Peer Review Plan
SECURE West-Wide Assessment Technical Memorandums

Date: May 16, 2025

Originating office: Bureau of Reclamation, Chief Engineer's Organization, Water Resources and Planning Office, Mail Code: 86-68210 Denver, CO 80225

Reclamation roles:
Director or delegated manager: Sean Kimbrel, Acting Water Resource and Planning Office Manager, Chief Engineers' Organization, Bureau of Reclamation

Peer Review Lead: Stephanie Hellekson, Civil Engineer, Water Resources and Planning Office, Chief Engineer's Organization, Bureau of Reclamation

Subject and Purpose:

The West-Wide Assessment (WWA) is divided into three specific Technical Memorandums. The subject and purpose of each memorandum is to address the statutory reporting requirement under the SECURE Water Act Section 9503(c). The 2026 WWA provides an analysis and assessment of water reliability in the West, consistent with previous reports in 2011, 2016 and 2021. The 2026 WWA evaluates historical and projected future changes in precipitation and temperature using multiple datasets to support water managers in understanding of what datasets are useful for different types of historical and future planning analyses. The WWA also includes analyses of west wide historical and projected future snow water equivalent changes. Finally, it includes an analysis of historical evaporation rates at major Reclamation reservoirs. In addition, a literature review discussing complexities of evaluation of historical and projected future streamflow is included. Specifically, the WWA includes the following analyses:

- Analysis of hydroclimate projections for the eight major Reclamation river basins, plus the Arkansas River Basin, Texas Gulf Region, and Great Basin;
- Historical climate data analysis;
- Projected future climate data analysis;
- Change in snowpack, historical and future,
- Analysis of historical and projected evaporation rates and significant trends at approximately 247 Reclamation reservoirs;
- Literature review of hydrologic Modeling, uncertainty and change;
- Evaluation of the risk to water deliveries and other listed resources under 9503(b)(3) using climate projections as applicable.

Impact of Dissemination:
The audience for the technical memos includes water managers in the western states, Reclamation stakeholders, and the public. It will be distributed through the Reclamation website.

The WWA is considered influential scientific information as defined by Office of Management and Budget Final Information Quality Bulletin for Peer Review (70 FR 2664-2677) and the Reclamation Manual Policy CMP P14 Peer Review of Scientific Information and Assessments.

Peer Review Scope:

The WWA is focused on developing hydroclimate projections and statistical analysis of hydroclimate datasets. The hydroclimate projections are based on the Coupled Model Intercomparison Project Phase 6 (CMIP6) archive and downscaled using the statistical downscaling method, LOCAv2 (LOcalized Constructed Analogs, Pierce et al. 2023; Pierce et al. 2024). In addition, the University of Arizona SWE dataset (Broxton et al. 2019; Broxton et al. 2024) was primarily used in evaluation of snow water equivalent (SWE) in identified snow zones, while the Daily Lake Evaporation Model (Zhao et al. 2024) was used in the development of historical evaporation rates and evaluation of historical trends.

We are requesting peer reviewers to evaluate the following WWA technical memorandum analyses and to provide input on whether these analyses are well supported and is clearly described. Do the technical memorandums provide useful information to support water managers in understanding what datasets are useful for different types of historical and future planning analyses.

Technical Memorandum – Climate Analysis (TM No. ENV-2026-001)

- Hydroclimate analysis and western streamflow

Technical Memorandum – Snow Analysis (TM No. ENV-2026-002)

- West-wide snow analysis and significant trends

Technical Memorandum – Reservoir Evaporation Analysis (TM No. ENV-2026-003)

- Evaporation rates and significant trends at Reclamation Reservoirs

In addition to providing comments on the applicable technical memorandums, peer reviewers will be asked to provide responses relative to the following questions:

Question 1. For the purpose of producing a high-level characterization of water reliability across the Western United States, are the data and methods employed appropriate and consistent with practices in the field?

Question 2. Are the findings presented in the technical memorandums consistent with findings documented in contemporary peer-reviewed scientific publications that you are familiar with?

The following are not the subject of this peer review, as they have been sufficiently reviewed and documented in peer-reviewed scientific publications:

- The CMIP6 archive, LOCA2 downscaling method;
- Datasets used in downscaling methods;
- Methods for development of snowpack datasets used in the WWA;
- The Daily Lake Evaporation Model.

Also not included in the peer scope is:

- Advice or comment on a policy or decision

- Report format
- Editorial comments

Timing of Review:

The tasks for Reclamation Internal Review are expected to be:

Internal Review Tasks	**Date**
Internal Kick-Off Meeting with Reviewers	6/10/2025
Start Review of Report	6/10/2025
Comments Due	7/1 -8/15/2025
Reply to Peer Review Comments & Incorporate Changes into TM's	8/15-9/30/2025

The final Peer Review Report is expected to be available by December 31, 2025.

Methodology of Review:

The review will be conducted by invited individuals with relevant expertise and experience. The review will be completed independently, not as a panel discussion. The review process will begin with an orientation meeting for reviewers that will include the technical memo authors. The identities of the reviewers will be disclosed in the final Peer Review Report. Review findings/comments will not be attributed to the individual reviewer. There will not be an opportunity for public participation in this peer review.

Number of Peer Reviewers:

It is anticipated that up to 10 internal peer reviewers will be utilized.

Reviewer Selection Process:

The peer reviewers are expected to have group expertise in climate science, climate science applications, and/or the associated hydrologic impacts and water management assessments in the western United States. Peer reviewers will have education, professional experience, and peer recognition in their field and will have contributed to their field. Peer reviewers will be internal to Reclamation. Peer reviewers will not have a conflict of interest. Selection of peer reviewers will be made by the Reclamation Water Resources and Planning Office.

Delivery of findings:

The peer review team members will each submit a report of their findings to the Peer Review Lead by the end of the review period. At a minimum, their report will include a brief description of their findings and recommendations in a comment matrix. The comment matrix will be provided by the Peer Review Lead in the form of a spreadsheet. The report of findings must answer the questions provided in the Peer Review Scope. The answers will be provided on a separate tab of the comment matrix spreadsheet. The report will be provided digitally to the Peer Review Lead.

Response to Peer Review:

At the conclusion of receiving peer review comments, the Peer Review Report will be issued to the peer reviewers and will not be made public. The Report will summarize the peer review process and list the comments provided by the reviewers, as well as Reclamation's response to the comment, actions the agency will undertake regarding the comment, and reasons the agency believes those actions will satisfy any key concerns or recommendations.

Federal Register Notice:

Federal Register notices will not be provided announcing the formation of a peer review team and completion of the final report.

Applicability of the Federal Advisory Committee Act (FACA):

This peer review is not subject to the Federal Advisory Committee Act (FACA) because the review does not involve open meetings or committee chartering and reviewers are being asked to provide individual reviews on the subject matter. Reclamation is not seeking consensus advice from the reviewers as a group.

Agency contact:
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References

Pierce, D. W., D. R. Cayan, D.R. Feldman, and M. D. Risser., 2023, Future Increases in North American Extreme Precipitation in CMIP6 downscaled with LOCA. J. Hydrometeorology, 24 (5), p. 951-975. DOI: http://dx.doi.org/10.1175/JHM-D-22-0194.1 for updated precipitation: Pierce, D. W., D. R. Cayan, D.R. Feldman, and M. D. Risser., 2024, Release notes for the updated LOCA2 precipitation projections, version v20240915

Broxton, P., M. R. Ehsani, A. Behrangi, M. Reza. 2024. Improving mountain snowpack estimation using machine learning with Sentinelâ€1, the Airborne Snow Observatory, and University of Arizona snowpack data. Earth and Space Science, https://doi.org/10.1029/2023EA002964.

Broxton, P., X. Zeng, and N. Dawson. 2019. Daily 4 km Gridded SWE and Snow Depth from Assimilated In-Situ and Modeled Data over the Conterminous US, Version 1. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. https://doi.org/10.5067/0GGPB220EX6A .

Zhao, Bingjie, Justin Huntington, Christopher Pearson, Gang Zhao, Thomas Ott, John Zhu, Andrew Weinberg et al. "Developing a general Daily Lake Evaporation Model and demonstrating its application in

the state of Texas." Water Resources Research 60, no. 3 (2024): e2023WR036181