

Abstract

Title: Development of a Regional Clearinghouse for the Dissemination of Integrated Information on Natural Hazards in Central America

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The infrastructure and rich natural resource base in several Central American countries, already stressed from the effects of rapidly changing land use and growing human population pressure, suffered a major setback owing to the impact of Hurricane Mitch in October 1998. The immediate emergency response united national efforts with those of international relief and donor organizations. Subsequent to the emergency relief response, the region has been faced with the task of restoring damaged infrastructure and developing more effective management practices and warning systems to mitigate the risk of future disasters.

It was immediately recognized, during the disaster, that decisionmakers were hampered by a lack of integrated information on natural hazards and threats to natural resources, particularly information in a geographically consistent format and in useful and easily understandable forms. Early international meetings

identified the need for regional cooperation, access to data, the importance of transboundary issues, and some level of data integration. Furthermore, it was recognized that disasters were not uncommon in the region and that they were exacerbated by existing land management practices.

Accordingly, as part of a broad U.S. Government interagency effort to respond to the needs of national partners in the reconstruction of the affected countries, the U.S. Geological Survey (USGS) organized a multidisciplinary program to gather, integrate, and deliver useful data and information as quickly as possible and to enhance the national agencies' capabilities to generate and effectively use these information products.

As part of this initiative, the USGS/Earth Resources Observation Systems Data Center and national partner institutions are promoting a regional clearinghouse system using the Federal Geographic Data Committee metadata standard to describe, access, and disseminate geospatial data through the Internet in Honduras, Guatemala, Nicaragua, and El Salvador. The main purpose of this project is to improve the availability of geospatial data related to natural disasters. The project will also strive for the dissemination of all national geospatial data and will promote the development of national spatial data infrastructures and of a regional spatial data infrastructure. These regional activities are clearly an outgrowth of earlier developments in Latin America funded mainly by the Inter-American Development Bank and implemented by

the Pan American Institute of Geography and History in the “Atlas of the Americas” project.

The project has developed novel approaches that have the potential to be sustainable. These include devising institutional metadata development plans to guide the construction of metadata sets, implementing an integrated clearinghouse Web site that complements the clearinghouse (Isite) node, completing institutional data inventories to be hosted on the Web sites, training native Spanish-speaking experts to function as national trainers, and encouraging regional networking.

The project clearinghouse Web sites in each country will eventually provide the user with increasingly complete information on national geospatial data holdings. The sites will incorporate institutional geospatial data inventories and participating institutions’ profiles and Internet map server capabilities. Sites will also feature a metadata “browse” section to allow the user to find needed information easily. The national institutions providing the information have been sensitized to the need to disseminate geospatial data and are conscious of the varying levels of data accessibility they can provide: metadata describing the data sets, graphic images representing the data sets, Internet mapping tools to do basic visualization and querying of the data sets, and the possibility of downloading the data sets.

In Honduras, one of the most damaged countries, the Center for Geographic Data Management has been created to help this capacity development. This center already serves as a training and distribution center for information and could facilitate a regional integration. The Central American region could function as a prototype for the development of mechanisms and procedures needed to create regional spatial data infrastructures in developing countries. This is possible for several reasons: the importance of regional integration and transboundary issues is generally understood, a level of regional organization already exists, and the Hurricane Mitch reconstruction effort has produced a core of commonly trained individuals and a group of native Spanish-speaking training experts. In addition, the geographic area is appropriately small for an implementation project, the infrastructure is limited and demands an effective data integration and delivery system, and some countries are already interested in establishing centers of excellence to serve as regional resources.