren.org)
- German Chancellor *Die Kanzlerin—direct* (www.bundes-kanzerlin.de)

#### RSS Feeds/XML

These technologies have been gaining in popularity. The power of these features is that they allow the end user to manipulate the data, whether through an aggregator or by using the data in a new application (a listing of RSS feeds can be found at www.firstgov.gov/Topics/Reference\_Shelf/Libraries/RSS\_Library.shtml). Some examples include:

- Consumer News from Pueblo: www.pueblo.gsa.gov/rss/consumer.xml
- Current Weather Conditions: http://weather.gov/data/current\_obs

#### More Coming

One indication that there we are likely to see more Web 2.0 developments in the near future is that Web 2.0 features are increasingly being incorporated into best practices documents. For example, Webcontent.gov (currently part of FirstGov) is designed for government web managers and includes such topics as usability, design, managing content, and so on. One of the categories being developed is "Other Web Technology," which includes RSS feeds, podcasting, blogs, and XML. When complete, this will be a guide to what these features are and how to add them to a government web site.

WebContent.gov also hosts an annual "Web Managers Best Practice Awards" (www.firstgov.gov/webcontent/improving/marketing/awards/general\_audience/finalist4. shtml). One of the finalists for 2006 is National Oceanic & Atmospheric Administration's Ocean Explorer (www.oceanexplorer.noaa.gov), and the nomination specifically mentions the video podcast for the Ring of Fire Mission.

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# **Selected Titles from UN Publications**

#### Yearbook of the United Nations 2004

This unique publication, the fifty-eighth volume of the Yearbook of the United Nations, chronicles all the major activities undertaken in the organization in the year 2004. In an increasingly complex international environment, The United Nations addressed, during the year, the many peace and security challenges it faced, especially the threats posed by international terrorism, conflict situations and the potential proliferation of weapons of mass destruction. The United Nations also sought solutions to such economics and social problems as poverty, hunger, unsafe drinking water, environmental degradation and endemic and infectious diseases, including HIV/AIDS, by working to implement the Millennium Development Goals. Published by: United Nations (UN)

Sales Number: E.06.I.1 H ISBN: 9211009669 Year: 2004 Price: \$ 175.00

# The Annual Report on the Work of the Organization 2006: Meeting the Challenges of a Changing World

In this, Kofi A. Annan's tenth and last Annual Report as Secretary General, he seeks to provide an overview of the Organization's main achievements and challenges during the previous twelve months in the light of the critical developments in the decade since he took office. He has also subsumed in a single report both the work of the Organization as such and the progress made in implementing the Millennium Declaration, which in previous years had been the subject of a separate report. (available in English, Arabic, Chinese, French, Russian, Spanish) Publishing Agency: United Nations (UN)

Sales Number: E.06.I.38 ISBN: 921101137X Year: 2006 Pages: 128 Price: \$15.00

#### The Millennium Development Goals Report 2006

This report shows where we stand in 2006 in achieving the Millennium Development Goals, six years after leaders from every country agreed on a framework for development and time-bound targets by which progress can be measured. The challenges the Goals represent are staggering, but there are clear signs of hope. The report presents the latest assessment on how far we have come, and how far we have to go in reaching these goals, in each of the world's regions. Similar data will be collected and presented each year until 2015, the target date for the Millennium Development Goals, in an effort to give further direction and focus to international cooperation and national action. Publishing Agency: United Nations (UN)

Sales Number: E.06.I.18 ISBN: 9211011329 Year: 2006 Pages: 28 Price: \$ 10.00

# United Nations Secretariat First Consolidated Report 2005

The duties carried out by the Secretariat are as varied as the problems dealt with by Member States of the United Nations. These range from administering peacekeeping operations to mediating international disputes, from surveying economic and social trends, to engaging issues of human rights and sustainable development. Secretariat staff also inform the world's communications media about the work of the United Nations, and organize and manage international conferences on issues of worldwide concern. This report, covering both financial and programme information for the year 2005, is a first step towards the goal of improving, both in quality and content, the mechanisms by which the Secretariat reports to the Member States. Publishing Agency: United Nations (UN)

Sales Number: E.06.I.35 ISBN: 9211011345 Year: 2005 Pages: 400 Price: \$ 20.00



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# Illinois Historical Aerial Photography Digital Archive Is Growing

#### Arlyn Booth

n May 12, 1933, President Franklin Roosevelt signed into law the Agricultural Adjustment Act (P.L. 73-10), which was originally administered by the United States Department of Agriculture, Agricultural Adjustment Administration (USDA-AAA). As of the mid-1930s, the USDA-AAA periodically acquired nationwide aerial photographs by county. These photographs were originally used by the USDA-AAA to assess the nation's agricultural lands and served as the basis for the national soil surveys. These USDA-AAA aerial photographs are now widely recognized as a unique and detailed record of the cultural and physical landscape of the nation. They are also intensively used by government agencies, surveyors, planners, consulting scientists, engineers, genealogists, and many others for a multitude of diverse purposes, such as determining past land uses, restoration of natural areas, assessing historical changes in stream dynamics, and documenting fading memories. For instance, when comparing the earliest and the latest aerial photos of Hogans Bottoms in the Shawnee National Forest (figure 1), the loss of forest in sixty years is obvious.

Historical aerial photographs are used in various applications, including the following examples:

- Archaeologists detect and identify important sites through soil patterns shown on older aerial photographs, because crops were not as densely planted in the past; Native American burial mounds are discovered more easily using aerial photography captured before urban development because of the 3-D stereoscopic nature of the aerial photographs (figure 2); debris scatter is recognized as a potential site because the homestead or other historic structures are still present on the 1930s aerial photographs.
- Social and environmental historians study a variety of cultural and natural changes; for example, the growth and impact of small towns that grew up along railroads and the developmental history of dunes in the Green River lowland of northwestern Illinois.
- Impressions perceived by literary scholars and art historians in artistic and literary works are researched in the context of the artists' environment. Architectural historians examine poetry from the context of the poet's home and surroundings visible on historical aerial photographs.
- Students are shown the adverse impacts to the natural environment resulting from land management decisions using before-and-after sequences, thus seeing first-hand the changes from wetland to farmland, farmland to urban, and from natural stream to channelized ditch.

- An oral history interviewer uses historical aerial photographs to assist elderly informants in identifying structures and sites through visual stimuli that would not be present on a modern map or modern aerial photograph.
- A variety of other scholars and historians seek evidence of historical locations for research purposes. For example, historical railroad society representatives try to document a railroad roundhouse and rail yard in 1940; historical preservationists try to verify evidence of an underground railroad facility used to help fugitive slaves; local historians and genealogists of the public examine the aerial photographs to document demography and commercial growth and other facets of community life.

In the undergraduate classroom, historical aerial photography is used to provide students with a context of cultural change over time through fostering a powerful appreciation of time and place. The 1994 Geography Education Standards Project (www.ncge.org/geography/standards) formally characterized the meaning of place as follows:

People's lives are grounded in particular places. We come from a place, we live in a place, and we preserve and exhibit fierce pride over places. Our sense of self is intimately entwined with that of place. Who we are is often inseparable from where we are. Places are human creations and the geographically informed person must understand the genesis, evolution, and meaning of places. . . . Students need an understanding of why places are the way they are, because it can enrich their own sense of identity with a particular place and enable them to comprehend and appreciate both the similarities and differences of places around their own community, state, country, and planet.<sup>1</sup>

Donald Luman, a senior scientist with the Illinois State Geological Survey (ISGS) in Champaign in the early 1990s, realized the value of the earliest aerial photography and recognized the fragility of the earliest contact prints in libraries. When he discovered that the original large format negatives on nitrate film had been destroyed (due to combustion fears, after copying onto small format film) at NARA—and found the quality of the paper reproduction from small format film by NARA vendors for Illinois photographs nowhere near the quality of the original contact prints for his purposes—he and two others set out on a path to create a digital archival quality substitute that would also widen access to these photographs. Luman proceeded to research the best procedures

and equipment with which to scan these photographs. His published article is cited below.<sup>2</sup>

Beginning in 2001, with Scantech Imaging of Champaign performing the scanning and the Illinois Departments of Natural Resources and Transportation providing the funding, more than eight thousand photographs for twenty-five counties were digitized. In 2003, the Army Corps funded the development of a web site to provide online access to this large collection of photographs. In 2003, the Illinois State Library (ISL) and ISGS were awarded an Institute of Museum and Library Services (IMLS) grant that added twenty counties to the Illinois Historical Aerial Photography web site (www.isgs.uiuc.edu/nsdihome/webdocs/ilhap).

Scantech Imaging scanned the 7" x 9" and 9" x 9" paper prints, acquired from various aerial photography collections around the state, at 750 dpi in an 8-bit grayscale range, using a Crosfield 646IE drum scanning system. (Luman's tests revealed that 750 dpi was the limit for capturing the most detail without overstepping the point at which more detail was not worth the increased file size, and that the Crosfield drum scanning system captured more detail than the other scanners tested). The county indexes were scanned on a large-format document scanner and have been georeferenced to serve as the basis for accessing and searching the digital archive. The individual aerial photographs have not been

georeferenced in order that they may serve as digital surrogates of the original prints and so that stereoscopic viewing capability is maintained. All of the aerial photographs and county indexes are available for free download on the web site. The aerial photographs are compressed into MrSID-formatted images, with an ExpressView Browser plug-in available on the web site for download. The plug-in is necessary to view the photographs. The original uncompressed TIFF images are available on CD-ROM from ISL.

After applying for the IMLS grant, the project staff

After applying for the IMLS grant, the project staff discovered that a few other states had just created historic aerial photography web sites. Although funding sources, metadata schemes, scanning systems, and other factors differed, the two most significant differences between those sites and the Illinois site were (1) no one else scanned higher than 600 dpi, and (2) all others were including at least one later flight in addition to the first flight (figure 3). Upon comparing the web sites of some of the other states that aim for complete state historic coverage, such as Colorado (http://ucblibraries.colorado.edu/aerialphotos/home.asp), Connecticut (http://magic.lib.uconn.edu), Georgia (http://dbs.galib.uga.edu/gaph/html), and Minnesota (www.dnr. state.mn.us/maps/landview.html), the Illinois ArcIMS interactive map service web pages (figure 4) were significantly updated with new layers aiding search strategy, including

#### Deforestation in the Shawnee National Forest, Union County, Illinois



AUGUST 24, 1938



APRIL 6, 1998

Illinois ranks 49 among 50 states in the percentage of its natural landscape remaining since the time of pre-European settlement 185 years ago. Once extensive forests within the state have undergone drastic changes over the past century, and nowhere is this better documented as within the Shawnec National Forest of southern Illinois. The perspective view produced from 1938 AAA photography shows a 2½ mi² block of contiguous forest known as Hogans Bottoms. Sixty years later, a 1998 perspective view of the same area shows that much of this high-quality bottomland forest has been cleared for agricultural land, a scene which is repeated across much of the Shawnec National Forest. The rate of deforestation in southern Illinois during the early part of the 20th century rivals, and in some areas surpasses that of tropical deforestation occurring today (Illinois Department of Natural Resources). Such use of AAA photography provides students with a heightened awareness of the anthropogenic effects upon ecosystem processes and patterns.

Figure 1. Hogans Bottom Aerial Views: 1938, 1998

#### Cahokia Mounds in Collinsville, St. Clair County, Illinois

3-D View
3-D viewing is an added advantage of AAA aerial photography. Positioning a specialized device called a stereoscope over these two overlapping photos, a three dimensional image of Monk's Mound (the large mound in lower half of the image) appears. This can also be accomplished by focusing the left and right eyes on the left and right images, respectively (it takes some practice). Such stereopairs are extremely useful for archeologists and other scientists, who use the 3-D capability of AAA photography to assist in the interpretation of landscare features.





1936 oblique aerial view of Monks' Mound. This mound, largest of the entire group at Cahokia, has a base area of sixteen acres, and is 100 feet in height. (Illinois State Historical Society Transactions of 1936)



APRIL 2, 1998

Cahokia Mounds State Historic Site, located near metro East St. Louis, Illinois, is the largest prehistoric Native American city north of Mexico. This site was the center of economic, social, political, and religious activity during the Mississippian period (A. D. 1000-1400) in the central Mississippi River valley. The Cahokia site includes >120 earthen mounds that were used for burials and house/temple platforms. Of these, 109 have been located and 68 have been preserved (Cahokia Mounds Museum Society). Mounds that were destroyed prior to 1940 as a result of urban development and agricutural practices still left traces of their existence. Note the three red circles on the 1940 AAA aerial photograph, which clearly show the remmants of mound bases as darker oval-shaped features. Nearly sixty years later, these mound remnants have permanently disappeared from the landscape after decades of surface disturbance by large-scale modern farm equipment. AAA photography has been used as an invaluable information resource to archeologists in mapping the extent of this once great prehistoric city.

Figure 2. Cahokia Mounds Aerial Views: 1936, 1940, 1998

the USGS 7.5-minute topographic map index, USGS Digital Raster Graphic (DRG) files, and the 1998-2001 USGS Digital Orthophoto Quarter Quadrangle (DOQQ) imagery during the IMLS grant. Access to the aerial photography is also provided via text-based web pages for each county (figure 4). Record-level metadata is available for each aerial photograph on the web site. County-level metadata is available in Machine-Readable Cataloging (MARC) in OCLC (record #58995785 for Adams County) and will be available in Dublin Core at the Illinois Digital Archives (IDA) web site (www.idaillinois.org).

Florida now has an aerial photography web site as well (www.uflib.ufl.edu/digital/collections/flap). The Iowa web site (http://ortho.gis.iastate.edu) has 1937–1939 USDA flight coverage for ten counties, but Iowa has not indicated any plans at present to expand beyond those ten counties. A search of the ALA Map and Geography Round Table's map scanning registry and the Western Association of Map Libraries' scanning projects clearinghouse with the terms "aerial photography" and "aerial photographs" revealed no one else, but there could be other web sites in place or starting.

The Illinois Historical Aerial Photography Digital Archive, representing the earliest Illinois statewide aerial photography acquired during 1937–1941, has grown to now include half of the state's counties. Fifty-one counties (figure 4) compris-

ing a total of 17,200 aerial photographs are now accessible through the Illinois Geospatial Data Clearinghouse (www. isgs.uiuc.edu/nsdihome). The aerial photographs for the latest five counties added to the web site, most of which are in southern Illinois, were funded by a Library Services and Technology Act (LSTA) to ISGS from October 2005 to June 2006. The vendor for this latest grant is now Martin Graphics of Champaign and the scanning equipment is a Crosfield Celsis 6200.

ISL and ISGS hope to attract funding to scan the oldest aerial photography for the remaining fifty-one Illinois counties. The goal is to preserve the oldest statewide aerial photographs first, as their original negatives no longer exist at NARA and the existing print collections are in poor condition under restricted access. When the 1937–1941 aerial photographs for Illinois are preserved, it is hoped that efforts can then turn to making later flights accessible via the Internet.

Major state collections of aerial photographs are housed, usually, in the largest academic library in that state. The University of Illinois at Urbana-Champaign has the largest public Illinois collection (www.library.uiuc.edu/max/aerial. shtml), with regional collections at Southern Illinois University at Carbondale and Edwardsville, Western Illinois University, Illinois State University, and elsewhere. The primary source for the Illinois Historical Aerial Photography Digital

C ' C' '	# C1 / A //	COLL CLICATION	A 4- D'-'4-1 III'-4'I	A I Db - 4 be	(Manala 2004)
( amnarican ( harf -	- 5 States Attempting	Statewide Un-Line	Access to Digital Historical	Aeriai Photogranns	I VIAICH, ZUU41

State	Illinois	Minnesota	Connecticut	Georgia	Colorado
Dates	1936-1941	1938-1939 (1) 1947-1959 (2)	1934 (1) 1951-1969 (2)	1938-1980's	1938-1947
Coverage Now	25 Counties (of 102)	44 Full [every other photo] & 3 Partial Counties (of 87) (1) 26 Partial Counties (of 87) (2)	Whole State (1) 5 Counties (of 8) (2)	47 Counties (of 159)	8 Counties (of 65)
Scanning/Methodology 1) scanner 2) scanning resolution 3) grayscale level 4) archive format 5) additional notes	1) Crossfield (drum) 2) 750dpi 3) 8-bit grayscale 4) TIFF 5)	1) Hewlett-Packard (flatbed) 2) 300 dpi 3) 8-bit grayscale 4) TIFF 5)	1) Microtek (flatbed) (2) 2) 600 dpi (2) 3) 8-bit grayscale (2) 4) TIFF (2) 5) 1 <sup>st</sup> collection outsourced	1) Unknown 2) 600 dpi 3) 8-bit grayscale 4) TIFF (LZW compressed) 5) minor adjustments to quality	1) Epson (flatbed) 2) 600 ppi 3) 24-bit color 4) TIFF 5)
Downloadable image	MrSID	Thumbnail – JPEG (1&2) Full Resolution – JPEG (1) TIFF (2)	Screen Capture (1) MrSID (2)	Displays MrSID - but downloads JPEG	JPEG
Georeferenced	Images - NO Index - YES	Images - NO Index - YES	YES (1) NO (in process) (2)	NO	NO
Map Interface	ArcIMS	Landview (1&2)	ER Mapper (1) None (2)	Html	Active Server Page (ASP)
Search Options	Interactive map & text options (index)	Interactive map & text options (GNIS) (1&2)	Interactive map (1) Text options (2)	Interactive map	Interactive map & geographic keyword
Metadata	FGDC (so far)	Not Available	FGDC (not yet available on line)	Not Available	Dublin Core; MARC
Extra GIS Info	Part of NSDI Clearinghouse	Part of Interactive Map Section	Part of MAGIC	Part of Digital Library of Georgia	Part of Map Library
Sponsor(s)	IDNR; IDOT; USACE; ISL; Scantech Imaging	MN DNR	University of Connecticut & State Library	Digital Library of Georgia & East View Cartographic; University of Georgia Library	Colorado Digitization Program
Funding Source(s)	Internal and external contracts and grants; IMLS	Own budget	Own budget; student labor; Connecticut State Library	Own budget; internal grant	IMLS
Source Collection(s)	IDNR-OWR, University of Illinois, SIU-Carbondale, Lake County, Peoria Farm Service Agency	University of Minnesota Map Library (1 & 2)	Connecticut State Library (1), Homer Babbidge Library - University of Connecticut (2)	University of Georgia Map Library	University of Colorado Map Library
User Friendliness	Pro: text-based access Con: needs simplifying; download viewer; takes too long to get to photo	Pro: simple map interface Con: no introduction, no project information and/or interactive map instructions	Pro: text-based access Con: 1 <sup>st</sup> collection - no downloadable images; 2 <sup>nd</sup> collection - no map interface	Pro: good FAQ for user Con: intent to make mosaic indexes easier to read	Pro: good instruction; easy navigation Con: image not adjustable

Figure 3. Comparison Chart

Archive was in the possession of the Illinois Department of Natural Resources, Office of Water Resources (OWR). That staff collection is now housed at ISL. To safeguard its future preservation the collection has been housed in acid-free folders in slightly deeper-than-normal file cabinets and as many markings as possible have been erased, and it is noncirculating. The OWR collection consists of the earliest flight for all but a few counties of Illinois, plus a later, usually 1950s, flight for some counties. The OWR collection added more than 40,000 aerial photographs to ISL's previous aerial photograph collection of 27,000 from the National Aerial Photography Program (NAPP) 1988, 1993, and 1998 flights. The Illinois 2005 aerial photographs are arriving at ISL as well. The NAPP photographs are a circulating collection.

Although the map librarians at the major academic libraries probably don't feel that the aerial photograph collection is underused, perhaps there are documents librarians and patrons who should be using these resources more, whether online or hard copy. The Illinois web site, which includes only the earliest flight for half the counties, has registered more than four million views/downloads in fewer than four years! Almost all of this activity is by remote users. The flyer advertising the web site (figure 4) has been circulating as widely as possible and is sitting on the ISL map department's free literature counter. Every once in a while, an ISL patron who has needed historic aerial photographs and made the trip over to the University of Illinois at Urbana-Champaign (ninety miles one

way, from Springfield) in the past learns on-site that there is now web access to at least half the counties and is delighted. More times than not in the past, when the earliest aerial photograph of a project site should have been consulted, it was not, due to the time and effort needed for a trip to Urbana-Champaign from various spots around the state or from out of state.

During the grant writing effort in 2006, it was learned that the NARA experiment with copying the original negatives to small format film before destroying the pre-1950 nitrate film extended to twelve additional states: Georgia, Idaho, Indiana, Iowa, Kansas, Oklahoma, Oregon, South Carolina, South Dakota, Texas, Utah, and Washington. Only the name of the first state in this list corresponds to the list

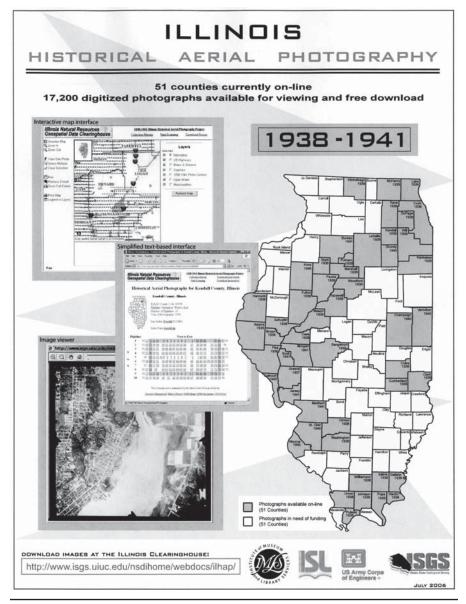


Figure 4. Project Brochure

of states that have substantial statewide historic aerial photography web sites!  $\blacksquare$ 

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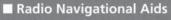
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# Access and Preservation of Scientific and Cartographic Literature Using an Institutional Repository

USGS's Geologic Atlas of the United States in DSpace

Katherine H. Weimer, Rusty Kimball, Steven Bereyso, Brian Surratt, Adam Mikeal, and Alexey Maslov

he nature of many geosciences publications, with numerous illustrations, photographs, and maps, makes them among the most difficult cases for applying paper preservation techniques. The use of highly acidic paper increased between 1850 and 1950, which coincided with a tremendous growth in the number of scientific publications. Digitization is an attractive preservation option whose key advantage is the ability to make the materials available to a much wider audience.<sup>1</sup>

Libraries are taking an active role in the digitization of unique historic and scientific collections. This is a case study of one such project. The digitization of the *Geologic Atlas of the United States* was initiated for two reasons: first, to support geosciences research on a national scale, and second, to serve as a pilot project to examine the utility of an institutional repository for scientific and cartographic resources.

## United States Geologic Atlas History and Use

The United States Geological Survey (USGS) was established in 1879 and assigned the task of "classification of the public lands and examination of the Geological Structure, mineral resources and products of the national domain." <sup>2</sup> The agency began work on a uniform series of geologic maps, beginning with the *Geologic Atlas of the United States*. The atlas would "consist of a series of folios in a standard format, each containing topographic, geologic, and other maps and illustrations and text describing the geology of a particular quadrangle." <sup>3</sup> In 1894, the first folio was published, followed by 105 more in the next ten years. However, increasing costs and decreasing support led to the discontinuation of the series by 1945. Libraries collected the series through the FDLP.

Only 227 folios were produced, so the coverage area is very limited. Most of the maps in the folios were at either 1:62,500 or 1:125,000 scale, although they ranged from 1:250,000 to 1:9,600. The USGS quad series boundaries and quad names are used in the *Atlas*. The actual coverage area of the set is more than three hundred quadrangles, because more

than thirty folios cover areas larger than a single quad. Some areas warranted further study and were resurveyed, such as the Mother Lode District in California. For many of the areas covered by the *Atlas*, the folios served as the pioneer report for that area and laid the foundation for later works.

The folios contain three main types of content: text, maps, and photographs. The text, as expected, contains detailed explanations of the geologic history and structure of the area. Beyond that, there is description of marshes, drainage, mineral resources, relief, and culture (including inhabitants and manufacturing). Insets throughout the text range in topic from geologic sections, sketches, and faults, to specialized thematic maps showing extinct lakes, for example.

The maps, in addition to displaying the basic geologic features, show many cultural features, such as churches, schools, houses, lighthouses, and railroads. They also show stream and creek names, wetland areas, water depths, and mines. The content of the photographs support research in many fields. Photographs in the Yellowstone folio show geysers, panoramic views, the status of hillsides, and erosion. The Niagara Falls folio contains photographs showing seasonal differences of the falls as well as views of the riparian zone. The photos contain potentially valuable information for developers, planners, environmentalists, genealogists, educators, and others (see figure 1).

The authors were unable to find any published documentation on usage of the folios. Presently, geologists still make use of a number of folios. According to a geologist's comment to the authors, some of the fieldwork conducted in the Northeast was done after large-scale forest clearing. Consequently, many areas that were exposed then are now reforested, making those folios the best source today for the surface geology. Clearly, geologists, geology students, researchers, and educators are likely the primary users, while others seek out the folios for genealogical or local history research.

#### Project Management

The Texas A&M University (TAMU) Libraries own the complete set of folios. Some libraries have scanned portions

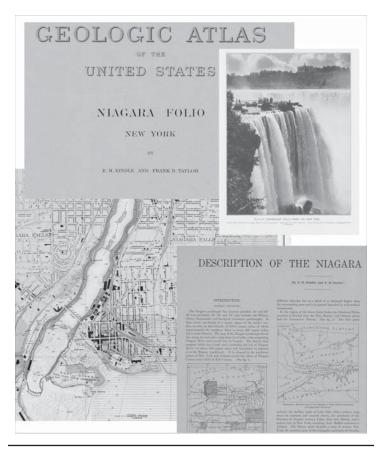


Figure 1. Example Montage Showing Folio Cover, Map, Photo, and Text

of the set, typically folios or map sheets of their own state. However, we consider the complete collection important both scientifically and historically and support its preservation and access through digitization.

In 2001, scanning of each folio page began. The text and map pages were in very good condition; however, the covers and binding were fragile. The folios were unbound, then scanned on a forty-inch-wide roller scanner. A few covers were very fragile and were scanned on a flatbed scanner. Images were scanned at 300 dots per inch (dpi) and stored using the Tagged Image File Format (TIFF).

Project management was difficult. A few dozen folios were scanned and mounted on the university's digital library web page. Over time, however, there was a complete turnover in project staff, resulting in the project being on hold for a few years. Scans remained saved on a server, not yet loaded to the web, and further scanning ceased. No metadata was created nor project documentation left behind.

In 2005, new staff reviewed the status of the project and determined it was worth reviving. The project leaders reviewed standards for scanning. As Allen noted in 1998, there seemed to be "no widely recognized standards" but there was "consensus as to what does constitute a research quality image." Library of Congress and National Archives adopted a 300 dpi, 24-bit color standard. Scanning at 300 dpi resulted

in extremely large files, which posed a storage problem, compounded by the anticipated size of the complete project and limitations of space on the server. Scanning of the folio text pages in grayscale rather than color was considered in order to reduce file size, but was dismissed due to the concern that the image was not an accurate archival representation, and in fact the file size was not significantly reduced by a grayscale scan. File size was a valid concern, given the size of the folio is approximately 18.5" x 20.5", and each folio contained ten to forty pages or more. The resultant image files are approximately 100 MB each, although some larger maps were more than 200 MB in size. Each folio required one to four GB, and the complete set almost 500 GB. Once scanned, each image went through a post-scanning process, involving cropping of borders and adjusting the page slant. This was accomplished through Adobe Photoshop CS2.

The new project team reevaluated methods of access to the scanned images. The prior storage and access through the campus digital library was not feasible, and the library staff wanted the project handled within the library operations. The library web page was considered, as a handful of digitized maps were already presented via the web. An alternative and more substantial medium for long-term preservation was the newly unveiled university institutional repository. As described to the project team, the DSpace digital repository provided long-term preservation for scholarly materials as well as standardized metadata structure.

# Background of the Institutional Repository

In 2004, the library deployed DSpace (www.dspace.org) as its institutional repository system, and named the local instance TxSpace (http://txspace.tamu.edu). DSpace is an open source digital repository system originally developed by MIT and Hewlett-Packard. The purpose of this system is to promote the development of scholarly digital collections and to preserve these collections for long-term access. In early 2005, the Coalition for Networked Information conducted a survey to assess the deployment of institutional repositories in the United States. <sup>5</sup> The survey revealed that "a significant number of institutions are committed to institutional repositories that go far beyond e-prints."6 Based on the survey responses, nine libraries had map materials in their institutional repositories, and another twelve planned to include maps in the next one to three years. One significant advantage of the DSpace system is that it is searchable through Google Scholar, allowing for searching across repositories instead of just within them.8 Better yet, TxSpace is configured as an OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting) data provider. As a result, OAI service providers, such as OAIster (http://oaister.umdl.umich.edu), can freely harvest the

metadata of the collection, which enhances integrating of the data with other collections.

#### Metadata

During digitization, staff created a spreadsheet containing the descriptive metadata for each folio and developed a Dublin Core application profile. The spreadsheet contained the folio number, title, creator, date, publisher, series, and subject (Library of Congress Subject Headings). The creator, series, and subject fields were entered in the Library of Congress authorized heading form. Each folder name (containing a unique folio) was used as the unique identifier to link each descriptive record to the corresponding page images.

Dublin Core was adequate, although not precise enough in the geographic descriptive elements, and Dublin Core Qualified fields were used. Following the Dublin Core Metadata Initiative (DCMI) recommendations, geographic elements were used, including "coverage.spatial," "coverage. box" for decimal degrees, and "coverage.point" for degrees, minutes, and seconds. These geographic coordinate fields were added to the default set of DCMI metadata fields already available in the institutional repository.

#### Technical Details

The folio collection was initially stored as a standard collection in DSpace (http://handle.tamu.edu/1969.1/2490); however, DSpace is not optimized for image-based or geographic data. Project leaders collaborated with the Digital Initiatives Research and Technology (DIRT) group within the TAMU Libraries to create a new interface for the collection. The goal was to allow the original archival files to remain in the repository, while pro-

viding a search and browse interface that would take advantage of the geographic information embedded in the metadata.

In the standard interface used by DSpace, individual communities lack the ability to present their collections with a unique look and feel. Our local developers, as part of the larger DSpace community, are addressing these concerns through Manakin. Manakin is the second release of the project to replace the user interface in DSpace, and it uses XML technologies to separate the logic and presentation layers of the repository.

The standard collection overview provided by DSpace failed to leverage the unique properties of the folio collection. A map-based interface for browsing and searching would allow the user to quickly determine the coverage area of a particular folio visually as well as place the title in its geographic context. Manakin provided for the creation of such a collection overview, integrating the geographic metadata available on each folio with the Flash-based mapping API provided by Yahoo! Maps (see figure 2).

Because of the capabilities and limitations of the DSpace application, the collection is organized into 227 items, one for each folio. Within each item, there are multiple bitstreams: one 300-dpi TIFF for each scanned page of the folio, and one 96-dpi PDF of all the pages stitched together for screen-viewing purposes. The default item view in DSpace is optimized for items that contain few bitstreams and merely lists the bitstreams as textual links for downloading. For the folio collection this produces an uninformative list of filenames, each linking to a very large (approximately 100 MB) TIFF file. The result is a very cumbersome browsing experience.

Manakin enabled the creation of a new detail view, using an image gallery–style viewing interface. This new view had thumbnails for each page and lower-resolution surrogates for screen viewing. It also allowed a viewer to download either the full archival-quality TIFF or a reduced-quality JPEG. The combination of thumbnail surrogates and the ability to see all pages of a folio at once serves to increase the ease with which the collection is navigated and understood. At press time, Mankin was in development, with an expected deployment in fall 2006 (see figure 3).

The project team identified optical character recognition (OCR) as a meaningful way to provide further access to the collection. Limited preprocessing of the images increased the accuracy of the OCR process; however, the OCR software was unable to capture the four-column format used by the

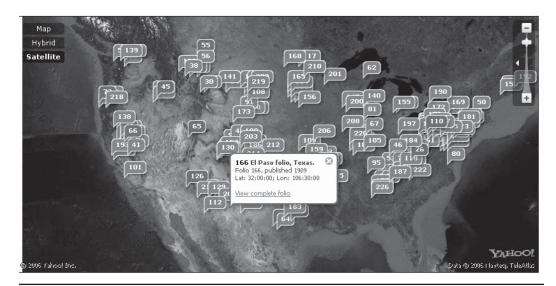


Figure 2. Map-Based Interface Screenshot

folios. The textual structure (including word order) was lost, and this fact, along with the arrangement of the bitstreams within the DSpace item record, meant that specific words could not be associated with individual pages in the folio, but only with the folio as a whole.

Manakin was able to use the geographic metadata inside the item to provide advanced search capabilities across the collection. This means a user can limit a search to either the defined coverage areas or the full-text index provided by the OCR process. For example, it allows a researcher to find a set of folios that are limited to the state of Texas in their coverage area, but mention the word "Colorado" in the text of the folio. Previously, the collection had no such searching capabilities.

#### Lessons Learned

The lessons of this project were numerous:

- Assess one's collection for hidden treasures. Determine what items in the collection are potentially valuable to the scholarly community, locally and beyond. What unique items or collections should be considered for digitization?<sup>10</sup>
- Seek out grants and other means of support. While grants were not required for this project, numerous grants are available through the federal and state governments and local historical foundations.
- Collaborate with others in the organization. Ask for advice on thorny technical details.
- Adaptive management is critical to any success. Even with the best-planned project, diversions and contingencies will creep in.
- Be consistent and logical in file naming.
- Keep documentation and distribute it widely.
- Adapt the workflow as needed.
- Aim for high quality. Review and edit images, and if necessary, redo the work.
- Seek out users, ask for their feedback, and consider changes if recommended.

#### Conclusions

The original goals of the project were to preserve and increase public access to the *Geologic Atlas of the United States* over the Internet and to explore the use of an institutional repository for scientific and cartographic materials. Digitization of the *Atlas*, combined with findability through Google Scholar and OAIster, gives this rich resource new life. While

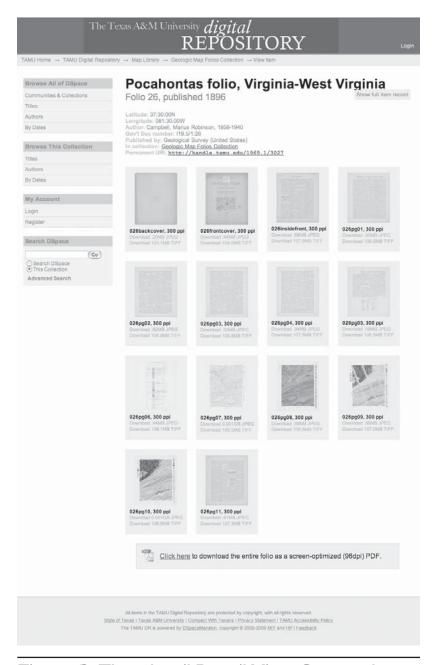


Figure 3. Thumbnail Detail View Screenshot

geologists were the original intended users of the series, local historians, planners, and others may find the cultural, historical, and environmental content particularly meaningful.

Scanning of older government reports is important and urgent, as many include maps that are folded and quite brittle. Standards for the process are hard to find, but GPO's *Digitization Specifications and Operating Procedures for Archiving Materials: Creation of Preservation Master Files* is a good starting point containing information on digitization of maps. <sup>11</sup> The project has highlighted the need for collaboration and standardization in scanning and metadata creation, as well as the current movement toward registries of digitization projects. Both GODORT and GPO host clearinghouses for government documents

digital projects. <sup>12</sup> The Western Association of Map Libraries and ALA's Map and Geography Round Table both host map scanning project registries. <sup>13</sup> The USGS National Cooperative Geologic Mapping Program, in cooperation with the Association of American State Geologists, hosts the *National Geologic Map Database*, which contains scanned images of maps published by the agency as well as by state governments. <sup>14</sup>

The project brought to light the growing body of literature on geospatial data and georeferenced maps in a digital library setting and the increasing number of map resources in digital libraries and institutional repositories. <sup>15</sup> Libraries need to have a leadership role in the formation of policies and practices on their campus and emphasize the value of open access so these digital resources are easily discovered through standard search engines.

In the future, additional forms of access to this collection will be examined, including adding formation names, member names, and their respective periods to the metadata. Georeferencing the maps for use in a GIS system also will be pursued. Further OCR will be attempted, and depending on its outcome, additional indexing of the photograph and table captions will be considered. Use statistics will be collected and analyzed.  $\blacksquare$ 

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- 13. Western Association of Map Libraries, www.waml.org/clearinghouse.html, and MAGERT, http://mapregistry.library.arizona.edu.
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# Map Scanning Registry

#### Christine Kollen

he Map Scanning Registry (http://mapregistry.library. arizona.edu) is a newly developed web site (released on July 18, 2006), sponsored by the American Library Association Map and Geography Round Table (MAGERT), and developed and maintained at the University of Arizona Library. This paper will describe what the Registry is, why it was created, how it differs from other registries, the basic structure of the site, and how the developers envision it being used.

## Description of the Registry

The purpose of the Registry is to record map scanning projects that are being planned, are in process, or have been completed, by geographic area, to help avoid more than one institution scanning the same maps. In addition, it provides a resource for reviewing the various technical parameters used in each project and for finding digital map images. Anyone regardless of affiliation, type of maps they are scanning, or the publisher of the maps, may submit a project to the Registry (see figure 1).

Information about map scanning projects (planned, in-process, ongoing, or complete) is submitted through an online form available on the web site (see figure 2). The form is arranged in three categories—descriptive, technical and contact information. Descriptive information includes project title, URL, project status, publisher, geographic area, project description, metadata, number of items, scale, and

Tou can search the registry using basic search (keyword search) or advanced search. The advanced search provides the ability to search by project or map title, geographic area, publisher commission.

Figure 1. ALA/MAGERT Registry

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publication dates of the original maps. Technical information includes the file format, compression ratio, image management software used, and if the images are georeferenced or rectified. After the form is completed and submitted, an e-mail message is sent to the site administrator. Once the administrator checks the submission, an e-mail confirmation is sent to the person listed in the contact information.

The site also provides basic and advanced search capabilities. The basic or keyword search searches the title, geographic area, and so on. The advanced search screen allows one to search in specific fields—title, geographic area, publisher, project status, metadata format, and organization. In addition, there is a browse function available to view records for all submitted projects. The search results provide a brief listing (title. geographic area, and organization); to view the entire record users simply click on the "+" sign (see figure 3).

Updated information on a project can be submitted as needed. The Update Project link opens an e-mail window to send updated information to the web site administrator. After the project information has been updated on the site, an e-mail confirmation is sent.

## Why the Registry Was Created

The impetus for creating the Registry flowed from discussions at the Map and Geographic Information Collections in Transi-

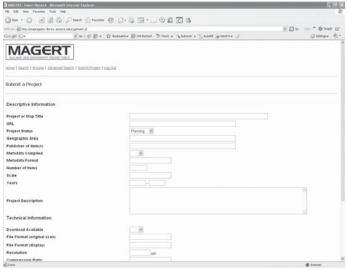


Figure 2. Submission Form

nton about your project has charged, click on <u>thickate Project</u>. It will open an e-mail window to send your up on you want updated. You will be sent an e-mail confirmation that the updates have been made.

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MAGERT

The goals of the ALA MAGERT Map Scarning Registry are to:

Find out what scenning is being planned, in process, or complete for a particular geogra
 Head off any displication of effort
 Fronds a resource to use for finding a particular digital image
 Fronds a resource for consense for particular plants to the plants and to different non-

tion Conference sponsored by the Cartographic Users Advisory Council that was held May 12–13, 2005, at the Library of Congress. Several attendees at the conference expressed a need to find out what map scanning projects were being planned, in process, or completed to head off duplication of effort. MAGERT subsequently discussed sponsoring a registry. The author developed a proposal for establishing a MAGERT-sponsored registry, and the proposal was approved by the MAGERT Executive Board at the 2006 ALA Midwinter Meeting.

## Other Map Scanning Registries

The key question to answer was—would the Registry duplicate a resource that already existed? After sending out an initial message asking for feedback, the developers were contacted by the Western Association of Map Libraries (WAML), which was developing a map scanning clearinghouse for its members. After discussing the two registries, both organizations agreed that it was important to have a mechanism up and available immediately, even if there was some overlap. The structure of the underlying databases was also discussed to make sure that they had the same basic structure with the intent of possibly combining the two registries in the future.

The focus of the WAML Scanning Projects Clearinghouse (www.waml.org/clearinghouse.html) is different from MAGERT's Registry. Only WAML members and non-WAML members within WAML's principal region may submit scanning projects to the WAML Clearinghouse. Anyone, whether in the U.S. or abroad, may submit scanning projects to the MAGERT Registry. The WAML Clearinghouse was released in March 2006, and the MAGERT Registry in July 2006.

Another registry that readers may be familiar with is the GPO Access Registry of U.S. Government Publication Digitization Projects (www.gpoaccess.gov/legacy/registry). The GPO Registry's focus is digitization projects that either include only U.S. Government publications or a substantial number of them. Only libraries, government agencies, or other nonprofit institutions may submit projects to the GPO Access Registry. Map scanning projects have been submitted to this registry (there are currently four map scanning projects listed), but they are included along with other government publication scanning projects. Even though there is some duplication between the three sites, MAGERT considers its Registry to be broader than the WAML Clearinghouse or the GPO Access Registry and thus unique enough to warrant a separate site.

# How the Registry Will Be Used

The main use of the Registry is to let others know what scanning or digitization projects are being planned, are under-

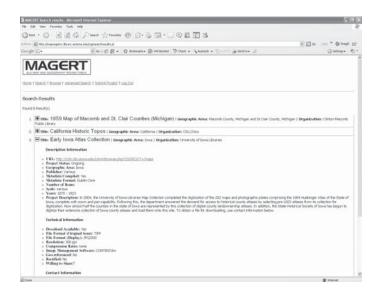


Figure 3. Registry Record

way, or are complete. Individuals send e-mail messages to various electronic discussion lists to let others know about their organization's scanning projects. However, it is difficult to keep track of who is doing what, and many do not widely announce a project before it is complete.

The Registry also can be used to review what technical parameters various projects have used to help plan scanning projects. It includes information on the original scan and the display format, resolution, compression ratio, image management software, if the project's images are geo-referenced or rectified, and what metadata was created.

For many institutions, a major scanning project isn't possible to fund in-house; at least partial outside funding is required. If grant funding was obtained, an optional field is available to indicate whether or not the institution is willing to share its grant proposal. In addition, the Registry may help foster collaboration. If two institutions discover they are planning similar projects, they may want to partner to develop a grant proposal.

If someone is looking for a particular image and knows that it may be a part of a particular collection, they could use the Registry to find the image. For example, suppose you are looking for an image of a historical map of the Southwest from the 1700s by Father Eusebio Kino. If you search under Arizona, you will find Maps of the Pimeria: Early Cartography of the Southwest scanned by the University of Arizona Library. You could review the description, go to the site, and find the map.

# Who We Anticipate Will Use the Registry

The main audience of the Registry is anyone planning a map scanning project who wants to verify that the maps they are planning on scanning haven't already been scanned, to find out what technical parameters others have used, and to look at how others have organized their web exhibits. Another audience will be those who simply are looking for a map image of a particular area.

We anticipate that initially librarians and archivists will submit information to the Registry. As the word gets out, we anticipate that others, such as historical societies, museums and possibly map publishers (such as USGS, or the National Geographic Society) also will submit information. Librarians in other countries also have expressed interest in the Registry. For example, the British and Irish Committee on Map Information and Cataloguing Systems maintains a list of British and Irish map scanning projects and is interested in submitting their projects to the MAGERT Registry.

## Publicizing the Registry

The Registry has been publicized through Maps-l, Govdoc-l, and several European map discussion lists. It also was publicized at the 2006 International Federation of Library Asso-

ciations Annual Conference in Seoul, South Korea (August 20–24, 2006).

How will people or organizations outside of the map librarian realm find out about the Registry? One idea would be to have a cadre of regional editors (similar to how information was gathered for the *Guide to U.S. Map Resources*) find out about map scanning projects in their area and encourage these organizations to input information about their projects into the Registry.

#### Conclusion

MAGERT is very excited to offer the Map Scanning Registry. We anticipate that it will become a resource that organizations will use as they are planning their digitization projects. We hope that you will help build this important resource by inputting your map scanning projects into our Registry!

**Christine Kollen**, Geography and Planning Librarian, University of Arizona Library, kollenc@u.library.arizona.edu.



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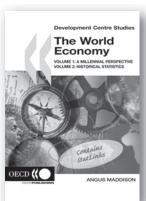


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# WAML Scanning Projects Clearinghouse

#### Matt Paskus

here is no doubt that the Internet provides a conduit for sharing content. In an effort to help universities share information, the Western Association of Map Libraries (WAML) has put together a web site that allows an audience to locate information on digitization projects within WAML member universities.

The WAML is a membership organization of librarians and other individuals with an interest in map librarianship. WAML members receive educational offerings in such areas as restoration, preservation, categorizing, and cataloging. There are an estimated 125 WAML members from around the country whose mission is "to encourage high standards in every phase of the organization and administration of map libraries" (WAML Mission Statement, www.waml.org).

WAML understands that by allowing members to view current scanning projects, it provides not only a rich resource of content but also reduces scanning redundancy. This, in turn, saves time and reduces costs. The WAML site is a creative method of providing without having to centralize scanned images. This decentralization benefits not only the WAML universities, but lowers information technology (IT) costs, by allowing each of the universities to offer services that are geared toward their use and not requiring conformation to other specific centralized scanning systems. The web interface is easy to use and provides a clear and cohesive entry form. The supplied form provides users with the ability to query projects using an excellent search utility. In today's IT environment, centralization is expensive, especially when projects span multiple universities. Within a matter of weeks, the WAML Web Committee found an excellent solution without any additional investment in IT.

## Project History

Scanning by WAML members of United States Geological Survey (USGS) topographic maps dates back to efforts by John Creaser of the University of California, Berkeley (UCB), and Li Hunt at University of Southern California (USC). Li's efforts also included creating metadata and working with the University of California, Los Angeles (UCLA), and the Los Angeles Public Library. The University of California/Stanford Map Libraries Group (UC/SMLG) considered John's and Li's efforts to be the beginnings of a statewide topographic scanning project.

At the WAML Spring Conference in 2004, presenters Deb Besnard and Stan Griffith, from California State University, Chico, provided attendees with a tour and a presentation titled "CSU Chico's Digital Map Projects." The presentation

highlighted the scanning of historical California topographical maps. Map librarians from other California institutions noted that they were also scanning like material.

The UC/SMLG decided the project encompassed more people than just their group. In conjunction with Deb Bresnard, they approached the WAML Executive Board at the next conference in Seattle. They proposed creating a California topographic map group (Cal Topo) whose charge it would be to collect information on other libraries' USGS topographic map scanning projects, to bring together that information into one place, and to work on filling in the gaps in what was left to be scanned. WAML agreed to be the umbrella organization for this group.

The WAML Executive Board agreed to find a way to minimize scanning duplication while reducing costs. Collaboration with Chris Kollen, ALA Map and Geography Roundtable (MAGERT) project coordinator for their Scanning Registry, benefited both projects in exchanging database design and future compatibility of databases.

Communication was critical to the success of the project. Cal Topo began by creating a web page of current projects (www.sdc.ucsb.edu/holding/caltopo.html) and a "California Topographic Map Project Survey." The survey was forwarded to relevant organizations, including MapsL and WAML. The information obtained from the survey was a starting point for gathering the status of scanning projects. In 2005, at the "Map Library in Transition Conference" in Washington, D.C., the need for a scanning clearinghouse was reiterated. The WAML Executive Board vowed to take on the commitment for developing a preliminary web site. In March 2006, Janet Collins, a Huxley College geography student (Western Washington University), and members from the WAML Web Committee released a new web site in parallel with the new WAML scanning clearinghouse.

#### Site Development

The WAML Web Committee wanted to create a simple form that could be sent to WAML members and stored within a database. The initial intent was to have a form that could be submitted via e-mail and later placed in a spreadsheet or database. In January 2006, Janet Collins and WAML Web Committee began exchanging ideas.

With any application, a seemingly simple idea can become something that requires more thought and resources. The WAML Scanning Clearinghouse became not just a simple web form, but a searchable database application that required authentication for content validity. To start the project, the WAML Scanning Clearinghouse Project (WSCP)

required setting up a server that supported a web service, a scripting language, data storage, and access to database software. These are the basic ingredients that allowed WSCP to move from the design phase to development.

Janet Collins and Julie Sweetkind-Singer created a preliminary form that became both a starting point and a work in progress while the database could be designed. A student developer received initial designs supplied by the WAML Web Committee. In addition, there were collaborative contributions from MAGERT in database design. For three months, the collaborators nurtured a simple form into a site that paralleled the design and template of the new WAML site.

Having the ability to create a database and configure a web server allowed for a fast development timetable. The collaboration was a key factor in the site release date, application design, and overall appearance. The application offers openness and flexibility. The tables can be easily exported to other applications, and the web site logs can be tailored to gather the frequency of use. This added ability provides indirect feedback without having to send out a usage questionnaire.

## Reaching the Scanning Projects Clearinghouse

The WAML Scanning Projects Clearinghouse is located off the main web page. When the Scanning Projects Clearinghouse is selected, the link takes you to the main clearinghouse page www.waml.org/clearinghouse.html (see figure 1).

The page provides instructions for both non-WAML and WAML members, outlining the methods for either viewing or submitting projects.

#### Submitting Forms

To protect the validity of the content, authentication is required, and each WAML member has a stored profile with a user name (login) and password. The profiles are maintained by WAML staff. During the initial phases of the clearinghouse project, passwords were generated randomly and set via e-mail to each WAML member. If a user fails or forgets their password, then the user is redirected to "Request for Form Entry" web page. This page allows users to have their password sent to them. The form also allows nonmembers to facilitate the ability to gain access after WAML staff review a nonmember's status.

#### Form Entry

The form for entering a new scanning clearinghouse project (figure 2) was reworked several times in order to capture project information. The update feature uses the same form entry interface, allowing users to quickly modify existing forms without the need to contact WAML administration.

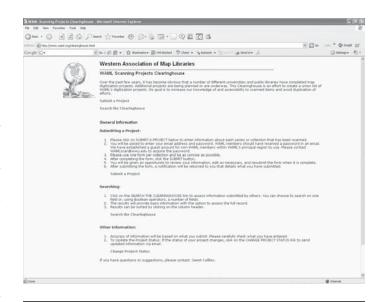


Figure 1. WAML Scanning Projects Clearinghouse Web Page

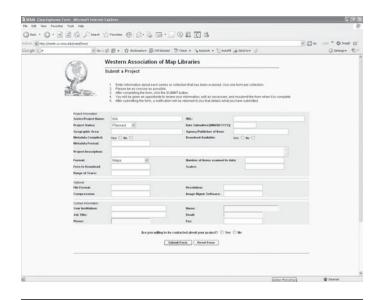


Figure 2. Creating a Form (or Updating) Scanning Project

#### Searching the Clearinghouse

The search utility, http://merlin.cs.wwu.edu/waml/sea.php, allows anyone to easily select and specify search criteria by selecting different fields as well as building conditional statements. Figure 3 illustrates all Server/Project Name(s) that include "WA" in the specified title.

After a user submits criteria, the results appear (see figure 4). The highlighted elements (contacts and URL) are selectable links. The contact represents e-mail and the URL represents a link to the specific criteria.

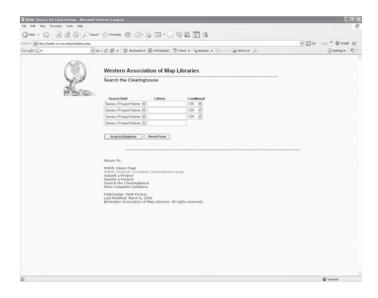


Figure 3. Creating Search Criteria for All Server/Projects Names Containing WA

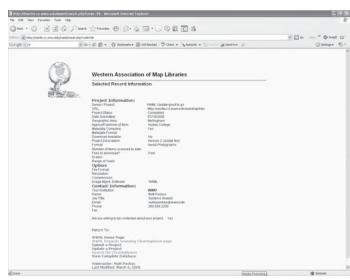


Figure 5. Selected Criteria for the Selected Item

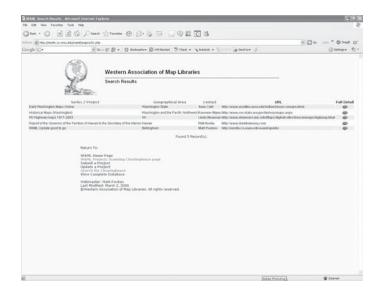


Figure 4. Results from the Search Criteria

After the criteria appear, the user also can sort by any of the highlighted attributes. The eyeball on the right side also is selectable and takes to user to the actual form submission (see figure 5).

#### What Next?

There is no doubt that digitizing will become mainstream in today's libraries. The WAML Scanning Project Clearinghouse captures specific information that Google misses. Narrowing the scope of a query allows WAML to offer an excellent method for finding projects within the scope of digitization projects. Upcoming features will tailor indexes created by member site databases capturing the member's content and specific information on the fly, without any requirement for form entry. In short, the WAML site will grow rapidly by automatically capturing content specific from WAML members.  $\blacksquare$ 

**Matt Paskus**, Huxley Map Library, Western Washington University, matt.paskus@wwu.edu.



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# Circulating Maps Collections at Pennsylvania State University

#### Preservation Challenges and Solutions

Anne Behler, Beth Roberts, and Karen Dabney

he Pennsylvania State University Libraries are home to more than 400,000 maps. As with many libraries with maps collections, Penn State is challenged by issues related to preservation of these precious resources, including repair, proper storage, and handling. An added challenge is that the Penn State maps collections are primarily self-service circulating collections, so it is necessary to use preservation methods that will allow patron access to materials while protecting the collections as much as possible.

In light of these challenges, the librarians for the maps collections have begun working with the libraries' conservator to explore ways to store and preserve maps of a variety of formats in order to mitigate damage and increase longevity while maintaining an accessible and circulating collection. This article identifies methods any library can use to protect their collections, including care and handling tips, encapsulation and deacidification, humidification and flattening, user education, circulation precautions, and appropriate ways of storing different types of maps together to minimize damage.

#### Introduction

The majority of the Pennsylvania State University Libraries' publicly accessible map collections are housed in the Maps Library and the Earth and Mineral Sciences Library. Begun in the mid-1940s through donations and a postcard mailing acquisition program, the Maps Library now is a federal depository with an annual acquisitions budget. The collection has grown to be one of the largest in the country, with more than 400,000 maps. The Earth and Mineral Sciences Library maps collection includes more than seven thousand sheet maps, plus thousands more folded inside their accompanying texts. There also are many maps in the collections at other Penn State campus libraries and in the libraries' storage facilities. Some maps are housed in the Special Collections Library because of their rarity or fragility. They receive different treatment than the public collections; therefore their specific preservation challenges and treatment methods will not be discussed in this article.

The maps collections support teaching and research at the University Park campus (more than 40,000 students and 11,000 faculty and staff) and serve the public and users at twenty-three other Penn State campuses. Maps also are circulated via interlibrary loan to libraries around the world

and to distance education students via the Penn State World Campus. Many of the library's Pennsylvania-related and special format items, such as aerial photographs and blueprint maps, attract substantial public interest.

## Self-Service Collection Challenges and Solutions

Preservation of the Pennsylvania State University Libraries' maps collections is unusually challenging because of heavy use and public handling. The libraries' patron-centered mission mandates that most maps circulate, offering the maximum benefit for patrons. Circulating maps are self-service; patrons remove maps from map cases and folders with only general assistance from staff. While patrons appreciate the freedom to browse and are usually careful with the maps, open public access to the collection does inevitably create some preservation challenges, which are addressed by library staff in several ways.

Librarians educate new staff about proper care and handling. Patrons are verbally instructed about proper care and handling of the maps when they check them out. If a patron is observed mishandling the collections, librarians intervene with guidance in a positive and diplomatic way. Gentle intervention inspires most users to respect the maps and handle them carefully. However, the libraries are open extended hours, and public services staff are very busy, so are not always present to monitor patron activity in the maps collections. Large tables, upon which to place folders and read maps, are provided in front of the map cases. This facilitates careful use by patrons. Unnecessary handling and retrieval of the wrong maps are minimized by clearly labeling map case drawers with call numbers and place names, and by aligning call numbers on the lower right-hand corner of all maps and folders (see photo 1).

## Considerations for Map Preservation Treatment

Despite the best efforts of library staff, sometimes maps are damaged or lost. When this happens, librarians have to

decide whether to withdraw, replace, or mend the damaged item. When deciding whether to make extensive repairs or replace a lost item the following factors are considered: the item's intrinsic value, historical significance, rarity, value to the public, circulation statistics, age, paper quality, and the importance of the collection it belongs to and how it fits collection priorities. Replacement cost also is an important consideration. If the item can be replaced easily and at low cost, librarians may elect to simply purchase a new map rather than spend time and effort mending damaged materials.

Librarians working with a maps collection can make determinations about these factors by searching for a copy of the item that might be available for purchase. Good locations to search include the publisher, standard maps vendors, auction records, maps dealers, the Antiquarian Booksellers' Association of America, and eBay. Each maps collection should have its own set of guidelines about whether and when to treat a map based on the previously discussed factors. For example, at Penn State, maps relating to the history of Pennsylvania receive preference for replacement or extensive repair. If a missing item is out of print and copyright laws permit, librarians may borrow the map through interlibrary loan. The map is scanned in the library's preservation department to make a printed copy for circulation. If a particular map is frequently lost or stolen, it is good practice to make more than one reproduction copy.

Providing easy patron access to maps that differ from one another in material type and storage method also is a challenge. Although difficult to achieve, the ideal preservation policy is to store chemically incompatible types of map printing processes separately, as storing them together will cause deterioration. Materials that are especially important to separate from the general collection are diazos, photographs, blueprints, maps printed on brittle, nondeacidified wood pulp paper, and maps laminated in plastic or printed on plastic. The plastic used is often unstable and can break down over time. The acids in blueprints and nondeacidified wood pulp paper maps will spread to adjacent materials. Photographs deteriorate readily in the presence of a broad spectrum of pollutants and acids, so should be protected from all other materials through the use of individual folders or separate storage. Diazos should be isolated from all other materials because they off-gas quantities of harmful chemicals that often make them the most destructive part of a maps collection.

In order to separate different printing processes, librarians must be able to identify them. Most of the formats requiring separate storage are easy to identify, but the blue-print-type processes are more challenging. In order to distinguish true blueprints from blue diazos, an excellent guide is *Architectural Photoreproductions: A Manual for Identification and Care.* <sup>1</sup> The title is currently out of print, but with enough interest, the publisher may reprint it.

As a general guideline, true blueprints have very sharp lines and clean backgrounds. Diazos come in many colors, such as purple, magenta, brown, blue, or black, and can be

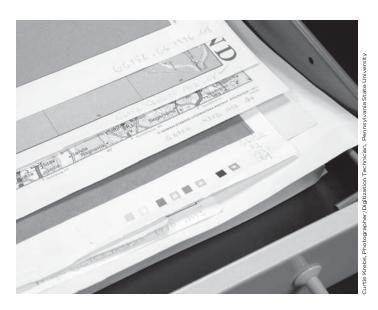


Photo 1. Maps and folders are labeled in the lower right corner. (It's important to note that only one of the right corners is used for labels and not both, which makes life much easier for patrons and staff.)

distinguished from blueprints by their slightly softer lines and more mottled backgrounds.

Blueprints date from 1880 to the 1950s. Diazos were introduced in the late 1920s and are the most commonly used blueprint-type process today.

Because storing maps by printing process makes individual maps more difficult for patrons to locate, most of Penn State's maps collections are filed according to the G schedule, regardless of format. This is ideal for patrons but problematic for preservation. Currently the Penn State librarians and conservator are working on a plan to maintain the current filing system while segregating items that will be harmful to each other. Single sheets of polyester film (Mylar type D or Melinex 516) will be placed between incompatible formats in the folders, and some selected maps will be encapsulated. Most maps can be stored in standard archival buffered folders, but ideally, if budget allows, photographs should be stored in folders or sleeves that pass the Photographic Activity Test (PAT). Blueprints and diazos are alkaline-sensitive and should be in neutral pH folders.

Maps that are fragile or very damaged are often encapsulated in polyester film to provide additional protection (see photo 2). According to the Library of Congress, encapsulated paper will deteriorate faster unless it is deacidified.<sup>3</sup> However, deacidification is not a technique that is safe for all materials. Photographs, diazos, and other blueprint-type formats will be damaged. Coated papers will not absorb the spray properly, resulting in a whitish haze or visible salt deposits. True blueprints will decolorize and become blank white sheets of paper. Hand-drawn colors, such as watercolors or ink, sometimes change or vanish if deacidified.

To determine if hand-applied colors are safe to deacidify, they can be tested with a tiny drop of Bookkeeper deacidification spray applied with a very small brush.<sup>4</sup> Don't



Photo 2. Encapsulating a map in polyester film.

deacidify if the color changes or disappears (see photo 3). Once maps have been deacidified, they are marked on the back with a small infinity symbol to indicate that they have been treated.

Items that cannot be deacidified may be stored in individual folders, between sheets of Mylar in multiple item folders, or encapsulated with a sheet of MicroChamber/Silversafe enclosure paper.<sup>5</sup> For blueprints and diazos, it's important to place the white, neutral pH side of the enclosure paper against the map. MicroChamber paper protects the maps by absorbing acids and other off-gassed chemicals.

Folded or tightly rolled maps also pose a challenge for maps librarians. At the Earth and Mineral Sciences Library, space for maps is at a premium, and there are not enough map cases to house the entire collection. Since many maps, including USGS maps, are sent by the printers to libraries prefolded in envelopes, the Earth and Mineral Sciences Library has decided to retain this original folding. The maps are stored in the envelopes and placed vertically on shelves. The geology maps that arrive folded in the backs of monographs are stored as-is. The folding and unfolding of the maps over time causes creasing and tears that are usually minor and easily repairable. This is not ideal, but it is currently the best storage situation that space limitations allow.

With more available space in map cases than the Earth and Mineral Sciences Library, the Maps Library is able to address the problem of folded maps differently. Folded maps that arrive singly are immediately flattened and added to the sheet map collection. When folded maps arrive in atlas form—usually a folio containing one bound monograph and a set of individual, folded sheets—the maps are separated from the folio and flattened. The folio containing the monograph will be housed with the monographs collection, and the sheets will be housed in a map case. In order to aid

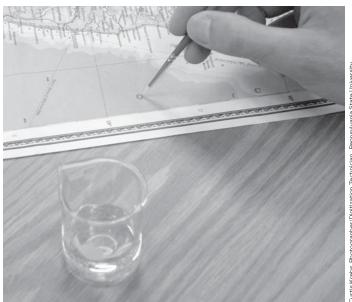


Photo 3. Testing colors with Bookkeeper deacidification spray.

patrons in finding both, the catalog record and the sheets will include a cross-referencing note telling the patron they need to locate another piece.

Occasionally, both libraries will encounter a brittle rolled or folded map as often happens when someone makes a donation of materials. If required, these maps are given humidification treatment before they are flattened or repaired.<sup>6</sup>

## Circulation Methods for Maps Collections

All of the previously discussed treatment is done with the end goal of maintaining the maps collections as a patroncentered, accessible, and circulating collection. When maps do leave the library, staff follow specific circulation procedures to help ensure the safety of the maps.

When circulated locally, most maps are rolled and placed in map tubes (see photo 4). Unusually large maps that don't fit in the tubes are circulated in portfolios. When folded maps circulate, they are left in their storage envelopes. The maps are accompanied by care notices that are placed in the tube with the map. These notices explain proper care and handling of the maps. The patron is verbally instructed in map care and handling. The use of sturdy circulation enclosures, care notices, and verbal instruction affords substantial protection, although sometimes there is damage to the maps despite these efforts. Patrons may neglect to return the map tube or original enclosure along with the map or fail to return the tops to the map tubes. To solve this problem, the map tubes have been barcoded, and they are now checked out

separately from the map itself. Patrons are fined if the tube is not returned or if the damage is extensive.

An even greater challenge is sending maps through interlibrary loan and to other Penn State campuses. These maps also are rolled and sent in mailing tubes. Because some of the tubes have come back with heavy damage, the librarians are discussing using long rectangular shipping boxes, large enough to fit over the tubes, to provide added protection.

#### Conclusion

The Pennsylvania State University maps collections face substantial challenges in balancing user access with preservation. Map preservation policy is evolving as new solutions are sought to ongoing problems. Key features of this policy include the education of users, storage and shipping improvements, and a prioritization system for preservation treatment. Most of these methods are adaptable to any maps library, even those with limited financial and human resources.

**Anne Behler**, Reference Librarian, Maps Library, Pennsylvania State University, acb10@psulias.psu.edu.

**Beth Roberts**, Earth Sciences Librarian, Pennsylvania State University, ear16@psulias.psu.edu.

Karen Dabney, Conservator, Pennsylvania State University, kld25@psulias.psu.edu.

#### Notes and References

- 1. Kissel, Eleonore, and Erin Vigneau. *Architectural Photo-reproductions: A Manual for Identification and Care.* New Castle, Del.: Oak Knoll Pr., 1999.
- The Photographic Activity Test (PAT) is an ANSI/NAPM Standard Test (ANSI NAPM IT9.16-1993) and an ISO Standard (ISO 10214-1992) that tests photographic storage enclosures (including papers, adhesives, glues, and



Photo 4. Maps are placed in tubes for circulation.

chemical additives) for possible adverse chemical reactions with photographic materials. If the storage enclosures pass the PAT they are safe for most photographs.

- 3. For a more thorough discussion, see Library of Congress, *Update on Acceptance of Polyester Film Products for Use in Encapsulation of Paper Artifacts,* revised Oct. 22, 2004, www.loc.gov/preserv/newmylar.html.
- 4. For more information about Bookkeeper products, including a list of distributors, see www.ptlp.com/spray. html
- 5. MicroChamber paper is available from Conservation Resources International, 1-800-634-6932, www.conservationresources.com.
- 6. For a more detailed explanation of Penn State's humidification and flattening process, see Musser, L., and A. Behler, "Building a Map Humidifier: How to Flatten Your Maps!" *Information Bulletin* (Western Association of Map Libraries) 37, no. 2 (Mar. 2006).

## Where Are We with Coordinates?

#### Colleen Cahill and Susan Moore

hen searching a library catalog for information about a particular locale, how do we describe the place we are looking for? This article, based on a presentation by Jimmie Lundgren, Colleen Cahill, and Susan Moore at the 2006 ALA Annual Conference in New Orleans, has that question at its core. As most of the places people are interested in have been named, place names are commonly used. Place names can show a great deal about the history of the location. Looking at a map of Illinois that shows the names of the counties and towns, you can see traces of the various groups that have been in the area. Native American tribes show up in the names of the counties of Iroquois and Winnebago, and French explorers in the names of the county of La Salle and the town Des Plaines, and other groups make appearances as well.

There are some drawbacks to using place names. It is, at times, difficult to be precise with them. The name of a place can change over time. The area referred to by the place name can change. They also can be ambiguous—for example, doing a search on Portland without any additional specification will retrieve information about Portlands in Oregon, Maine, and Victoria, Australia, among others. In other cases, areas do not have place names, such as a specific section of a forest where there has been a fire: the whole forest has a name, but not that section.

A more precise way of finding an area or information about an area is to search by geographic coordinates. Coordinates have the advantages of being culture and language neutral, unambiguous since the 1884 agreement to use the Greenwich meridian as the Prime Meridian, and can be associated with unnamed as well as named localities. Coordinates can also show the exact extent of an event which often does not match the borders of named places; for example, the battle of Gettysburg took place well outside the boundaries of the town. A drawback of coordinates is that people often do not know the coordinates of a particular area.

Colleagues at the University of Florida (Helen Jane Armstrong, Jorge Gonzalez, Paul Kirk, Joe Aufmuth, Jimmie Lundgren, and others) began examining how libraries could combine the ease of use of place names with the precision of coordinates. They presented a poster session at the ALA Annual Conference in 2004 titled "Problems with Places." The topic was also discussed in the meetings of the Association for Library Collections and Technical Services (ALCTS)/Map and Geography Round Table (MAGERT) Map Cataloging Discussion Group and the MAGERT Committee on Cataloging and Classification (CCC). Stemming from these discussions and the ideas shared at the poster session, Lundgren and the MAGERT CCC began drafting a discussion paper with the assistance of Colleen Cahill and Rebecca Guenther of the Network Development and MARC Standards Office, Library

of Congress, that explored the potential benefits of adding geographic coordinates to authority records for places. The paper was submitted for discussion to the ALCTS/Library and Information Technology Association/Reference and User Services Association's Committee on Machine-Readable Bibliographic Information (MARBI) at the ALA Midwinter Meeting in January 2006.<sup>3</sup> MARBI voted to redraft the proposal to be considered at the June 2006 ALA Annual Conference, where it was reviewed and approved.<sup>4</sup>

So what does this mean? When the proposal is implemented, authority records for place names can have coded cartographic mathematical data entered into the record in MARC field 034. Coordinates have been, at times, recorded in the authority record in a note field, but not consistently. They only were included if they were part of the place description quoted from the source of the name. Adding field 034 will provide a consistent place to record coordinate information. Because the 034 field is coded, the field can be easily machine-manipulated. The field in the authority record will be slightly different than the field in the bibliographic record. In the bibliographic record, the 034 field includes the scale of the map, which will not be included in the authority record's field.

Up to this point, not many systems can perform coordinate searching. Two systems that currently can and do are the Alexandria Digital Library and the system used by the National Geospatial-Intelligence Agency's and the U.S. Board on Geographic Names' GEOnet Names Server. 5 With the addition of coordinates to the authority record, more systems may be developed or enhanced to allow for searching by coordinates.

The increasing use of geographic information systems (GIS) is adding to the knowledge and awareness of coordinates. Once primarily the tools of sailors, pilots, map librarians, and GIS experts, now everyone with GPS is using coordinates. Coordinates have even entered the popular realm through a show on the Food Network called *Feasting on Asphalt*, which includes the coordinates of the places visited. As more people become familiar with coordinates, they will be more comfortable with the concept.

Coordinates are expressed in two formats, either degree-minute-seconds or decimal degrees. The first is a more human readable form:

E0210250.54 E0210846.12 N0423232.45 N0423022.58

The letters denote the hemispheres (Eastern and Northern), and the numbers denote where in that quadrant the place exists. These particular coordinates include decimal places after the seconds, which give a greater degree of precision in placing a location.

In contrast, decimal degrees are used by GIS software and are not as easy for people to read:

21.04736 21.14614 -42.54236 -42.50628

The number before the period is recognizable as the degrees, but those after the period are different from what most people are familiar with for minutes and seconds. The decimal degree coordinates and the degree-minutes-seconds shown above both denote a map of town plans of Yugoslavia in 2000—now known as Serbia.

The coordinates shown above form a bounding box, giving the northernmost, southernmost, easternmost and westernmost geographic points for that place. In some cases, a center point coordinate might be preferred, as in a city. However, because metropolitan areas change shape rapidly, it may require too much record maintenance to keep the coordinates current. It might also be more data than most research tools need, as a center point would find the geographic location just as easily as a bounding box. Bounding box coordinates would be easier to maintain and be more useful for the researcher for larger geographic areas, such as counties, states, and countries. The 034 field has been defined in a way that coordinates can be added not only for places on the Earth, but also for places on other planets and for astronomical objects.

When putting coordinates in authority records, the form of the data should be consistent—either degree-minute-seconds or decimal degrees. A uniform format would prevent any confusion as to the meaning of the numbers, assist in machine searching of the data, and make uploading and downloading information easier. Although one form is not inherently better than the other, there are advantages and disadvantages to both systems. The degree-minute-seconds method is easier for humans to enter and read and, consequently, to ensure quality control. This may explain why Wikipedia encourages those who compose articles for the online encyclopedia to provide coordinates in the degreeminute-seconds format. In contrast, while Google Earth can display coordinates in either form, it processes them on decimal degrees, not surprising with its GIS-style interface. The determining factor in choosing a consistent format has to be based on what we hope to do with this data.

There are several reasons to include coordinates in authority records. There would be a single location to look for coordinate information. Currently researchers have to check several locations to find data, including the GEOnet Names Server for geographic names outside the United States. For United States place names, the U.S. Board on Geographic Names' Geographic Names Information System (GNIS) provides coordinates.<sup>8</sup> Neither of these databases supply more than center point coordinates for a location, which can be a major drawback for accurately displaying a location. Other sources of coordinate data are available on the web, but they are often limited to a state, region, or county. GIS software, such as ESRI's ArcView, is another

source of coordinates, but this is a tool not readily available to everyone, as it is software that must be licensed. Many of these resources only have current coordinate data; historical coordinates are in other resources, and sometimes only in the research of scholars.

The 034 MARC field has a subfield that allows for a date or range of dates to be tied to each coordinate, making it possible to record the coordinate changes over time. The inclusion of a date field, not often a part of existing coordinate databases, adds to the flexibility and usefulness of the database. It makes it possible to add coordinates to events, such as battles, weather phenomena, and human migrations. This expansion of coordinates beyond place names adds exciting research capabilities to authority records.

Once coordinates begin to populate the authority records, they can be used to allow geographic searches of a library catalog without having to put coordinates in every bibliographic record. A GIS search engine could use the coordinates in the authority records in a search for a location, and then the authoritative form of the name could be used to search the catalog. Because the term would be an authorized form, the search would retrieve any item in the catalog that used that term as a subject heading. Such a search could retrieve books, music, maps, photographs, and anything related to that geographic area or geographically defined event. For coordinates to be useful, they need to be added not just to new authority records, but also to existing authority records.

Hopefully by the end of 2007, the 034 field in authority records will be available for population. There is much work that can be accomplished before that happens, and many challenges and issues to face. Gathering coordinate data and finding historical data will take some time and effort. There are various sources for coordinates, including governments, GIS software, educational institutions, historical societies, and the work of historians and other scholars. Concerns about how to authenticate coordinates need to be addressed. There is a subfield in the 034 to record the source of the data, and standardized codes for sources will need to be established.

Coordinates can be a source of legal issues, therefore, it needs to be stressed in the authority records that the coordinates are *thematic coordinates* and do not represent any legal boundaries. This concept is clearer when one realizes that coordinates are not limited to only name authority records but also can be added to subject authorities. Like other parts of the authority records, coordinates can be changed and updated as new information becomes available over time.

The library community must decide in which format the data should appear. An informal survey on the Subject Coordinates electronic discussion list hosted by the Library of Congress showed a strong leaning toward the decimal degree format. In that discussion other issues were raised, such as how precise the number should be and when center point coordinates might be preferable over bounding box, such as in a city. A larger community—including the library

community beyond the cartographic community, academics, geographers, computer programmers and GIS software companies—needs to join in this discussion to uncover other issues that should be addressed.

We are on the brink of a powerful new tool for library users. They will no longer need to know the name of a location to find information about it, and, for the first time, it will be possible to use coordinates to find any information, regardless of its format, within an institution's cataloged holdings. While the task of gathering and inserting coordinates into the authority files will be a long process, the currently known and possible future information that can be harvested and the known and unknown ways in which it can be used make the work not only exciting, but vital.

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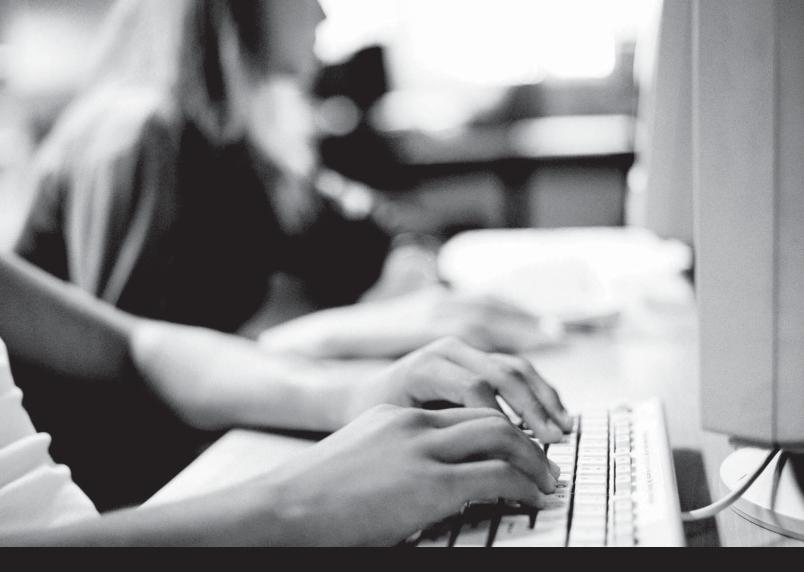
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1. Lundgren, Jimmie, Colleen Cahill, and Susan Moore. "Where Are We with Coordinates?" Paper presented at the American Library Association Annual Conference,

- June 22-28, 2006, in New Orleans.
- 2. Armstrong, Helen Jane, et al. "Problems with Places." Poster session presented at the American Library Association Annual Conference, June 25–30, 2004, in Orlando, Fla
- 3. MARBI is the body within the American Library Association responsible for developing official ALA positions on standards for the representation in machine-readable form of bibliographic information. For more information see www.ala.org/ala/alcts/divisiongroups/marbi/marbi.
- 4. See Proposal No.: 2006-06: Recording geographic coordinates, available at www.loc.gov/marc/marbi/2006/2006-06.html.
- 5. See www.alexandria.ucsb.edu and http://earth-info.nga.mil/gns/html/index.html.
- See http://en.wikipedia.org/wiki/Wikipedia:Manual\_ of\_Style\_%28dates\_and\_numbers%29#Geographical\_ coordinates.
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- 8. See http://geonames.usgs.gov/domestic/index.html.
- 9. See http://sun8.loc.gov/listarch/subcoor.html.

#### Index to Advertisers

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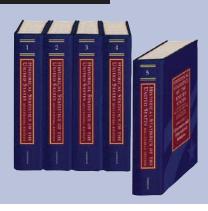
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#### TABLE OF CONTENTS

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Population Characteristics Vital Statistics Internal Migration International Migration Family and Household Composition Cohorts American Indians

#### **Volume 2: WORK AND WELFARE**

Labor Slavery Education Health

Economic Inequality and Poverty Social Insurance and Public Assistance Nonprofit, Voluntary, and Religious Entities

### Volume 3: ECONOMIC STRUCTURE AND PERFORMANCE

National Income and Product Business Fluctuations and Cycles Prices Consumer Expenditures Saving, Capital, and Wealth Geography and the Environment Science, Technology, and Productivity Business Organization Financial Markets and Institutions

#### Volume 4: ECONOMIC SECTORS

Agriculture
Natural Resource Industries
Construction, Housing, and Mortgages
Manufacturing
Distribution
Transportation
Communications
Services and Utilities

#### Volume 5: GOVERNANCE AND INTERNATIONAL RELATIONS

Government Finance and Employment Elections and Politics Crime, Law, Enforcement, and Justice National Defense, Wars, Armed Forces, and Veterans International Trade and Exchange Rates Outlying Areas Colonial Statistics Confederate States of America

#### **APPENDICES**

Weights, Measures, and Monetary Values States and Census Regions Origin of **Historical Statistics of the United States** 

#### **INDEX**

