

## CMG Knowledge Management

### SUMMARY:

One of the challenges of the Information Revolution is to preserve and utilize data, information, and knowledge for present and future benefit. The objective of this project is to ensure that USGS Coastal and Marine Geology Program data and knowledge are available to a wide variety of users to address multiple, complex issues.



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### INVESTIGATORS:

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### DESCRIPTION:

The importance of preserving and organizing data, information, and knowledge for continuing benefit was recognized by the National Research Council in a 1999 review of the USGS Coastal and Marine Geology Program. In one of the three grand challenges posed to the Program, the review called for creation of a Coastal and Marine Knowledge Bank to provide an electronic organization, presentation, and interactive capability for the nation's coastal and marine geology knowledge assets. This project will create, implement, and sustain the Coastal and Marine Knowledge Bank. Because of the high rate of technological advancement and the development of new best practices in knowledge management, we will use a phased approach and an open, modular architecture.

Components of the project include: (1) Improvement of data management to support the Knowledge Bank through coordination and standardization of data management activities across the Program as well as coordination and prioritization of data rescue activities across the Program; (2) Developing prototypes for the Knowledge Bank; (3) Capturing and organizing the knowledge base of the Coastal and Marine Geology Program, and improving how the program shares its knowledge; (4) Researching, adopting, maintaining, and if necessary developing the necessary Information Infrastructure tools that allow for effective and efficient construction of the knowledge bank.

### START DATE OF PROJECT:

October 1, 2004

### END DATE OF PROJECT:

September 30, 2010

### TOPIC:

Management of knowledge and data relevant to Coastal and Marine Geology

### APPROACH:

The old Data Management and Knowledge Bank projects were merged into a single CMG Knowledge Management project in FY 2005 to increase cooperation, effectiveness, and efficiency. The CMG Knowledge Management project contains four major tasks: Policy and Planning, Data Management, Tool Development, and Knowledge Portals. (1) The Policy and Planning Task includes the combined planning activities for the former Data Management and Knowledge Bank projects, including a consolidated annual workshop, highest-level coordination activities with bureau and outside agencies, and training for all portions of the project. (2) The Data Management Task provides oversight of data handling within each of

the three teams, integration of standard CMGP data management techniques into new projects, and rescue of selected aging datasets as needed for ongoing research work. (3) The Tool Development Task coordinates development of standard Program-wide tools to house, find, display, contextualize, and highlight CMG data, information and knowledge. These will potentially include Virtual Library (MRIB); Internet Map Server; Data Catalogue (InfoBank); News Service; Integrated Data Warehouse; Multimedia Tutorials; Model Integration (DSS); Data Management Tools; Tools for Requirements Analyses, Evaluation and/or Usability Studies. (4) The Knowledge Portals Task works on deployment of information tools in coherent portals highlighting specific aspects of CMGP science. These activities construct the 'end-product' Knowledge Banks to suit particular needs. Currently this includes topical knowledge bank development (Coastal Change Pilot), geographic knowledge bank development (Monterey Bay Pilot), and enhancement of the web presence of all CMGP projects.

## **RESULTS:**

In addition to public Websites and publications, the project maintains a CMGP Data Management Plan for the guidance of Coastal and Marine Program research projects.

## **PUBLICATIONS:**

- ◆ [The Marine Realms Information Bank -- A Coastal and Marine Digital Library](#)
- ◆ [The Marine Realms Information Bank; A Coastal and Marine Digital Library at USGS](#)
- ◆ [Content Metadata Standards for Marine Science: A Case Study](#)

## **RELATED:**

- ◆ [Further information about Knowledge Bank development, http://marine.er.usgs.gov/cmkb/](http://marine.er.usgs.gov/cmkb/)
- ◆ [Infobank, CMGP field activities and data, http://walrus.wr.usgs.gov/infobank.](http://walrus.wr.usgs.gov/infobank)
- ◆ [The Marine Realms Information Bank \(MRIB\), a digital library, http://mrib.usgs.gov/.](http://mrib.usgs.gov/)
- ◆ [The Woods Hole Information Archives, http://woodshole.er.usgs.gov/operations/ia/index.html.](http://woodshole.er.usgs.gov/operations/ia/index.html)
- ◆ [Sound Waves, online newsletter of Coastal and Marine science activities in the USGS, http://soundwaves.usgs.gov/.](http://soundwaves.usgs.gov/)