THE STATUS OF GIS COORDINATION EFFORTS WITHIN THE SOUTHERN CALIFORNIA BIGHT

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ABSTRACT

The use of Geographic Information Systems (GIS) in all areas of natural resource management planning has significantly increased within the last decade. Within the Southern California Bight and on the Channel Islands there are many natural and anthropogenic phenomena which occur or exist over large areas, and which are within the purview of several jurisdictional entities. The distribution of wide-ranging species and the locations offshore energy development facilities are examples of subjects which are of interest to many agencies and are particularly suitable for GIS analysis and interpretation. Until recently, however, there has been no coordinated effort to share and distribute spatial data or plan for future data development. Many of the groups involved in GIS development in this region have recently initiated discussions regarding efforts to improve communication and data sharing between local agencies, organizations, and educational entities. This paper describes the current status of efforts to address several needs in the area of interagency GIS coordination, including the creation of a centralized spatial data clearinghouse and the necessity of having a designated full-time position to coordinate efforts between cooperating agencies. Clearly the establishment of such an infrastructure will require a dynamic approach to funding and maintenance.

Keywords: Geographic Information Systems (GIS), California Channel Islands.

INTRODUCTION

The geographic area known as the Southern California Bight encompasses the coastline of California, the waters of the Santa Barbara Channel, and the California Channel Islands. The management and ownership of these areas are distributed among more than 15 Federal, State, local, and private entities. Concurrently, many universities and non-profit organizations maintain a significant interest in the resources and human use alternatives of the area. Many of these agencies and organizations have agreed that the coordinated use of Geographic Information Systems (GIS) would be a powerful tool in the effort to increase our understanding of the Bight and its countless resources. This paper will describe several of the efforts that have been made towards the creation of an integrated GIS program for the Bight, and what work remains to be completed towards that goal.

PAST EFFORTS

The use of GIS began sporadically about 10 years ago when several agencies and universities initiated independent GIS programs for their own use. In the early 1990s a group of people with a shared interest in the development of GIS in the area began meeting under the informal structure of the Channel Islands GIS Interest Group. Several of the organizers of this group, including Bill Bushing and Leal Mertes, were based at the Department of Geography at the University of California, Santa Barbara (UCSB), and the meetings were regularly held there. At the same time, a cooperative project between several Federal and State agencies and UCSB, called the Channel Islands GIS Database (CIGIS), was initiated.

Over the next several years the meetings of the Interest Group gradually ended, but the development of the CIGIS continued. The first layers to be included in the CIGIS were the National Oceanic and Atmospheric Administration (NOAA) bathymetry data, the U.S. Geological Survey (USGS) digital elevation data, and the digital line graphs (DLGs) for the islands. The first version of the CIGIS was delivered to the project participants, including the National Park Service (NPS), the Channel Islands National Marine Sanctuary (CINMS), and the State of California Office of Oil Spill Response and Prevention (OSPR) in 1995. Several other agencies, including the Catalina Conservancy and the U.S. Navy at Point Mugu were concurrently creating similar GIS databases of their own.

During 1995 to 1997 all of the agencies and UCSB continued to create and add data layers to the CIGIS. Agencies tend to create and modify data that is germane to

particular management needs; hence some of these layers were of limited interest to other groups. Nevertheless, all of the participants in the original CIGIS project, whether or not they still contributed money, continued to share data and information both informally and under various agreements. At the same time, however, the creators of the CIGIS as well as the associated agencies were finding it difficult to address the number of outside data requests. While everyone desired to make data available to as many people as possible, the tremendous expansion of the use of GIS into all areas of government, resource management and research was putting pressure on those organizations that had specific data not available elsewhere, such as on and around the Channel Islands.

It was apparent to everyone involved that what was needed was a centralized database management and server system that could coordinate and distribute all of the spatial data being generated for the Channel Islands and the surrounding waters. There was and is also a need to establish protocols and coordinate data collection efforts that might be of interest to non-related entities, (such as mapping kelp distribution), in a consistent manner on an annual basis. To address these issues the idea of the old Channel Islands Interest Group was reincarnated as the Channel Islands GIS User's Group. In early 1998 a meeting of this group was held at UCSB. Approximately 30 people attended and discussed both the current status and the future of GIS efforts in the region. Discussions at this meeting made it clear that to accomplish the above listed goals the group would need to acquire outside funds to hire and provide travel for at least one full-time person to coordinate and manage the CIGIS. The efforts of the group since that time have been towards that end.

CURRENT ACTIVITIES

In 1998 the CINMS and the NPS were awarded money from the Federal Geographic Data Committee (FGDC) to enhance GIS coordination efforts in the region. Those funds will be spent on a GIS workshop at this Symposium, the publication of the presented GIS papers in the Symposium Proceedings, the development of a prototype organizational framework and a master list of data and metadata in the area, and several follow-up meeting of the User's Group following the Symposium. The goals of these meetings will be to continue efforts in the following areas:

- Acquire the funding to support a coordinator for the CIGIS.

- Acquire funding and/or create partnerships to create a data clearinghouse for the CIGIS database, most likely to be located at UCSB and in assocation with the Alexandria Project. This effort will require that all of the participants agree to provide FGDC compliant metadata along with their data, a huge task in itself.

- Increase communication regarding local GIS projects and research. Such communication could eliminate the possible duplication of research or data gathering activities and would enhance the use of monetary and human resources in data gathering efforts.

- Leverage our resources as a group so as to compete more successfully for additional project monies from outside sources.

Ultimately the goal of all of these efforts is to utilize GIS as effectively as possible to increase the shared knowledge of the resources and to understand the processes at work within the Bight and on the islands. This information can then be made available to the research community and to resource managers, and will provide the best platform possible for informed management decisions.