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THE CUAHSI COMMUNITY HYDROLOGIC INFORMATION SYSTEM

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ABSTRACT: Hydrologic information is collected by many individuals and organizations in government and academia for many purposes, including general monitoring of the condition of the water environment and specific investigations of hydrologic processes. Comprehensive understanding of hydrology requires integration of this information from multiple sources. The Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) has developed a Hydrologic Information System (HIS) to provide better access to data by enabling the publication, cataloging, discovery and retrieval of hydrologic data using web services. This paper describes HIS capability developed to promote data sharing and interoperability in the Hydrologic Sciences with the purpose of enabling hydrologic analyses that integrate data from multiple sources. The CUAHSI HIS is an Internet based system comprised of hydrologic databases and servers connected through web services as well as software for data publication, discovery and access. The system that has been developed provides new opportunities for the water research community to approach the management, publication, and analysis of their data systematically. The system's flexibility in storing and enabling public access to similarly formatted data and metadata has created a community data resource from public and academic data that might otherwise have been confined to the private files of agencies or individual investigators. Additionally, HIS provides an analysis environment within which data from multiple sources can be discovered, accessed and integrated. The CUAHSI HIS serves as a prototype for the infrastructure to support a network of large scale environmental observatories or research watersheds and components of the CUAHSI HIS have now been adopted or modified for use within the Critical Zone Observatory (CZO) network. Software and further information may be obtained from http://his.cuahsi.org.

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