

R&D Scoping and Framing Workshop
R&D Roadmap: Managing Western Water as Climate Changes
February 20 and 21, 2008

Responsibilities, Challenges, and Needs
Perspectives of Reclamation Water Operations Managers

Note: The information presented herein is intended solely to facilitate a working level dialogue between the federal scientific community, and Reclamation water and environmental resource managers, on climate change research needs in support of Western water management. As such, “*this information has not been formally disseminated by the Bureau of Reclamation and should not be construed to represent any agency determination or policy*”.⁽¹⁾

Generally describe your region’s water operations and planning responsibilities (*this is meant to be a high level summary of your world*):

(1) Conduct all hydrology (surface water & groundwater) planning studies. (2) Coordinate real-time water operations at Reclamation projects throughout the Northwest. Depending on the specific project, coordination may involve the Corps of Engineers (COE), the Bonneville Power Administration (BPA), Irrigation Districts, the Columbia River Technical Management Team (TMT), Reclamation Area Offices etc. (3) Calculate all volume runoff forecasts for the region.

Describe the primary types of decisions that your region makes associated with water and operations and planning that might be affected by climate change.

(1) Real-time reservoir operations to include risk to: refill for irrigation and Biological Opinion (BiOp) requirements, flood protection, spill avoidance. (2) Most if not all planning studies (i.e. additional storage studies, water rights, BiOp and Endangered Species Act (ESA) studies etc.).

What are the primary scientific or non-scientific factors that typically govern these decisions?

Scientific: historic hydrology, weather forecasts, volume runoff forecasts, snowmelt/runoff timing, demand amounts and timing (irrigation, power, flow augmentation for ESA etc), flood risk (flood stages and flood control rule curves),

Non-Scientific: ESA issues to include flows, volume and reservoir elevation targets, and political pressures

Who are the primary stakeholders affected by these decisions and summarize their primary concerns?

Flood Control – Public, COE, Reclamation; increased flood risk

ESA – Public, Tribes, States, Federal agencies; affects to minimum flow requirements, reservoir elevation targets, flow augmentation volumes. Risk of increased spill (total dissolved gas issues),

Power – Industry, Public, BPA; impacts to power generation

Irrigation – Irrigation Districts; risk to refill and water supply

^{1/} Stated in accordance with Information Quality Act (Public Law 106-554), Final Information Quality Bulletin for Peer Review (Office of Management and Budget, December 16, 2004).

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In general, list the top three wishes that you would like for scientific community to provide you, in support of your western water management responsibilities that are related to understanding and utilizing climate change information.

1. What is the minimum effort required to do a climate change analysis? 3 scenarios?, 6?, 10? What assumptions should be made concerning green house gases?
2. Universally accepted method of modifying historic flows to reflect climate change that has already taken place. i.e. adjusting historic data sets to reflect the current climate.
3. Create regional guides to address future irrigation demands to reflect ET changes (amount and timing).
4. How will volume forecasts be done with climate change? What will errors be if less snow?

Are there current or emerging “*project-specific applications*” in your region where answers to these three wishes may be beneficial to you in the near-term?

Climate adjusted irrigation demands for various projects/basins, specifically the Columbia Basin Project, Boise River Basin, Upper Snake.