Marine Realms Information Bank: a Distributed Geolibrary for the Ocean

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ABSTRACT

The Marine Realms Information Bank (MRIB) is a prototype web-based distributed geolibrary that organizes, indexes, and delivers online information about the oceanic and coastal environments. The improvement of computer power and connectivity of the 1990s, by enabling very fast exchange of data online, has shown that effective information management does not automatically result from quicker connection or large broadband. Millions of web sites have been setup to provide information on every subject, and various information-gathering systems have been developed to locate information online. Unfortunately, these search engines often produce exhaustive bibliographic lists that mix first-quality scientific knowledge with irrelevant materials. To be really useful, information banks require not only quality control but also classification systems that integrate and organize the information. In 1999 the National Research Council proposed the concept of distributed geolibraries, which are online digital libraries able to provide a simple mechanism for searching and retrieving information in response to topical and geographically defined needs. Distributed geolibraries are beneficial for various reasons, the most important of which is the authoritative role they would come to assume as subject gateways. To be referenced through a scientific geolibrary, information sources must meet quality standards set by the library gatekeeper. Another important benefit of a distributed geolibrary comes from its "distributed" attribute. Without the need to collect information in one physical location, local curators can serve and update online information without the requirement of maintaining consistency among multiple copies. The MRIB prototype implements the distributed geolibrary concept to organize, index, and deliver online information about the oceanic and coastal environments. MRIB provides access to information, but it is not an information repository. It incorporates information that exists in remote sources, without modifying formats or content. This system succeeds by building a central index that consists of Electronic Index Cards containing metadata about the information sources, their geographical areas, and their network locations. The ontology of MRIB is expressed in the classification system through which users can explore the available information. MRIB currently classifies information with 13 types of categories (facets): Location, Geologic Time, Features, Biota, Discipline, Scientific Method, Hot Topics, Project Name, Agency Name, Author, Class, Format, and Audience. Classifying information is not automatic but is performed by a librarian, which is both the major benefit and the major operating cost of MRIB. The significance of MRIB lies both in the utility of the information bank and in the implementation of the distributed geolibraries concept. Distributed information banks, such as MRIB, can be applied widely as unifying portals for extensive or rapidly developing information bases, for which a centralized repository would be impractical. In addition, MRIB has a modular structure that allows a classification system to be easily modified, to expedite the development and testing of suitable classification systems for existing information bases.

URL: http://mrib.usgs.gov/

Keywords

Distributed Geolibraries, Coastal and Marine Environments, Public Education and Public Discourse.

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