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

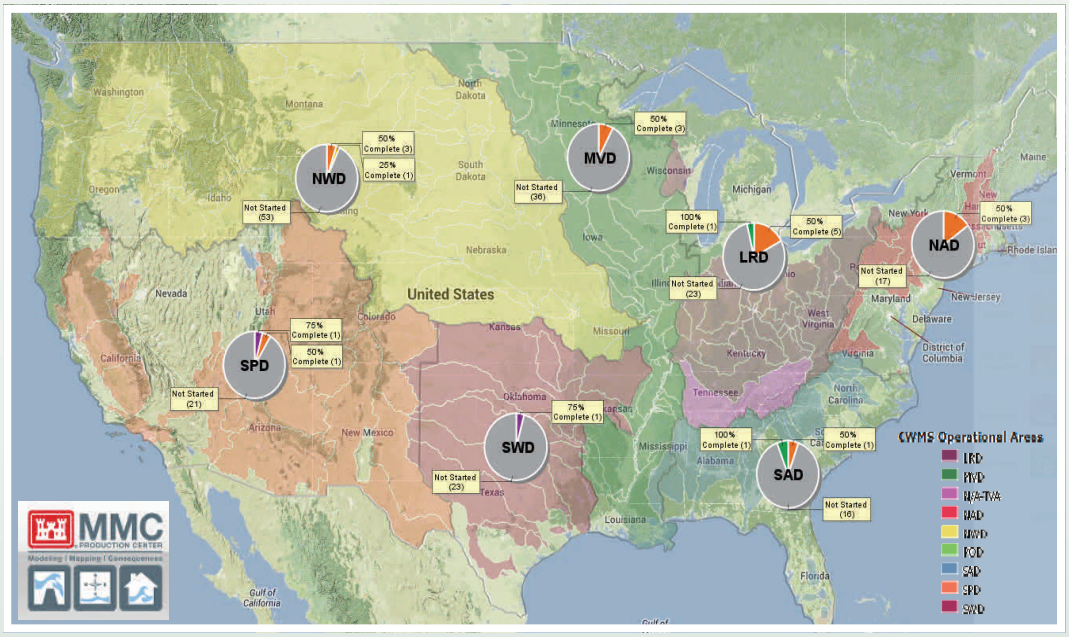
Hydrologic Engineering Center (CEIWR-HEC)
CWMS National Implementation Plan

CWMS National Implementation Plan (NIP)

CEIWR-HEC is teaming with the Modeling, Mapping, and Consequence (MMC) Production Center for the CWMS NIP. Project teams will develop models and integrate into CWMS. Project teams will be 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 by CEIWR-HEC and MMC.

Background

- CWMS offers features that most water managers need to perform operation analyses on a daily basis, but has not been fully implemented throughout the nation.
- Floods of 2010 & 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.



CWMS is currently being implemented in seven USACE Divisions

Mission

- Fully implement CWMS across the nation; the suite of models will be built & used by USACE water managers.
- MMC will perform most of the model development. Models will be built for every watershed (213) where USACE has a water management responsibility.
- Effort is expected to take five to ten years to complete (based on the funding received).
- 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.

For more information including points of contact, visit the CWMS & MMC SharePoint sites: https://cops.usace.army.mil/sites/hhc/cops/ds/mmc/SitePages/Home.aspx. Or, use SharePoint search page: https://cops.usace.army.mil/default.aspx, select All Site, enter CWMS or MMC, and click the magnifying glass icon.

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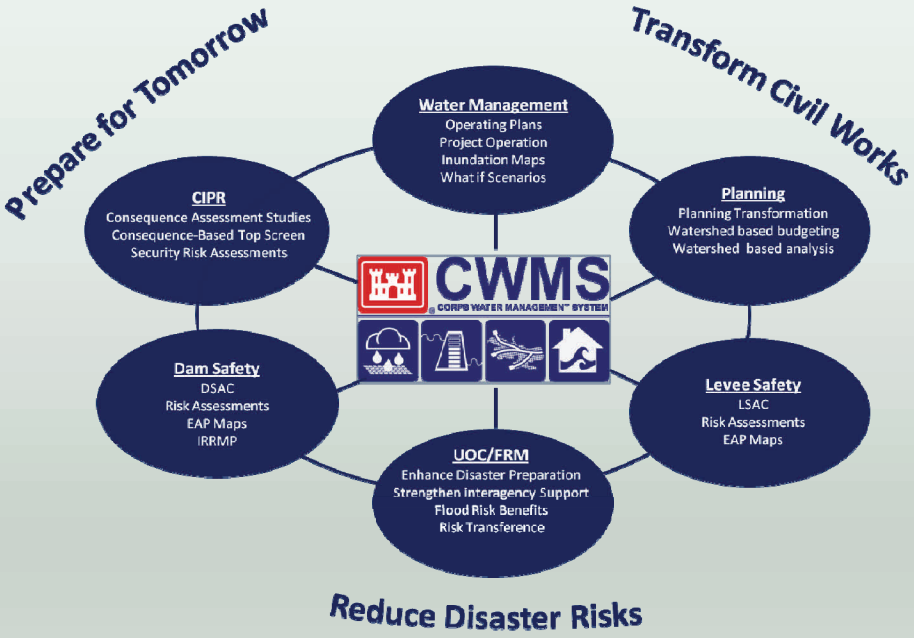
Transform Civil Works

- 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 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 data 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