

DATE OF REPC. July 1, 1993

LCMR WORK PROGRAM 1991

I. Local Geographic Information System Project

Program Manager: Karla Parkinson
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Stewardship in the Red River Basin
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A. ML 1990, Cht. , Sect. , Subdivision 10 (e)

This appropriation is to the commissioner of state planning for a grant to The International Coalition to expand its applicability and use of geographic information by developing programs and providing training at the local level.

Appropriation: \$143,000
Balance: \$ - 0-

B. Compatible Data: Not applicable.

C. Matching Requirement: None.

II. Narrative

This project will expand the applicability and use of the Geographic Information System (GIS) for use on the local level by relating the current GIS surface water project to ground water and land use relationships. The project will help local leaders use relevant data in decision making on land and water resource management. It will expand the Comprehensive Local Water Planning (CLWP) effort by combining the Red River Watershed Management Board (RRWMB) data gathering effort (GIS and Land Use) and the LCMR GIS/HEC Modeling Project into a relevant local day-to-day management tool for all land and water resource problems.

III. Objectives:

Development of ground water and land use relationships to the GIS/Surface Water Model

A. Narrative: The project will strive to develop the GIS program and the linkage necessary to do complete land and water resource management analysis, using the Red River GIS data base. This will include surface water, ground water, and land use relationships.

B. Procedure: This will include an analysis of current endeavors, data needs, and potential avenues to develop the linkage and analysis and local GIS training for use and application. Additional data will be generated as needed so that work on the programs and linkages can be achieved. This will be field tested as local users are trained and begin to utilize the tool.

C. Budget: LCMR Funds

Amount Budgeted: \$143,000
Balance: \$ -0-

D. Timeline:

- Analysis of needs data: July '91 ----- December '91 (Completed)
- Program development and refinement: July '91 ----- April '91
- Specific GIS use and applicability training: July '91 ----- July '93
- Field Testing of product: July '92 ----- July '93

E. Status: First status report due July 1, 1992.

1. A GIS Users Group of resource managers in the Red River Basin has been formed and will be utilized to monitor and carry the project forward.
2. Agreement has been reached to pursue a cooperative effort to tie the local GIS project with the Red River Watershed Management Board GIS management needs. To facilitate this process, the Red River Watershed Management Board has contributed \$35,000 to this joint effort to make GIS and important water management tool. A portion of this money will be available for use after June 30, 1993 to continue the program.
3. A four part Geographic Information System Users Foundation program effort has been developed. The major parts are:
 - a. Problem definition -- what water and land related problems need to be solved. This part of the program includes local managers and technical experts working through the Users Committee in problem definition discussions. To facilitate the discussion, two approaches are being implemented: 1) a literature review of past problem solving efforts involving GIS, and 2) the development of local pilot case studies involving water issues. The pilot case studies, (Wild Rice Watershed, Becker County and Floyd Lake) are now state pilots under the BWSR sponsored Water Interface Program.
 - b. Information needs -- This part of the project has been developed. It consists of three areas of work: Identification of data needed to solve identified problems; availability and description of needed information;

and relating identified problems to available information. A GIS technician has begun working with the local governments and coordinating with BWSR and will continue in this position supported by local funding.

c. Computer and GIS Training -- The largest GIS training center in Minnesota is the Alexandria Technical College (ATC). We are utilizing the facilities and expertise of the institution to house an effective training program. The Board of Water and Soil Resources (BWSR) has joined this effort. The pilot studies for the LCMR project will be integrated into the BWSR effort to build a water interface to insert in front of EPPL 7 (see attached memo). This will allow LMIC personnel to participate in the training effort. The training will feature hands-on work, coordinated by an instructor, with student interns available to students.

d. Follow-up: We are investigating the development of a help line staffed by GIS interns to help managers with problems that will occur after the course is taught. This phase will also involve an extensive evaluation of the program.

F. Benefits: The benefits of this objective are to create a new expanded state-of-the-art, easy to use management tool for local people based on real data. This tool will relate surface water data, ground water data, and land use relationships. This will assist local people in their role as "partners" with other levels of government in land and water resource management.

IV. Evaluation:

This project can be evaluated by its analysis of the needs, the updates, documenting the strategy, the production of needed data, the local training workshops, and the usefulness of the data and a management tool in day-to-day analysis by local users.

The detailed evaluation and description is contained in a project report titled "Local Geographic Information System Project". That report documents the development of a user committee and the committee developed program and the creation of three pilot areas to develop mapping standards and analysis routines. The project will culminate with the delivery of a local water interface program containing the results of the pilots to each county in the Red River Basin in July of 1993.

V. Context:

A. The inadequacy lies in the lack of data and use of the data in land and water integrated management decisions. There is also a problem with the use of this data by local people because it is not relevant, too hard to use, and not integrated. This project will strive to bridge these gaps by creating a useful, real data based tool for integrated land and water management tools.

B. This work will build on the LCMR funded GIS/HEC project of the 1989-91 biennium. By working with LMIC it is expected that connections with the LMIC GIS Raster program will be possible.

C. The LCMR funded Hydrologic Model Application Project developed a GIS surface modeling linkage. This allows linking GIS information to the HEC Water Flow Models.

D. Not applicable.

E. Not applicable.

VI. Qualifications:

A. Program Manager

Karla Parkinson

Interim President/CEO

The International Coalition

Ms. Parkinson is acting president of The International Coalition. The Board Of Directors assigned George Orning to carry out present work.

B. Cooperators/other investigators

Cooperators on this project include the following: Red River Watersheds, RRWMB, LMIC, Joint Powers Board, PCA, Becker County COLA and SWCD and BWSR.

VII. Reporting Requirements:

Semiannual status reports will be submitted no later than Jan. 1, 1992, July 1, 1992, Jan. 1, 1993, and a final status report by June 30, 1993.