Chapter 3.9
The Columbia Regional Geospatial Service Center System:
A Proven Model for the United States

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ABSTRACT

During the past 20 years, the role of geospatial technology in society has increased dramatically. However, the impact of these technologies in rural areas remains minimal. In Texas, a federally funded project called the Columbia Regional Geospatial Service Center System (the System) has emerged as a model for bringing the benefits of geospatial technology to all portions of society. The model involves distributed, academically based Centers, each with regional specializations, linked together into a unified system for addressing critical needs in emergency response, economic development, and natural resource management. The Centers operate on three focus areas, i.e., data, applications, and training. The Columbia Center has been in operation for five years and has demonstrated the practical strength of the System through numerous local and statewide projects, responses to natural disasters, and other geospatial activities.

INTRODUCTION

History

In 2005, the United States Congress established the Columbia Regional Geospatial Service Center System through a federal appropriation. Initially, the System consisted of the Columbia Regional Geospatial Service Center at Stephen F. Austin State University (SFASU) in Nacogdoches and the Regional Geospatial Service Center at the University of Texas at El Paso. The appropriation, championed by Senator Kay Bailey Hutchison, came as recognition of the contributions of SFASU during the recovery effort after the loss of STS 107, the Space Shuttle Columbia. But the origins of the project go back to the 1990s when researchers at SFASU first recognized the disadvantages that rural communities suffered in terms of adopting geospatial technology to address pressing problems. The work that went on quietly in East Texas over the next ten years resulted in development of capabilities that enabled SFA to contribute so effectively to the recovery effort (Gehman, 2003).

Relevance

Senator Hutchison challenged the Columbia Center to demonstrate a better way to bring the advantages of geospatial technology to all parts of the state, and in so doing create a model for the nation. During the course of the ensuing five years, the system has done that. Today the Columbia Regional Geospatial Service Center System is comprised of five Centers: the original two in Nacogdoches and El Paso; the Center for Geospatial Technology at Texas Tech University in Lubbock; a facility in the Department for Earth and Space Sciences at Lamar University; and the Center for Earth and Environmental Studies at the Texas A&M International University in Laredo. The System operates in close coordination with The Texas Natural Resources Information System (TNRIS), a state agency mandated to serve the geospatial needs of Texas. In effect, the Columbia Center System extends the reach of TNRIS to all areas of the State.

Mission

The Columbia Regional Geospatial Service Center System provides regional geospatial support for emergency preparedness and response, economic development and resource management. The System serves all interest groups, public and private, by providing cutting edge technology tempered with a pragmatic, bottom-up philosophy. This broad mission allows the System flexibility to discover new ways to apply geospatial technology for the common good. At the same time, the three mission areas give focus to the Systems efforts, while leveraging the work in each mission area to the benefit of the other areas. Put another way, the same geospatial data, applications and training used for emergency preparedness and response can be applied to economic development and natural resource management issues (McDonald et al., 2007).

THE MODEL

The Columbia Regional Geospatial Service Center System Model is comprised of eight principles, each of which defines an important aspect of the successful program. These principles are a combination of fundamental concepts upon which the project is based and pragmatic additions that have developed over the years and refined by experience. These principles are the foundation of the Columbia Regional Geospatial Service Center System (Kroll et al., 2006).

Distributed Centers

The idea for regionally based, distributed centers dates back to very early thinking about the challenge of bringing geospatial technology to rural

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