

Spatial Data Collections and Services

SPEC KITS

Supporting Effective Library Management for Over Twenty Years

Committed to assisting research and academic libraries in the continuous improvement of management systems, OLMS has worked since 1970 to gather and disseminate the best practices for library needs. As part of its commitment, OLMS maintains an active publications program best known for its SPEC Kits. Through the OLMS Collaborative Research/Writing Program, librarians work with ARL staff to design SPEC surveys and write publications. Originally established as an information source for ARL member libraries, the SPEC series has grown to serve the needs of the library community worldwide.

What are SPEC Kits?

Published six times per year, SPEC Kits contain the most valuable, up-to-date information on the latest issues of concern to libraries and librarians today. They are the result of a systematic survey of ARL member libraries on a particular topic related to current practice in the field. Each SPEC Kit contains an executive summary of the survey results (previously printed as the SPEC Flyer); survey questions with tallies and selected comments; the best representative documents from survey participants, such as policies, procedures, handbooks, guidelines, websites, records, brochures, and statements; and a selected reading list—both in print and online sources—containing the most current literature available on the topic for further study.

Subscribe to SPEC Kits

Subscribers tell us that the information contained in SPEC Kits is valuable to a variety of users, both inside and outside the library. SPEC Kit purchasers use the documentation found in SPEC Kits as a point of departure for research and problem solving because they lend immediate authority to proposals and set standards for designing programs or writing procedure statements. SPEC Kits also function as an important reference tool for library administrators, staff, students, and professionals in allied disciplines who may not have access to this kind of information.

SPEC Kits can be ordered directly from the ARL Publications Distribution Center. To order, call **(301) 362-8196**, fax **(301) 206-9789**, e-mail pubs@arl.org, or go to <http://www.arl.org/pubscat/>.

Information on SPEC Kits and other OLMS products and services can be found on the ARL Web site at <http://www.arl.org/olms/infosvcs.html>. The Web site for the SPEC survey program is <http://www.arl.org/spec/>. The executive summary or flyer for each kit after December 1993 can be accessed free of charge at the SPEC survey Web site.



SPEC Kit 291

Spatial Data Collections and Services

December 2005

Joseph A. Salem, Jr.

Head of Reference and Government Information Services

Kent State University



Series Editor: Lee Anne George

SPEC Kits are published by the

Association of Research Libraries

OFFICE OF LEADERSHIP AND MANAGEMENT SERVICES

21 Dupont Circle, NW, Suite 800

Washington, D.C. 20036-1118

(202) 296-2296 Fax (202) 872-0884

<http://www.arl.org/olms/infosvcs.html>

pubs@arl.org

ISSN 0160 3582

ISBN 1-59407-695-2

EAN 9781594076954

Copyright © 2005

This compilation is copyrighted by the Association of Research Libraries. ARL grants blanket permission to reproduce and distribute copies of this work for nonprofit, educational, or library purposes, provided that copies are distributed at or below cost and that ARL, the source, and copyright notice are included on each copy. This permission is in addition to rights of reproduction granted under Sections 107, 108, and other provisions of the U.S. Copyright Act.

⊗ The paper used in this publication meets the requirements of ANSI/NISO Z39.48-1992 (R1997) Permanence of Paper for Publications and Documents in Libraries and Archives.

SURVEY RESULTS

Executive Summary	11
Survey Questions and Responses	17
Responding Institutions	56

REPRESENTATIVE DOCUMENTS

Organization Charts

Arizona State University	
Library Administration	60
University of California, Santa Barbara	
System–MIL–ADL–Web Operations Structure	61
MIL Operations	62
University of Illinois at Urbana-Champaign	
untitled	63
University of Manitoba	
Elizabeth Dafoe Library	64
University of Michigan	
Public Services Division	65
University of Oregon	
University of Oregon Libraries. Organizational Chart	66
Pennsylvania State University	
University Libraries. Organization Chart	67
University of Virginia	
Digital Research and Instructional Services	68

Job Descriptions

Arizona State University	
Librarian or Archivist, Map Collection	70
University of California, Davis	
Map/GIS Librarian	72
University of California, Santa Barbara	
Assistant Head, Map and Imagery Laboratory	74
University of Colorado at Boulder	
Map Librarian	76
Cornell University	
Public Services Librarian	77
Indiana University Bloomington	
Head, Geology Library	81
University of Manitoba	
Assistant/Associate Librarian	84
Michigan State University	
Maps/GIS Librarian II	86
North Carolina State University	
Data Services Librarian	87
University of Virginia	
Associate Director, Geostat Center	89
University of Washington	
Head, Map Collection and Cartographic Information Services	90

Collection Development Policies

University of Colorado at Boulder	
Policies: Map Library	92
Cornell University	
Collection Policy: Cornell University Geospatial Information Repository (CUGIR)	95
University of Iowa	
Map Collection. Collection Development Policy--Draft.....	97
University of Miami	
Policy Statement. General Map Collection. Government Information & Special Formats	98

Descriptions of Services and Resources

Arizona State University	
Geographic Information Systems (GIS)	104
Spatial Data Sources	108

University of California, Davis	
The Map and GIS Data Collection. Collection Overview	112
The Map and GIS Data Collection. Geographic Information Systems (GIS)	114
University of Guelph	
GIS Services	116
Indiana University Bloomington	
Geology Library. GIS Services	117
North Carolina State University	
NCSU Libraries Geospatial (GIS) Data Services	119
Libraries GIS Services	120
Libraries GIS Data Collection.....	122
University of Virginia	
Geostat Center: Services	126
University of Washington	
Map Collection and Cartographic Information Services Unit	129
University of Wisconsin–Madison	
Cartographic Collections: Maps.....	133
Cartographic Collections: Digital Geospatial Data.....	135

SELECTED RESOURCES

Books and Journal Articles.....	139
General GIS Web Sites.....	140
Library Map and GIS Web Sites	141



SURVEY RESULTS

EXECUTIVE SUMMARY

Introduction

With the growth of the World Wide Web over the last 15 years, the transition from print-based resources and services to electronic resources and services has occurred in all areas of librarianship. Library services and collection development in support of research and scholarship using spatial data is certainly among those aspects of the profession that have undergone significant changes over that time period. Resulting shifts in scholarship and instruction within the geophysical sciences have made digital mapping support a primary focus within cartographic units/libraries. Digital mapping has also created new user groups as researchers in the social and health sciences increasingly use geographic information systems (GIS) to plot and analyze data.

Support of digital spatial data use is nothing new to ARL member libraries. In 1999, SPEC Kit 238 (*The ARL Geographic Information Systems Literacy Project*, March 1999) indicated that GIS was indeed supported throughout the ARL membership. The survey conducted for the current SPEC Kit was designed to discover how this transition has progressed in ARL institutions and what effect it has had on staffing, collections, budget, and services.

Regardless of its format, spatial data offers challenges to library services and collection development. Space concerns, cataloging issues, and cartographic literacy accompany spatial data in print.

Technological demands, training, and keeping pace with user expectations and needs accompany spatial data in digital format. This SPEC Kit offers a snapshot of how ARL libraries are handling these challenges 15 years after GIS and digital mapping first appeared in their parent institutions.

The survey was distributed to the 123 ARL member libraries in the winter of 2005. A total of 72 libraries (59%) responded by the February 16, 2005, deadline. Only one respondent indicated that resources and services in support of spatial data research and scholarship were not provided at her institution.

Background

When asked whether spatial data collections are dispersed throughout the institution or consolidated in one location, 18 institutions reported that these collections are consolidated in one location: nine collections are housed in a map library and nine in the main library on campus. The majority of respondents (53 or 74%) indicated that the collections are dispersed. About one third of these reported collections in two separate locations; the rest have collections spread over three to five locations. It was not surprising to find that the main library and map library are the most common locations for spatial data collections at these institutions (37 responses each); however, 35 respondents (66%) indicated that such collections are also kept

in locations, such as computer labs, that are maintained by academic departments on campus. Of these 35 respondents, 26 also have map libraries and 9 have spatial data collections in the main library. Nineteen respondents have a designated GIS lab; five of these also have spatial data collections in the main library, six have collections in a map library, and eight have collections in all three locations. Twenty-eight of the respondents identified a variety of other locations, primarily branch and departmental libraries, that also house spatial data collections.

Although collections that are managed outside of the library may create challenges of access and awareness for library staff, they may also present opportunities for collaboration with those departments, especially in light of the financial advantages of pulling such resources and the fact that digital access facilitates use that is not tied to any one location.

Staffing

On average, staff support for spatial data collections in the main library is lower than at other locations. Librarian time typically amounts to less than one FTE, while there is about one FTE of support staff and one of student assistants. Only a handful of main library collections also employ an “other professional;” these positions range from .50 to 2 FTE. Within map libraries, however, there is usually at least one FTE librarian position and close to two support staff and student assistant FTEs. map libraries also employ more “other professionals” than main libraries, from .50 to 6 FTE.

The most surprising staffing trends are in the spatial data collections/service points outside of the map and main library. Though fewer respondents were able to report FTE data for these locations, those who could revealed that, on average, there are more of almost every category of staff in academic department spaces, GIS labs, and other locations than in the map or main library.

The staff at each spatial data location have wide-ranging responsibilities. It is not surprising that a full range of traditional library services, from reference and bibliographic instruction to acquisitions and cataloging, are provided in the main library locations. What is unexpected is that the majority of map and departmental libraries also provide not only reference assistance and instruction, but also acquisitions, cataloging, interlibrary loan, and reserves. While most of the GIS labs provide reference and instruction, as well, few typical library services are provided in the academic department spaces. Across the spatial data locations, staff offer a variety of other services, too, including digitization support, data preparation, and specialized map production.

Budget

A slight majority of respondents (52%) indicated that their institutions maintain a separate budget for spatial data services and collection development, regardless of whether spatial data is in dispersed or consolidated locations. The median budget at institutions with dispersed collections was \$19,261. At institutions with collections consolidated in a map library the median budget was \$47,520. The median budget for collections consolidated in the main library was \$50,000. As expected, staffing accounts for the single largest budget item, with print maps, digital data sets, and supplementary print materials standing out as other major budgetary expenses. Surprisingly, equipment is not a significant portion of the budget for most institutions. Although the survey did not include software as an individual budgetary category, three respondents listed it as an expense in the “other” category.

Spatial Data Services

Spatial data service points are staffed as few as 3 hours per week and as many as 110. The most common staffing level is 40 hours per week (31 of 64 respondents or 48%). Twelve respondents (19%)

reported that service points are staffed fewer than 40 hours per week; 21 (33%) reported that they are staffed more than 50 hours per week. During these service hours, map, main, and departmental libraries offer the most comprehensive reference services for spatial data users, including assistance with print map collections and supplemental print material, locating Web-based mapping resources, and searching bibliographic/research databases. Map libraries are more likely to support GIS and other types of digital mapping than the main or departmental libraries. Staff in academic departmental spaces/computer labs and designated GIS labs focus on helping users locate and use Web-based mapping resources and providing support for GIS and other types of digital mapping.

Instruction sessions on spatial data are offered by 62 of the respondents (87%). Forty-seven of these provided data on the number of sessions: about half offer one to nine sessions during a typical year and the rest offer ten or more, including both group and one-on-one instruction. The content of these sessions ranges from tours of and orientations to the collection to a “monthly course on maps,” to GIS software instruction to a semester-long course on “spatial foundations.”

GIS Services and Support

Sixty-seven of the respondents answered questions specifically about their institution’s support for GIS and digital mapping. Even at the institutions where spatial data collections are consolidated in either the map or main library, GIS resources and services are scattered across the institution. Where collections are consolidated in the main library, GIS resources and services are most often found in the library, a designated GIS lab, and academic departments; the library provides support in the library and lab, but not the departmental locations. Where collections are consolidated in the map library, GIS resources and services are also most often found in the library, GIS lab, and academic departments, but

the library only provides support in the library, not the lab or departmental locations.

In the institutions with dispersed spatial data collections, GIS resources and services are most frequently found in academic departmental space. The next most common locations for such resources are the map library, main library, GIS labs, and public computing labs, in that order. Services to accompany the resources are most likely to be found in the map library and GIS lab. Again, library support for GIS is more often available in the map and main libraries. Only a handful of respondents report library support in academic departments, GIS labs, or public computing labs.

Libraries at the responding institutions offer a number of services in support of GIS. Ninety-seven percent offer assistance in locating data, 89% collect digital data sets, and a somewhat surprising 84% offer consultations. Seventy-one percent offer stand-alone instructional sessions on using GIS software or locating data, while 49% offer curriculum-based GIS instructional sessions, the least commonly offered service. Other GIS services include creating data and maps, map digitization, staff training, and research assistance, among others.

The libraries that support GIS are doing so with well-equipped facilities. Ninety-four percent of the respondents provide CD/DVD-RW drives for large data transfer, 71% offer at least standard scanners and all but one offer one to three kinds of printers—55% provide color laser printing. More specialized GIS equipment is increasingly available in ARL member libraries. Forty-six percent of the respondents provide large-format plotters and 31% provide large-format/map scanners. Other equipment includes advanced digitization equipment (i.e., digitizers, digital overhead cameras, digital preservation cameras) and GPS units.

Respondents were asked to indicate the level of GIS use among students, faculty, or researchers working in selected disciplines. It came as no surprise to find that geography, architecture, and

geology were the disciplines most heavily using GIS. Somewhat surprisingly, those working in the health sciences emerged as medium to heavy GIS users. Other disciplines making medium to high use of GIS include city/regional/urban planning, agriculture, forestry, and ecology/environmental studies.

Changes in Spatial Data Collections and Services

In order to gauge the impact of an increasingly digital environment for spatial data on member institutions, respondents were asked to compare current services, staffing, and budget to their levels in 1999, when ARL member institutions were last surveyed on GIS. Only nine respondents indicated that their library once supported spatial data research and no longer did as of February 2006; among the reasons given were that funding for a grant-supported project ran out, a degree program that used spatial data was dropped, and skilled staff moved on to other positions and weren't replaced.

The period from 1999 to 2005 represented growth in the number of locations on campuses offering spatial data support. With the exception of one map library that was in use in 1999 but not in 2005, the number of map libraries, main libraries, academic departments, and GIS labs where spatial data is used increased over that time period. With the exception of one science library and one special collections location, all other locations that provided spatial data resources or services in 1999 were still in use in 2005, and eight new locations were added.

Over the same time period, about 60% of the respondents reported that the number of spatial data staff stayed the same, while 20% to 30% reported an increase and fewer than 20% reported a decrease. The greatest increases were in the categories of other professional, librarian, and graduate student assistants. The greatest decreases were in the categories of student and support staff.

Likewise, staff responsibility for spatial data

services experienced some changes between 1999 and 2005. Predictably, few respondents reported any decreases in responsibility. The largest decreases were in cataloging and acquisitions (11% of respondents each). At the same time, cataloging increased for 39% of the respondents and acquisitions increased for 36%. Roughly half of the respondents reported that reference and instruction increased while the other half said they stayed the same. The fewest changes were reported for interlibrary loan and reserves.

Patron use of spatial data services followed an upward trend from 1999 to 2005. The vast majority of responding institutions (72%) have seen an increase in spatial data users since 1999, 24% indicated there was no change, and only 4% indicated a decrease in users. The number of spatial data instruction sessions increased at 44% of the responding institutions and remained the same at 53%. Perhaps in response to these trends, 38% of respondents increased the hours of spatial data service between 1999 and 2005.

Forty-seven percent of the responding institutions reported that their current budget for spatial data resources and services reflects no change since 1999, 38% report an increase, and 15% report a decrease. The budget changes seem to correlate most strongly with the changes in the number of librarians and other professional staff between 1999 and 2005. Of the 25 respondents whose budgets increased, 20 reported increases in the number of librarians or other professional staff; 22 of these 25 also experienced increases in the number of users, 17 experienced increases in hours of service, and 14 had increases in instruction sessions. Of the 10 respondents whose budgets decreased, all but one had either a decrease or no change in the number of staff; overall, users, service hours, and instruction sessions either stayed the same or decreased slightly. Twenty of the 31 respondents whose budgets stayed the same experienced increases in numbers of users; otherwise, there were few changes: 24

had no changes in the number of librarians or other professional staff, 20 had no changes in the number of instruction sessions, and 18 had no changes in the number of service hours.

The Future of Spatial Data

Overall, the demand for spatial data support seems to be growing at ARL member institutions and most are meeting the demand by either increasing or at least maintaining resource-allocation levels. Survey respondents were asked to comment on di-

rections for spatial data at their institutions in the near future. Their comments indicate that they expect growth in the demand for digital spatial data and are revising collection development policies to address this need. They are also exploring data acquisition and discovery strategies. Some respondents expect to add more staff. Others are planning to consolidate collections to better serve users. In general, respondents seem eager to continue to find ways to integrate the use of spatial data into the research process.

