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RECLAMATION

Department and Bureau policies and approaches to addressing Climate Change

Fourth Meeting of the Committee to Review the Long-term
Operations of the Central Valley Project and State Water Project

Levi Brekke, August 12, 2024

About the Bureau of Reclamation

Managing Water and Power in the Western United States

RECLAMATION PROVIDES

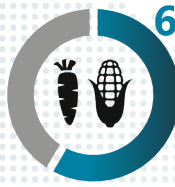
water

to **140,000**
Western farmers



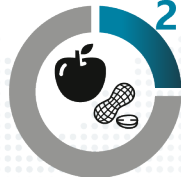
10 Million

acres of farmland irrigated
by Reclamation water



60%

The percent of the Nation's vegetables, fruits, and
nuts produced by Reclamation water



25%



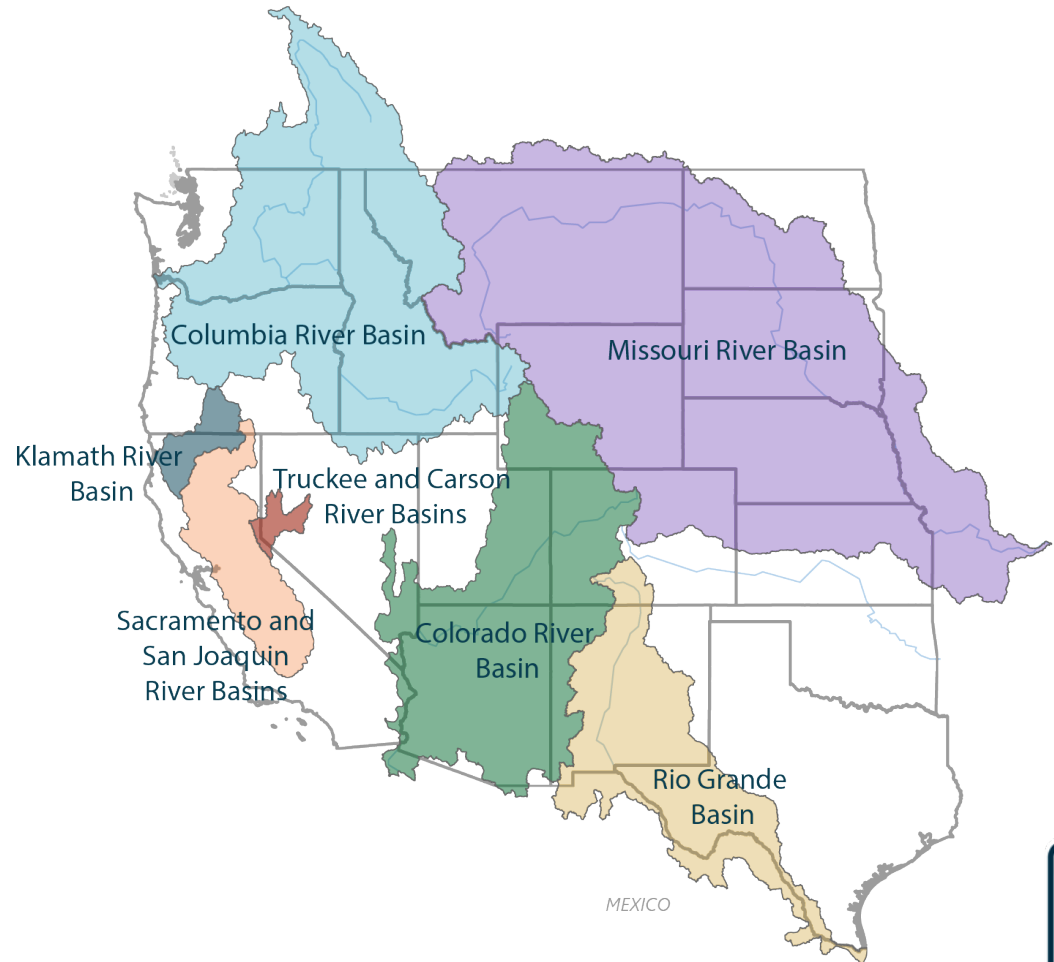
2nd

largest producer of
hydroelectric power in the
United States



53

powerplants owned and operated by
Reclamation, generating over 40 billion
kilowatt-hours each year, on average



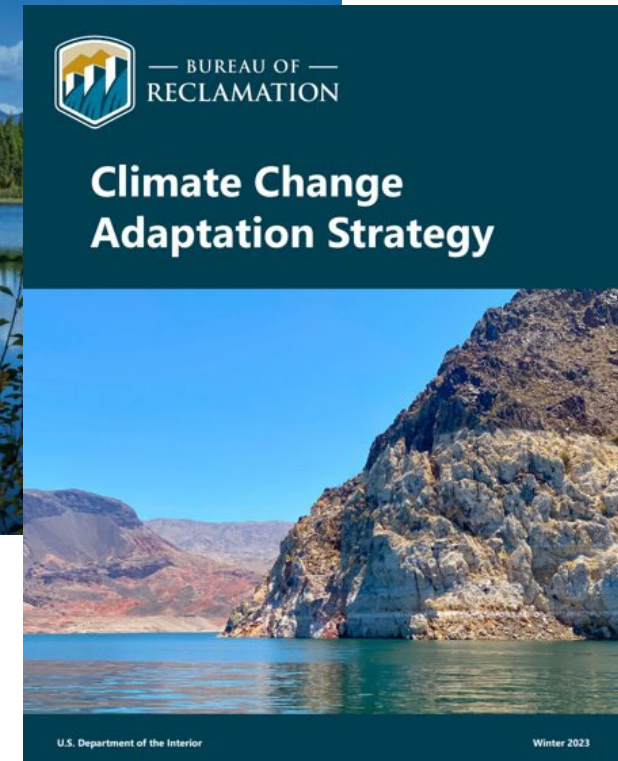
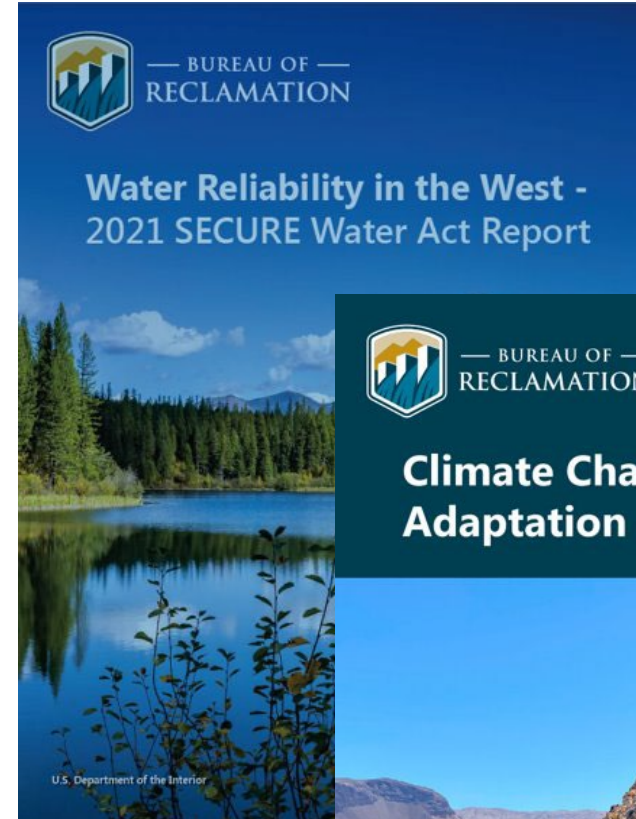
DOI policies to strengthen our approaches to building climate resilience (Sept. 2023)

- [Secretary Haaland Announces New Policies to Strengthen Climate Adaptation and Resilience Efforts | U.S. Department of the Interior](#)
- Themes
 - Early engagement w/ partners
 - Apply high-quality climate information to shape and evaluate actions
 - Employ landscape perspectives in seeking solutions
 - Use adaptive management to navigate uncertainty
- Links
 - [526 DM 1](#) - Applying Climate Change Science
 - [523 DM 1](#) - Climate Change Policy (Climate Change Adaptation)
 - [604 DM 1](#) - Implementing Landscape-Level Approaches to Resource Management
 - [522 DM 1](#) - Adaptive Management Implementation Policy



Addressing Climate Change in Reclamation

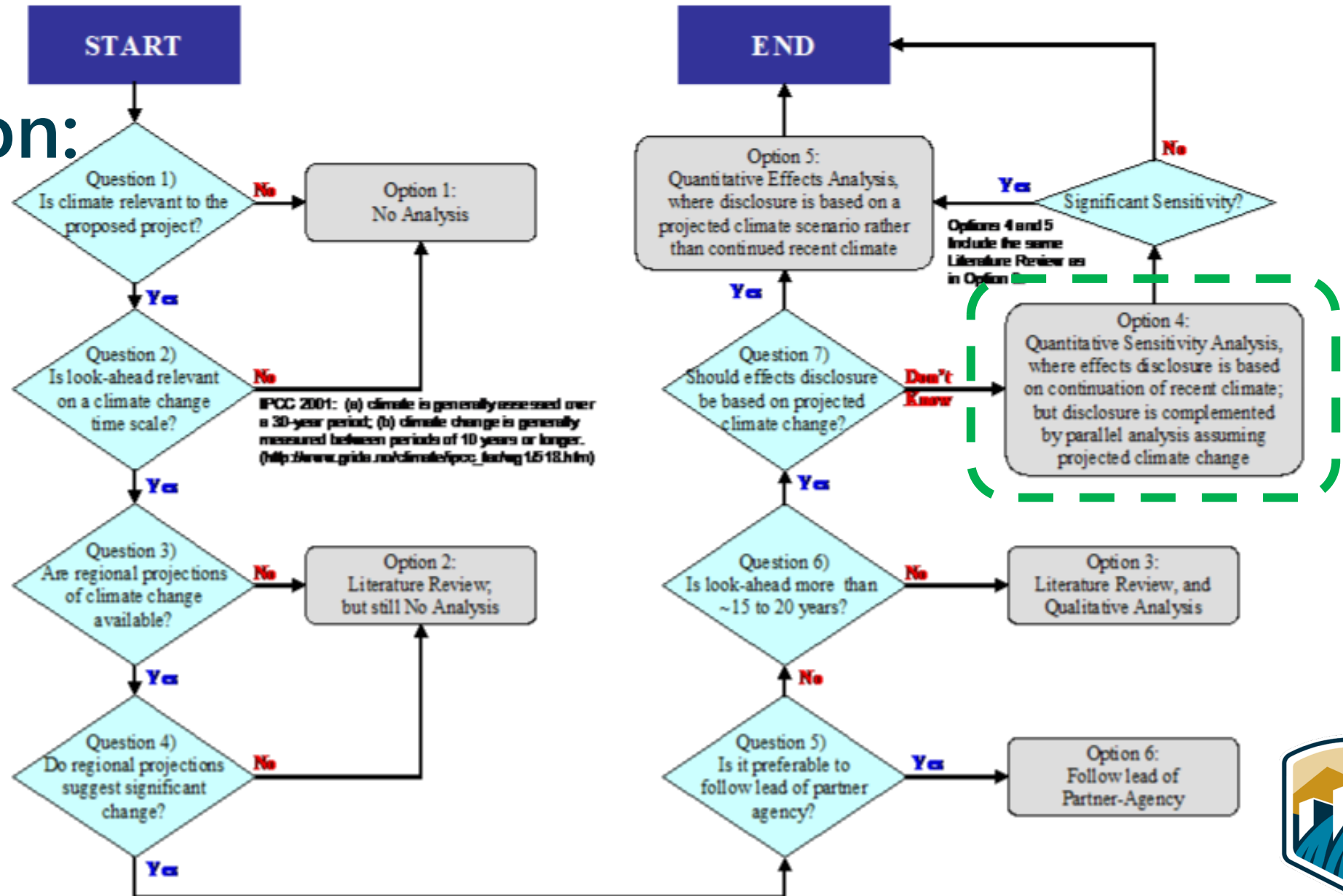
- [SECURE](#) Water Act
- Implementing DOI policies
- Climate Change Adaptation [Policy](#)
- Climate Change Adaptation [Strategy](#)
- Climate Change Community of Practice
- Investments from the Bipartisan Infrastructure Law and Inflation Reduction Act
 - Infrastructure
 - Water reuse and recycling
 - Nature-Based Solutions



Approach History in Reclamation:

Level of Analysis (2007)

Figure 1 – Potential Scoping Questions and Answers leading to Recommended Options. This chart illustrates a general guidance for considering whether and how to incorporate climate change information into project-specific planning (NEPA, ESA, etc.).



Approach History in Reclamation:

Initial
Application,
2008
CVP/SWP
OCAP BA,
[Appx R](#)

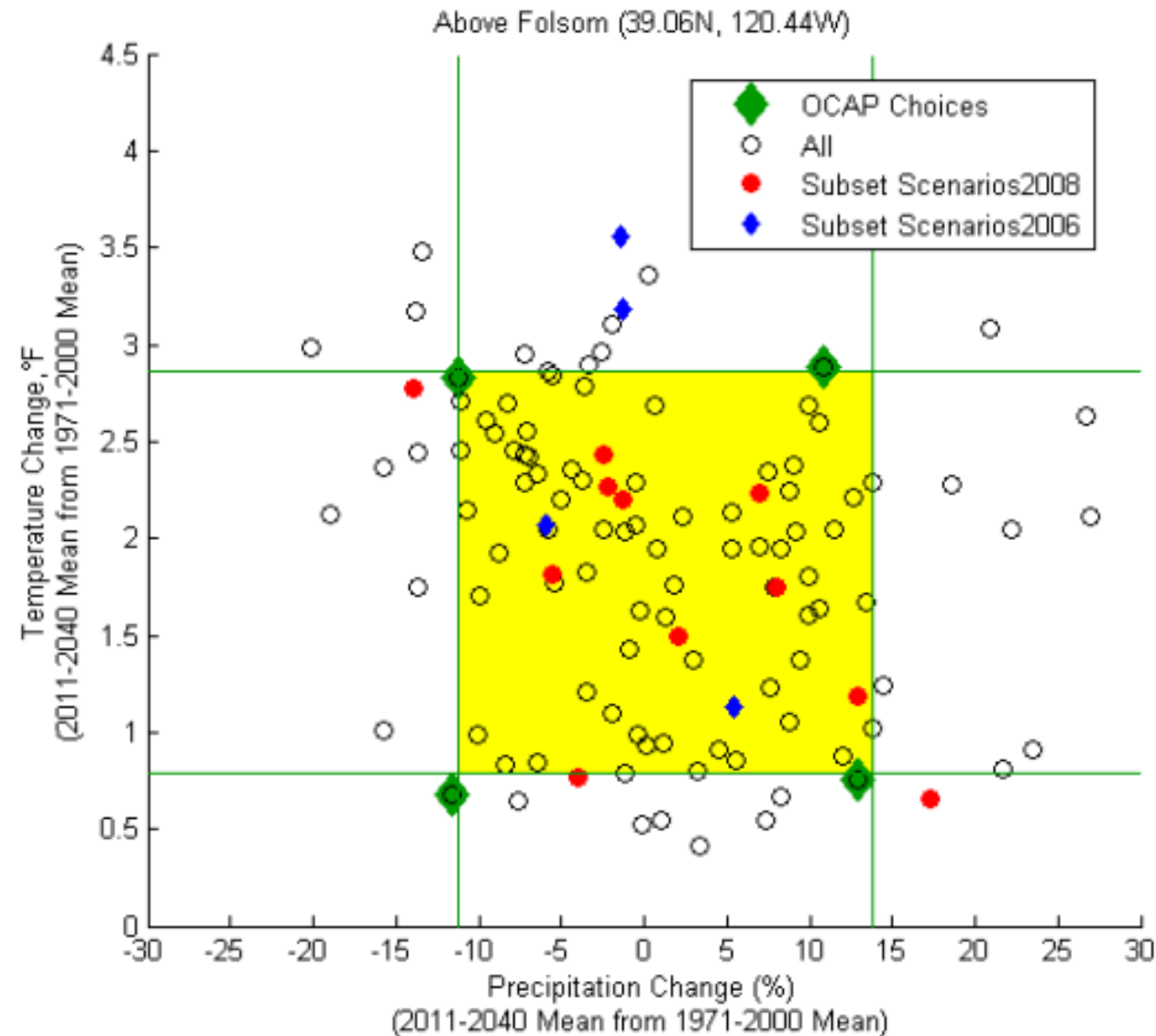


Figure 12. Projections Spread with chosen OCAP Projections highlighted (“OCAP Choices”) defining Range of Climates framing this Sensitivity Analysis.



Approach History in Reclamation:

Many
applications
follow,
approaches
evolved

Reclamation Technical Memorandum 86-68210-2010-01, "Climate Change and Hydrology Scenarios for Oklahoma Yield Studies"

Compared methods for constructing climate change scenarios, varying by change definition (delta, hybrid-delta) and whether they were informed by single projections or an ensemble of projections

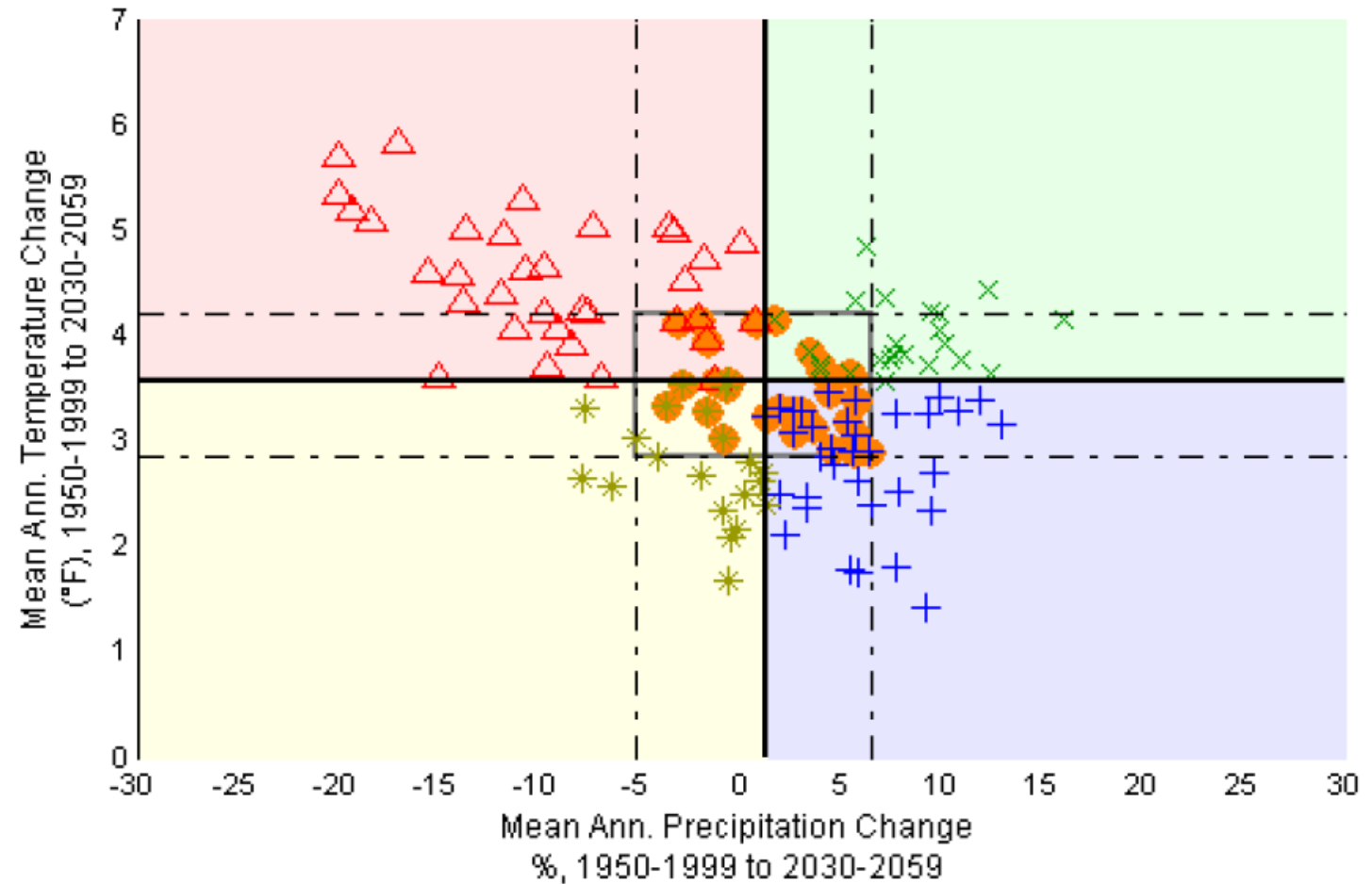


Figure 4. Selecting Projection Ensembles to Underlie Climate Change Scenarios.



Approach History in Reclamation:

Applications
in Colorado
River differ,
reflecting
distinct
system

[CR Post-2026 Operations | Bureau of Reclamation \(usbr.gov\)](https://www.usbr.gov/post-2026/)

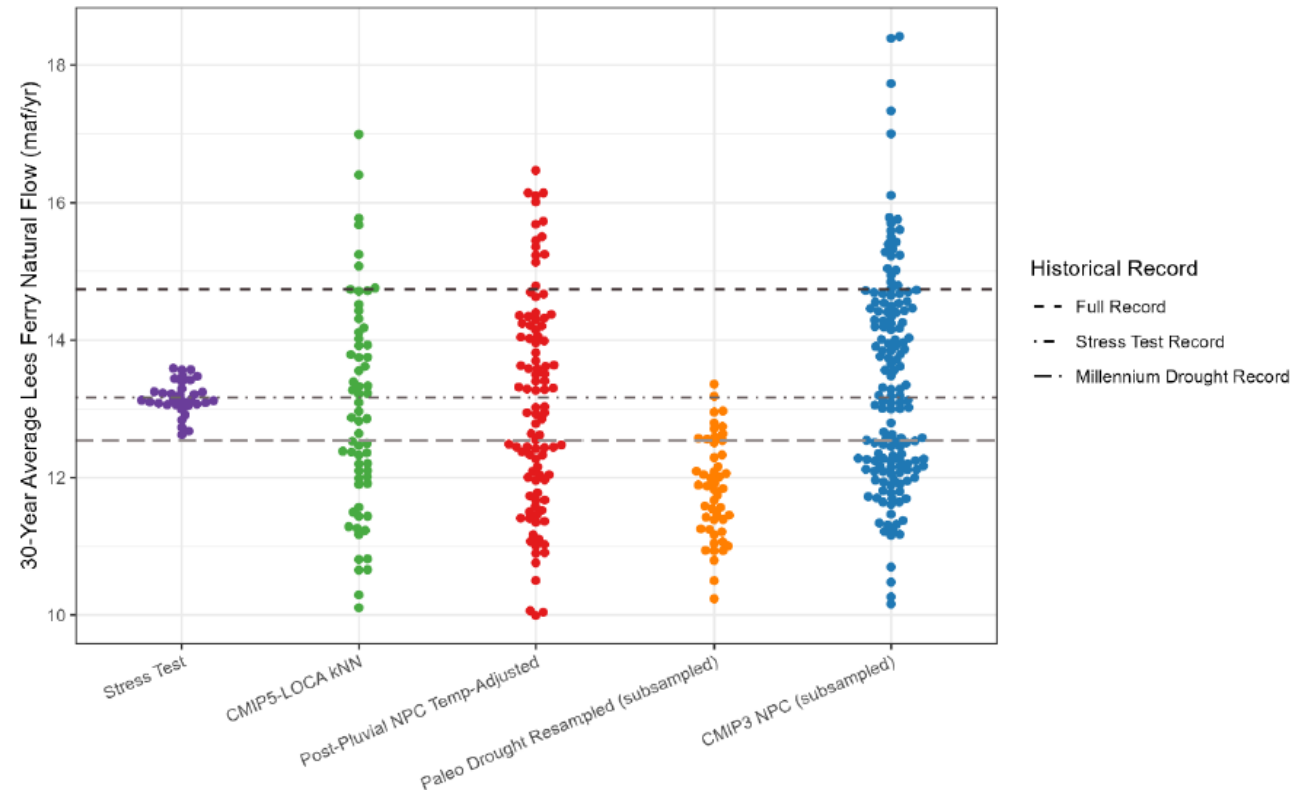
Exploratory Tool: [CRB Post-2026 Tool \(crbpost2026dmdmdu.org\)](https://crbpost2026dmdmdu.org)

Reservoir system's initial storage matters far more than other Reclamation systems. Exploratory tool features five hydrologies, blending paleo-, observed, and projected climate in different ways.

Web Tool Hydrology

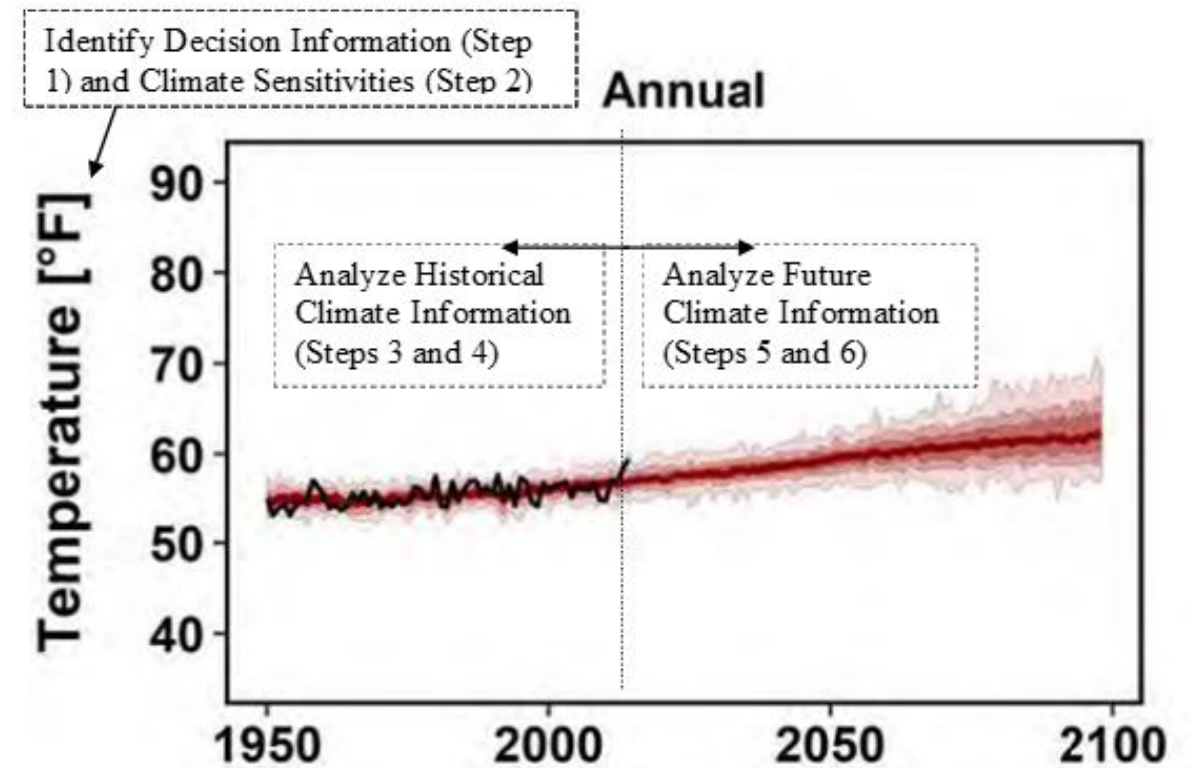


Figure 1. 30-year average Lees Ferry natural flow of selected traces by ensemble (2027-2056)



Reclamation Climate-Informed Decision-Making Guidance Update (eta Fall 2024)

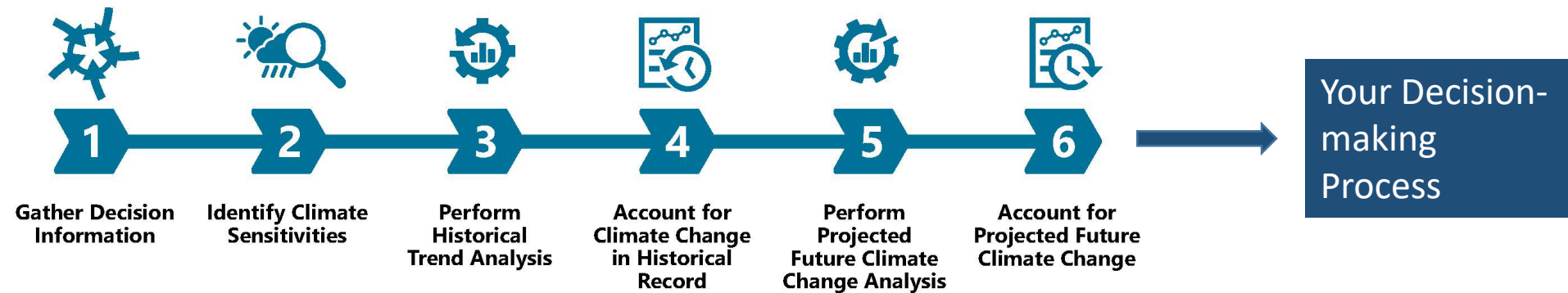
- What steps need to be taken when incorporating climate change information in a Reclamation decision-making process?
- This guidance serves as a six-step roadmap to:
 - understand climate sensitivities,
 - account for climate change that has already occurred,
 - account for projected future climate change,
 - Overall goal: effectively meet Reclamation's mission in a changing climate.



Example showing projected change in annual temperature in the American River Basin Study as a result of climate change



Reclamation Climate-Informed Decision-Making Guidance Update (eta Fall 2024)



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Questions?