

Barge heading down Arkansas River.



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# INSTITUTE FOR WATER RESOURCES



**T**he U.S. Army Corps of Engineers (USACE) Institute for Water Resources (IWR) was established to provide forward-looking analysis, cutting-edge methodologies, and innovative tools to aid the Civil Works program. The institute strives to improve the performance of the USACE water resources program by examining water resources problems and offering practical solutions through a wide variety of technology transfer mechanisms. It fulfills its mission through:

- analysis of emerging water resources trends and issues;
- development, distribution, and training in the use of state-of-the-art methods and models in the areas of planning, operations, and civil engineering;
- national data management of results-oriented program and project information across civil works business lines.

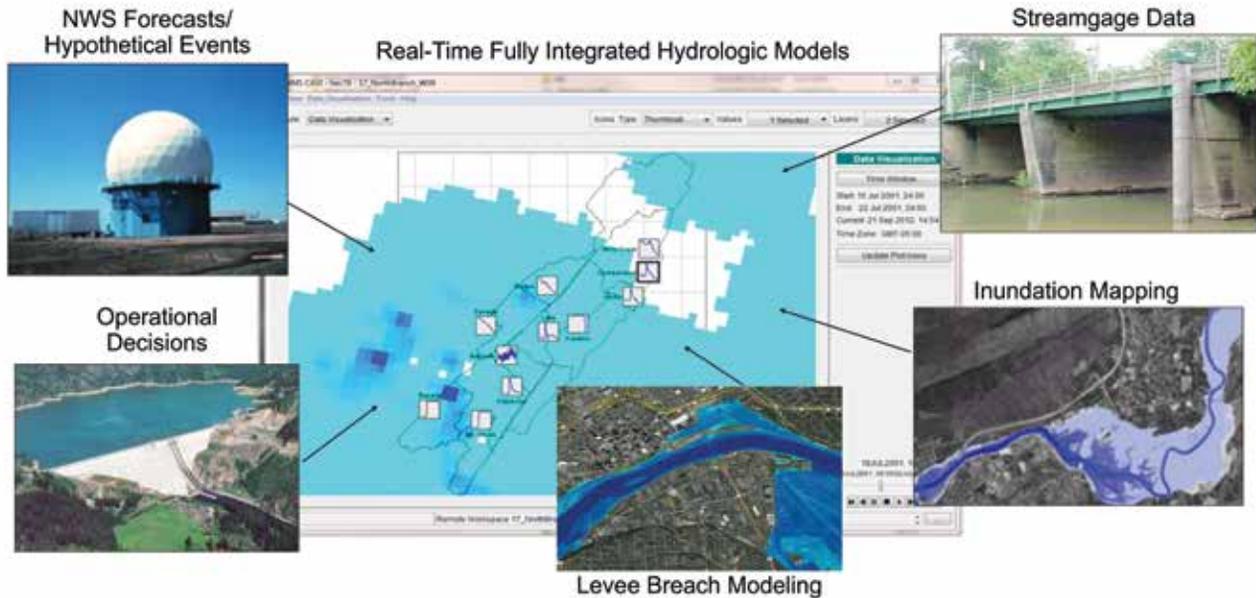
IWR has offices in five locations, with its National Capital Region (NCR) headquarters in Alexandria, Virginia.

**Navigation and Civil Works Decision Support Center (NDC),**

also in Alexandria, provides a critical mass of expertise focusing on the management of infrastructure utilization and performance information for USACE programs and projects spanning civil works business lines. NDC directly supports the USACE navigation, hydro-power, recreation, environmental compliance, water supply, regulatory, homeland security, emergency, and readiness functions. NDC also provides integrated business information in support of USACE operational decision-making through management of Civil Works Business Intelligence (CWBI), a strategic initiative to provide an integrated capability for the management and tracking of performance of USACE program execution through geospatially enabled data, coupled with decision support systems. It is an important tool used in the development and defense of the USACE Civil Works budget.

**NDC's Waterborne Commerce Statistics Center (WCSC),** New Orleans, Louisiana, specializes in the collection and synthesis of all U.S. waterborne commerce statistics and vessel movement data, along with maintaining information on vessel characteristics, port facilities, dredging cost, and performance data and information on navigation locks.

**The mission of the Conflict Resolution and Public Participation Center of Expertise (CPCX),** Alexandria, Virginia, is to help USACE field practitioners anticipate, prevent, and manage water conflicts, ensuring that the interests of the public are addressed in water resources decision-making. The CPCX provides technical assistance and training to USACE division and district offices as well as



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other stakeholders on collaborative processes, facilitation, public involvement, risk communication, and collaborative modeling (shared vision planning). CPCX also supports USACE-HQ on relevant aspects of national initiatives and policy development and coordinates USACE's cross-cutting Collaboration and Public Participation Community of Practice.

**The Hydrologic Engineering Center (HEC)** in Davis, California, is world renowned for its applied software model development, training, and consulting in hydrologic and hydraulic engineering, water resources planning, and water systems management. The primary mission of HEC is to support the nation in its water resources management responsibilities by enhancing USACE technical capacity in applied hydrologic and hydraulic engineering. Its additional mission goals include providing technical leadership in improving the analytical methods for the hydrologic aspects of water resources planning and in the delivery and application of the integrated suite of models serving as the USACE Water Management System, which is used by the major subordinate command and district's water management offices in the real-time operation of reservoirs throughout the nation. HEC models represent state-of-the-art tools that are widely used throughout the world.

The mission of the **Risk Management Center (RMC)**, with offices in Lakewood, Colorado, and Pittsburgh, Pennsylvania, is to support the USACE Civil Works program by providing a nationally consistent context for managing and assessing risks associated with dam and levee systems across USACE, to support dam and levee safety activities throughout USACE, and to develop policies, methods, tools, and systems to enhance those activities. The RMC also assists USACE Headquarters in the technical and policy oversight of infrastructure safety decisions, and serves as an independent technical adviser to USACE senior leadership, maintaining and developing risk competencies and helping ensure consistency of risk assessment processes, the application of risk criteria, and the basis for decision-making on dam and levee safety projects across USACE.

**International Center for Integrated Water Resources Management (ICIWaRM)**, Alexandria, Virginia, was established

Example of hydrologic models produced by IWR's Hydrologic Engineering Center (HEC).

in collaboration with other U.S. agencies, academic institutions, and organizations sharing an interest in the advancement of the science and practice of integrated water resources management (IWRM) around the globe. ICIWaRM was formalized as a United Nations Educational, Scientific and Cultural Organization (UNESCO) "Category 2" water center in 2009, the first such center in the United States. ICIWaRM serves as a nexus for technology transfer, integrating new ideas, and advancing practical scientific and technological applications of IWRM approaches developed both in the United States and by partner nations within UNESCO's International Hydrological Program (IHP). The center focuses on water security, adapting to global change, applying collaborative approaches, and ensuring environmental sustainability, consistent with the "U.S. Government Global Water Strategy 2017." ICIWaRM is also the technical secretariat for IHP's Global Network on Water and Development Information for Arid Lands, or G-WADI. ■



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