



## **WATER RESOURCES RESEARCH GRANT PROPOSAL**

**Title:** The Kansas Water Institute An Integrated Electronic Community of Knowledge

**Principal Investigator:** Robert W. Buddemeier, Kansas Geological Survey

**Co-Principal Investigator:** James K. Koelliker, Kansas State University

**Co-Principal Investigator:** Edward Martinko, Kansas Biological Survey

**Cooperating Investigator:** William Hargrove, Kansas State University

**Cooperating Investigator:** Gary A. Clark, Kansas State University

**Project Category:** Information/Communication

**Project Duration:** One year (1 March 1999 to 28 February 2000)

**Federal Funds requested:** \$25,000.00

**Non-federal funds pledged:** \$51,250.00

**Key words:** Water resources, Information systems, World Wide Web, Collaboration

### **Statement of the Problem**

Water resources -- their quality, quantity, location, and social and economic importance - - are recognized as major issues now and for the future. Water resource issues extend beyond topics conventionally defined as such, into much broader environmental and resource areas such as Global Change and Biodiversity, in Kansas and the world.

Within Kansas, water has been so important for so long that every educational, research, and regulatory or policy agency has water-oriented components and programs. Through the Water Plan and the Kansas Water Office, the state has acted to coordinate, and sometimes integrate, the activities of the various management, regulatory, and policy agencies. Increasingly, this coordination has resulted in recognition that water-related problems are complex and multi-disciplinary in nature, requiring holistic solutions.

Kansas has great resources in the areas of water-related science (both natural and social) and technology, but they are not organized to address the kind of holistic demands that are now put upon them. Water-related programs are compartmentalized, both between and within institutions, and integration is largely left to the initiative of individuals. This proposal addresses a means by which integration can be greatly enhanced and encouraged, in a rapid and economical fashion.

### **Proposed Work**

Note: The work undertaken under this revised proposal submission will incorporate, in addition to the items discussed below, the key conceptual elements and structures set

forth in the parallel proposal of William Hargrove and Gary Clark ("Creation and Maintenance of a virtual Water Resources Center for Kansas"), which is incorporated into this proposal by reference. On the advice of reviewers and program officer the present submission is for a period of one year; however, the two-year schedules originally proposed are left in place, since funding will be sought from other sources for the second year of effort.

The recent advances in development of electronic communication, and information and data exchange technologies, has provided us, in principle, with everything from teleconferencing and e-mail to highly sophisticated WWW pages (and linkages) and high-speed data networks. We propose to integrate these capabilities into a "virtual" Kansas Water Institute that:

1. links the relevant people and programs of all of the state's research, information, and water-management agencies,
2. shares and develops data, expertise, and syllabi,
3. effectively delivers public information and enhances education, and
4. perhaps most importantly, provides existing institutions with an organizational basis for the kind of collaborative, holistic research that is essential in dealing with the rapidly growing, complex water problems at all levels from local to global.

This is an area of rapid development; similar activities are being undertaken elsewhere in the US, and examples already exist in Europe (W. Hargrove, pers. comm.). There is no lack of models or proven components -- the unique contribution described in this proposal involves both institutional and individual collaboration in the development of an interactive water science network of expertise and information.