



System-Wide Water

SWWRP
 Resources Program

System-Wide Water Resources Program (SWWRP)

Description: The System-Wide Water Resources Program (SWWRP) is a U.S. Army Corps of Engineers research and development initiative designed to assemble and integrate the diverse components of water resources management. Products from this program are designed to help users surpass individual project-level analysis, and apply current and improved technologies for multi-disciplinary system-wide assessments. Geospatial technologies, measurement and monitoring methods, and selected numerical and index models are being connected via a framework with user-friendly Web access. Tools, methods, and technical documentation are housed in the Water Resources Depot for flexible selection of methods used in decision support. Tools and methods can be assembled for Watershed, River, Reservoir, Estuarine, Coastal or combined (system-wide) analyses to forecast physical, chemical, and biological response to water resource management activities. Managing water resource projects in a way that includes a system-wide or watershed-scale perspective is supportive of "The Corps Strategic Plan for Water Resources" and the Corps' "Environmental Operating Principles."



Issue: Traditionally, water resources development and subsequent stewardship as well as research and development efforts, have been conducted by the Corps based on the needs of specific projects. As a result, useful models and methodologies were developed, but were generally designed for project level applications. While recognizing the local importance of individual projects, there is also a need for expanded knowledge in terms of broader geographic scope and longer time frames. As the Corps has become more committed to system-wide approaches to planning, engineering, operations, and management, an expanded "toolbox" is required to support defendable information collection and decision-making.

Goal: SWWRP's ultimate goal is to provide to the Corps, its partners, and stakeholders the overall technological framework and analytical tools to restore and manage water resources and balance human development activities with natural system requirements.

Benefits: The major benefits to the Nation from SWWRP research and development include:

- Capabilities to assess linkages between watershed activities and operations and maintenance activities.
- Methods for forecasting in the context of system-wide natural resources management.



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- Technological interoperability within a collaborative framework (e.g., enterprise architectures).
- Support to Planning, Regulatory, Operations/Maintenance, and Engineering/Construction.
- Improved decision-making approaches keyed to watershed-based tradeoff analyses.
- Increased stakeholder collaboration and multidisciplinary technical input during the decision-making process.
- Improved approaches to more effectively address issues of environmental sustainability.

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