

Chapter XLIII

USGS Digital Libraries for Coastal and Marine Science

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ABSTRACT

The U.S. Geological Survey (USGS) has developed three related digital libraries providing access to topical and georeferenced information for coastal and marine science: the Marine Realms Information Bank (MRIB) and its two offshoots, the Monterey Bay Science Digital Library and Coastal Change Hazards Digital Library. These three members of the MRIB family run on the same software and share a common database, but they employ different user interfaces targeting different audiences. This chapter reviews (1) distributed geolibraries, the conceptual foundation for MRIB, (2) the modular software of MRIB, permitting the rapid development of customized user interfaces, and (3) the Electronic Index Card (EIC) Creation Utility, encouraging users to contribute new metadata records to the MRIB database. The accompanying discussion addresses several challenges facing digital library developers: providing for scalability in the system; ensuring interoperability with other systems; and meeting the demands of characterizing information while facilitating its search and retrieval.

INTRODUCTION

The Coastal and Marine Geology Program (CMGP) of the U.S. Geological Survey (USGS) has developed a family of distributed digital libraries providing access to topical and georeferenced information for coastal and marine science. This

digital library system includes three user interfaces targeting different audiences:

1. The Marine Realms Information Bank (MRIB; <http://mrib.usgs.gov/>), developed in 2001, is a general-purpose user interface providing access to free online scientific in-

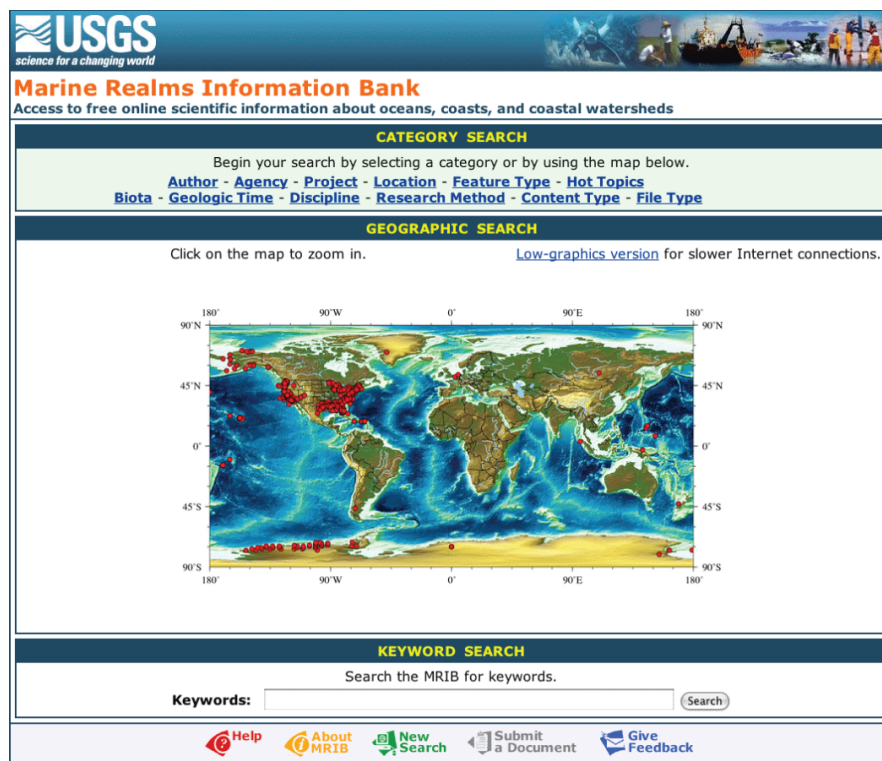
formation about oceans, coasts, and coastal watersheds. MRIB encourages its users to discover these information resources by browsing a faceted classification with twelve main categories, including author, agency, discipline, feature type, named location, and “hot topics” (Figure 1). MRIB was also one of the first digital libraries to utilize interactive maps for searching and retrieving georeferenced information.

2. The geographic search capabilities of MRIB were ideally suited for creating the Monterey Bay Science (MBS) Digital Library (<http://mrib.usgs.gov/mbs/>), a regional pilot project providing access to scientific information about the Monterey Bay National Marine Sanctuary and coastal watersheds of central

California (Figure 2). The MBS user interface, released in 2004, serves as a model for any regionally focused digital library based on the MRIB software architecture.

3. The newest addition to the CMGP digital library system is the Coastal Change Hazards (CCH) Digital Library (<http://mrib.usgs.gov/cch/>), released in 2006. The specialized CCH user interface (Figure 3) focuses on natural hazards and human impacts in the coastal zone and replaces the MRIB hot topics with a more specific topical classification. Crosswalks between the MRIB and CCH topical classifications ensure that online resources originally cataloged for one interface can be searched and retrieved using the other interface. The Coastal Change

Figure 1. The Marine Realms Information Bank (MRIB), featuring three search options: by category, location, and keyword. The “Submit a Document” link at the bottom of the page connects the user to the Electronic Index Card (EIC) Creation Utility



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