

# The University Consortium for Geographic Information Science

## Research Priorities



### GEOGRAPHIC INFORMATION RESOURCE MANAGEMENT

#### THE PRIORITY

The complexity of the organizational interrelationships that support the knowledge infrastructure of geographic information science demands a more careful consideration of how these important information resources will be developed, maintained, and distributed over time and among organizations. A viable global geospatial infrastructure can not exist without some better understanding of how information resources migrate through these complexities.

#### DESCRIPTION OF RESEARCH CHALLENGE

Since nearly all of the information / data collected to support the myriad research efforts in geographic information science are derived from public and quasi-public organizations, researchers need to establish better research frameworks to assure its creation and sustainability across time and among organizations. This knowledge structure, from an information policy perspective, is built along five critical aspects:

##### **Authority of Information/Data**

This denotes the general and particular responsibilities (or goals) of those

institutions that generate geo-spatial data. This authority often determines how the geospatial information infrastructure, and for what purposes, both public and private, information shall be used.

##### **Creation of Information/Data**

Methods, procedures, standards used to bring the geospatial information into existence. This includes meta-data, standards, and accessibility formats.

##### **Organization and Maintenance of Information/Data**

Institutional geo-information infrastructures are sustained through an array of voluntary and compulsory obligations among individuals and organizations. In order to give this infrastructure better context, meaning and accessibility, the creation of accessibility protocols and interoperability standards need to be sustained among the wide variety of geospatial information creators, owners and distributors. For example, census data produced by the federal government is created in a database format that is easily portable to a variety of geo-spatial analysis software. This aspect also includes methods and/or programs that keep the geospatial information current.

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The UCGIS is a non-profit organization of universities and other research institutions dedicated to advancing the understanding of geographic processes and spatial relationships through improved theory, methods, technology, and data.

### **Distribution of Information/Data**

Methods, programs and policies created by geo-spatial information authorities to foster a predictable information infrastructure, and facilitate geospatial information availability and accessibility delivered for the broad community of users.

### **Preservation and Destruction of Information / Data**

Methods, programs and policies designed by geo-spatial information authorities to ensure that the information is properly archived, destroyed, or migrated to other (and future) technological platforms.

## **IMPORTANCE OF RESEARCH CHALLENGE**

As the variety of geospatial information and data resources increases each year, the demand for understanding and building sustainable information and knowledge structures remains a critical research challenge for the geo-spatial information community. The precepts of information resource management assumes that the development of critical public information resources can be accomplished most effectively when there is a clear "life-cycle" of information creation, organization, use, and long-term archiving.

## **EMINENT RESEARCH QUESTIONS**

How can the multitude of public authorities responsible for the creation of the vast amount of geospatial information best work to assure a global transparent and accessible infrastructure? How will future information technologies affect the migration of this critical data from one technical platform to another?

## **REFERENCES**

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