

Collaborative Tools & Processes for US Water Solutions

Interagency Development of a SWAQ-endorsed
Federal Initiative

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USACE, USDA-FS, USGS, USIECR, USDA-CREES, DOE Natl Labs

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What is the Problem?

- Persistent conflict is becoming more common in water resources management
- Conflicts occur because of complexity & uncertainty in natural systems (hydrology, ecology etc.) and conflicting interests & values
- Need to understand how to integrate technical analysis into a public, multi-stakeholder decision process
- Previous efforts demonstrate the value of combining computer tools within collaborative processes.
- Few agencies have the capacity for development of decision support tools that can work within public processes to envision and evaluate options.

What is the Objective of the Initiative?

- **Focus on a subset of Collaborative Tools & Processes**

Develop and advance the integration of computer-based modeling tools within multi-stakeholder public decision processes

What Current Activities Coordinate this Effort across Multiple Agencies?

- USIECR is a federal focus for collaborative processes for environmental problems.
- BuRec recently (2005) sponsored a forum on institutional and collaborative approaches to water solutions.
- August 2004 Exec Order on Cooperative Conservation & CEQ/OMB Joint Memo direct agencies to increase use of collaborative problem solving.
- Federal Interagency Hydrologic Modeling conference is an interagency forum that brings together modeling experts from across the federal government.
- In 2006 USACE & DOE Labs began collaborating on demonstration projects, and have proposed a interagency center on Computer-Assisted Dispute Resolution. June 2007 symposium planned with emphasis on practitioners from Federal and state agencies.
- Networks of modeling tools (for integration into public multi-stakeholder processes) existent on the web.

- No established forums focus on the intersection of collaborative processes and computer tools
- Existing work focuses on specific water problems without a more comprehensive look at state of science or national needs

How Can We Enhance Coordination of Existing Efforts?

- Develop a track on integrating computer modeling into the public decision processes at the 2008 USIECR conference.
- Develop a similar track within the next Federal Interagency Hydrologic Modeling conference.
- Identify ways within the Cooperative Conservation Initiative to promote linkages between computer tools and stakeholder processes.
- Use the June 2007 symposium on Computer Assisted Dispute Resolution to focus on research needs and opportunities for demonstration programs.
- Develop MOUs to support a federal interagency center for Computer-Assisted Dispute Resolution to coordinate research and demonstration projects, and provide linkages to tools and references.

What Might Be Major Components of an Initiative?

1. *Review current uses and programs on the use of “collaborative decision support tools” in water problems*
2. *Develop a framework for evaluation of the effectiveness of combinations of computer tools and collaborative interventions for a range of water problems and settings.*
3. *Initiate targeted “pilot” or “demonstration” projects to develop basic principles and best practices*
4. *Develop an interagency focal point to serve as an information clearinghouse to provide unified direction, integration & consistency*

What are Potential Research Questions?

- What model *features or attributes facilitate a collaborative* multi-stakeholder process?
- When developing models, what actions can be taken to assure *relevance to decision*?
- What *computer technology* platforms, designs and capabilities, *can improve public participation* in analytic-deliberative decision making within large groups?
- How can *the effectiveness* of different computer-assisted techniques in a reducing conflict be measured?
- How can computer models be used to establish a *common understanding of policy options* across stakeholders?
- At what points in the process are different computer-assisted representations of *risk* (games, graphics, etc) most appropriate for communicating with the public?

What is the Justification for Increased Federal Investment?

- Addresses the *government-wide emphasis on increased use of collaborative processes.*
- New understanding and tools will *assist state, and local governments* resolve water issues and *support existing federal water management* roles.
- Federal agencies are well-positioned to conduct and coordinate the required inter-disciplinary.
- Provides the efficiency of a central focus for research and knowledge. A federal presence will provide unified direction and long term consistency over time.
- The problems of water availability and quality are central to the well-being of the nation as a whole - Federal agencies operate on a public service mission.

What are the Expected Results?

- Focused interagency research on the needs for collaborative problem solving of water problems
- Coordinated development and dissemination of principles and practices for effective combining of modeling and multi-stakeholder public processes.
- Reduced level of water conflict, more broadly-acceptable, timely and sustainable solutions

Initiative Summary 1

Focus on a subset of Collaborative Tools & Processes – the *Integration of computer-based modeling tools within multi-stakeholder public decision processes*

- Components:
 1. Review “collaborative decision support tools” in water problems
 2. Develop framework for evaluation of collaborative processes
 3. Initiate demonstration projects
 4. Develop focal point

Initiative Summary 2

Focus on a subset of Collaborative Tools & Processes – the *Integration of computer-based modeling tools within multi-stakeholder public decision processes*

- Components:
 1. Review
 2. Framework for evaluation
 3. Targeted demonstration projects
 4. Focal point
- Justification
 - Directly address *emphasis on increased collaboration.*
 - *Assist local, state and federal water management programs.*
 - Federal agencies are well-positioned to conduct and coordinate inter-disciplinary research
 - Efficiently focuses on research to provide unified direction and long term consistency.
 - Public servants can apply talent to critical water availability and quality problems

Initiative Summary 3

Focus on a subset of Collaborative Tools & Processes – the *Integration of computer-based modeling tools within multi-stakeholder public decision processes*

- Components:
 1. Review
 2. Framework
 3. Demonstration projects
 4. Focal point
- Justification
 - *Government-wide emphasis on increased use of collaborative processes.*
 - *assist local, state and federal agencies.*
 - Federal agencies are well-positioned
 - Central focus.
 - Public servants are able
- Results
 - Focused research on the needs for collaborative problem solving of water problems
 - Development of principles and practices for effective modeling and stakeholder involvement
 - Fewer conflicts, more acceptable, timely and sustainable solutions