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Managing Water in the West

Klamath River Basin Study Evaluating Strategies to Address Gaps in Water Supply and Demand

**Klamath Basin Monitoring Program
Meeting - April 29, 2015**



U.S. Department of the Interior
Bureau of Reclamation

Basin Studies

- **Purpose**
 - Work with state and local partners in 17 western states to evaluate future water supply and demand gaps in a changing climate
- **Basin Studies include:**
 - Assessments of the risks and impacts of climate change on water resources, and
 - Development of potential adaptation strategies to reduce gaps in water supply and demand

Klamath River Basin Study Area



Klamath River Basin Study – Cost Share

- Equal 50 percent cost share by Reclamation and non-federal cost-share partners
 - Oregon Water Resources Department
 - California Department of Water Resources

Phases of the Klamath River Basin Study

Basin Study Elements

Phase 1:
Water Supply and
Demand Assessment

Assess current and projected water supply and demand, including the impacts of climate change

Phase 2:
System Reliability
Analysis

Analyze how the basin will respond to water supply and demand projections according to identified metrics

Phase 3:
Development of
Adaptation Strategies

Develop adaptation strategies to reduce any identified imbalances

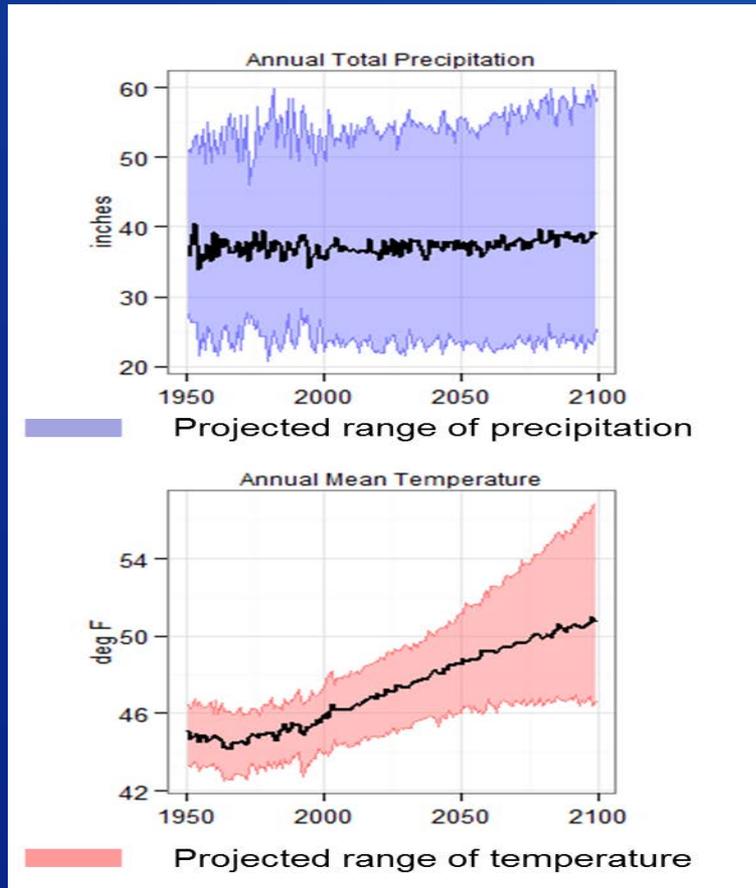
Phase 4:
Evaluation of Adaptation
Strategies

Evaluate adaptation strategies, findings, and recommendations as appropriate

Assessment of Future Water Supply and Demand

- **Increases in temperature in all seasons**
- **Wetter winters and drier summers**
- **Increases in agricultural irrigation demand**
- **Increases in evaporation from lakes and reservoirs**
- **Increases in water temperature**

Annual Precipitation and Mean Temperature

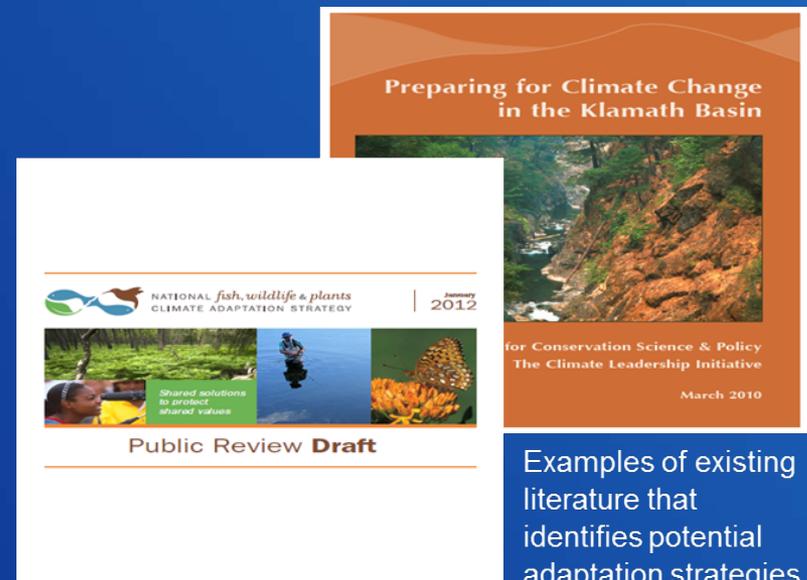


System Risk and Reliability Analysis

- Identify historical reliability of water supply and existing shortages
- Identify how water supply reliability might change in the future
- Identify measures that are used to quantify historical and future water supply/demand gaps

Identification of Adaptation Strategies Trade Off Analysis

- Compile identified strategies from existing studies and solicit additional potential strategies
 - Screen strategies for those that can be evaluated in model framework
- Assess the multi-resource reliability of adaptation strategies



Examples of existing literature that identifies potential adaptation strategies

Strategy Examples

**Modify crop
use/acreage**



Increase Storage



**Conjunctive GW & SW
Management**



**Increase Instream
Flows**



**Implement Settlement
Agreements**



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Organizing and Categorizing Strategies



- All strategies submitted to the Basin Study will be reviewed and organized into categories

Increase Supply

Decrease Demand

Modify Operations

Governance &
Implementation

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Approach for Evaluating Strategies

- The Basin Study is intended to explore a broad range of adaptation strategies, but will not result in the selection of a particular proposed strategy or set of strategies
- Evaluation will be done at an “appraisal” level
- Strategies will be evaluated quantitatively or qualitatively

Input Opportunity

- **Proposed Adaptation Strategy Categories**
 - **Increase Water Supply**
 - **Reduce Water Demand**
 - **Modify Operations**
 - **Governance and Implementation**

Next Steps

- **Submit potential strategies by May 13, 2015**
 - **Download strategy submittal form at:**
 - <http://www.usbr.gov/mp/KBStudy/>
 - **Complete strategy submittal form**
 - **Mail hard copy to:**
 - » Marketa Elsner
Denver Federal Center
Bldg. 67, 5th Floor West
PO Box 25007 (86-68210)
Denver, CO 80225-0007
 - **OR email to: sha-mpr-klamathbasin@usbr.gov**