

Chapter IV

Describing Geospatial Information

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Overview and Introduction

To be optimally useful, geospatial resources must be described. This description is referred to as **metadata**. Metadata tells “who, what, where, when, why, and how” about every facet of a piece of data or service. When properly done, metadata answers a wide range of questions about geospatial resources, such as what geospatial data is available, how to evaluate its quality and suitability for use, and how to access it, transfer it, and process it. To ensure consistency for access and retrieval, metadata can be standardized to provide a common set of terms, definitions, and organization.

In the desire to adequately and accurately describe geospatial resources, cataloging codes and practices have been established to accommodate these new resources (known in library parlance as “works”), to provide networked access to these resources, and to respond more effectively to an increasingly broad range of user expectations and information needs. Issues surrounding the quality and relevance of metadata (bibliographic access) become more critical in online venues, especially

with geospatial data. What kind of bibliographic records or metadata will be required to meet the different uses of geospatial information and user needs? How should these bibliographic data or metadata be organized and structured for intellectual and physical access to the works?

This chapter will provide an overview of current academic cataloging principles, issues in handling evolving formats, and challenges for academic catalogs. It will also discuss the development of a MARC geospatial information record and the issues involved in adequately describing these works.

Descriptive Standards in Libraries

In libraries, the use of metadata, MARC, or any other knowledge organizational tool is based upon some form of Cutter's principles of organization. Cutter's *Objects* were to (1) enable a person to find a book for which either the author, title, or subject is known; (2) show what the library has by a given author, on a given subject, or in a given kind of literature, and (3) assist in the choice of a book, as to its edition (bibliographically) or to its character (literary or topical). His *Means*, or method of doing so, provides numerous access points, including author-entry with necessary references; title-entry or title-reference; subject-entry, cross-references, and classed subject-table; form-entry; edition; and imprint, with notes when necessary (Cutter, 1904). Today, increasing numbers of library patrons see libraries more as remote resources, rather than as walk-in facilities. To meet this need, libraries must have sustainable systems of access and databases and durable objects that fulfill the three R's: reliability, redundancy, and replication of results (Cline, 2000). These "three R's" can be seen in the development of the functional requirements for the bibliographic record (FRBR) entity relationship model for works, expressions, manifestations, and items.

An international analysis of user needs determined that there are four generic information tasks users perform: *finding materials that correspond to the user's stated search criteria* (e.g., in the context of a search for all documents on a given subject, or a search for a recording issued under a particular title); *using the data retrieved to identify an entity* (e.g., to confirm that the document, described in a record corresponds to the document sought by the user, or to distinguish between two texts or recordings that have the same title); *using the data to select an entity that is appropriate to the user's needs* (e.g., to select a text in a language the user understands, or to choose a version of a computer program that is compatible with the hardware and operating system available to the user); [and] *using the data in order to acquire or obtain access to the entity described* (e.g., to place a purchase order for a publication, to submit a request for the loan of a copy of a book in a library's collection, or to access online an electronic document stored on a remote

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