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HydroShare: Promoting Collaborative Publication, Interoperability, and Reuse of Hydrologic Data and Research Products

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HydroShare: Promoting Collaborative Publication, Interoperability, and Reuse of Hydrologic Data and Research Products

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Abstract: Data and models used within the hydrologic science community are diverse. New research data and model repositories have succeeded in making data and models more accessible, but are, in most cases, limited to particular types or classes of data or models and also lack the type of collaborative, and iterative functionality needed to enable shared data collection and modeling workflows. File sharing systems currently used within many scientific communities for private sharing of preliminary and intermediate data and modeling products do not support collaborative data capture, description, visualization, and annotation. This presentation will cast hydrologic datasets and models as "social objects" that can be published, collaborated around, annotated, discovered, and accessed. This level of interactive functionality and interoperability is enabled by a generic data model and content packaging scheme for diverse hydrologic datasets and models used by a new, web-based, collaborative environment called HydroShare. The level of interoperability achieved among the diverse types of data and models used by hydrologic scientists stems from consistent storage, management, sharing, publication, and annotation within HydroShare. The flexibility of HydroShare's data model, packaging scheme, and user interface is demonstrated using multiple hydrologic data and model use cases that highlight its features.

***Keywords**:* HydroShare; Data Publication; Collaboration; Hydrologic Data; Modeling