Chapter VII

Reference Services

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Introduction

Geographers often define the spatial parameters of different environments by integrating diverse data sets with locational coordinates to create an attribute-rich digital geospatial dataset. From these datasets, researchers can observe and record phenomena and create new geographic metaphors in describing the geographic spaces of places, physical or virtual. One challenge for librarians is to be cognizant of not only the spatial extent of geospatial data, but to have the ability to interpret the socioeconomic milieu, which characterizes the attribute data and the environment in which it describes and to make it accessible for the user community. A second challenge is how to reinterpret traditional patron interactions in an increasingly online service environment and the best use of applications that must be used to "push" information to the patron. A third is how to market the library's GIS services and resources to our patrons, both old and new.

A fourth challenge is how instruction and instructional support must be reconfigured to meet the needs of a variety of users, including librarians, with a range of skills and knowledge levels. The final challenge is instructing patrons to achieve appropriate

levels of information competencies (Abbott & Argentati, 1995). This chapter will examine the "new world" that reference librarians find themselves in today, how they may approach the challenges of geospatial reference, and inculcate information competencies and lifelong learning skills in their patrons.

Spatial Thinking

Any discussion on reference services must begin with a definition of what it means to work with geospatial data. To work effectively with geospatial data requires the librarian and the user to understand spatial concepts, tools used to create representations of geospatial data, and the cognitive processes used to frame questions in a geospatial manner. The Geographical Committee of the National Research Council suggests, "It depends on understanding the meaning of space and using the properties of space as a vehicle for structuring problems, for finding answers, and for expressing solutions. By visualizing relationships within spatial structures, we can perceive, remember, and analyze the static and, via transformations, the dynamic properties of objects and the relationships between objects. We can use representations in a variety of modes and media (graphic [text, image, and video], tactile, auditory, and kinesthetic) to describe, explain, and communicate about the structure, operation, and function of those objects and their relationships" (National Research Council, Geographical Sciences Committee, 2006, p. 3). Many of the elements identified in this passage are currently activities done by reference librarians, such as "structuring problems" are a function of the reference interview. However, for many librarians, providing reference services using geospatial data is a new, sometimes overwhelming experience.

There are different levels of GIS services libraries can offer. These range from high-level, which require a full GIS set-up, to mid-level, which utilize Web-based GIS applications and require user input, to low-level, which uses online static maps (Kowal, 2002). In 1997, the Association of Research Libraries (ARL) surveyed their research library members who participated in the GIS literacy project. Of the 72 respondents, 64 reported that they provide GIS services, either at the library or at academic departments offering GIS (Association of Research Libraries, 1999). Among libraries that offer GIS services but do not administer them, the most common activity is offering guidance in finding appropriate data sets. For those libraries that do not have a GIS unit (generally located in government documents or map libraries), GIS services are offered at the general reference desk (Association of Research Libraries, 1999). Librarians use a variety of hardware (computers, printers, digitizers, external storage devices, large format plotters, or scanners); platforms (Windows, MacIntosh, UNIX, and DOS); and software (ArcView, predominantly). The training offered by the Literacy Project was aimed primarily at documents and