

## **Developing a Community Hydrologic Information System**

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**Abstract.** The CUAHSI Hydrologic Information System project is developing information technology infrastructure to support hydrologic science. Hydrologic information science involves the description of hydrologic environments in a consistent way, using data models for information integration. Advanced data access and analysis capability is provided through the use of web services for the retrieval of data from CUAHSI and third party databases. These web services hosted by the San Diego Supercomputer center make hydrologic information accessible both through a Hydrologic Data Access System portal and directly from applications software such as Excel, Matlab and ArcGIS that have Standard Object Access Protocol (SOAP) capability. This paper will describe the progress that has been made in providing direct access to data from national databases, such as the USGS National Water Information System, Ameriflux tower network and National Climate Data Center's archives, as well as other data source access capability that is under development. This paper will also describe a hydrologic observations data model that has been developed to provide a standard relational database schema for the storage of time series of point observations from experimental sites and watersheds and demonstrate the capability for representing diverse data in the same database. A significant value of web services derives from the capability to use them from within a users preferred analysis environment, rather than requiring a user to learn new software. This allows a user to work with data from national data sources, almost as though it was on their local disk. The preliminary capability for web service enabled analysis will be demonstrated.

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