

RECLAMATION

Managing Water in the West

Bureau of Reclamation

Climate Change Activities

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U.S. Department of the Interior
Bureau of Reclamation

Reclamation Mission

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.



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Key Challenges for Reclamation

- Understand how climate variability and change may affect western water supply and demand and delivery of water given operational constraints (e.g. environmental constraints, flood constraints)
- Bring science and technology to bear on the needs of water resource managers
- Address goals of internal programs and authorizations where climate change may be a factor

Notable Activities

- Understanding Impacts & Uncertainties
 - **Scoping Guidance:**
 - “*Level of Analysis*” Options Paper
 - list options, pros, cons and general recommendations for using climate change information in long-term planning (e.g., NEPA, ESA, general studies)
 - **Tool Development:**
 - *Regional Literature Syntheses*
 - Living document, annual updates, summarize CC implications for water resources, Western 17 states
 - <http://www.usbr.gov/research/docs/climatechangelitsynthesis.pdf>
 - *Downscaled Climate Projections web-archive*
 - Collaboration with SCU, LLNL, USGS/Scripps, Climate Central, USACE, 112 CMIP3 projections, 1950-2099, contiguous U.S., monthly, 12km x 12km resolution)
 - http://gdo-dcp.ucllnl.org/downscaled_cmip3_projections/

Notable Activities

- Coalition Building between Science & Management
 - Objectives:
 - stay abreast of new science, usher mature methods into practice
 - inform researchers on management community needs
 - Vehicles:
 - DOI Climate Science Centers & Landscape Conservation Cooperatives
 - Climate Change and Water Working Group, or CCAWWG

Notable Activities

- Recent Science Efforts funded by Reclamation
 - Flood Frequency Estimation within projections of Future Climate
 - Comparison of Hydrology Models for Climate Change applications
 - Application of new daily downscaling technique: Bias Correction Constructed Analogs

<http://www.usbr.gov/research/climate/>

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Notable Activities: Basin Study Program

- **WaterSMART Basin Studies**
 - Fed / non-Fed cost-shared studies on future supply & demand imbalances, management strategies to address imbalances, stressors including climate change.
 - Colorado River Basin, **St Mary/Milk River Basin**, and Yakima River Basin.
- **West Wide Risk Assessments (PL 111-11 Secure Water Act)**
 - periodic reports to Congress (first report due 2011)
 - Focus on climate change vulnerabilities and adaptation options on various resources
 - Colorado, Columbia-Snake, Klamath, **Missouri**, Rio Grande, Sacramento, San Joaquin, and Truckee
 - program approach: “West Wide Risk Assessments”
 - Focus on developing and reporting consistent hydrologic effects west-wide

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