# Report for 2003KS32B: High Plains Aquifer Information Network (HIPLAIN)

- Conference Proceedings:
  - Poster session at Water and the Future of Kansas, March 2003.
  - Ogallala Aquifer Institute Annual Board Meeting, September 2003.
  - Pathfinder Applications of GIS in Science Workshop, summer, 2003.
  - Ogallala Aquifer symposium, Wray, Colorado, February, 2004 poster.

Report Follows

**HIPLAIN – The High Plains Aquifer Information Network *www.hiplain.org***
**Final Report for Year 2 (March 1, 2003 – February 28, 2004)**


## Principal Investigators

Margaret Townsend, Hydrogeologist, Kansas Geological Survey
Gary A. Clark, Professor, Kansas State University
David Young, Hydrologist, Kansas Geological Survey
Steven Briggeman, Computer Programmer, Kansas State University


### Statement of Problem

The High Plains aquifer spans nearly 111 million acres of the Great Plains. Many communities and agricultural producers rely on the aquifer for groundwater to thrive in the semi-arid region. Uses of the aquifer include municipal, industrial, recreational, and intense agricultural production. Understanding the importance of the aquifer and ensuring its viability in the future is critical.

One key to understanding and conserving the High Plains aquifer is to have an effective method of sharing information that is practical and applicable to all users of the aquifer. Residential and agricultural users, researchers, consultants, and public policy makers need to have a common source to help them acquire the information and knowledge they need to protect and manage this vital resource.

### Research Objectives

The Internet provides a fast and convenient method for disseminating data and information. The High Plains Aquifer Information Network (HIPLAIN) establishes an informational resource site to serve all users of the High Plains aquifer. HIPLAIN focuses on providing information on many aquifer-based issues, including education, agriculture, environmental topics, technical data, and links to organizations that are associated with the aquifer.

HIPLAIN is a one-stop source for a broad group of High Plains aquifer users. By consolidating the available information into one website, individuals are able to find answers and utilize resources with a click of their mouse. HIPLAIN will provide opportunities for all potential users to increase their understanding of the region's water resources and provide information to enable better personal and public decisions on water conservation, development, and management.

### Methodology

- HIPLAIN was developed in 2002/03 to be a central location for previously dispersed information on the High Plains aquifer. During the March 2003-February 2004 project period the main improvement to the website was the addition of new state pages that are being developed. The HIPLAIN States button directs users to these new pages (Fig. 1). To date, major organizations from the other 7 High Plains aquifer states have been included.
- In addition, the site is current undergoing redesign in ColdFusion language to increase efficiency and eliminate the frames format that currently exists. This will help address accessibility issues as discussed in Web Content Accessibility Guidelines for the State of Kansas Guidelines by Priority - Version 2.0 (November 20, 2001) http://da.state.ks.us/itec/WASPriorities112001.htm.

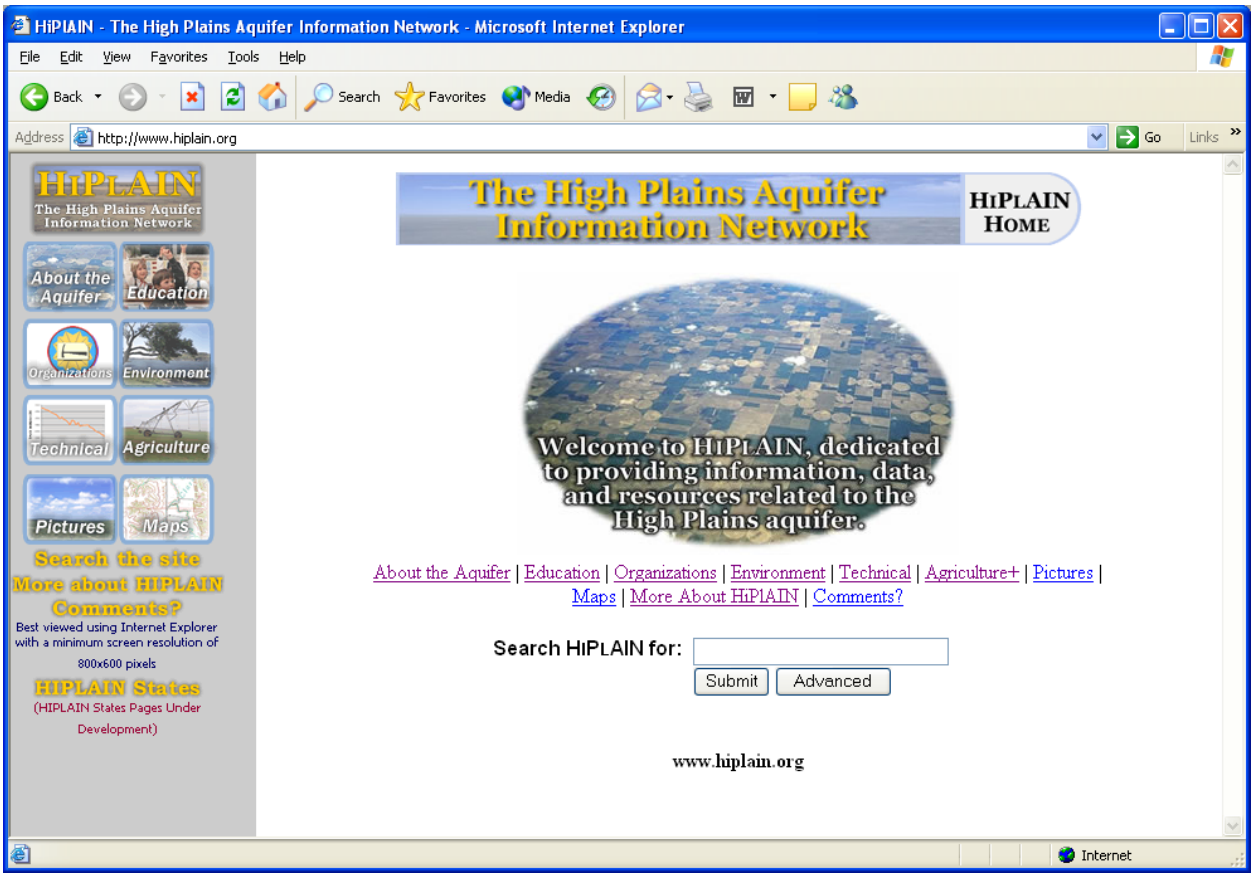


Figure 1. Home Page for **HIPLAIN** website (***www.hiplain.org***). Note addition of **HIPLAIN** States button on menu bar.

**Principal Results**

Year 2 objectives accomplished for HIPLAIN:

- Improved internal search engine;
- Additional hydrogeologic glossaries added;
- Additional literature search capabilities;
- Development and hosting of an Ogallala Aquifer Institute (OAI) web site;
- Acquisition of additional links to the other seven states that overlie the High Plains aquifer (in close coordination with the Ogallala Aquifer Institute);

Ongoing activities include:

- Access to the most up-to-date and newly developed database front ends and data-analysis tools from KGS and other sources;
- Continued search and posting of relevant links and maintenance;
- Procedures for future data and information dissemination through coordination with the OAI, Groundwater Management Districts (GMDs) and other educational and governmental groups;
- Legal issues concerning water rights, enforcement, and water-management programs.
- Continued acquisition of additional links to the other seven states that use the High Plains aquifer (in close coordination with the Ogallala Aquifer Institute) and to the High Plains Aquifer Coalition (HPAC);

- Redesign of the website in ColdFusion language to increase efficiency and eliminate the frames format that the current site has. This will help address accessibility issues as discussed in Web Content Accessibility Guidelines for the State of Kansas Guidelines by Priority - Version 2.0 (November 20, 2001) http://da.state.ks.us/itec/WASPriorities112001.htm.

**Review of Site**

In March-April 2003 the HIPLAIN website was sent to state, federal, and local agencies for review. We received a number of compliments and also comments concerning the site that we are addressing. Dr. William Carswell, Jr., USGS Regional Hydrogeologist for the Central Region (Denver), requested that the USGS District Chiefs for the High Plains states review the site and assist us in acquiring additional links for federal, state and local agencies in the those states. Also, he asked them to assist us in the acquisition of links for databases that are publicly available in their states. To date we have heard from personnel from most of the states. We have also received unsolicited positive feedback from other users.

**Significance**

As the project moves into its third year, several enhancements are being finalized. Keeping with the idea of increasing user-friendliness, a new layout is being designed that allows users to find their section of interest with fewer clicks of their mouse. To reduce the length of the pages, each subcategory of the main sections will have a dedicated page, with links back to the main topics or subcategories. This style of website will improve visibility of search engines and increase the overall utility of the site. The site will be run as a database with pages dynamically generated to provide ease of updating and access.

In addition to providing and improving easy access to Kansas High Plains aquifer information, third-year plans include further acquisition and development of links with all eight High Plains states concerning water policies and issues, socioeconomic issues, technical information, and access to available datasets for use by the public. HIPLAIN developers will work closely with the Ogallala Aquifer Institute (OAI) to form working relationships with the other states and to permit web access to available online data sets. The HIPLAIN and OAI groups are working together to develop an OAI web site that is hosted and maintained by KGS (http://www.hiplain.org/oai/).

**Technology Transfer and Dissemination Activities**

Brochures announcing the site were distributed at the Water and the Future of Kansas meeting in 2003 and 2004, an Ogallala Aquifer symposium in Colorado in February 2004, KATS Camp for teachers in April, 2004, and the 3-I Agricultural show in April, 2004.

The brochure will be sent electronically to libraries and other organizations in the early summer. We would like to send information to the school districts across the state but are only in the beginning stages of considering best how to accomplish that task.

**Presentations and Publications**

Poster session at Water and the Future of Kansas, March 2003.
Ogallala Aquifer Institute Annual Board Meeting, September 2003.
Pathfinder Applications of GIS in Science Workshop, summer, 2003.
Ogallala Aquifer symposium, Wray, Colorado, February, 2004 – poster.

**No student support.**