



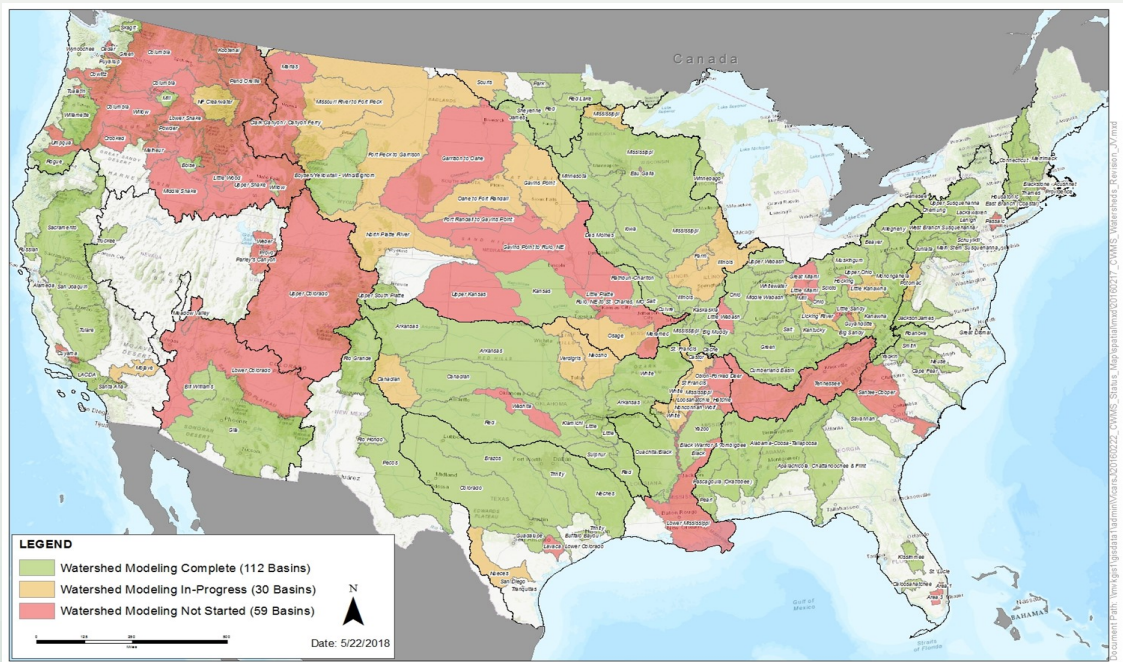
Corps Water Management System (CWMS) National Implementation Plan

CWMS National Implementation Plan (NIP)

The Hydrologic Engineering Center (CEIWR-HEC) is teaming with the Modeling, Mapping, and Consequence (MMC) Production Center for the CWMS NIP. Project teams are developing hydrologic, hydraulic, reservoir and consequence models and integrating them into CWMS. Project teams are composed of local district staff, augmented by District staff from other Districts/Divisions when necessary. The models used for the CWMS NIP include HEC-RAS, HEC-HMS, HEC-ResSim, and HEC-FIA. The models and CWMS implementations will be completed using Standard Operating Procedures (SOP) and guidelines written by CEIWR-HEC and MMC. Upon completion of models, districts work to incorporate them into their daily water management processes.

Background

- CWMS offers features that water managers need to perform operational analyses on a daily basis, however, the models have not been fully implemented throughout the nation.
- Floods of 2010 and 2011, brought up the questions "What could have been done to better prepare and react to these system-wide events?" "How could the extensive communication, collaboration and modeling required by these system-wide events been handled better?"



- USACE leadership's answer - fully implement CWMS across the nation. USACE initiated the CWMS NIP.

Mission

- Fully implement CWMS across the nation; the suite of models will be built & used by USACE water managers.
- MMC is performing most of the model development. Models are being built for every watershed (201) where USACE has a water management responsibility.
- \$128M effort is expected to take seven to ten years to complete (based on the funding level).
- Will help strengthen USACE water management capabilities.
- An extension of CWMS NIP, is the development of a USACE National Model Library. The library will house each of the models built for the CWMS NIP. This effort supports the USACE Planning Transformation Initiative and the USACE need to develop comprehensive watershed models for the water management and planning missions.

Current Status

- 186 USACE personnel from 25 district offices have been utilized to complete 112 of the 201 CWMS basins. An additional 30 basins are in progress as of the end of June 2018.
- \$68.0M has been executed for the CWMS NIP through the end of FY2018. Current funding projections show an end of FY2022 completion of all 201 basins. The CWMS NIP now has its own budgetary line item.



U.S. Army Corps of Engineers (USACE)
BUILDING STRONG®

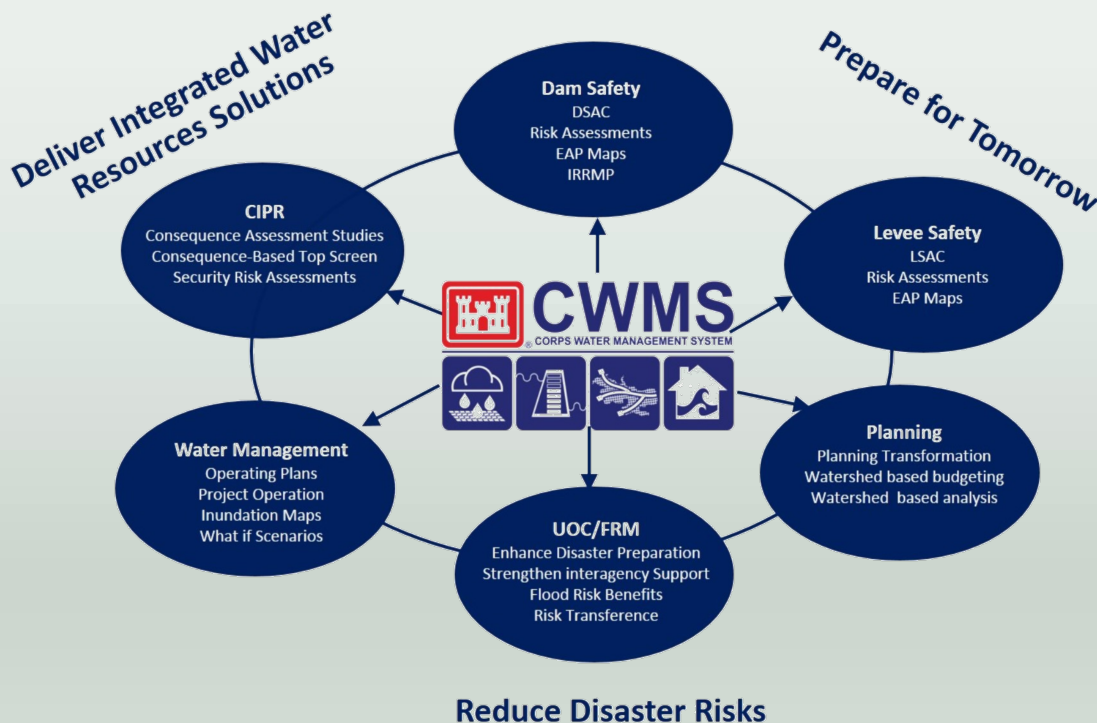
Corps Water Management System (CWMS) National Implementation Plan

Deliver Integrated Water Resources Solutions

- Aligns with Chief of Engineers' watershed-based investment and management initiative
- Enhance & refine the budget development process which will result in multiple USACE civil works programs collaborating for a common cause, rather than competing for limited funds
- Evaluating the current and future portfolio of water resources projects
- Engaging other governmental and non-governmental partners
- Improving methods of delivery
- Effectively implements USACE Campaign Plan
- Briefings of planning scenarios with real time inundation mapping
- CWMS NIP will support the USACE Planning Transformation Initiative
- Establishment of consistent USACE flood inundation mapping policy and standards (e.g., SOPs, Vertical Datum, etc.)

Prepare for Tomorrow

- Improve USACE technical competencies & capacity by mentoring and training CWMS/MMC staff
- Maintain & utilize the latest technology in Hydrologic & Hydraulic modeling, mapping, and consequences analysis
- Allow for visualization and mapping tools via CorpsMap
- Consistent and current Annual Project benefits calculations
- CWMS watershed data will be stored in a national database for use by all USACE programs including the Hydrologic & Hydraulic models for future planning studies
- Planning Transformation will be sustained and enhanced
- Improve the communication & delivery & quality of products by utilizing consistent policy & implementing lessons learned with training & technically competent professionals



Reduce Disaster Risks

- Helps to reduce the nation's flood risk
- Provides inundation mapping & consequence analysis
- Enhances analysis for water supply & navigation during extreme droughts
- Helps determine project operation for downstream control points and resulting consequences
- Assess projected freeboard for levees
- Enhanced models supporting characterization of critical infrastructure
- Current models will be used when dams/levees require updated Emergency Action Plan (EAP) maps
- DSAC/LSAC-aware CWMS models
- Test IRRMP & Interim Operating Plan interactions for multiple projects, through evaluation of operating rules