

## Conceptual Design:

The conceptual design for the SEMP repository is both simple and functional. It is designed specifically to provide data access and exchange among the SEMP study partners and to serve as a stable, long-term data archive mechanism to protect the SERDP investment. The approach was to build a simple, functional, well-documented repository that has low long-term maintenance requirements. The SEMP repository is designed to operate as a stand-alone archive and to be directly or remotely accessed by other more complicated systems and data archives as a "node" or an "object." It is a file-based data repository organized by using a directory structure based on the Spatial Data Standards for Facilities, Infrastructure and Environment (SDS/FIE) entity set. It is potentially compatible with the LTER and NEON data management networks.

## Design Components:

The four main design components of the ECMI data repository are data storage, the repository index/data catalog, the user user-web interface and the user profile information.

*Data Storage Component.* All data storage and retrieval in the SEMP repository is file based. The system is designed to organize, store, index, catalog, and retrieve electronic files rather than individual data values. The fundamental organization of the repository content is a directory structure based on the entity set as defined in the Spatial Data Standard/FIE (version 1.95, 1999).

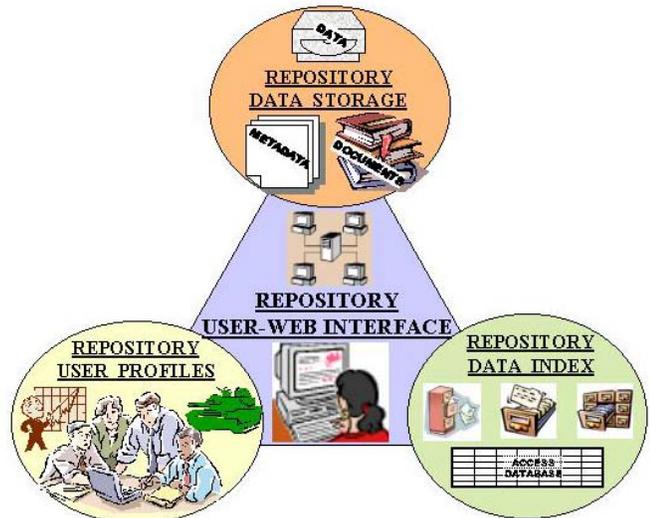
*Repository Index/Catalog Component.* The INDEX component is the key to maintaining and accessing the data repository. Each file submitted to the repository is described and indexed using a standard procedure. The INDEX component provides the mechanism for tracking the name, location and description of each file, which allows for efficient searching of the repository's content. All searches of the repository are executed on records in the INDEX. Physically, the INDEX is a Microsoft Access database containing 23 standard index fields. Each file in the repository has one unique INDEX record.

*User-Web Interface Component.* Users interact with the repository by using a Web browser, either Microsoft Internet Explorer or Netscape Navigator 4.75.

*User Profile Component.* Data submissions and retrievals are password protected. Each user issued a password must provide standard profile information for system administration purposes. Each file submitted is indexed by the contributing patron.

## Access:

Access to the repository is currently password protected. Passwords are issued to individuals who have been verified to be working with (or for) one of the six SEMP research groups; the Fort Benning staff; and the SERDP staff. A User's Guide and an Administrator's Guide are available on the web site and have been emailed to registered users. The repository resides on an NT server connected to the Internet via a T1 line and a commercial ISP.



## Contact information:

  
 Dr. Rose Kress  
 U.S. Army Engineer Research and Development Center  
 Vicksburg, Mississippi  
 Phone: (601) 634-3665; Fax: (601) 634-3726  
 E-mail: kressr@wes.army.mil

Dr. Harold Balbach, SEMP Program Manager  
 U.S. Army Engineer Research and Development Center  
 Champaign, Illinois  
 Phone: (217) 373-6785  
 Fax: (217) 373-7266  
 E-mail: h-balbach@cecer.army.mil