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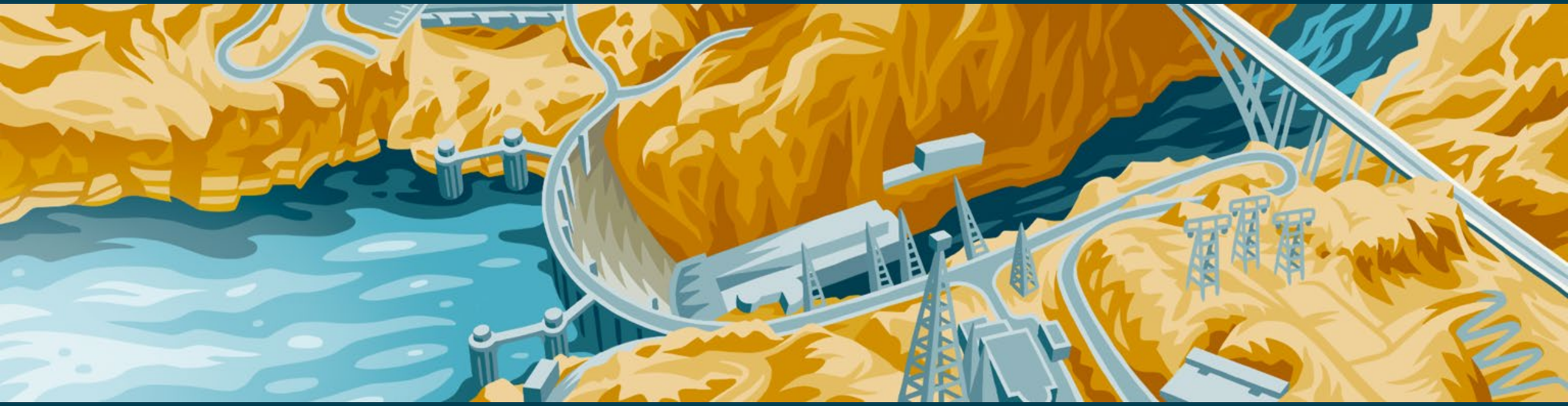

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COLORADO RIVER BASIN POST-2026 OPERATIONS

EXPLORATION TOOL

BUREAU OF RECLAMATION

Center for Advanced Decision Support for Water and Environmental Systems (CADSWES)
UNIVERSITY OF COLORADO **BOULDER**

VIRGA LABS

FIGURE 1B-A
Map of Federally Recognized Tribes in the Colorado River Basin

ID	Tribe Name
1	Ute Indian Tribe of the Uintah and Ouray Reservation
2	Southern Ute Indian Tribe
3	Ute Mountain Ute Tribe
4	Jicarilla Apache Nation
5	Navajo Nation
6	Zuni Tribe
7	Hopi Tribe
8	Kaibab Band of Paiute Indians
9	Havasupai Tribe
10	Hualapai Indian Tribe
11	Shivwits Band of Paiute Indian Tribe
12	Moapa Band of Paiute Indians
13	Las Vegas Tribe of Paiute Indians
14	Fort Mojave Indian Tribe
15	Chemehuevi Indian Tribe
16	Colorado River Indian Tribes
17	Yavapai-Apache Nation
18	Yavapai-Prescott Indian Tribe
19	Tonto Apache Tribe
20	White Mountain Apache Tribe
21	San Carlos Apache Tribe
22	Fort McDowell Yavapai Nation
23	Salt River Pima-Maricopa Indian Community
24	Gila River Indian Community
25	Ak-Chin Indian Community
26	Quechan Indian Tribe
27	Cocopah Indian Tribe
28	Tohono O'odham Nation
29	Pascua Yaqui Tribe

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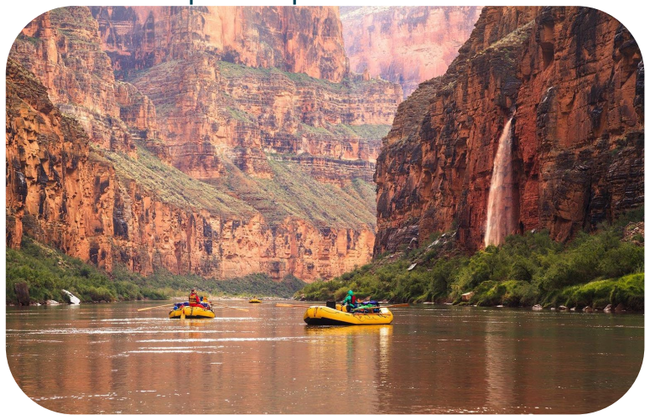

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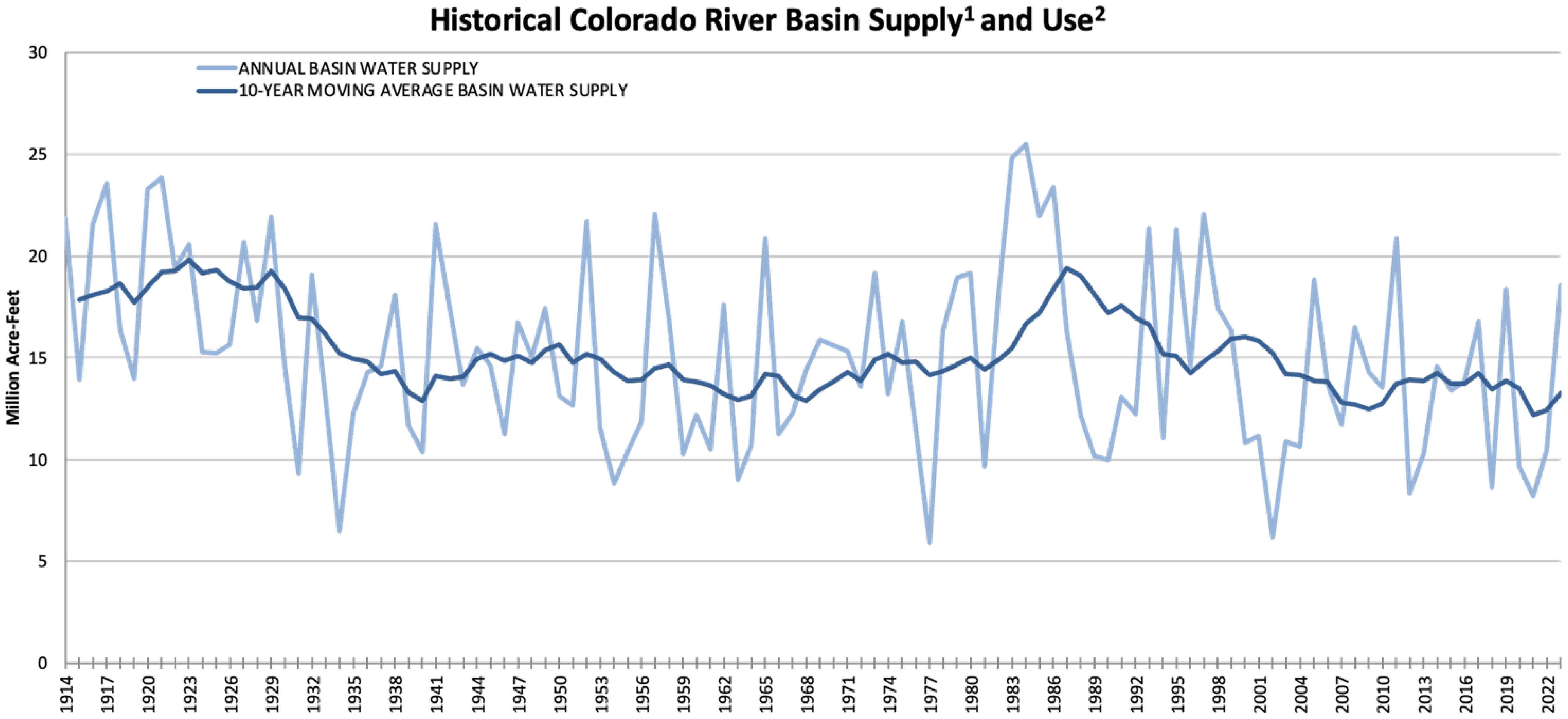

Historical Colorado River Basin Supply1 and Use2
ANNUAL BASIN WATER SUPPLY
10-YEAR MOVING AVERAGE BASIN WATER SUPPLY
Million Acre-Feet
30
25
20
15
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1914
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1941
1944
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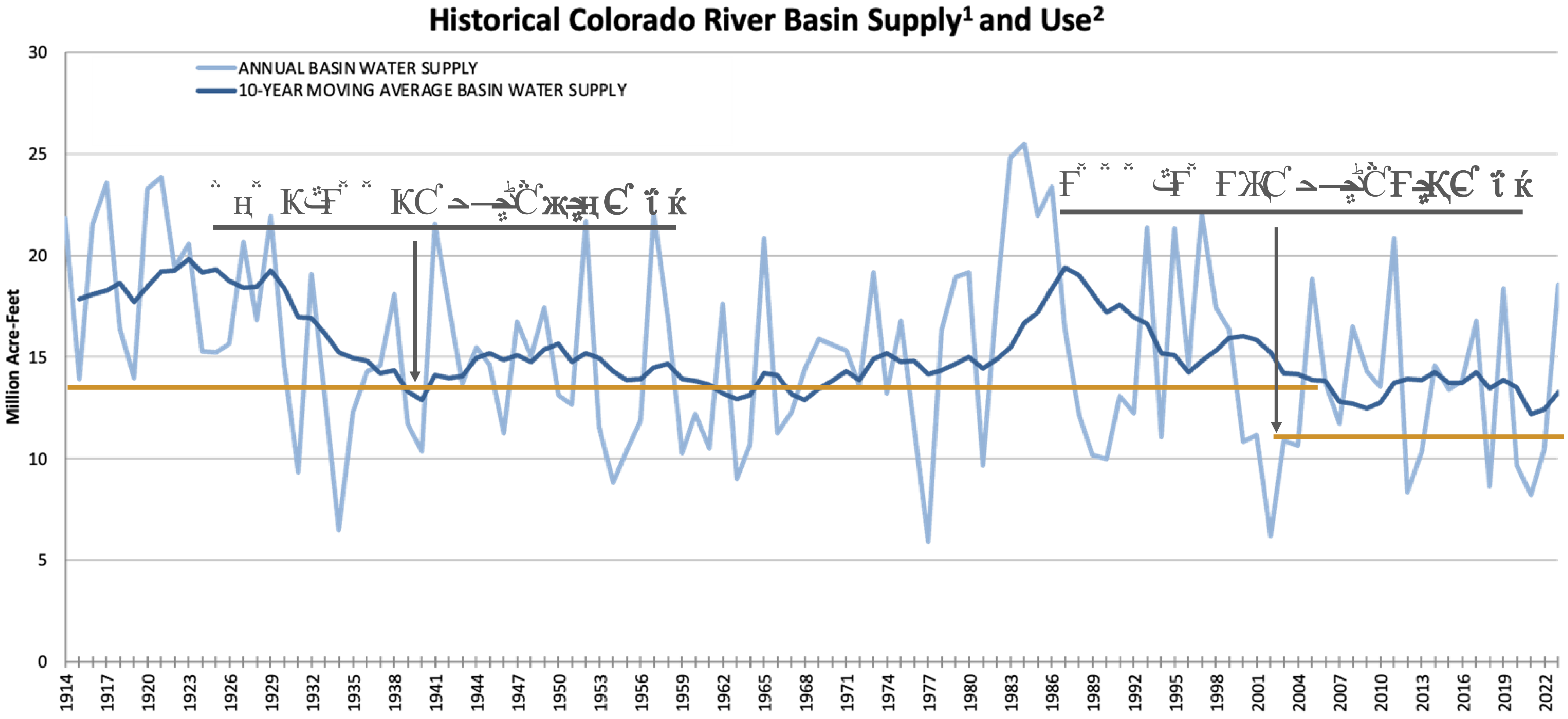
2022



Historical Colorado River Basin Supply[1] and Use[2]
ANNUAL BASIN WATER SUPPLY
10-YEAR MOVING AVERAGE BASIN WATER SUPPLY
Million Acre-Feet
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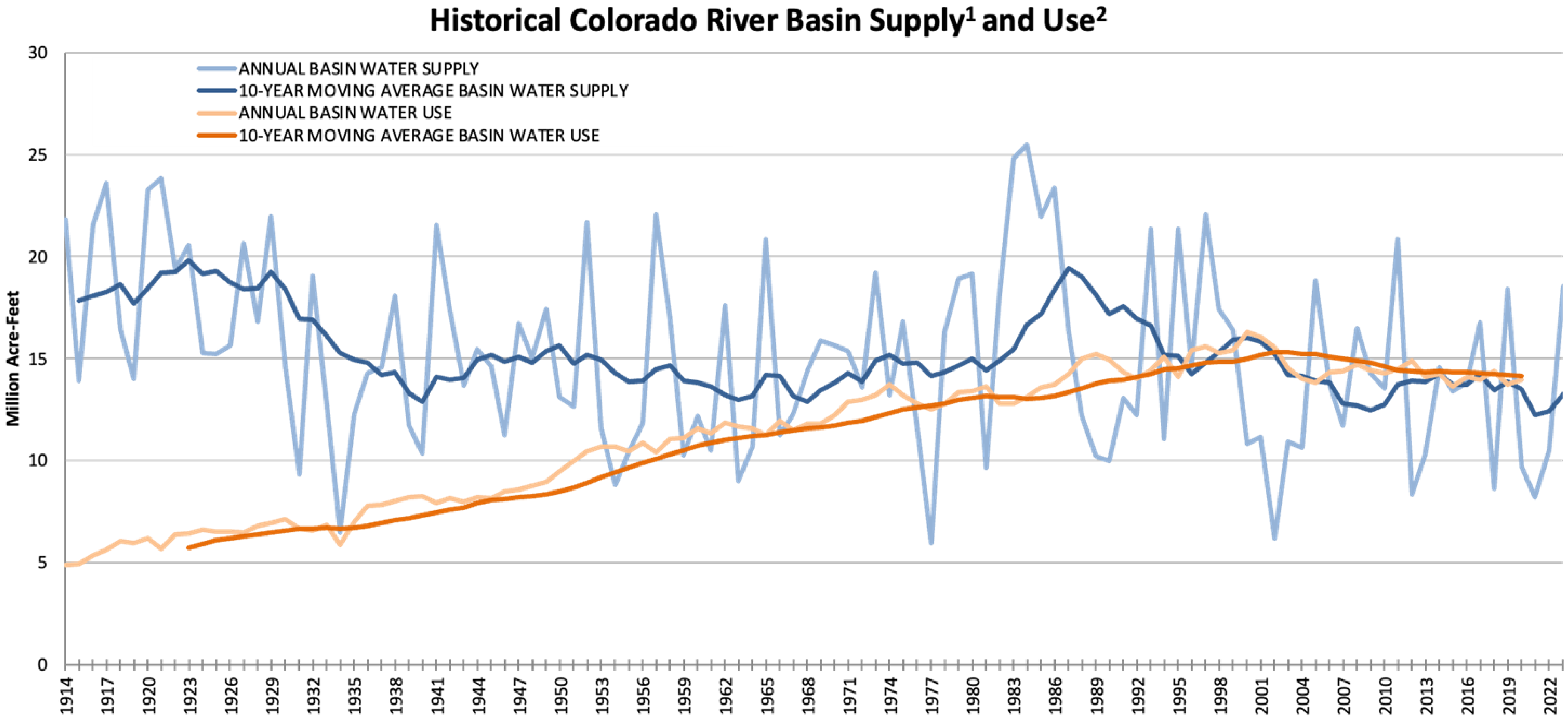

Historical Colorado River Basin Supply[1] and Use[2]
ANNUAL BASIN WATER SUPPLY
10-YEAR MOVING AVERAGE BASIN WATER SUPPLY
ANNUAL BASIN WATER USE
10-YEAR MOVING AVERAGE BASIN WATER USE
Million Acre-Feet
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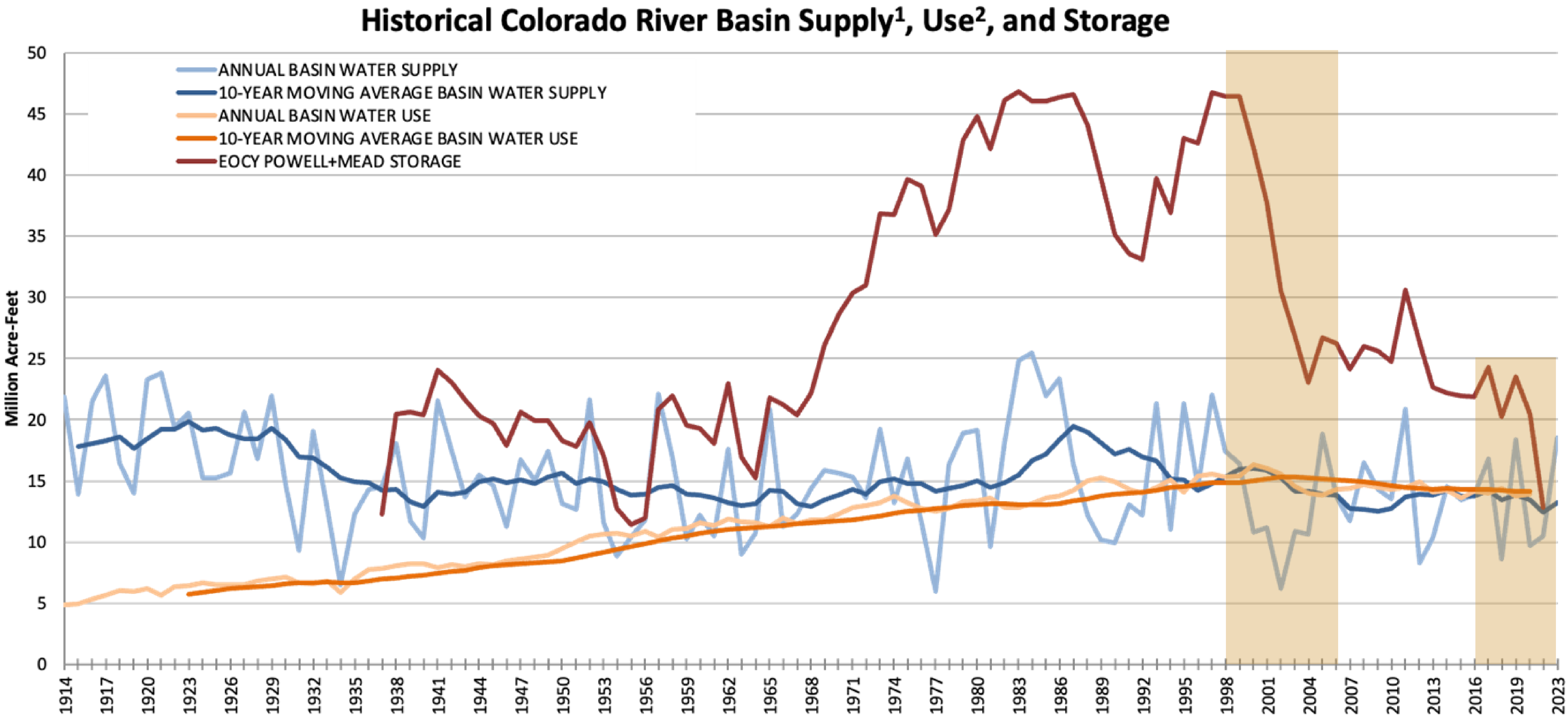
Historical Colorado River Basin Supply1, Use2, and Storage
ANNUAL BASIN WATER SUPPLY
10-YEAR MOVING AVERAGE BASIN WATER SUPPLY
ANNUAL BASIN WATER USE
10-YEAR MOVING AVERAGE BASIN WATER USE
EOCY POWELL+MEAD STORAGE
Million Acre-Feet
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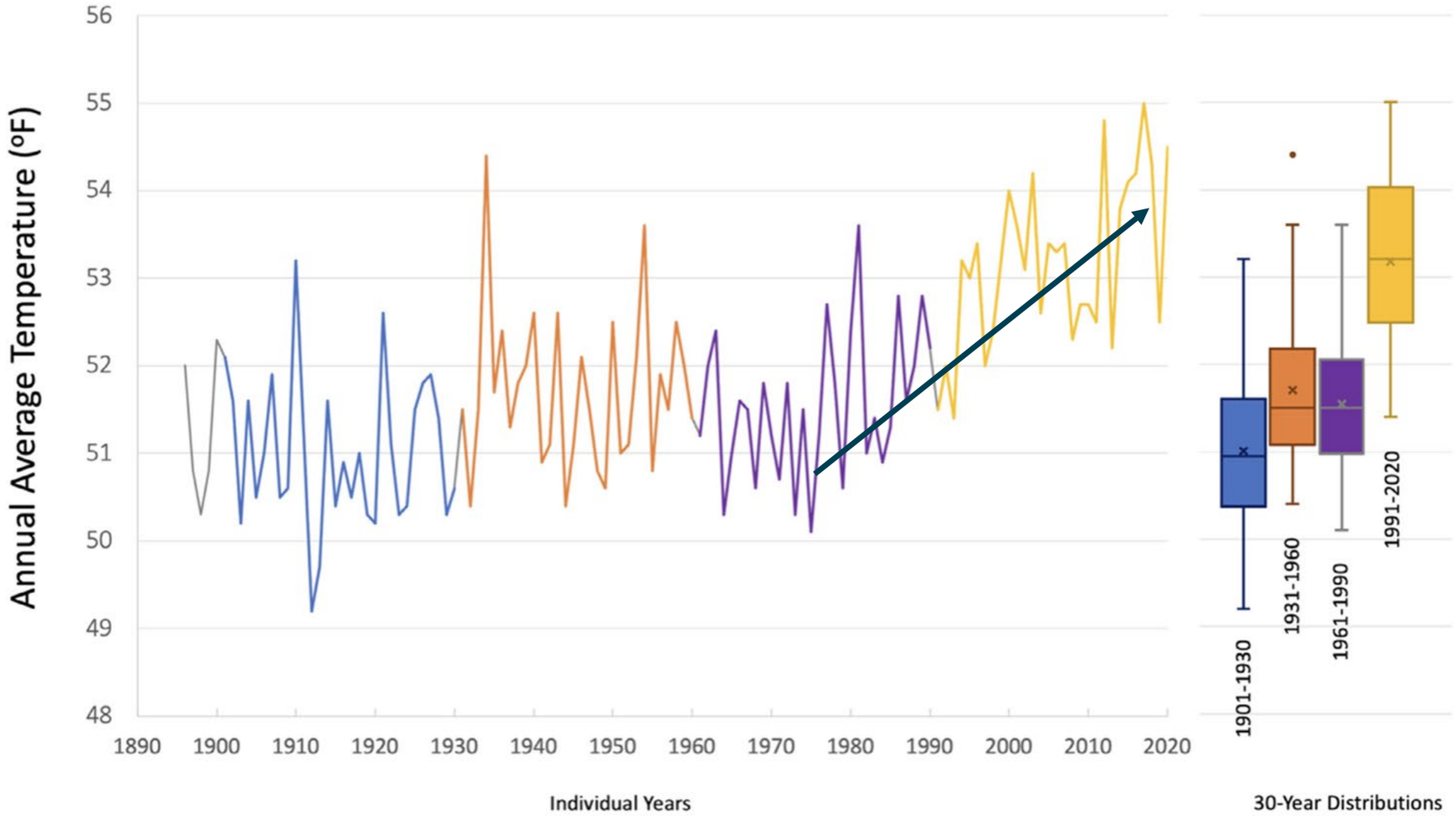

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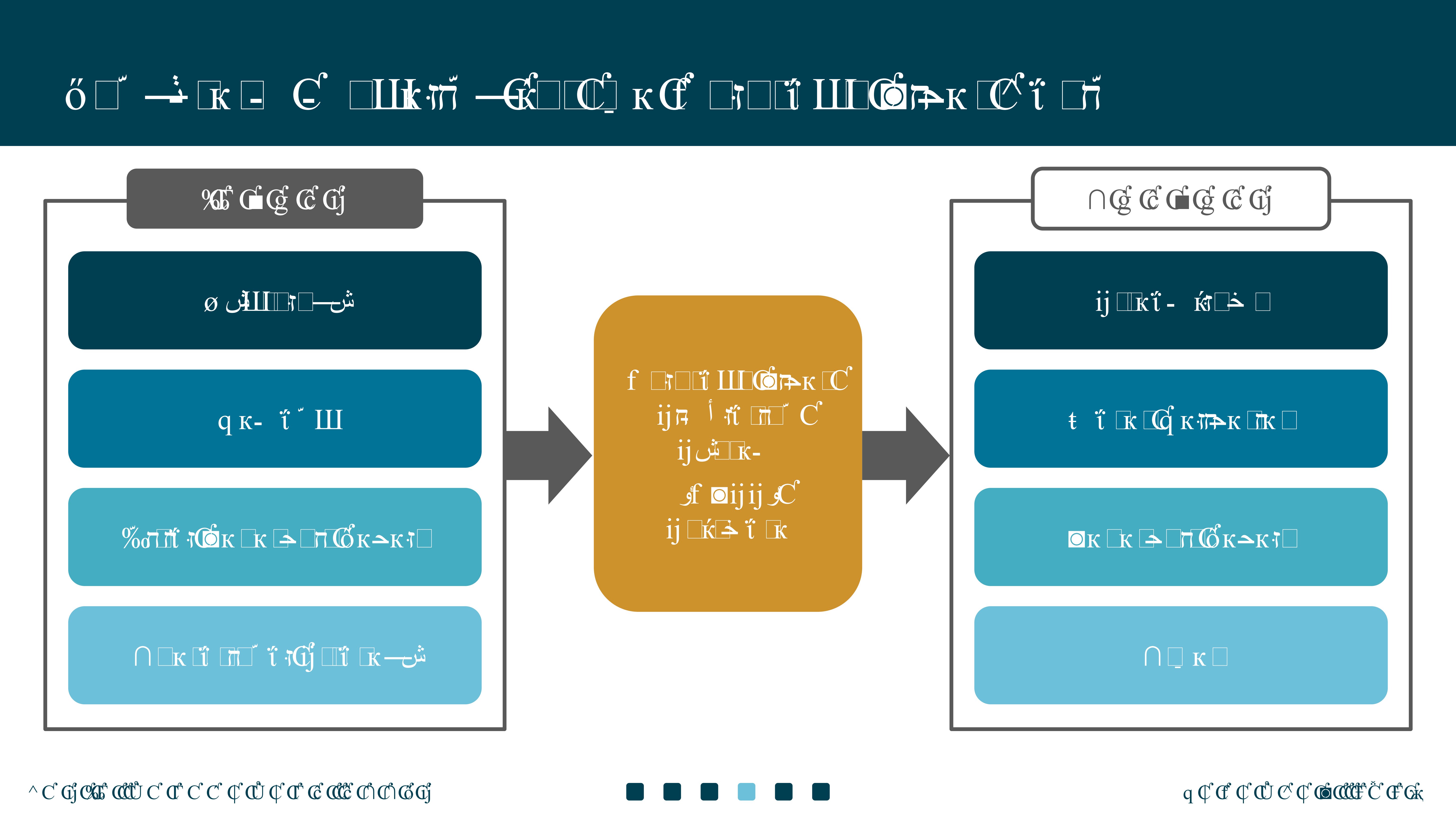

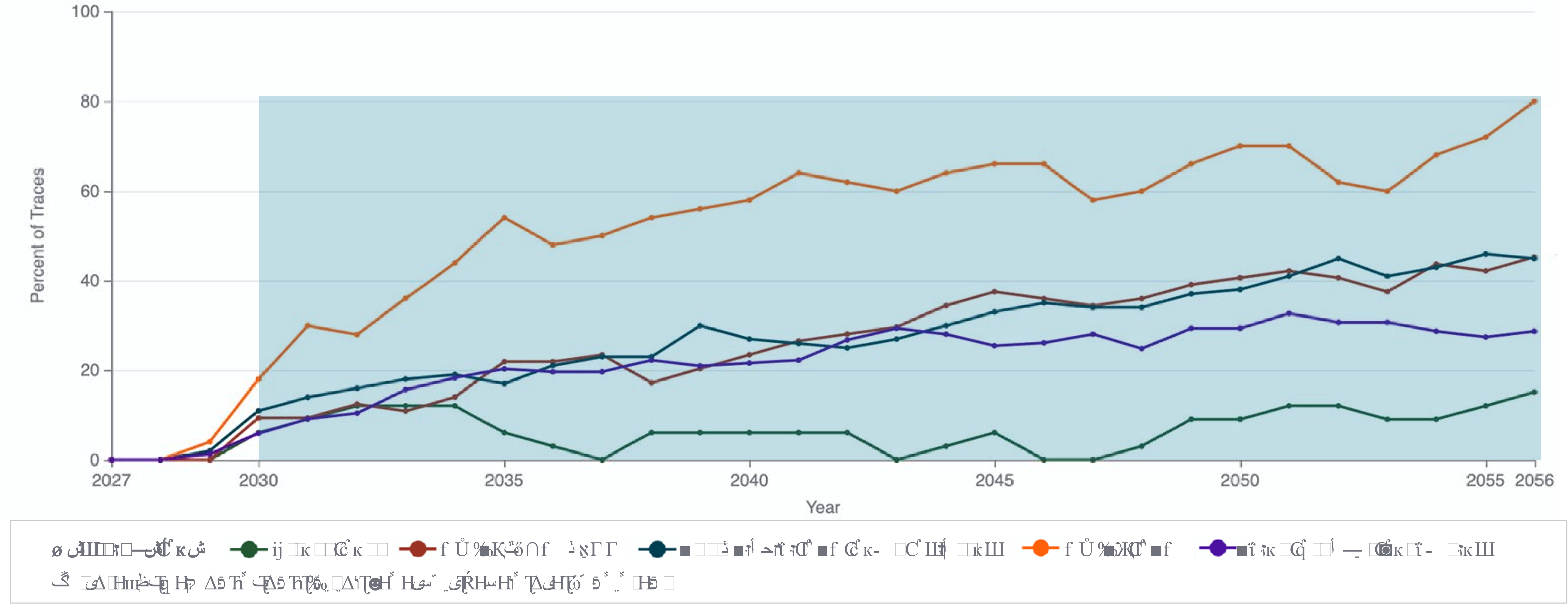
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2027
2030
2035
2040
2045
2050
2055
2056
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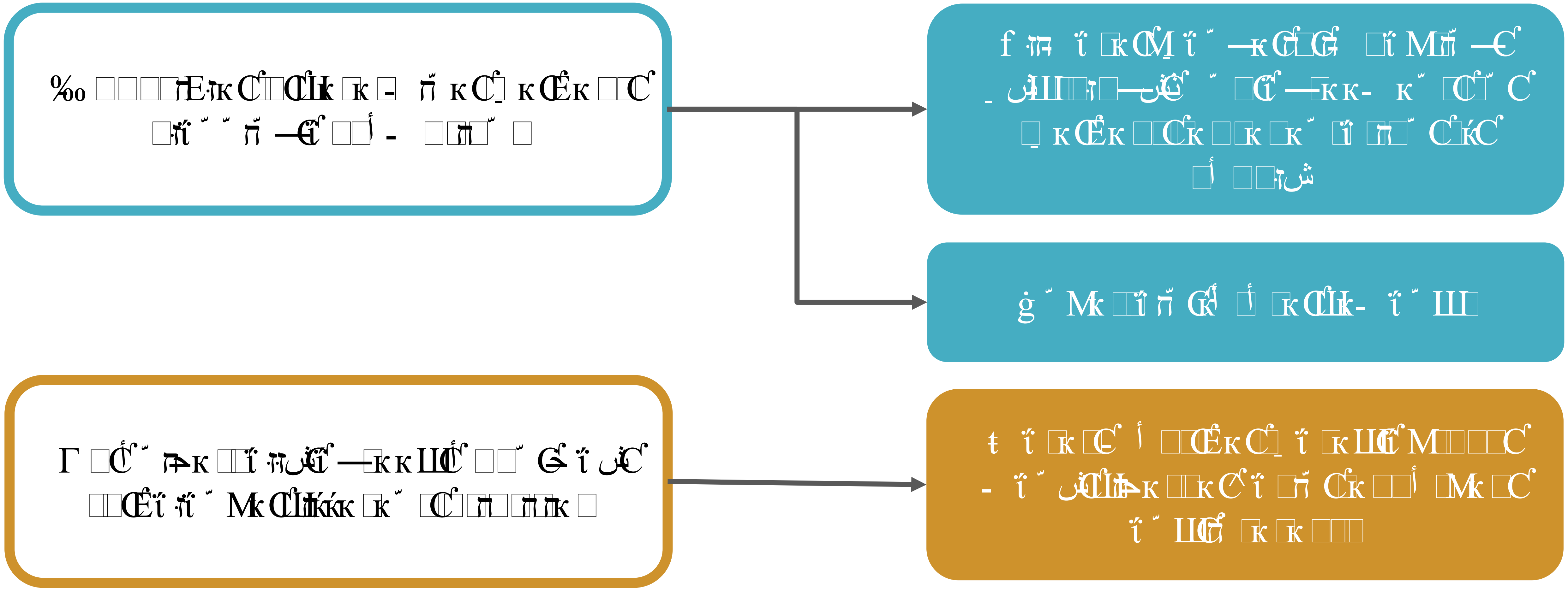

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COLORADO RIVER BASIN
POST-2026 OPERATIONS
EXPLORATION TOOL

JUNE 2023

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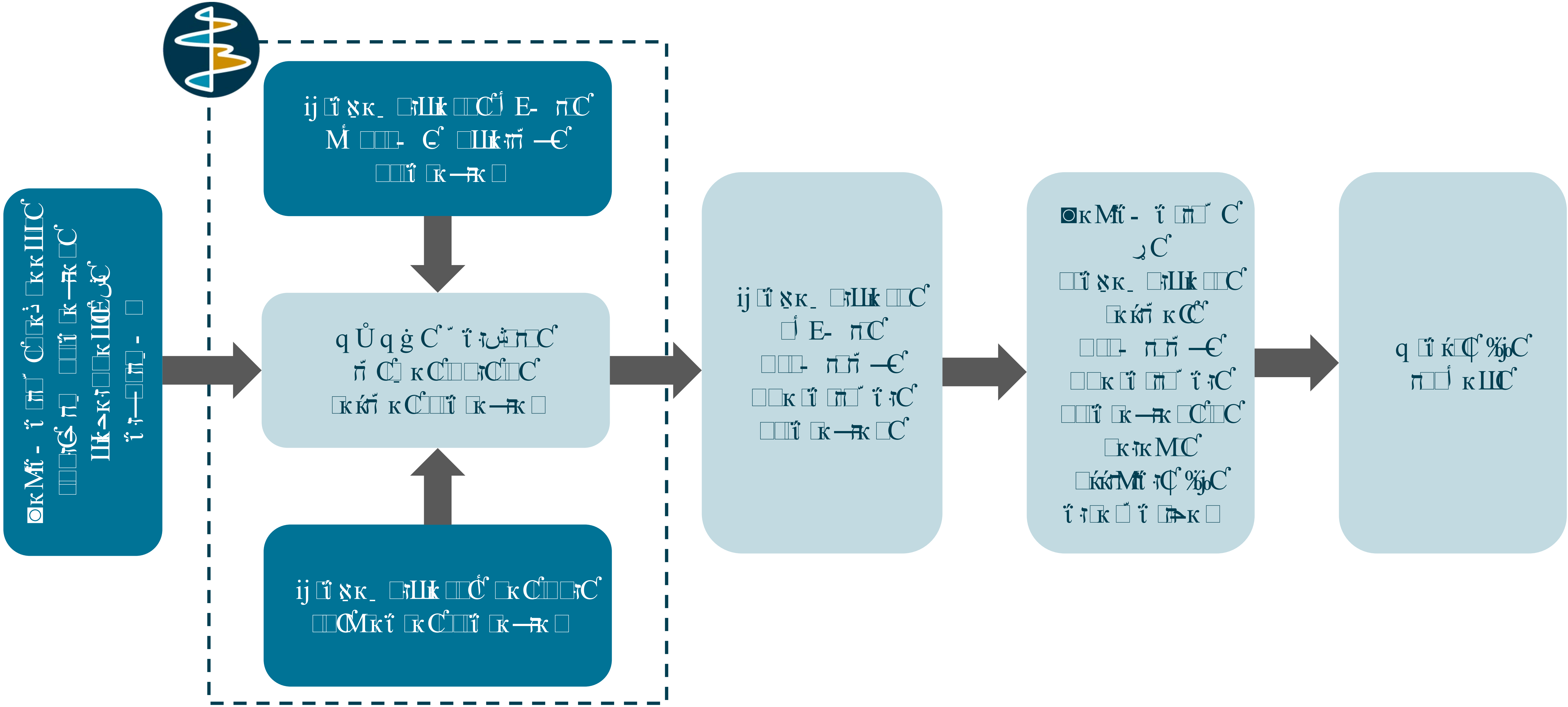

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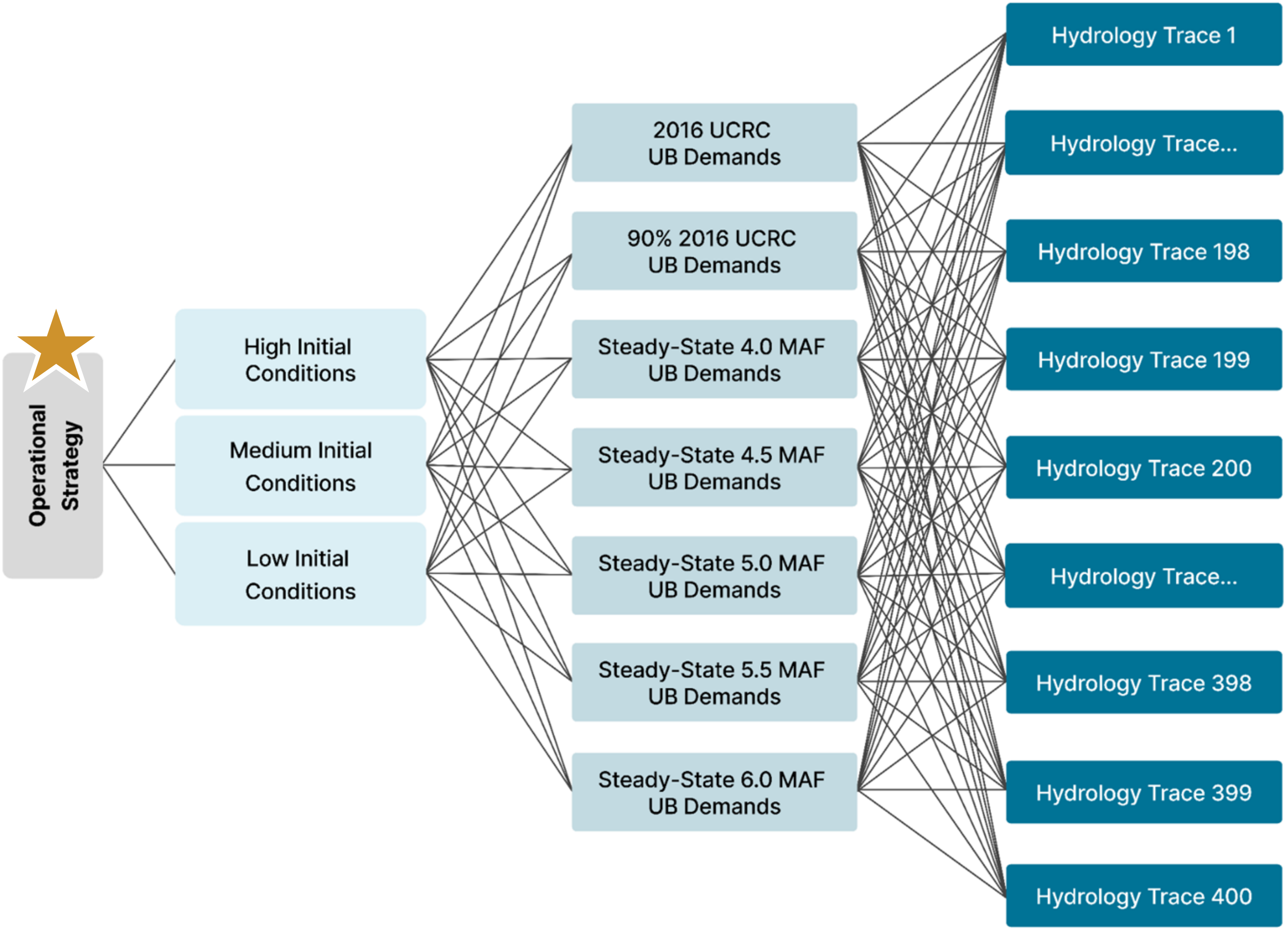
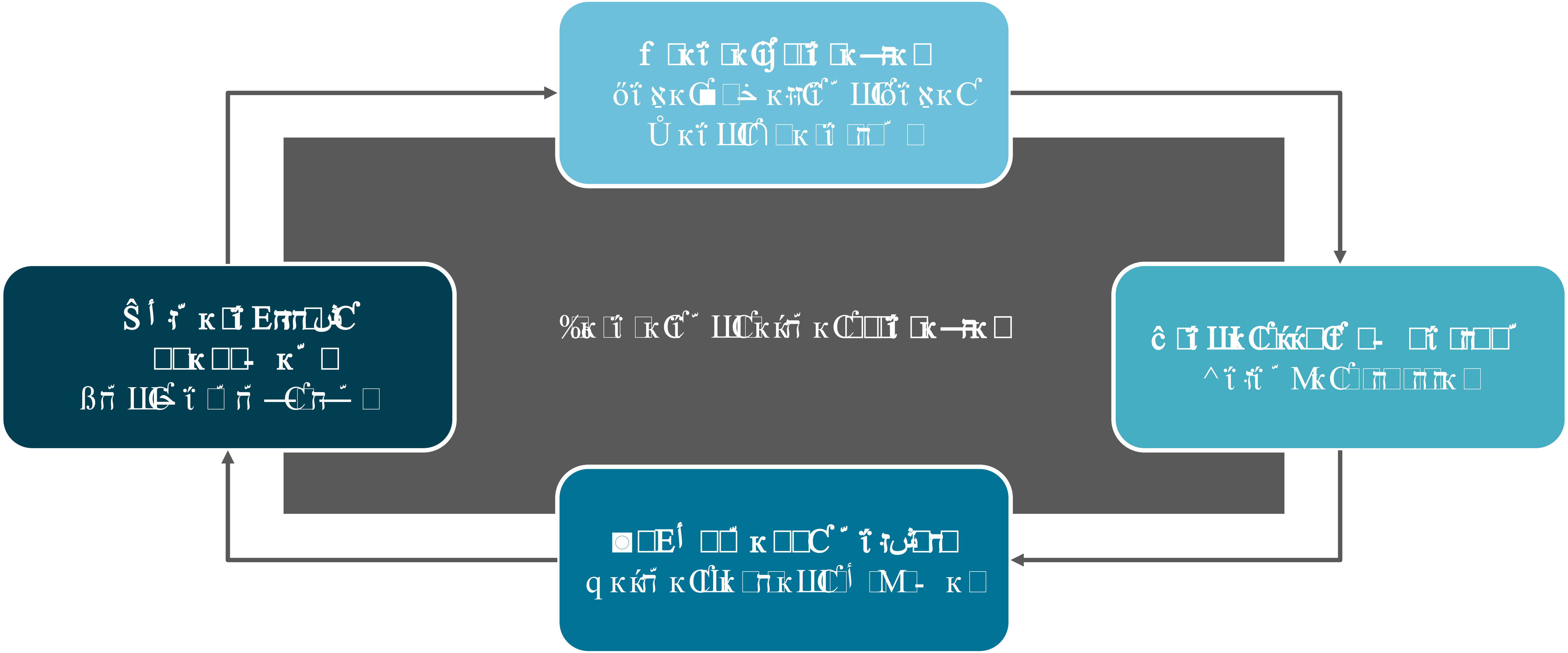
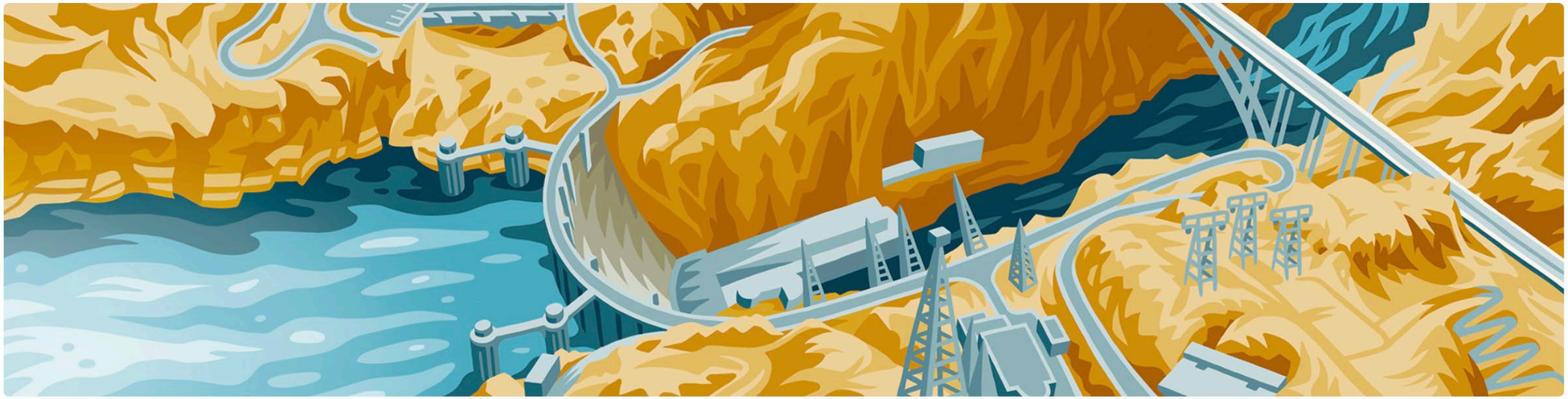

Operational Strategy
High Initial Conditions
Medium Initial Conditions
Low Initial Conditions
2016 UCRC UB Demands
90% 2016 UCRC UB Demands
Steady-State 4.0 MAF UB Demands
Steady-State 4.5 MAF UB Demands
Steady-State 5.0 MAF UB Demands
Steady-State 5.5 MAF UB Demands
Steady-State 6.0 MAF UB Demands
Hydrology Trace 1
Hydrology Trace...
Hydrology Trace 198
Hydrology Trace 199
Hydrology Trace 200
Hydrology Trace...
Hydrology Trace 398
Hydrology Trace 399
Hydrology Trace 400

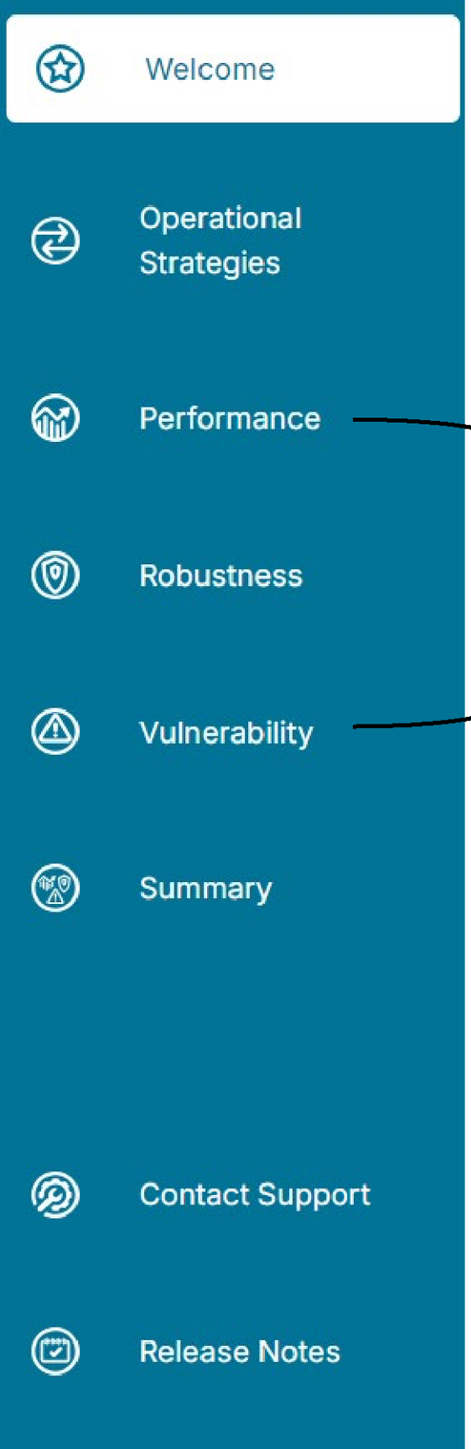




Welcome! This is a flexible, powerful platform designed to enable Colorado River Basin stakeholders and other interested parties to explore operational strategies for Lake Powell and Lake Mead as part of the Post-2026 National Environmental Policy Act (NEPA) Process. This tool is intended to support early-stage exploration of operational strategies that may eventually be incorporated into the Post-2026 NEPA alternatives. For more information on this NEPA process, see Colorado River Post-2026 Operations.

For users to successfully engage with the tool, a basic understanding of conceptual and technical context is recommended. Use the following resources to learn about background, motivation, and how to use the tool:

- Tool 101 tab: tool objectives and brief introduction to the technical framework and tool instructions
- Resource Center tab: extensive supporting information about the technical framework and operational strategy concepts
- Video: Basin and planning context, technical framework and tool synopsis
- Integrated Technical Education Workgroup | Bureau of Reclamation (usbr.gov): recorded educational sessions covering in-depth technical background and tools



COLORADO RIVER BASIN POST-2026 OPERATIONS EXPLORATION TOOL

Performance, **Robustness** & **Vulnerability** dashboards for interactive DMDU Analysis

Performance dashboard

- Identify performance tradeoffs between user-selected metrics across 9 categories
- Select strategies with desired balance
- Performance measured in 8 future scenarios

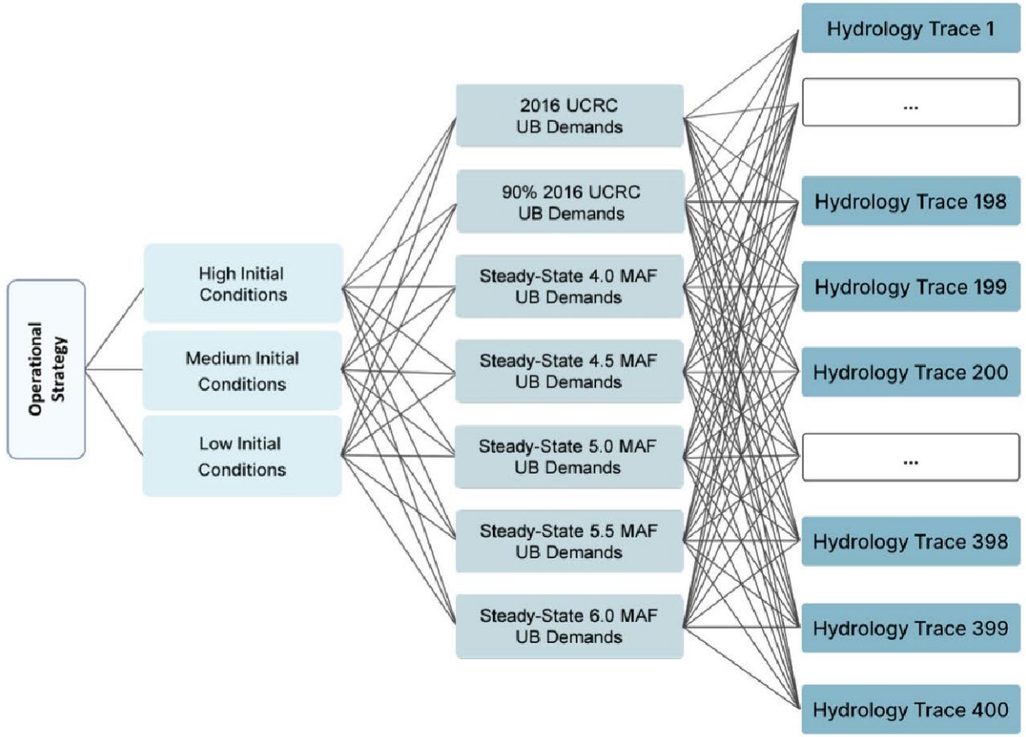
Metric categories

- Water Supply
- Hydropower
- Recreation
- Water Quality
- Cultural/Paleo
- Air Quality
- Fish
- Vegetation
- Sediment

Welcome
Operational Strategies
Performance
Robustness
Vulnerability
Summary
Contact Support
Release Notes

Robustness dashboard

- Robustness measured in 8,400 futures
- Percent futures with **acceptable** performance
- Acceptability interactively defined by user



8,400 futures

Welcome
Operational Strategies
Performance
Robustness
Vulnerability
Summary
Contact Support
Release Notes

Vulnerability dashboard

- Discover the **conditions** that cause **unacceptable** performance
- Conditions: streamflow, initial storage, demand scenario
- Unacceptability defined by the user

Available Streamflow Characteristics

- First 2-Year-Average Lees Ferry Natural Flow (maf)
- First 5-Year-Average Lees Ferry Natural Flow (maf)
- First 10-Year-Average Lees Ferry Natural Flow (maf)
- First 20-Year-Average Lees Ferry Natural Flow (maf)
- Maximum 2-Year-Average Lees Ferry Natural Flow (maf)
- Maximum 5-Year-Average Lees Ferry Natural Flow (maf)
- Maximum 10-Year-Average Lees Ferry Natural Flow (maf)
- Maximum 20-Year-Average Lees Ferry Natural Flow (maf)
- Minimum 2-Year-Average Lees Ferry Natural Flow (maf)
- Minimum 5-Year-Average Lees Ferry Natural Flow (maf)
- Minimum 10-Year-Average Lees Ferry Natural Flow (maf)
- Minimum 20-Year-Average Lees Ferry Natural Flow (maf)
- Median 2-Year-Average Lees Ferry Natural Flow (maf)
- Median 5-Year-Average Lees Ferry Natural Flow (maf)
- Median 10-Year-Average Lees Ferry Natural Flow (maf)
- Median 20-Year-Average Lees Ferry Natural Flow (maf)

→

Most Informative Characteristics

- Minimum 20-Year-Average Lees Ferry Natural Flow (maf)
- Minimum 10-Year-Average Lees Ferry Natural Flow (maf)

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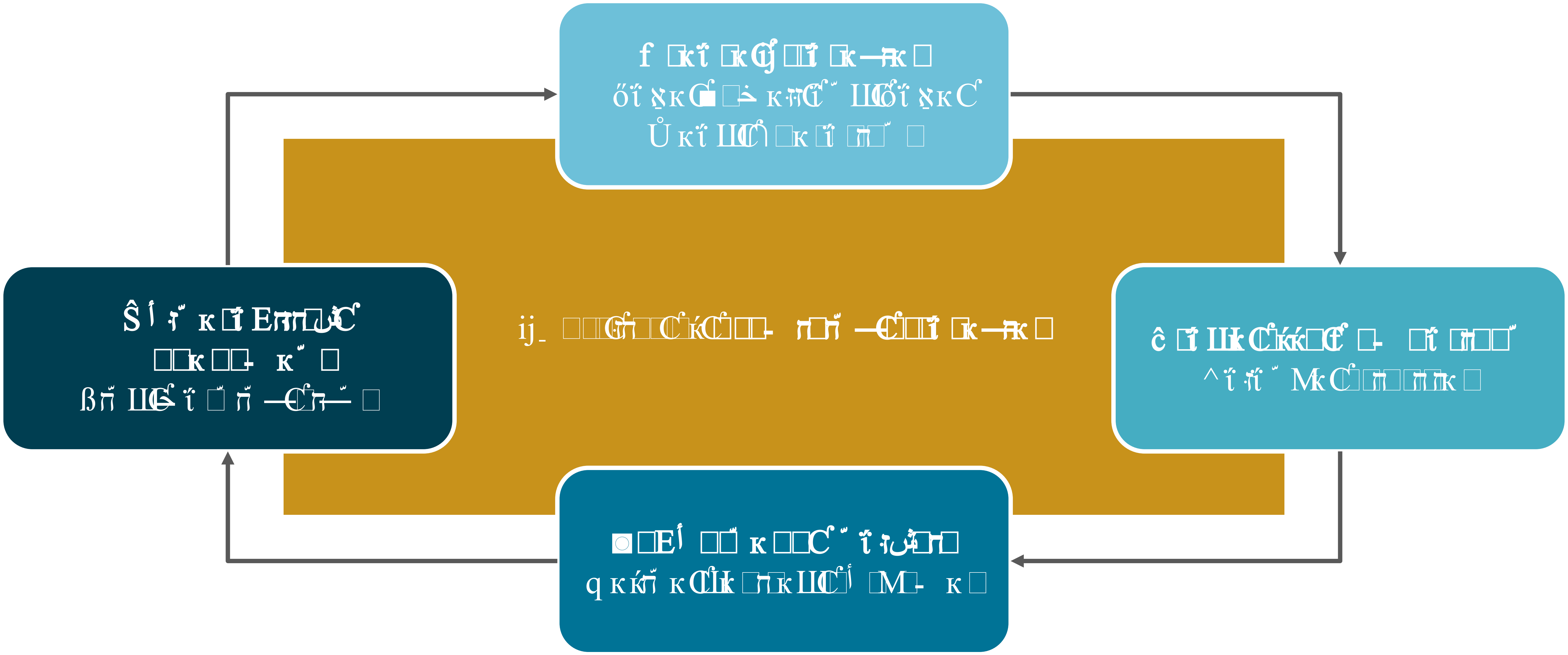
Vulnerability Map



COLORADO RIVER BASIN POST-2026 OPERATIONS

EXPLORATION TOOL

VIRGA LABS