



WATER RESOURCES RESEARCH GRANT PROPOSAL

Title Documentation and Dissemination of Geospatial Data in Oklahoma Educational Institutions

Focus Categories M&P,EDU

Keywords Geographic Information System, Data Storage and Retrieval, Resource Planning

Duration 3/1/99-2/28/00

FY 2000 Federal funds \$34,907

FY 2000 non-Federal funds \$69,814

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Congressional District of University Oklahoma 3rd

Statement of Critical Regional or State Water Problems

Geospatial data are increasingly used in hydrologic and water resources studies in Oklahoma . Unfortunately, much of the geospatial data for Oklahoma are not known outside the government agencies, private companies, and educational institutes where the data are produced. The types of data include GIS, GPS, remote sensing imagery, maps, aerial and digital aerial photography. Geospatial products may cover many themes useful to water resource investigations:

- GIS coverages of waterbodies, watershed boundaries, fish kill sites, effluent outfalls,
- GPS coordinates of water monitoring sites, permitted pumping and diversion points,
- satellite images from which land use/land cover, crop water stress, evapotranspiration flux, or urban impervious area can be derived,
- maps of cultural and demographic features related to water use demands, water rights, flood damage potential.

The Spatial and Environmental Information Clearinghouse (SEIC) is building a Web site for inventory, documentation (metadata), and distribution of Oklahoma geospatial data. SEIC is working closely with government agencies and the private sector to inventory data holdings and teach data producers to create federally compliant metadata. Capabilities to download on-line data or to get contact information to acquire data not on-line are being added to the SEIC site.

Populating the SEIC clearinghouse with metadata and data requires a great deal of cooperation with data producers. Many organizations are slowly dedicating the resources to inventorying and documenting their data holdings. The first priority for SEIC has been government agencies. SEIC has not been able to contact most of the colleges and universities, the various departments, and the many faculty and students who produce, acquire, or need geospatial data for teaching and research. Educational institutions are distributed across the state and do not interact as frequently or regularly as government agencies. Thus, there is little known about the data holdings, data needs, and the research activities at educational institutions. Much of these data could be advantageous to water resources research, teaching, and applications.

Statement of Results or Benefits

It would be of benefit to other data producers and users in the State and elsewhere to have documentation of data in the colleges and universities in Oklahoma. Documentation and links to data acquisition sites will be added to the publicly accessible SEIC site to augment similar information from government agencies and private businesses. Documentation will be metadata that is compliant with the Federal Geographic Data Committee (FGDC) standards for metadata content for geospatial data. Such metadata is required for all geospatial data created with federal funds, a requirement not well known by water resource researchers in higher education.

The main results will be to expand and to publicize the infrastructure for sharing data for teaching, research, and applications, especially in water resources. Involved will be a great deal of training on creating metadata, clearinghouse operations, and using clearinghouses and the Internet to acquire data. Training will be done through classroom lectures, campus workshops, and one-to-one sessions. These efforts will result in:

- a larger on-line, documented inventory of geospatial data for Oklahoma, especially data relevant to water resources,
- a larger number of students, faculty, and researchers trained in metadata creation and use of the clearinghouses to locate and acquire desired data.

Summary project benefits:

1. Locate and make accessible existing geospatial data relevant to water resources.
2. Train data producers to create compliant metadata as required for federally funded projects.
3. Reduce duplication and waste of resources because needed data already exist.
4. Supplement new data collections with existing data to reduce cost and expand coverages.
5. Connect educators with those with similar interests in government and commerce.
6. Broaden training of students and faculty in proper data documentation and data access via the Internet, and new geospatial data applications.

Because this is only a one-year project, we will be only begin inventorying, documenting, and training. The concerted effort will, however, be a strong beginning. We made a beginning last year with the government agencies through three metadata workshops taught by the P.I. Some state agencies now routinely produce metadata and others have asked for additional training. This proposed project will involve much more frequent and direct contact with the data holders. Experience has proven that this increases success. The same direct contact will be done in the next fiscal year at government agencies with other funding.

Transferability. The results are not solely unique and beneficial to Oklahoma. The metadata and data will be placed on the SEIC site and available to anyone with a Web browser. Many from other states have requested Oklahoma data and will continue to, especially once more data are available. The training materials will also be available from the SEIC site and will be useful and transferable to anyone wanting to learn about metadata documentation and FGDC clearinghouses.