

# The Marine Realms Information Bank: A Coastal and Marine Digital Library at USGS

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<http://mrrib.usgs.gov>

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## Collection 1

The collection of on-line documents accessible through the MRIB includes text, pictures, charts, map and data files, relevant to coastal and marine science.



## Electronic Index Cards (EICs) 4

EICs contain metadata fields describing space, time and other classifying attributes of a document:

### Essential Attributes

Authors, Curators, URL, Title, Last Modified Date, Participating Agencies, Content Type, File Type, Abstract, Geologic Time;

### Procedural Attributes

Project Title, Location of Study Areas, Research Methods, Research Start and End Time;

### Conceptual Attributes

Academic Disciplines, Physiographic Features, Biota, Hot Topics;

### EIC Information

Indexes, Indexers Comments, Date of EIC Creation, Date of EIC Last Modification.

**Electronic Index Cards**

URL: <http://mrrib.usgs.gov/abstracts/76150-97/>  
 Title: Environmental Change in Boston Harbor  
 Point of Contact: WPEC Webmaster  
 Keywords: Metal Concentration Boston Harbor Massachusetts Bay Environmental Change Silver Ag Mercury ng Lead Pb Zinc Zn Chromium Cr Contaminant Benthic Community Indicator

## Concept 2

The MRIB is modeled after the operations of a traditional library and is executed through computer network technology. This system builds a central index of metadata about documents that exist in remote and independent sources, and uses a multifaceted catalog with map-based geographic search capabilities.

## Classification Scheme 5

The classification scheme of the MRIB catalogues documents using 13 categories: location, biota, geologic time, physiographic feature, discipline, research method, hot topics, project title, agency, author, audience, class, and format.

## Software Architecture 3

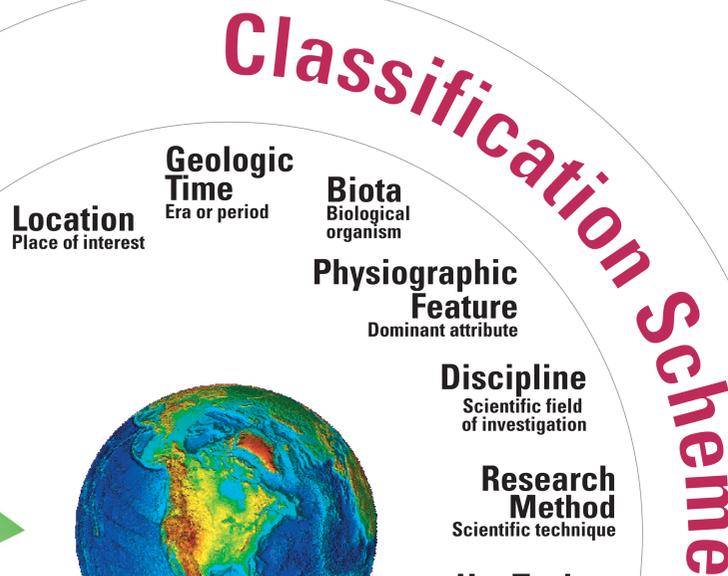
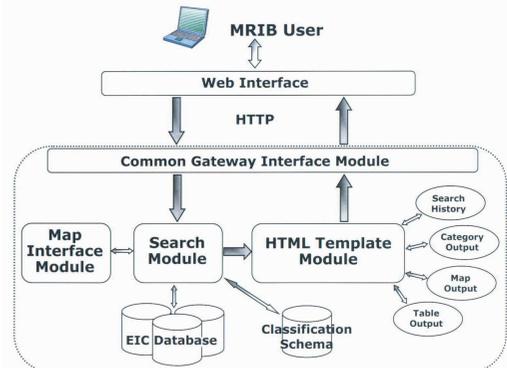
The MRIB software architecture is divided in three independent components:

**EIC Database.** A metadata profile, called an Electronic Index Card (EIC), is created for each document indexed in the MRIB.

The collection of all the cards creates the EIC Database;

**Search Engine.** A customized database management system that sorts the EICs according to the MRIB classification scheme and the users' needs;

**Web Interface.** The user interface is designed to encourage browsing as well as searching, so as to preserve the strengths of a traditional library catalog while taking advantage of the flexibility of digital technology.



## Search and Retrieval 6

The MRIB provides users with three search strategies to locate documents: 1) select categories, 2) browse maps, and 3) search keywords. These search strategies can be used separately or combined. The MRIB query process begins with the user issuing a search request to the Web browser. The Common Gateway Interface module parses this request and passes it on to the search module. The search module queries the EIC database for matching records. For geographical searches the map interface module is also invoked to handle latitude and longitude parameters. Once the matching records are retrieved, the search module calls upon one of several HTML templates chosen by the user (table, map, or category view). Finally, the Web page of results is sent back to the user.

## Abstract

The Marine Realms Information Bank (MRIB) is a distributed geolibrary of the USGS Coastal and Marine Geology Program that (1) links information existing in distributed and independent sources, and (2) prioritizes search and display of information by place (location on the Earth's surface).

The MRIB aims to provide easy access to knowledge pertaining to the ocean and the associated atmospheric and terrestrial environments to scientists, decision-makers, and the interested members of the public.

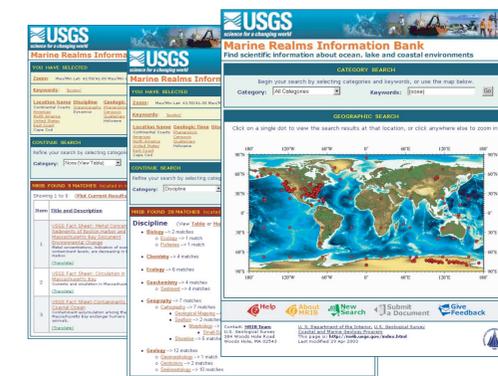
## Web Interface

The MRIB Web interface comprises three sections:

**Search History Menu** enables users to see the already selected search criteria, and if needed, change them;

**Selection Menu** enables users to select one or a combination of categories. Selections can also be made by panning or zooming maps of the areas of study;

**Content Cell** shows the search results, display options, and navigation tools.



## Outputs 8

Item	Title and Description	Author	Time of Data Collection	Longitude	Latitude	Elevation
1	A Proposal for Synthesis by the Aquatic Council of Massachusetts	Krabberhoft, David P.	1998/10/01 2000/09/30	80.78W	25.30N	
2	Arch Creek at C&B - USGS		1997	80.15W	25.90N	
3	Bacterial denitrification of methanogenic in the South Florida	Oremland, R.		79W	25.10N	

The MRIB search results are displayed in two basic formats:

**Table** containing hyperlinks and brief descriptions of the documents that met the selected search criteria;

**Map** containing symbols marking the geographical locations discussed in the documents that met the selected search criteria. The symbols are hyperlinked to the remote documents.



**Organized Views**