



Water Resources Research Center Webinar

Post-2026 Colorado River Operational Guidelines: An Overview of the Lower Basin's Alternative

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July 17, 2024

Post-2026: Proposed Schedule

COMPLETED

Public Scoping Period – opportunity for public to provide input on scope of EIS and Purpose and Need for Proposed Action

JUNE – AUGUST 2023

Development of EIS Operational Alternatives by Reclamation, partners, and stakeholders

FALL 2023 – SPRING 2024

Publication of Draft EIS with public comment period to follow

DECEMBER 2024

JUNE 2023

Reclamation publishes NOI to Prepare EIS - initiates NEPA Process - Begins public Scoping Period

COMPLETED

FALL 2023

Reclamation develops Scoping Summary Report with anticipated Purpose & Need

COMPLETED

SPRING – FALL 2024

Reclamation prepares Draft EIS

2025 – 2026

Publication of Final EIS and Record of Decision issued



2007 Guideline Vulnerabilities and Paradigm Shifts

Operational decisions based on forecasts

Paradigm Shift

Rely on measured conditions, incorporating hydrology that has happened, rather than what could happen

Single reservoir contents determining reductions

Paradigm Shift

Base operations and reduction determinations on a **system contents approach**, which is a more holistic indicator of system health and allows for proactive instead of reactive responses to risk

Use of tiers for operations and shortage determinations

Paradigm Shift

Base reduction determinations on a **continuous function**, instead of categorized tiers

Insufficient reduction volumes

Paradigm Shift

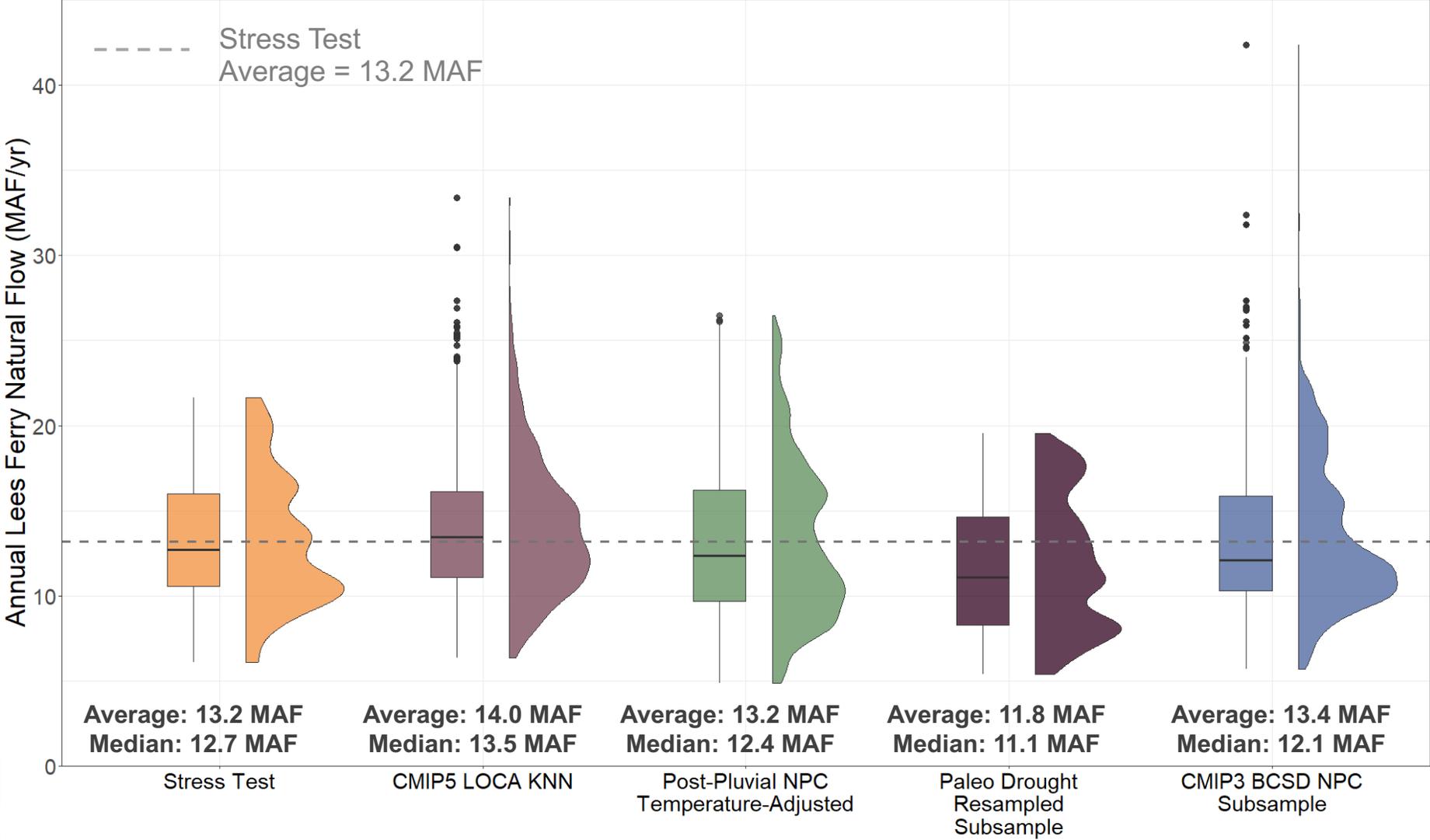
Take proactive reductions before the system is at higher risk and take larger basin-wide reductions if needed to avert crisis

Reclamation Provided Hydrologies

- Reclamation selected a wide range of future hydrologies to explore system robustness under different operational strategies.
- The hydrologies represent a historical natural flow record in addition to incorporating impacts of climate change, a warming future, and extended droughts.
- One of the ‘wetter’ hydrologies selected is the Stress Test, which is the natural flow record from 1988 to 2020, with an average flow of 13.2 MAF.
- Overall, the hydrologies cover a wide range of minimum and maximum flow sequences that extend beyond the historical records, especially for the minimum flows.

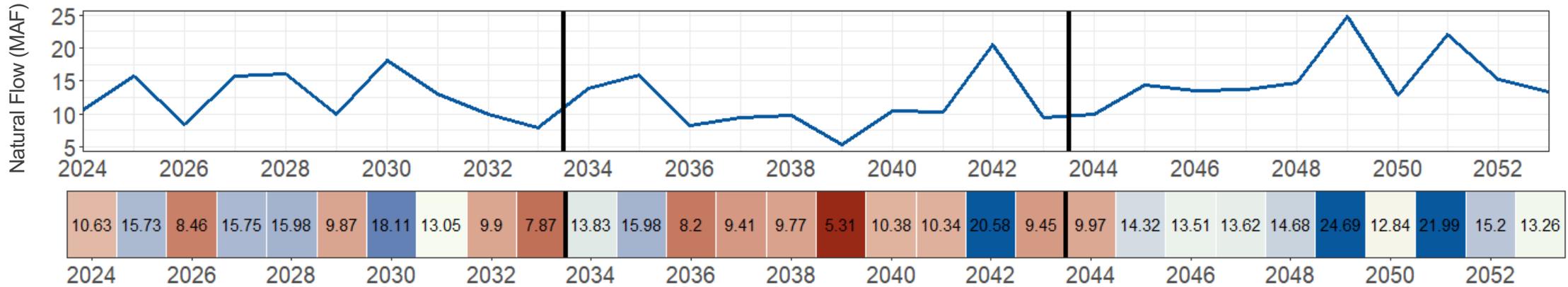


Reclamation Provided Hydrologies

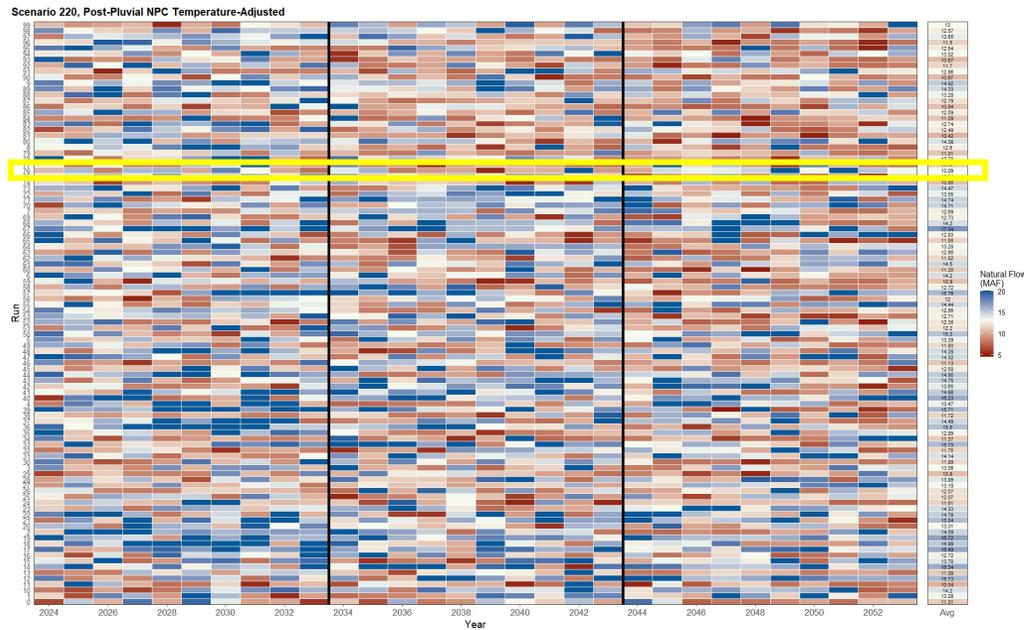


Heat maps:

Post-Pluvial NPC Temperature-Adjusted, 100 Traces/Runs



Trace/Run 76

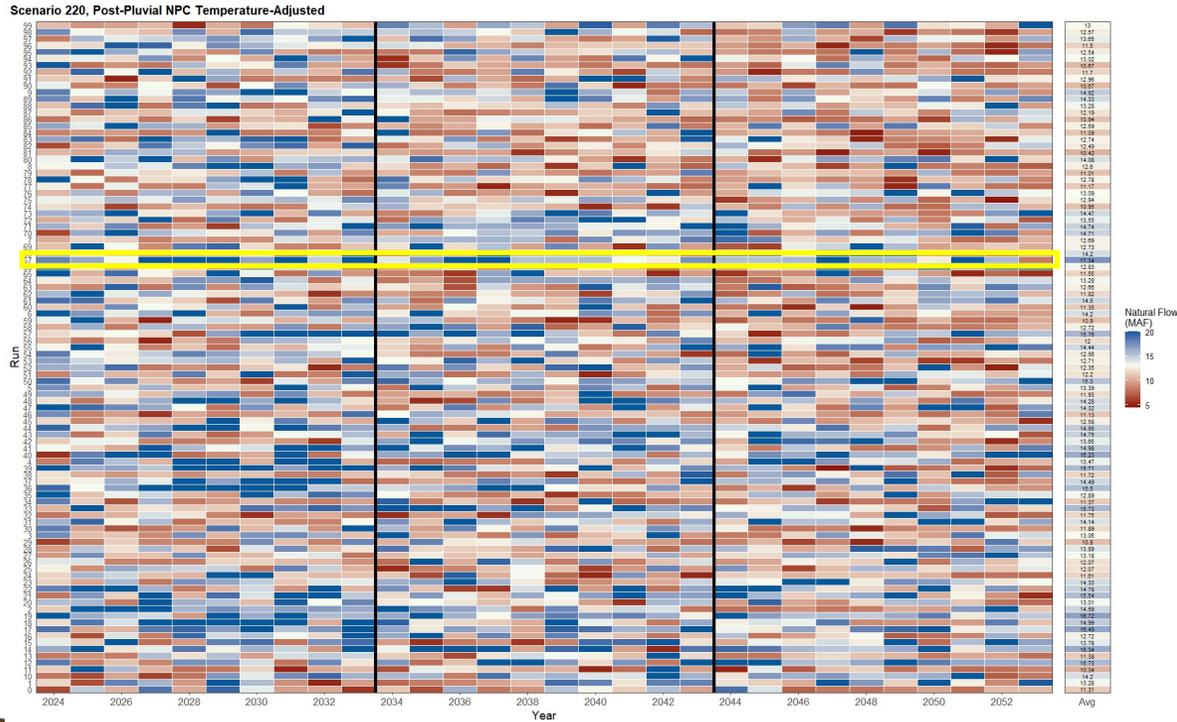


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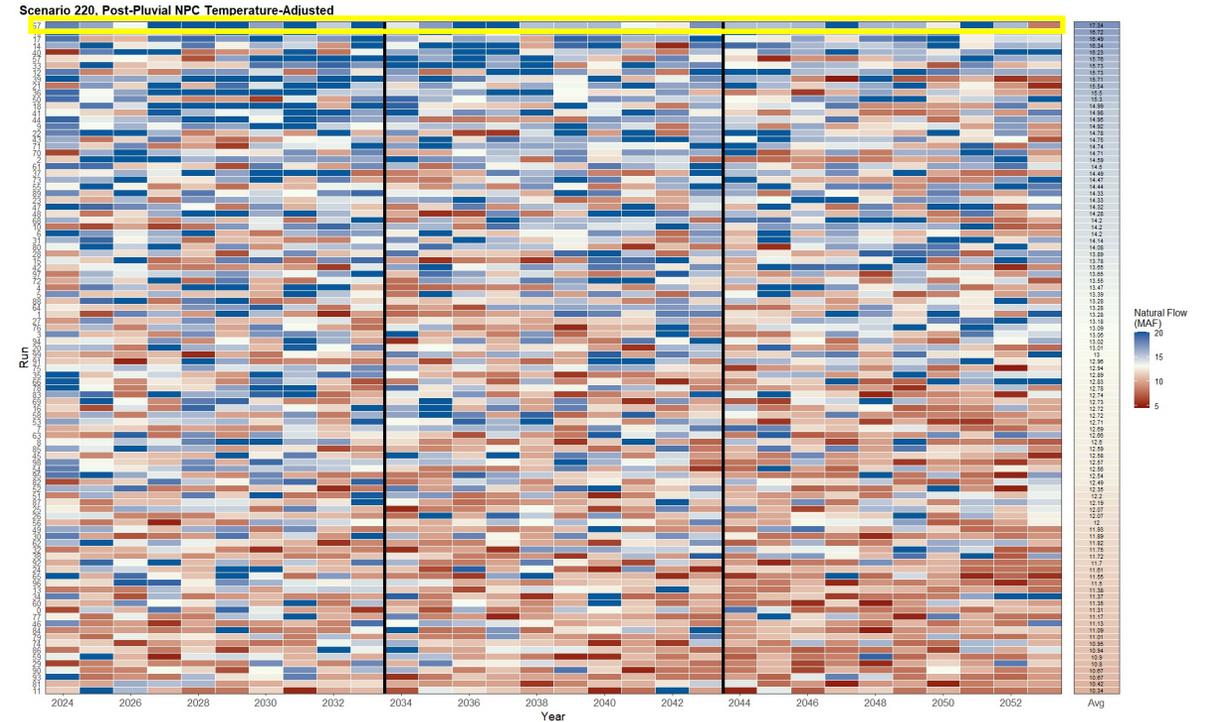
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Heat maps: Post-Pluvial NPC Temperature-Adjusted, 100 Traces/Runs

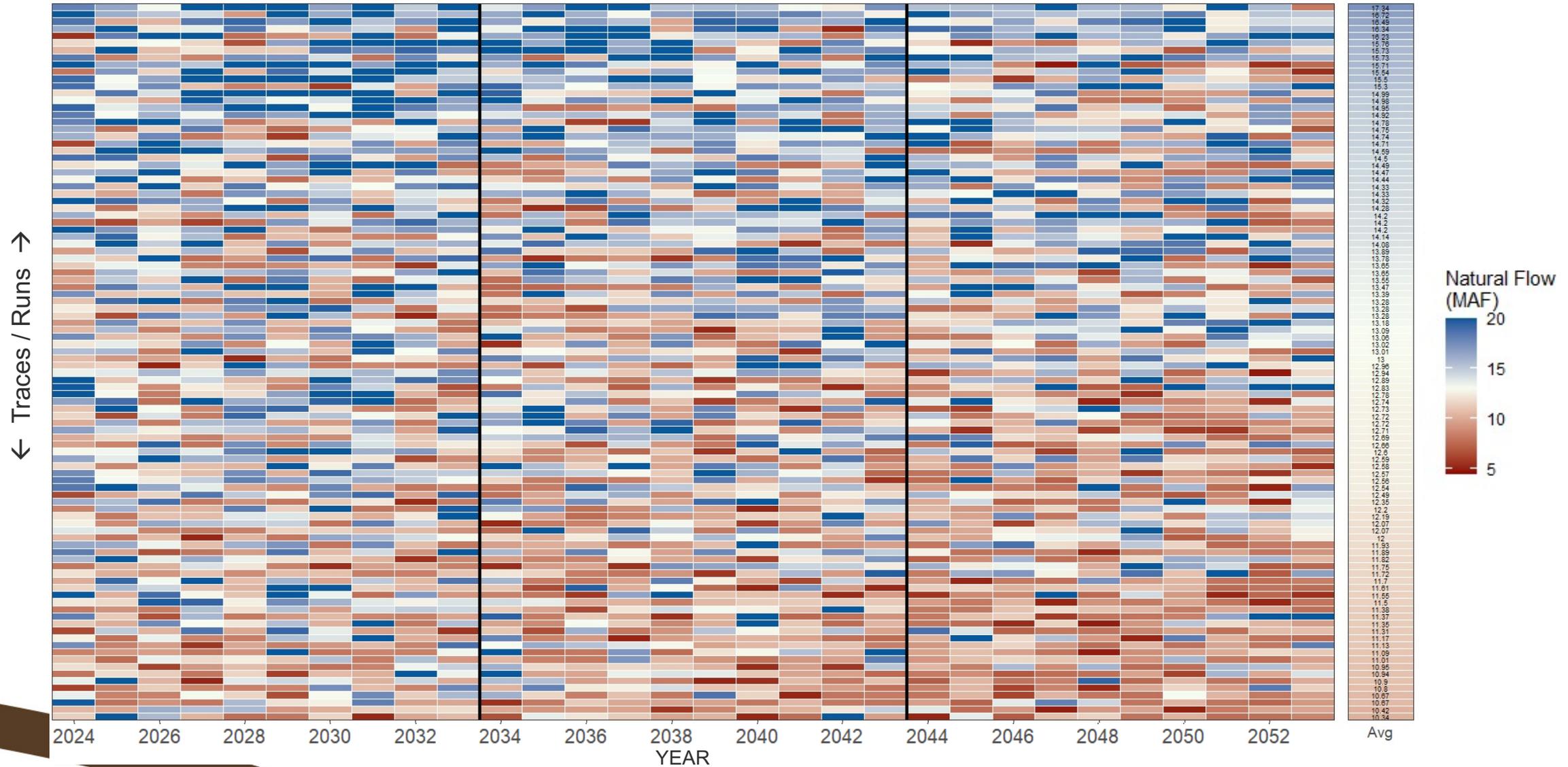
UNSORTED



SORTED



Input Hydrology* (Traces Sorted by Average Natural Flow)



* Scenario 220; Post-Pluvial NPC Temperature-Adjusted

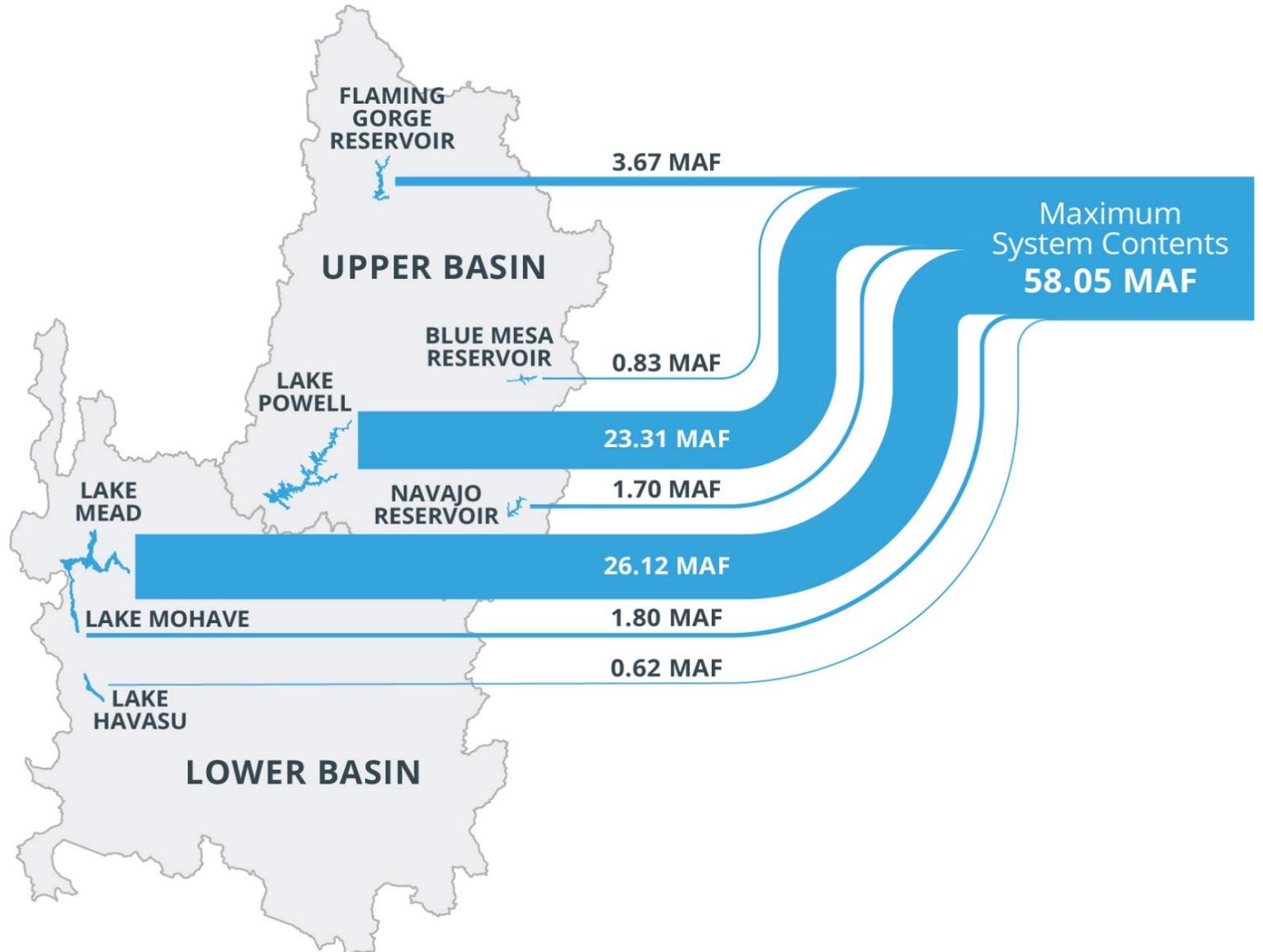
Post-2026 Lower Basin Alternative Goals

- Improve Colorado River reliability over a broad but plausible range of future conditions
- Address the structural deficit and more in the lower basin by reducing 1.5 MAF of use in the Lower Basin
- Sharing the risks and benefits of the system within and between the basins
- Improving predictability of reductions to stabilize Lake Mead

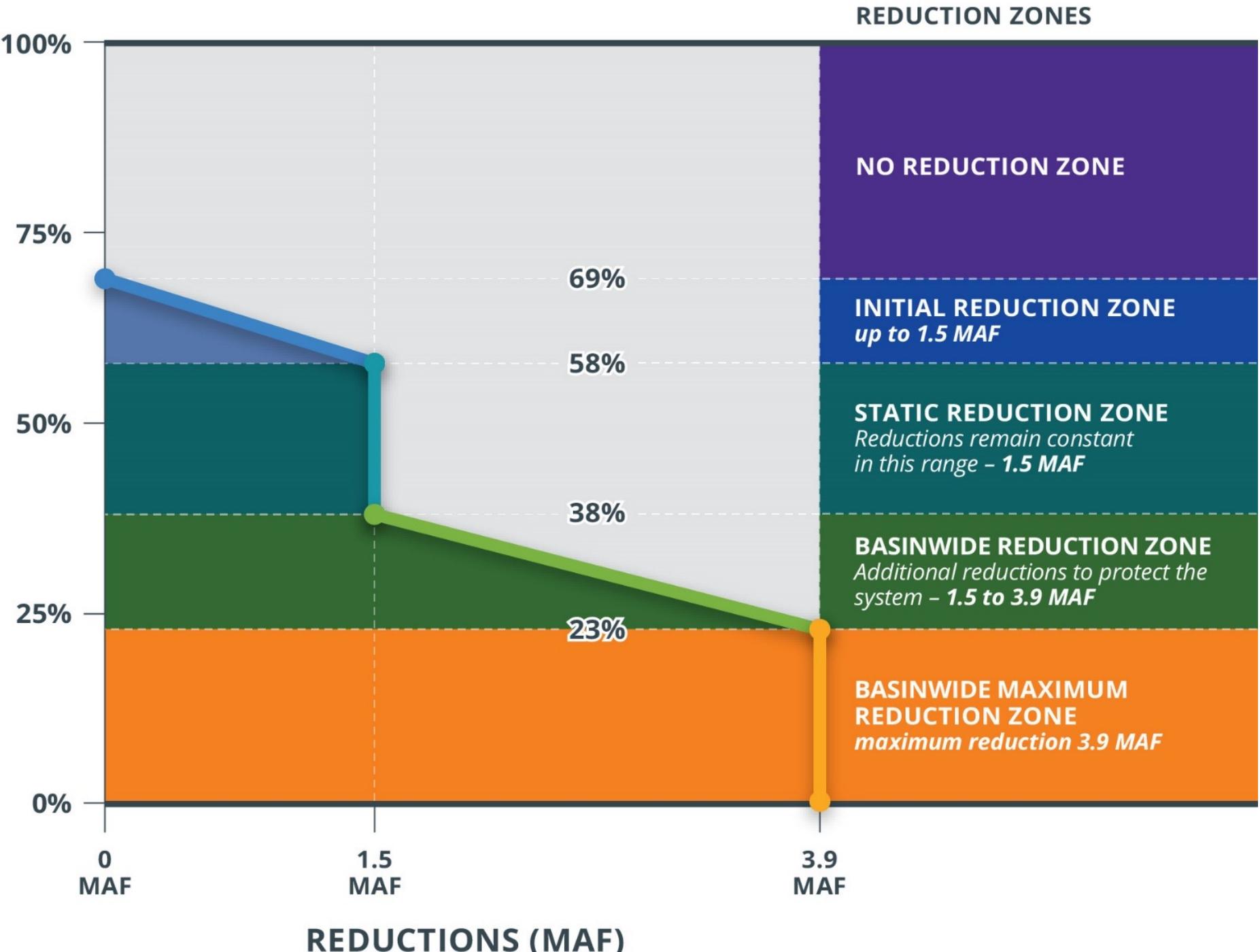


Lower Basin Alternative: Reduction Determination

System contents are based on the volume in each reservoir that is available for release, in millions of acre-feet (MAF).



Lower Basin Alternative: Reduction Determination



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Reduction Sharing among Basin States and Mexico

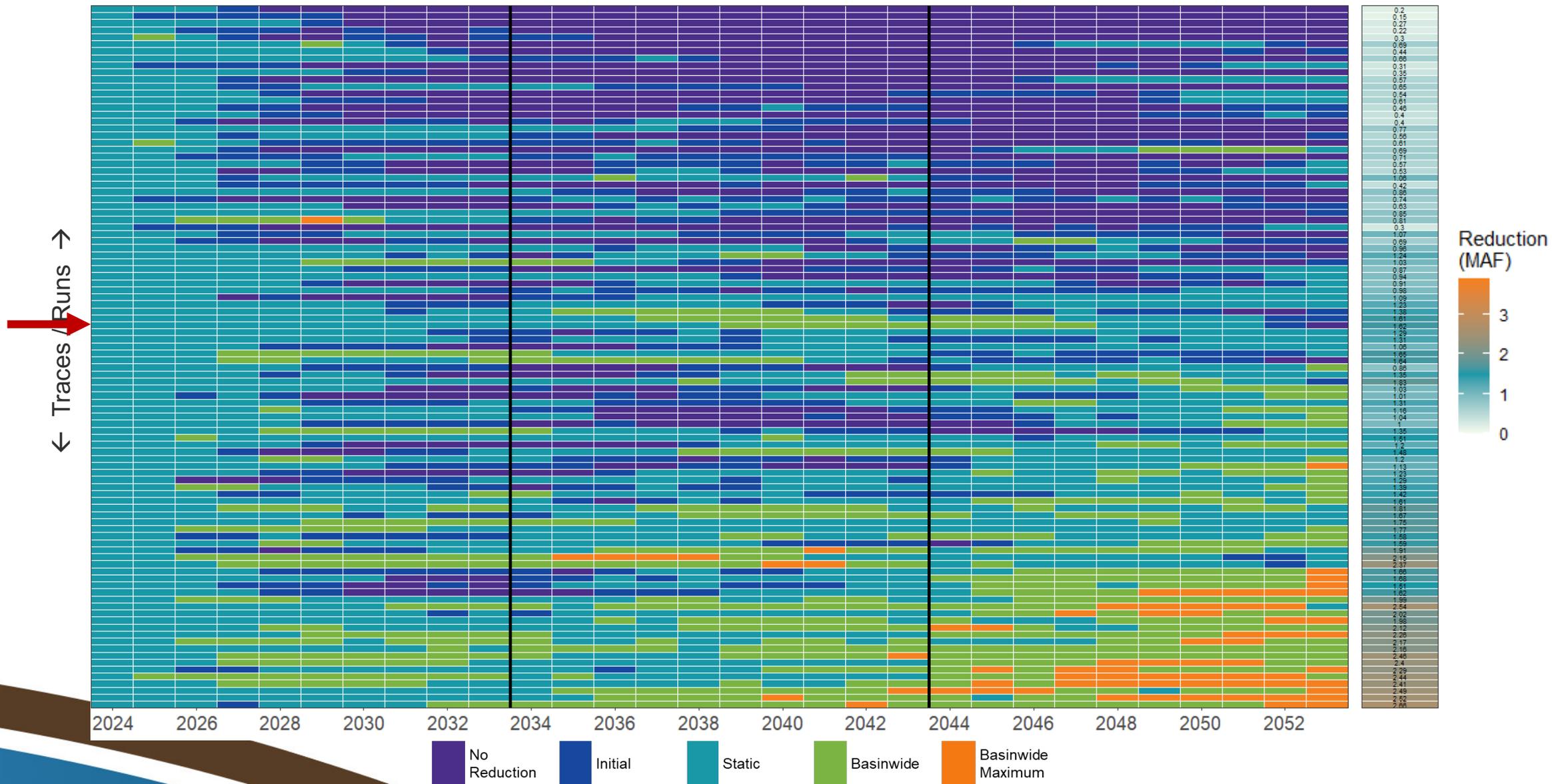
	Total Reduction Volumes	Upper Basin	Arizona	California	Nevada	Mexico*
Initial Reduction Zone	Up to 300 KAF	0	80%	0	3.33%	16.67%
	300 KAF-1.5 MAF	0	43.33%	36.67%	3.33%	16.67%
Static Reduction Zone	1.5 MAF	0	760,000	440,000	50,000	250,000
Basin-wide Reduction Zone	1.5 – 3.9 MAF	Shared among Upper Division states, Lower Division States and Mexico				
Basin-wide Maximum Reduction Zone	3.9 MAF					

* Reductions to Mexico will be determined in a separate binational process

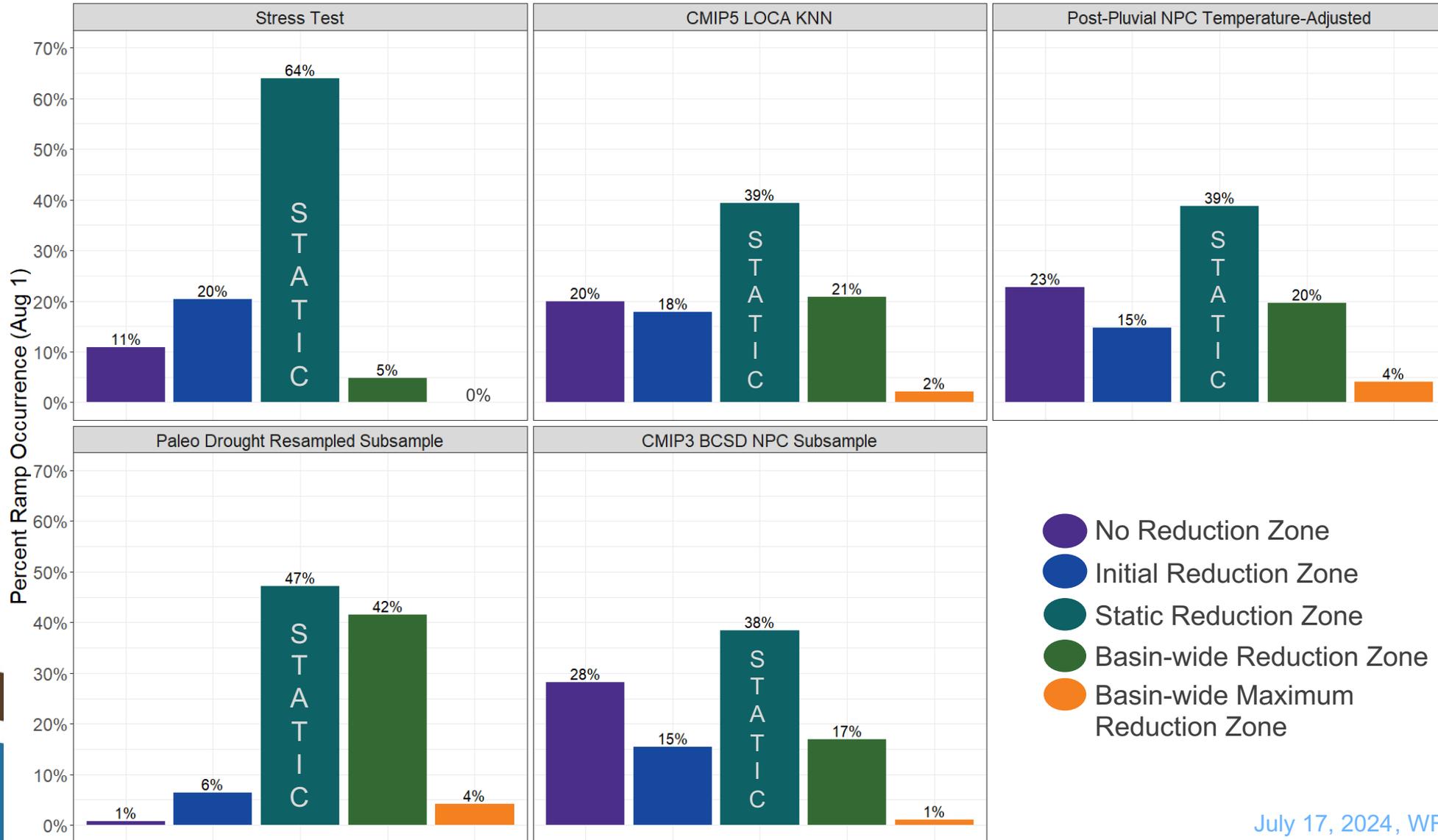


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Lower Basin Reduction Zones (Traces Sorted by Average Natural Flow)

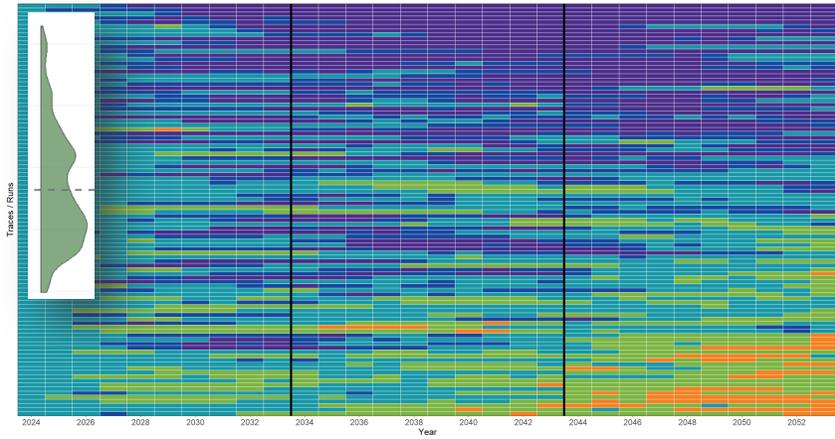


Technical Analysis

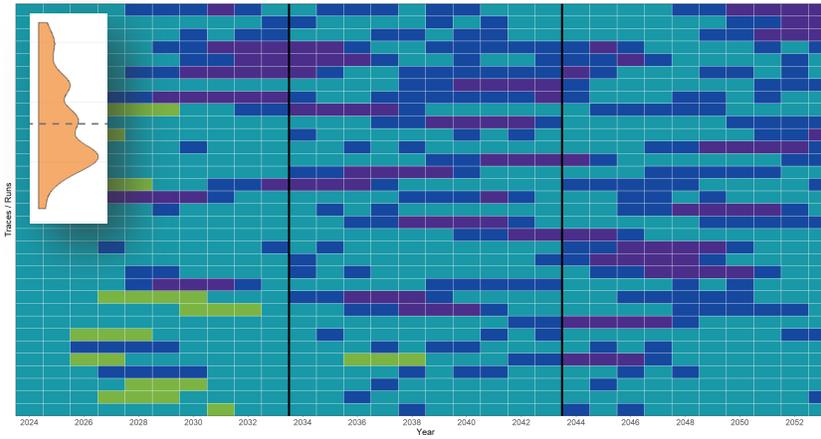


Reduction Zone Maps by Hydrology

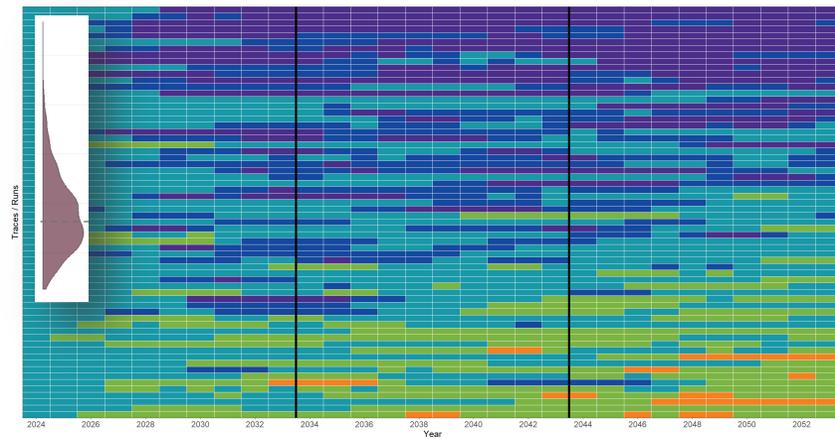
Post-Pluvial NPC Temperature-Adjusted



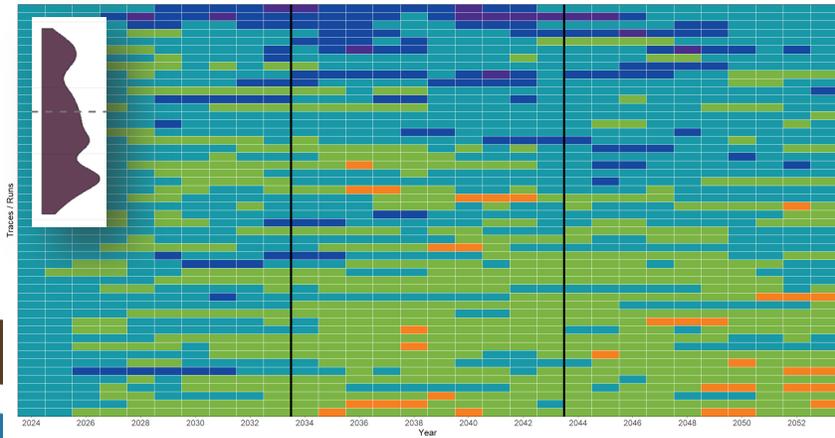
Stress Test



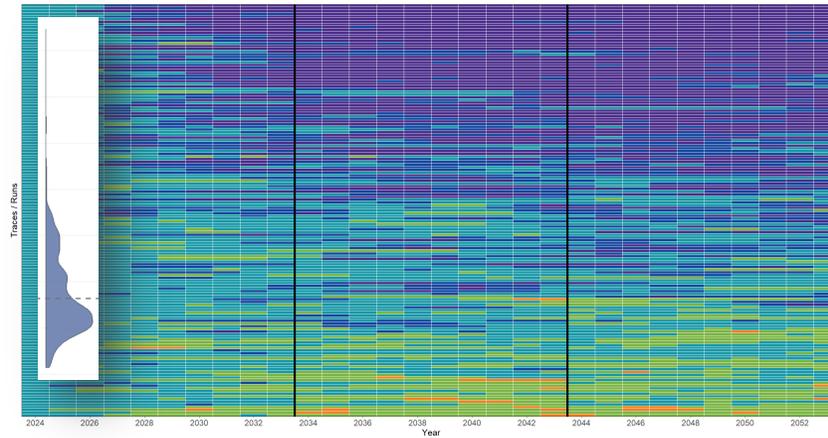
CMIP5 LOCA KNN



Paleo Drought Resampled Subsample

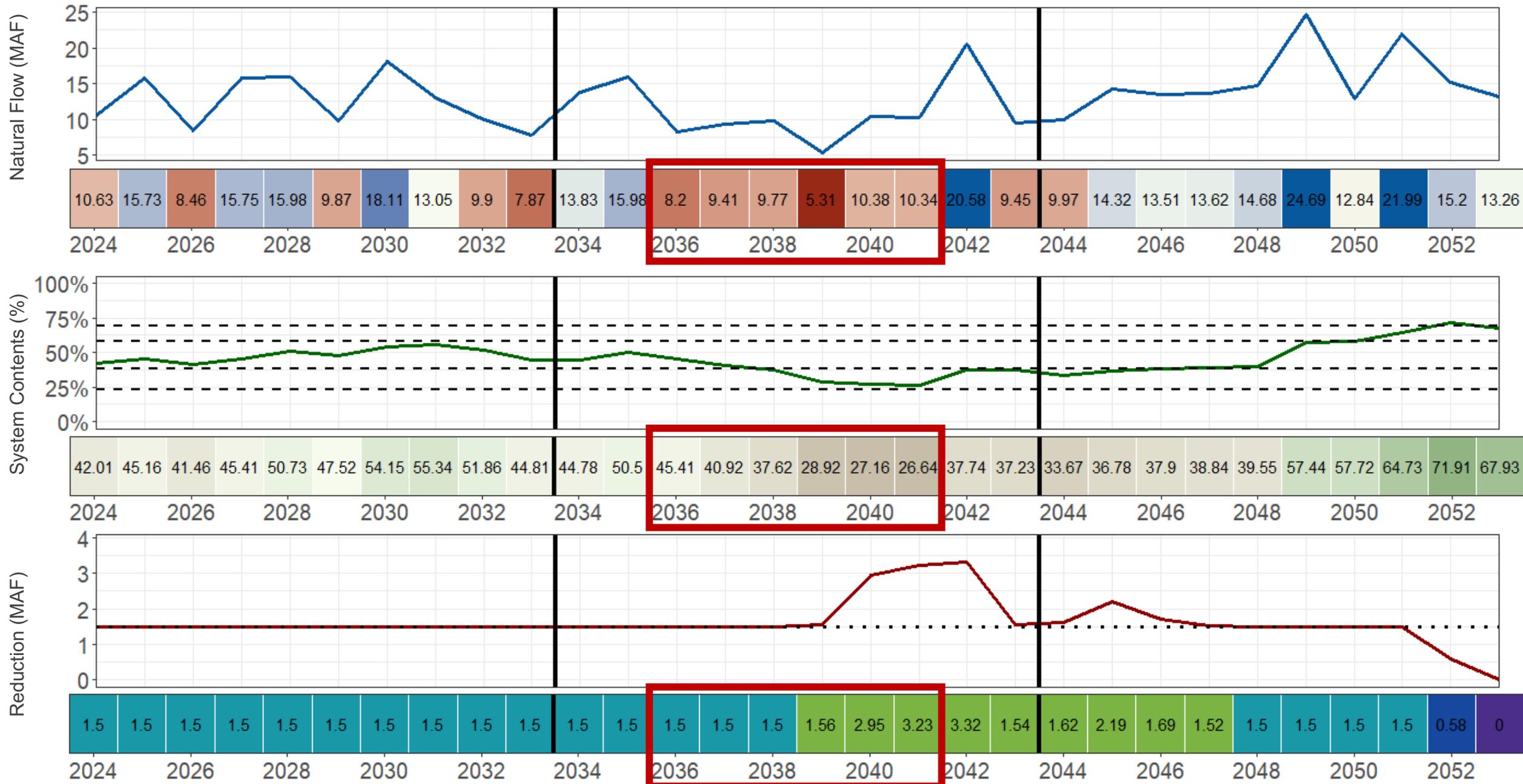


CMIP3 BCSD NPC Subsample

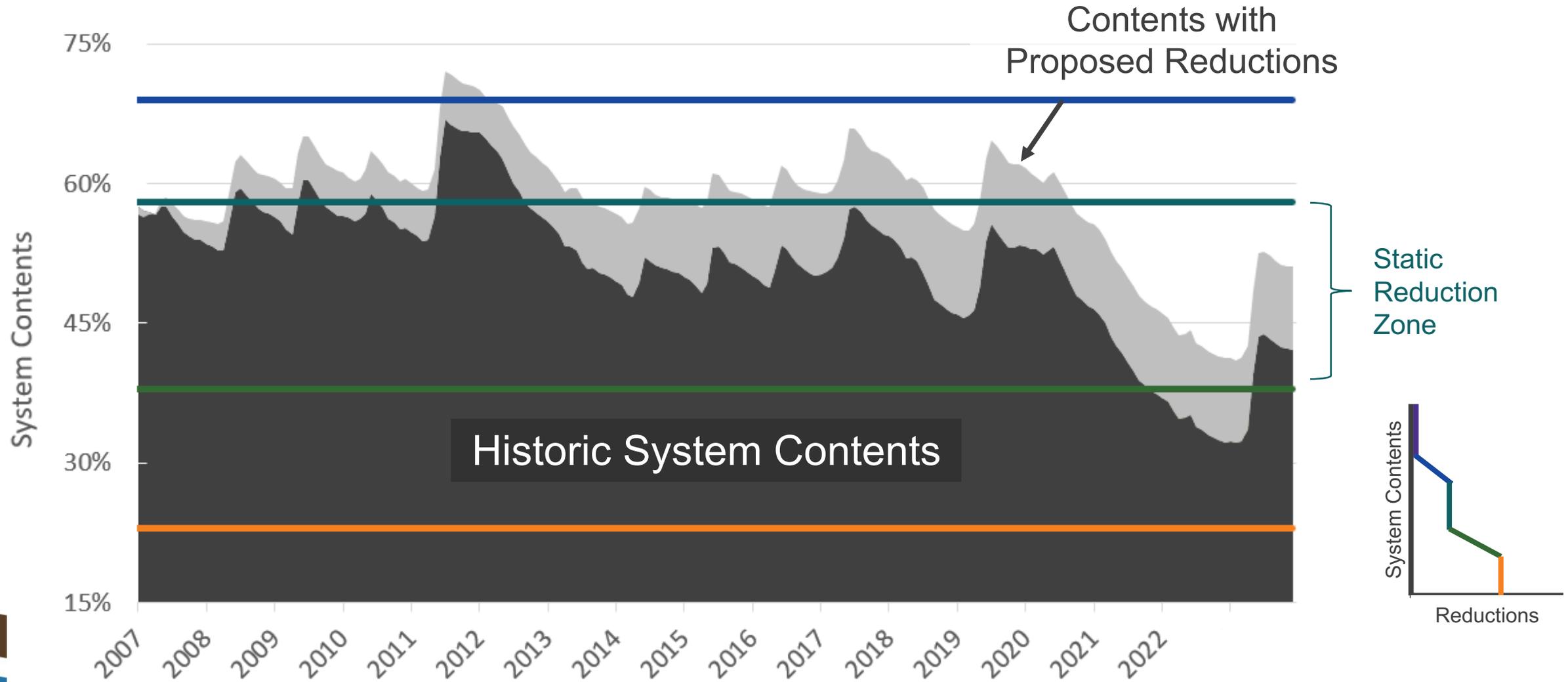


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Single Trace Example Post-Pluvial NPC Temperature-Adjusted (Run = 76)



Proposed Alternative Implemented in 2007



Post-2026 Guidelines Update

- Following the Lower Basin's March 6, 2024, submission to Reclamation of its alternative, Reclamation has been working with the Lower Basin to round out some of the modeling assumptions that are needed to be fed into the model.
- Lower Basin requested, and Reclamation has agreed to model reductions to the LB in two primary ways:
 - Pro-rata to all users
 - By priority
- Request was also made to allocate the remaining (up to) 2.4 maf of reductions contemplated in the Basinwide Reduction Zone & Basinwide Max. Reduction Zone:
 - to the UB
 - Split between the LB and the UB



Discussions/Questions

