
Preface

Georeferencing: The Geographic Associations of Information is an introductory-level book for individual study or to support formal education in fields such as library science, information science, museum informatics, and geographic information science. Given that a high portion of all types of information can be related to place and that users are best served by information systems that can access the total scope of these information resources, the book focuses on the common ground between placename-based referencing and geospatial referencing. It spans the fields of geographic information science, library science, and information storage and retrieval. For most people, this will be a new perspective and one that challenges the ways we have dealt with georeferencing up to this time. The focus is on the notion of *unified georeferencing*, where placenaming and geospatial coding are interchangeable to the degree that place-based information retrieval can be expected to work satisfactorily across the vast and dissimilar collections of data, images, library and museum holdings, news, online resources, and so on.

Using a *unified georeferencing* approach to draw information of all types together based on their relevance to a location on the Earth's surface is a powerful query capability and one that overcomes many query difficulties such as choosing the right words/terms/placenames to specify a location and accommodating expressions in multiple languages and through historical transitions. The ability to visualize the placement of information retrieved from collections as it is distributed across a landscape (a map) instantly conveys geographic distribution patterns that are hidden otherwise. Despite this potential, the uptake of geospatial referencing and retrieval techniques in digital libraries, museum informatics, online search services, and related information services has been slow. There are several reasons for this. One is the perception that geospatial systems are the domain of formal GIS software rather than an integral part of general information management and retrieval

software. Another is that geospatial materials (e.g., maps, remote sensing images) are the province of map libraries and data centers and not integrated with general collections. Given this perception that geospatial referencing is “someone else’s problem,” library and information science professionals in general and the vendors that support them find themselves ill prepared to integrate geospatial technologies into their systems when they realize how useful it would be.

The approach of the book is to fill this gap in knowledge of georeferencing practices by covering the fundamental concepts, terminology, and standards for geospatial and placename georeferencing, as well as to introduce current approaches to the modeling of georeferencing concepts for documentation in gazetteers and meta-data and for the purpose of geographic information retrieval.

This book evolved from a tutorial I developed to introduce the concepts of georeferencing to the digital library community. The tutorial was given twice in 2003—at the Joint Conference on Digital Libraries (JCDL) in Houston and at the European Conference on Digital Libraries (ECDL) in Trondheim, Norway. The tutorial resulted from the research and development activities of the Alexandria Digital Library Project at the University of California at Santa Barbara, where geographers, computer scientists, librarians, information scientists, and various user groups learned to work together and understand one another’s vocabularies and ways of thinking and ended up creating the structure for and the reality of a georeferenced digital library.

Each chapter begins with an overview and ends with a summary. For most chapters, a list of sources for further information is provided, not an exhaustive list but some recommended sources to get started. A glossary of important terms and definitions appears at the end of the book. There is a special index to the named geographic places used as examples in the book. It includes a map showing the geospatial distribution of these examples to illustrate the potential of using the geographic associations of information in new ways.

Throughout the book, many of the examples are based on locations in California and elsewhere in the United States because that is where I live and the places are familiar to me. I do not want it to appear that the subject matter is in any way limited to California or to the United States. Georeferencing is universally applicable. To the extent that I have left out references to georeferencing projects in other parts of the world or used overly U.S.-oriented terminology that is foreign to you, I hope you will overlook this, fill in your own examples and terminology, and not let it get in the way of the main points.