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Hydrologic Engineering Center (CEIWR-HEC) Integrated Water Resources Science & Services (IWRSS)

Background & Mission

The Integrated Water Resources Science and Services (IWRSS) is a new business model for interagency collaboration. IWRSS brings a consortium of United States federal agencies with complementary water resources missions together to share resources to help solve the nation's water resources issues. After the Nashville Floods of 2010, several Federal agencies came together and initiated an Interagency Memorandum of Understanding (MOU) in 2011 to create IWRSS. IWRSS's overarching objective is to enable and demonstrate a broad, integrative national water resources information system to serve as a reliable and authoritative means for adaptive water-related planning, preparedness and response activities. The goals are to:



- integrate information delivery and simplify access to this data
- increase accuracy and timeliness of water information
- provide summit-to-the-sea high resolution water resources information and forecasts

Partnership Goals

Currently the collaboration is with four United States (U.S.) federal agencies:

- U.S. Army Corps of Engineers (USACE)
strengthen our Nation's security, energize the economy, and reduce risks from disasters; provide vital public engineering services such as: water resource planning, development and management activities which involve flood risk management, navigation, ecosystem restoration
- U.S. Geological Survey (USGS)
collect and disseminate reliable, impartial, and timely information that describes and provides understanding of the Nation's water resources in order to minimize loss of life and property from natural disasters
- National Oceanic and Atmospheric Administration (NOAA)
to provide weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy
- Federal Emergency Management Agency (FEMA)
support the Nation's citizens and first responder, to ensure as a nation we work together to build, sustain and improve the Nation's capability to prepare for, protect against, respond to, recover from, and mitigate all hazards



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Other federal agencies are expected to join the consortium in the future. Two initial charters were written to support and help define the IWRSS effort. The first charter is the National Flood Inundation Mapping (NFIM); with the second charter being the System Interoperability and Data Synchronization (SIDSRT). More recently, two additional efforts have begun: identification and development of a national model registry and the second is a formal, regular and scheduled technology transfer program. Interagency teams were identified and have begun addressing the tasks described in the charters. In addition, an IWRSS pilot project is being conducted for the Russian River Watershed in California.

Why IWRSS?

The IWRSS concept originated from discussions among partners about what was preventing agencies from working together more effectively. Certain problems seem to be persistently unresolved, and important but complex water resource issues are beyond the reach or scope of any single agency. As key roadblocks were identified, a design emerged for a new way of approaching coordination and collaboration.

Interagency collaboration can be challenging. Achieving a well-integrated governance model for IWRSS will require significant investment in consistent socialization at many levels within each agency, to ultimately yield significant dividends. One dividend is the "summit-to-sea" approach that will help stakeholders address changing needs in an uncertain future, across scales ranging from mountains to watersheds, in events from droughts to floods.



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Five-Point Strategy

IWRSS: Innovative Partnership

- New business model for interagency collaboration
- Share technology, information, models, best practices
- Address complex, multidisciplinary issues collaboratively
- Leverage investments through joint planning and development



Enriched Stakeholder Participation

- Strengthen participatory processes
- Understand and document growing information needs
- Quantify value of new/improved services and develop social capital
- Inform design, development and implementation activities



New Digital Information Products

- Summit to Sea
- Floods to Droughts
- Coherent Past, Present and Future Information
- Extend forecast range, improve accuracy, quantify uncertainty
- Enhanced mapping capabilities linked to impact information

Improved Supply & Distribution

- Interoperable Systems
- Data Synchronization
- Enterprise geo-intelligence



Office of Water Prediction

- A National Weather Services (NOAA) organization with elements in Alabama, Maryland, and Minnesota
- Develops and delivers state-of-the-science, national hydrologic analyses, water forecast information, relevant data sets, decision-support services and guidance

