AGENDA

IDAHO WATER RESOURCE BOARD

Aquifer Stabilization Committee Meeting No. 1-25
February 18, 2025
9:00 AM (MT) / 8:00 AM (PT)

Water Center
Conference Rooms 602 C & D
322 E. Front St.
BOISE

Livestream available at https://www.youtube.com/@iwrb

1. Introductions and Attendance
2. ESPA Managed Recharge Program Update
3. IWRB Recharge Water Availability Analysis—350,000 acre-feet Proposed Goal
4. IDWR Injection Well Processing
5. Other Items
6. Adjourn

Committee Members: Chair Dean Stevenson, Al Barker, Brian Olmstead, and Pat McMahon.

* Action Item: A vote regarding this item may be made at this meeting. Identifying an item as an action item on the agenda does not require a vote to be taken on the item.

Americans with Disabilities
The meeting will be held in person and online. If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email jennifer.strange@idwr.idaho.gov or by phone at (208) 287-4800.

IDAHO
Water Resource Board

ESPA Managed Aquifer Recharge Program

Aquifer Stabilization Committee Meeting

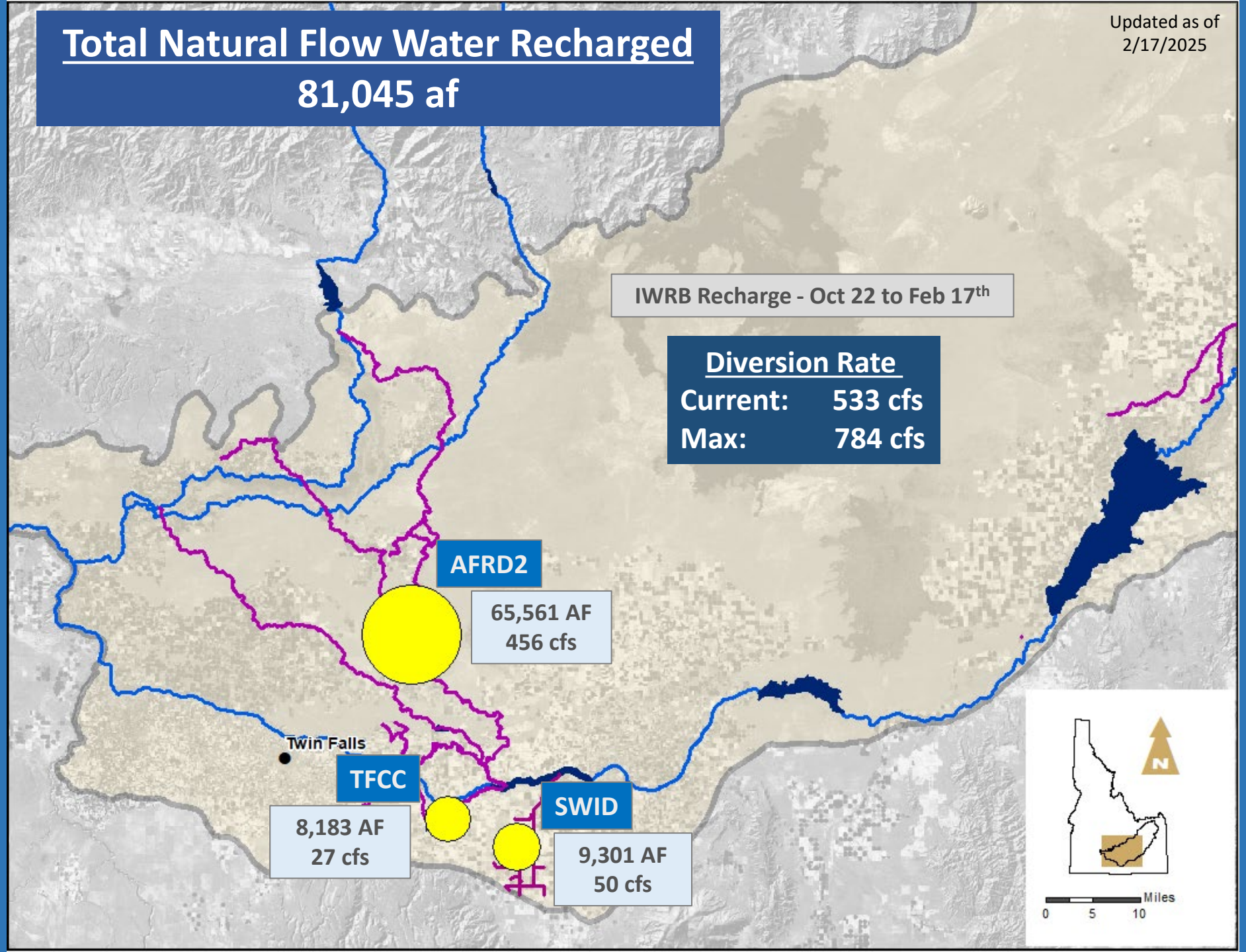
Wesley Hipke
IDWR Water Projects Section Manager

February 18 , 2025

Total Natural Flow Water Recharged

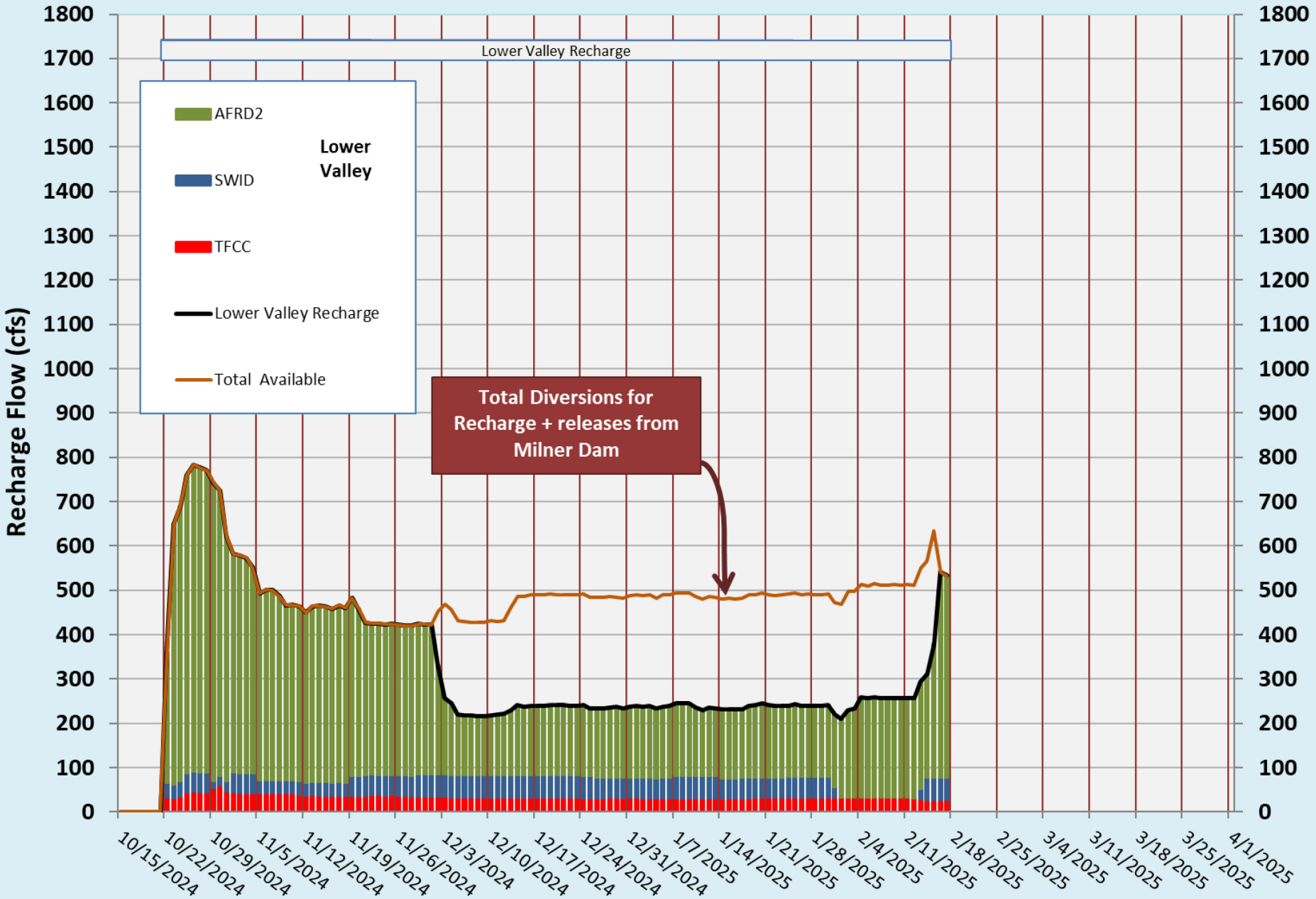
81,045 af

Updated as of 2/17/2025



IWRB Natural Flow Recharge - 2024/2025 Season

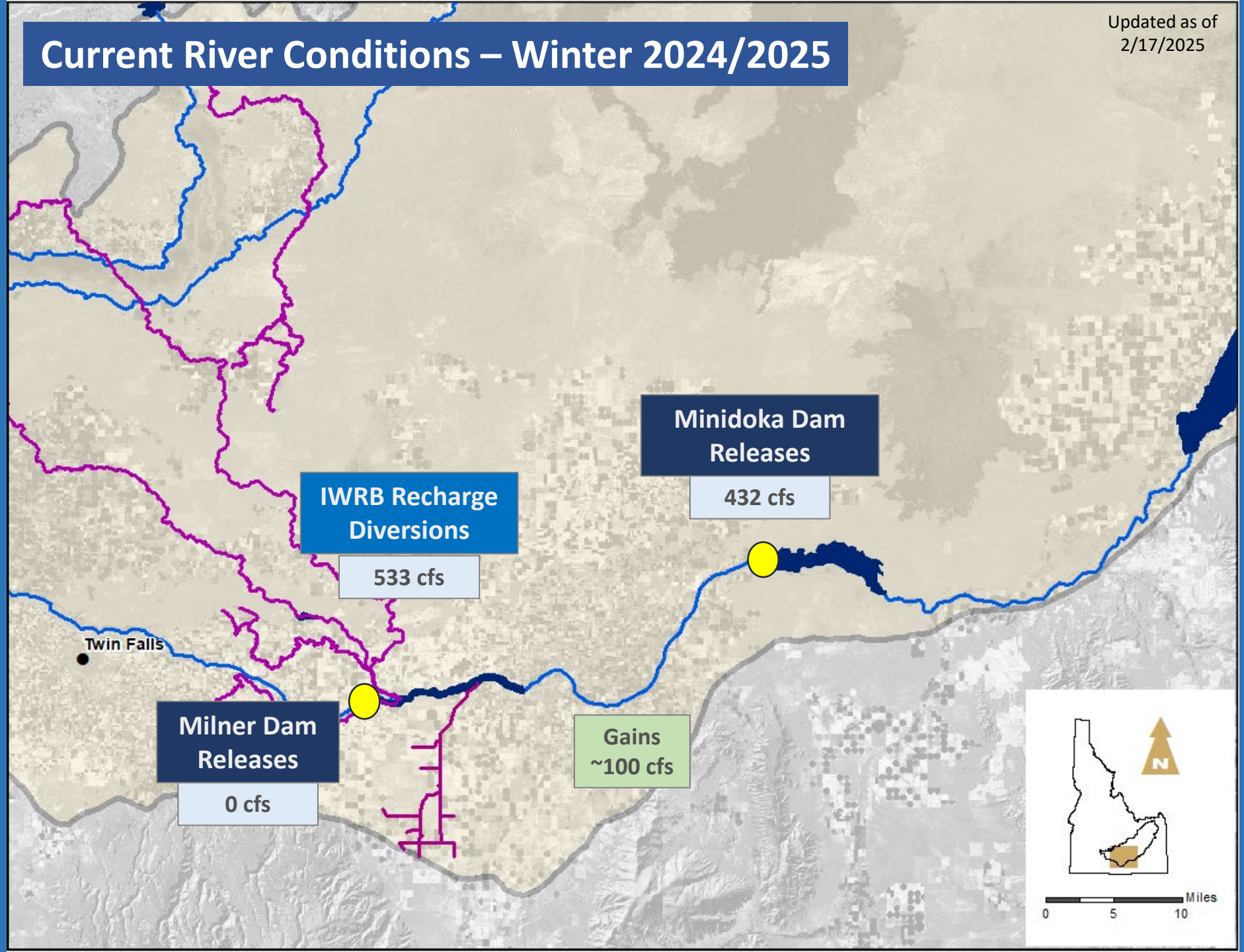
Total Volume of Recharge = **81,045** af (October 22, 2024 - February 17, 2025)



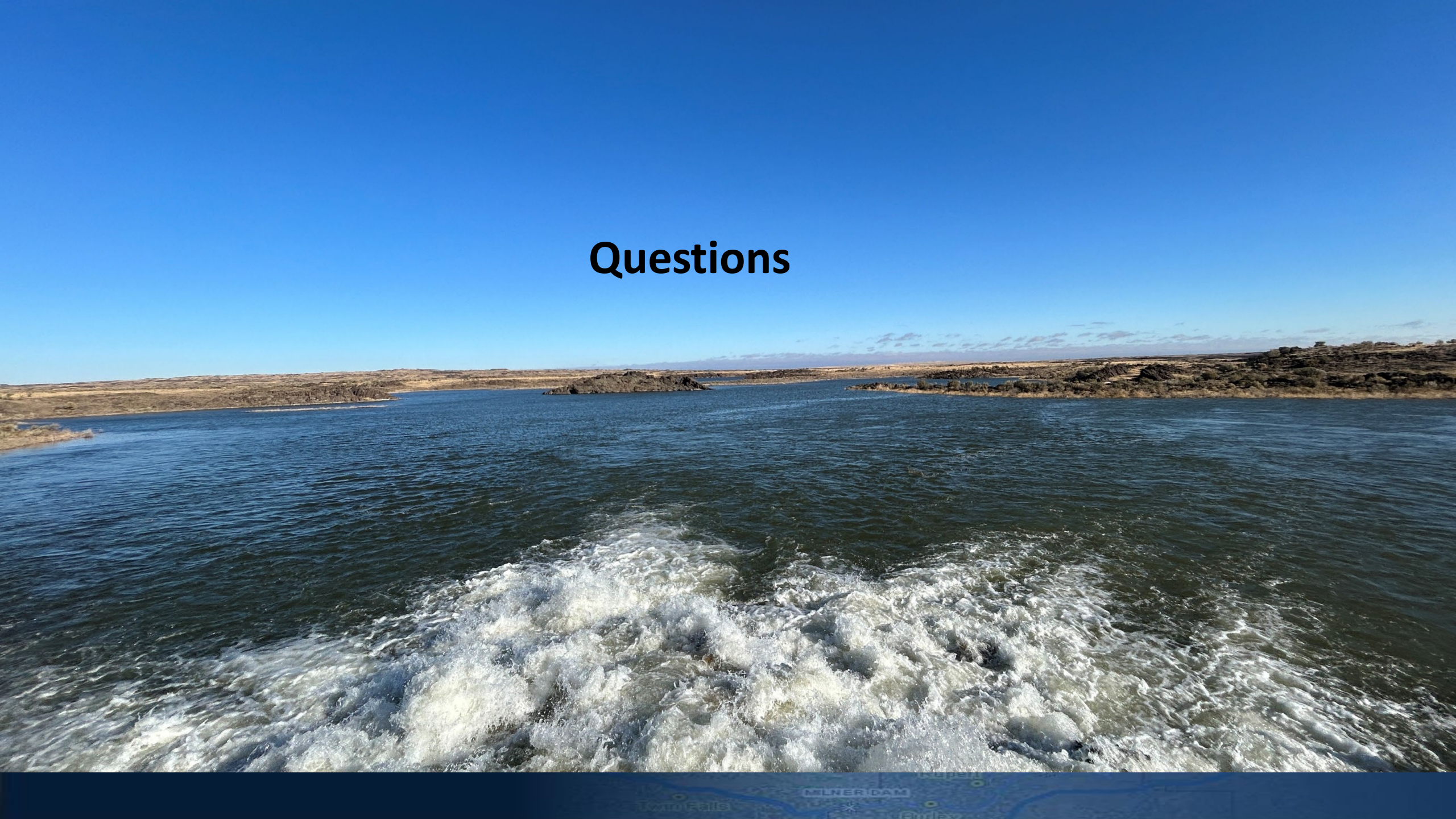
Preliminary Data

Current River Conditions – Winter 2024/2025

Updated as of 2/17/2025



Questions



Recharge Potential at Milner

David Hoekema, Ph.D., Hydrologist, IDWR
2/18/2025

Photos taken April 19, 2024

History of the ESPA

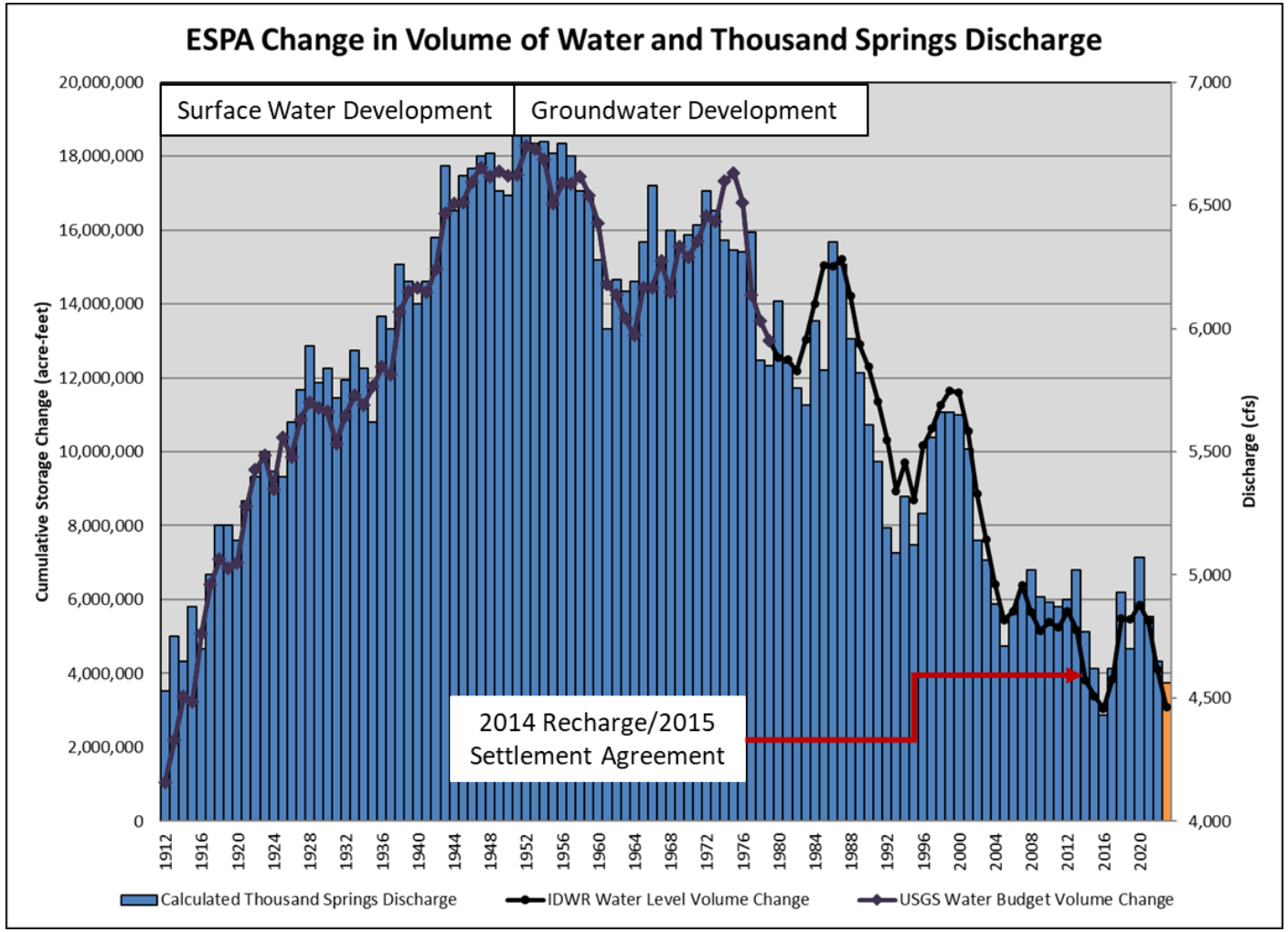
1905 Milner Dam
1906 Minidoka Dam

1940 Groundwater Development begins

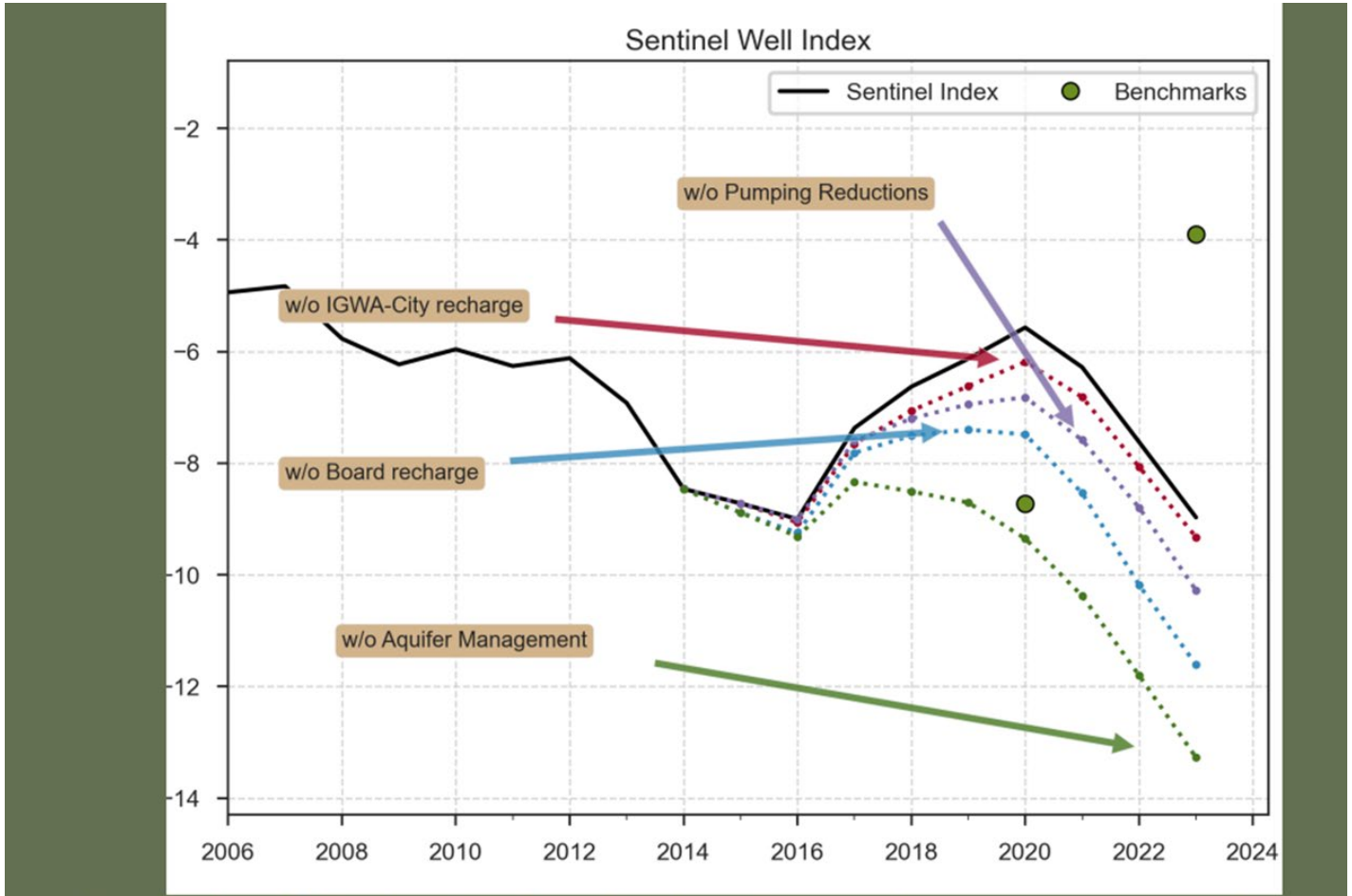
1992 Moratorium on new Groundwater Development

2014 Aquifer Recharge Program begins in earnest
-goal 250,000 ac-ft

2015 Settlement Agreement
-Groundwater cutbacks
-goal 240,000 ac-ft

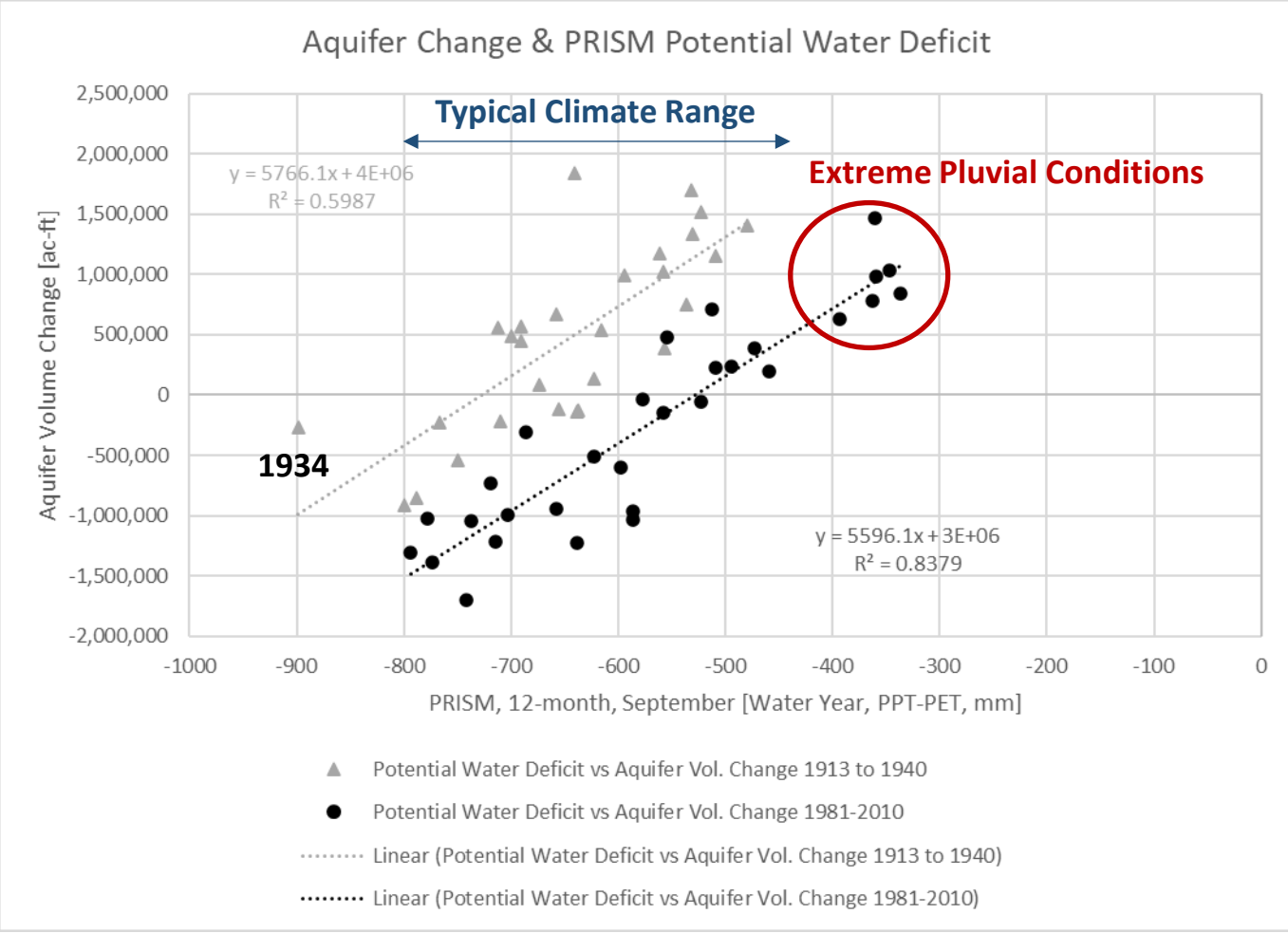


We have changed the trajectory of the ESPA again!

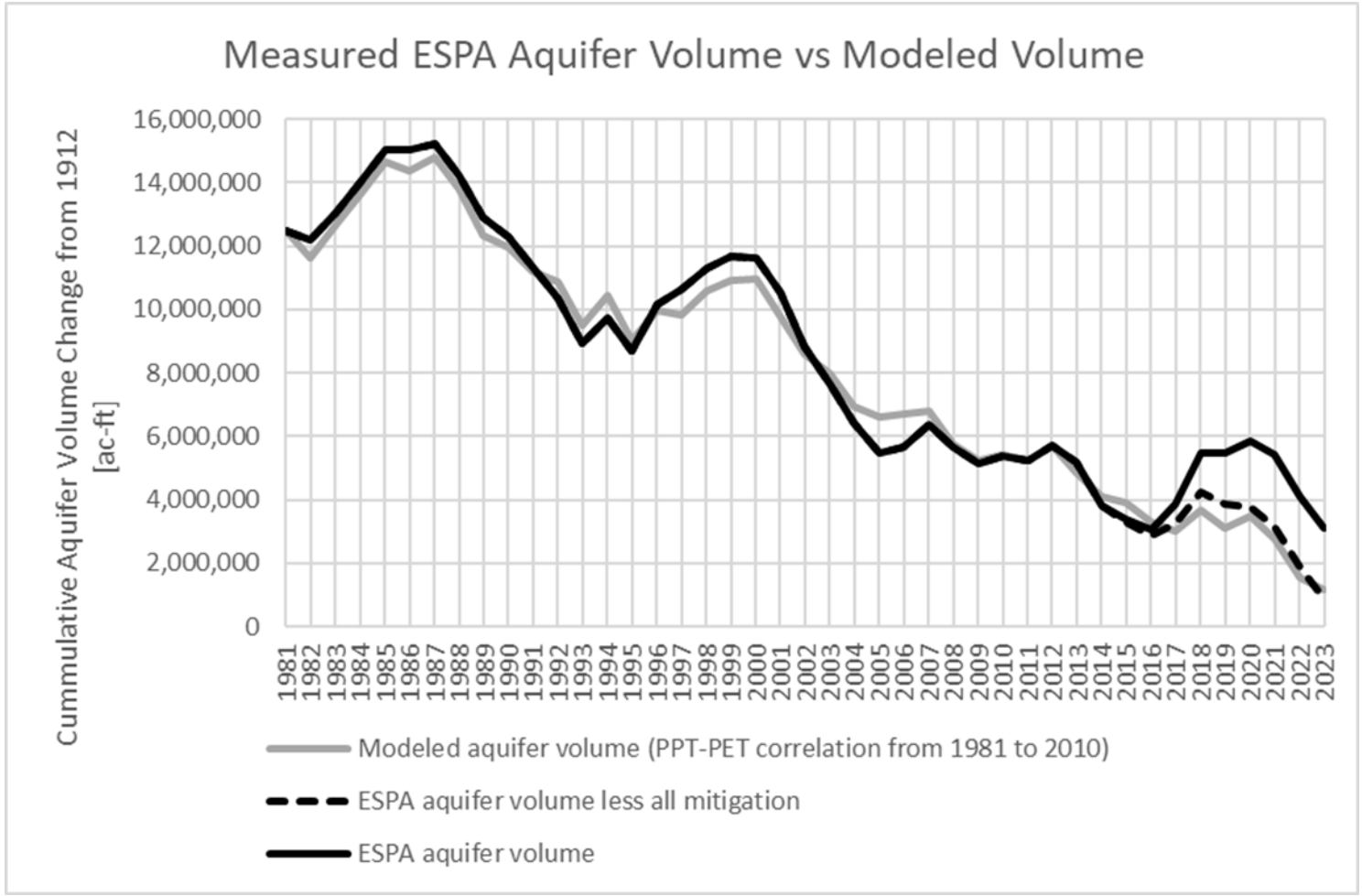


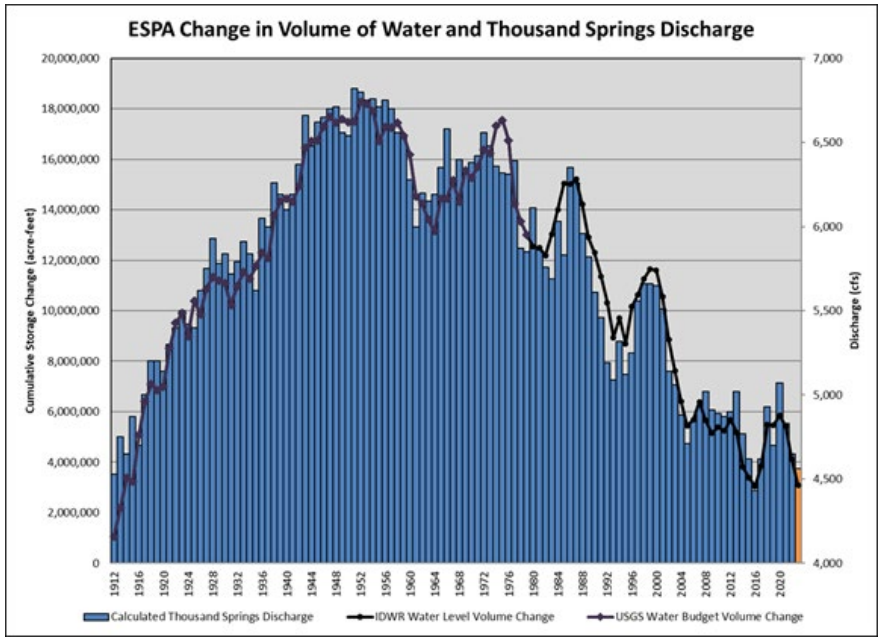
- Sentinel well index 4.3 feet higher with recharge and conservation

How does climate impact the ESPA?

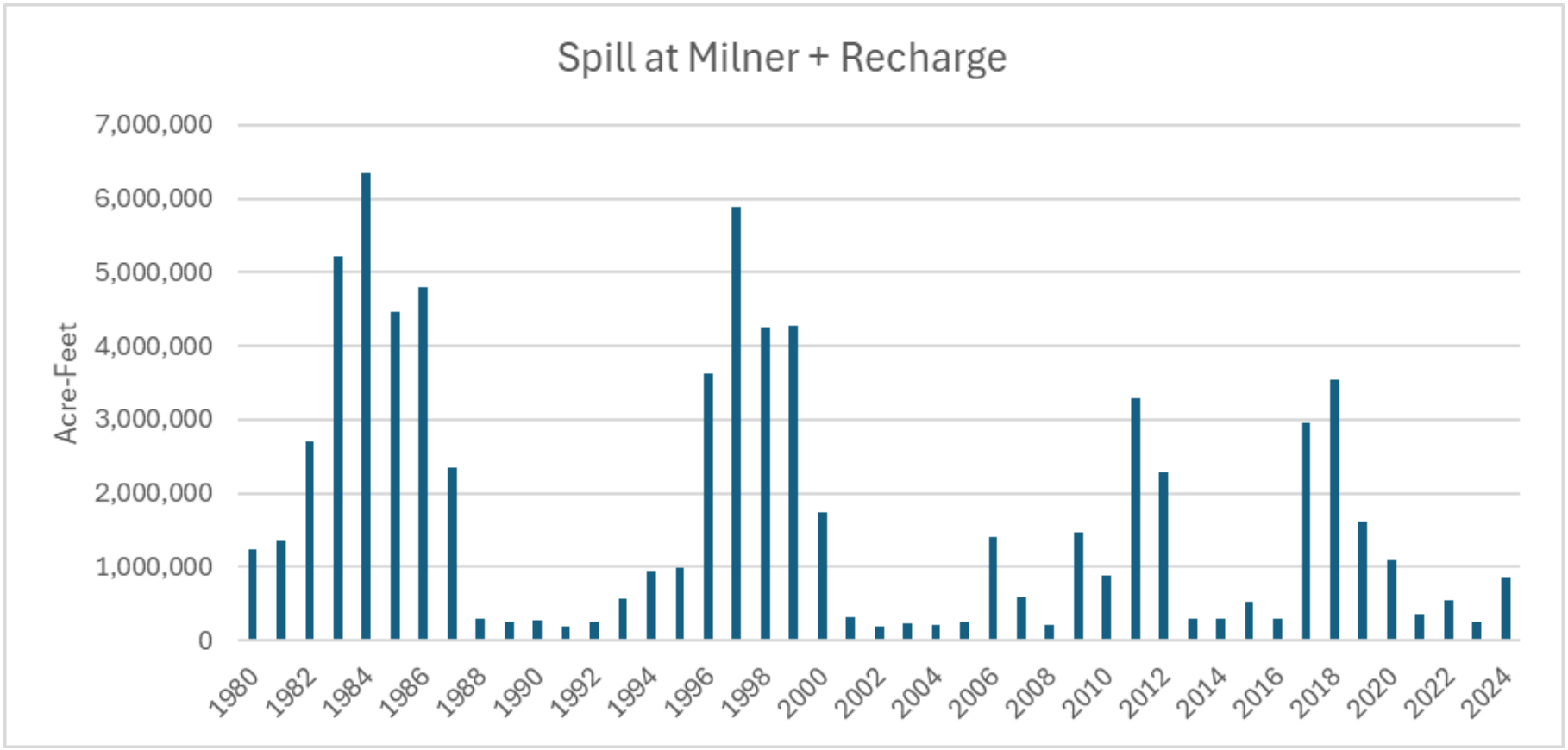


Climate analysis confirms ESPAM Results

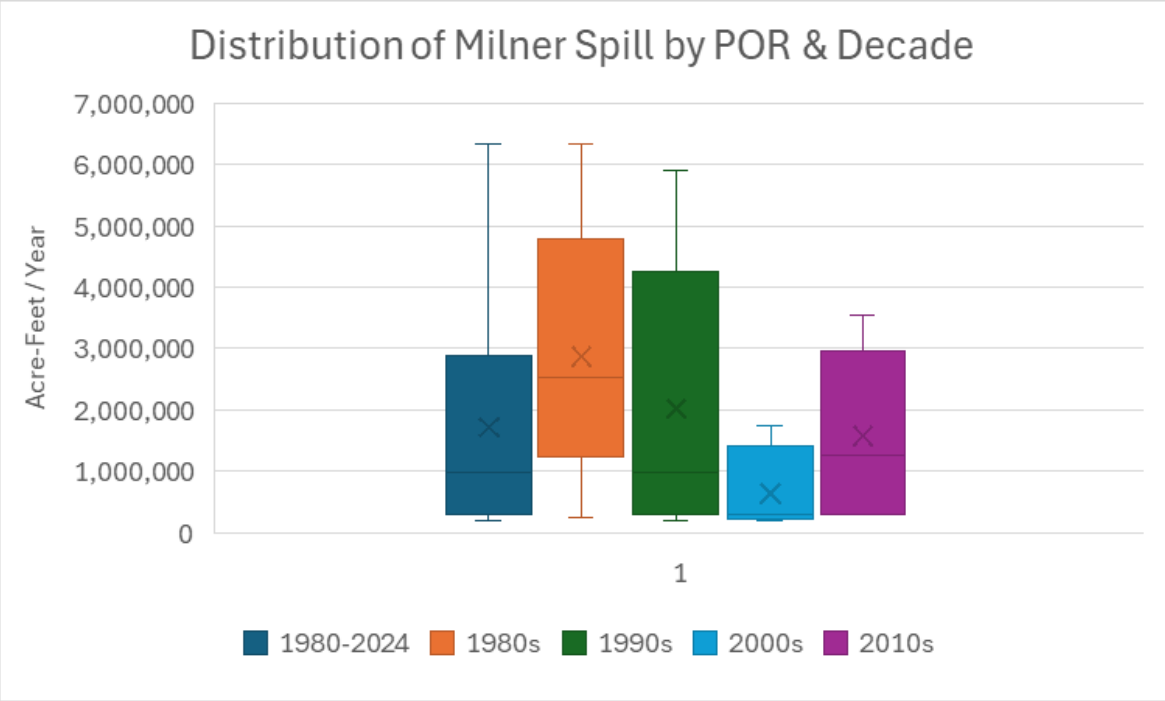




Water Supply Available at Milner

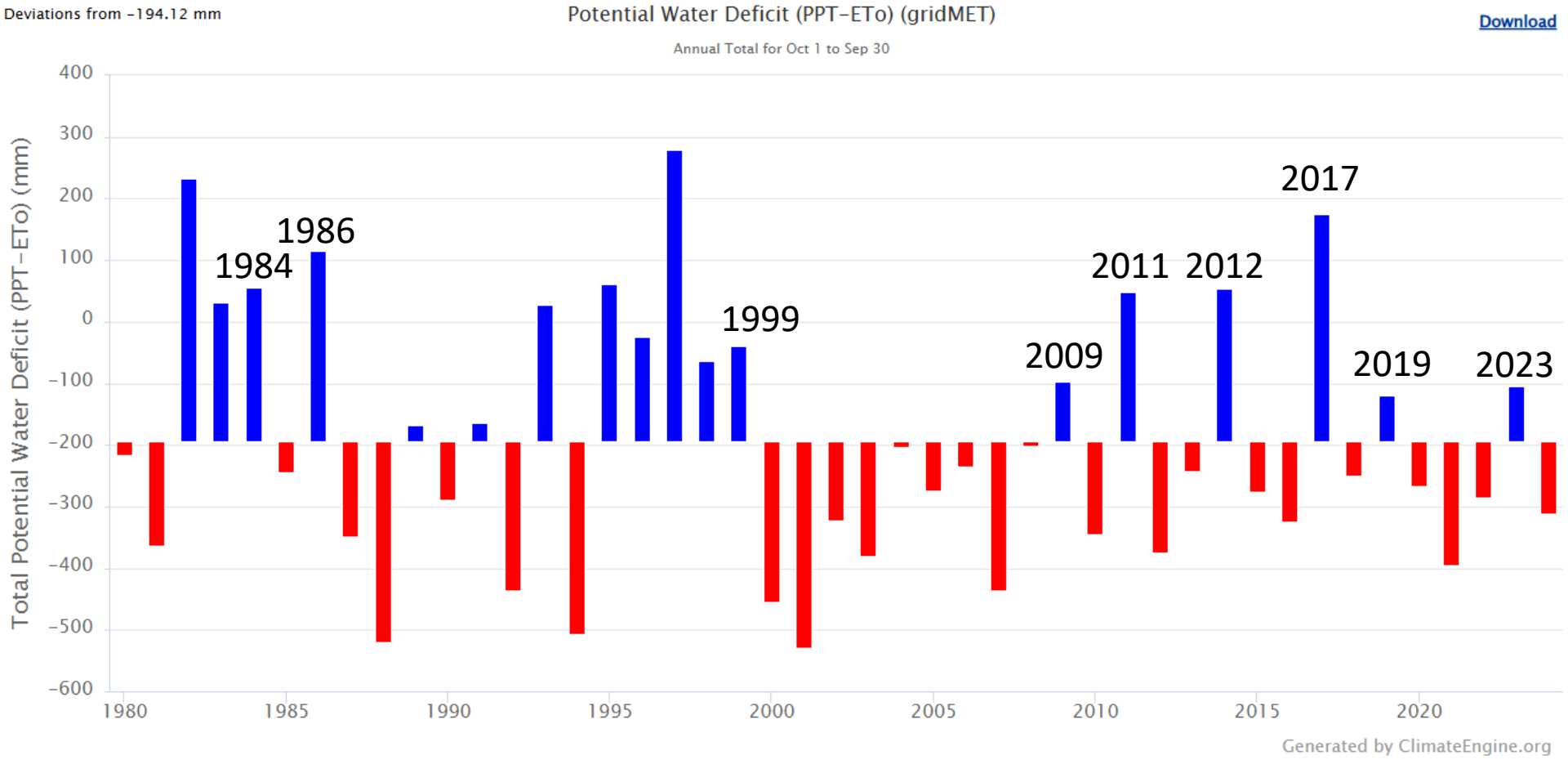


Water Supply Available at Milner

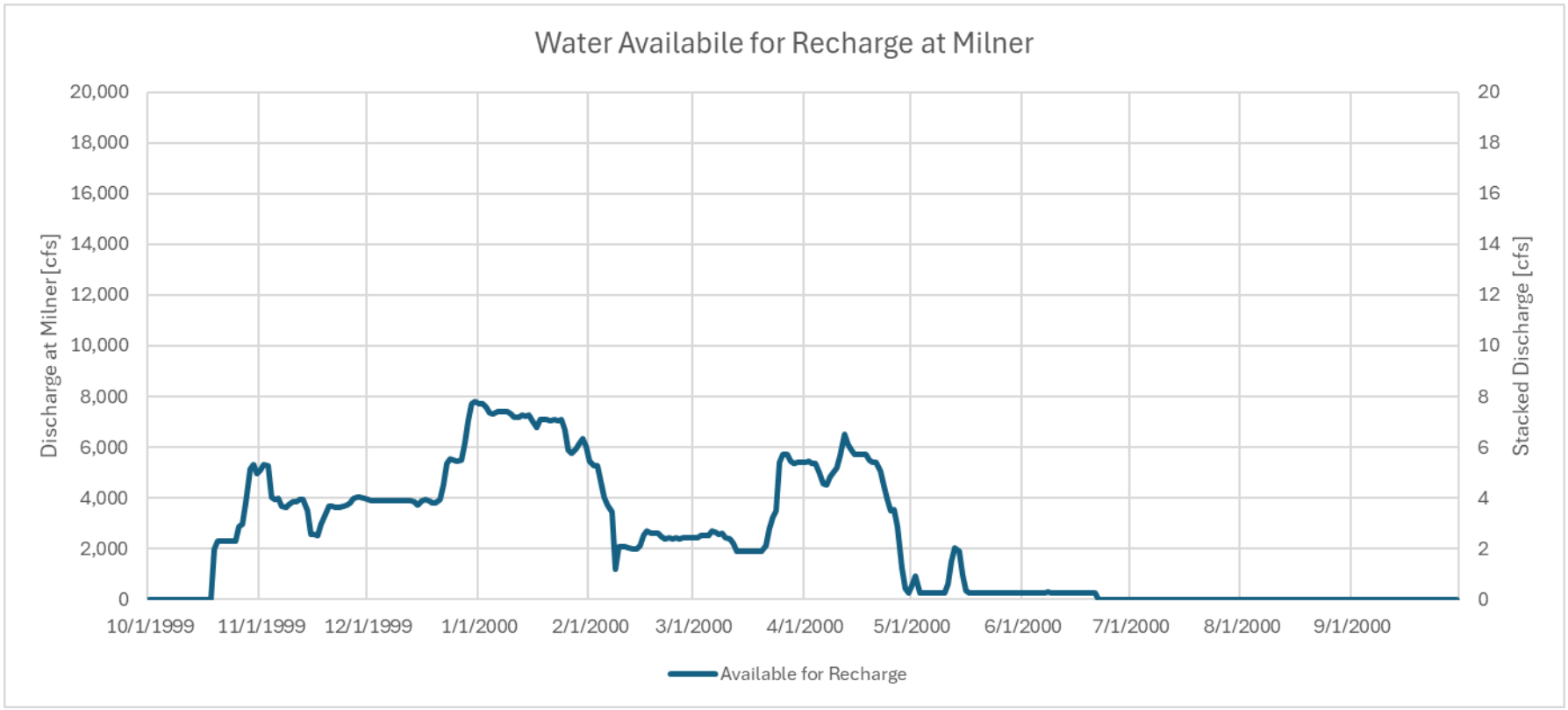


	1980-2024	1980s	1990s	2000s	2010s
Average	1,692,192	2,902,428	2,130,019	668,642	1,603,455
Median	957,076	2,521,350	974,691	290,935	1,250,886

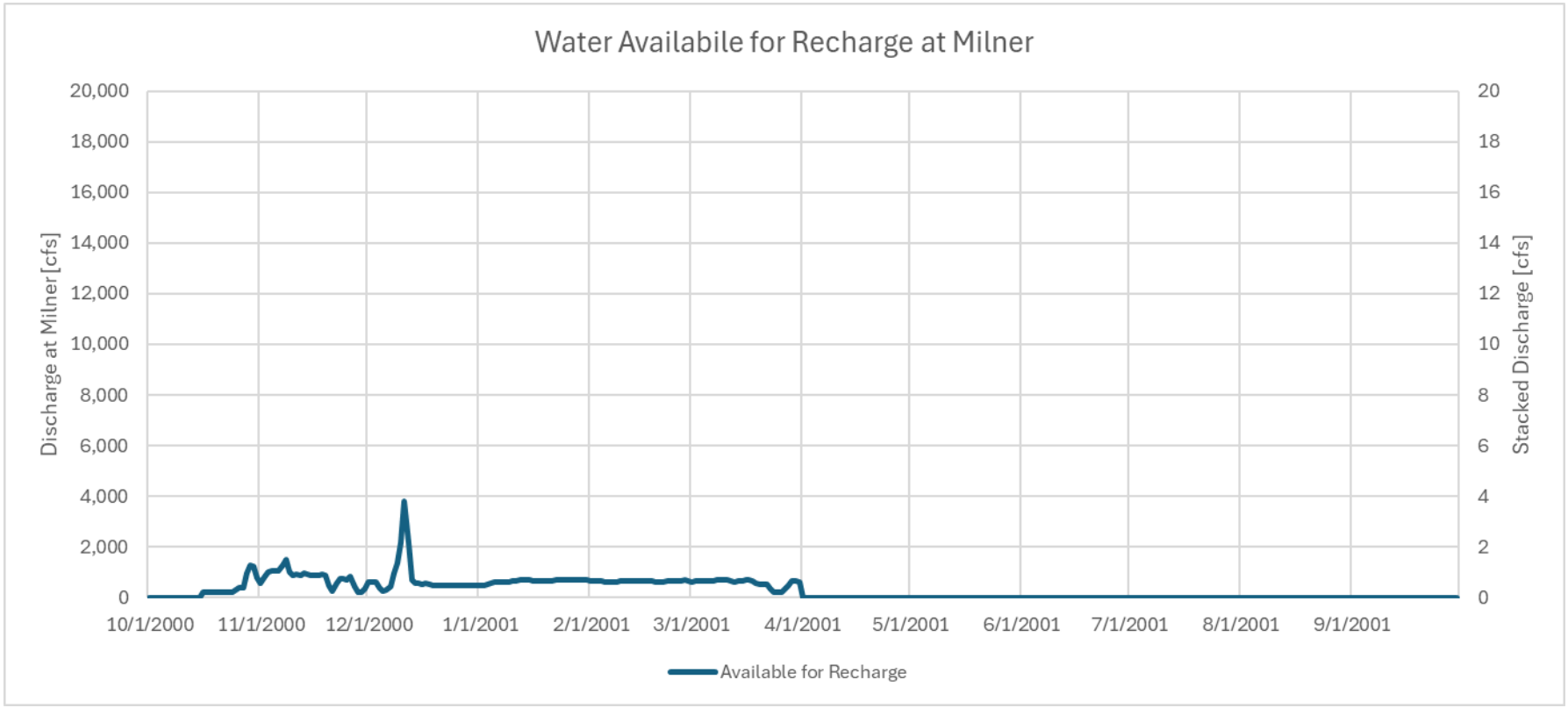
Climate of the Snake Basin 1980-2024



Water Supply Available at Milner 2000



Water Supply Available at Milner 2001



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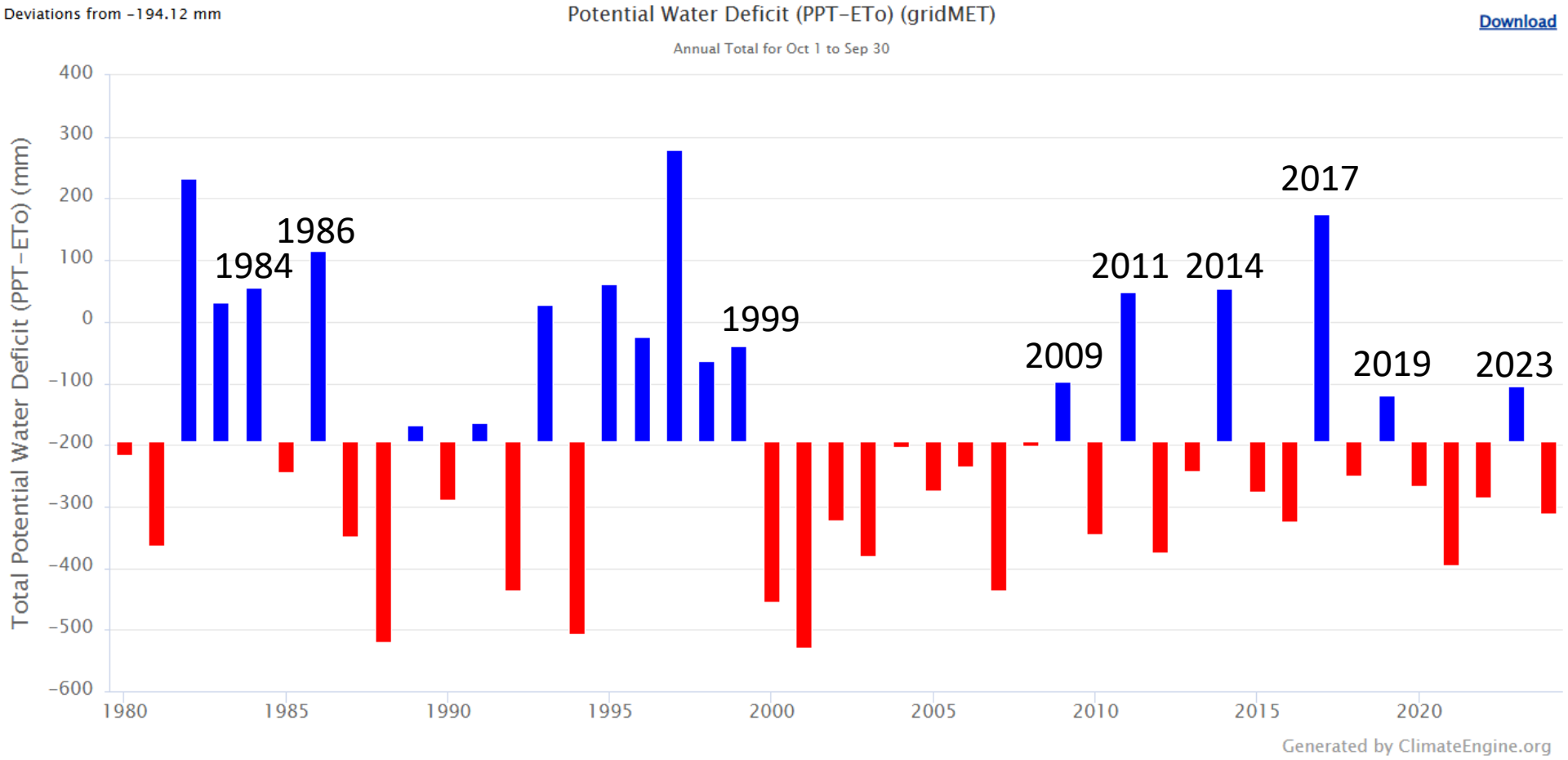
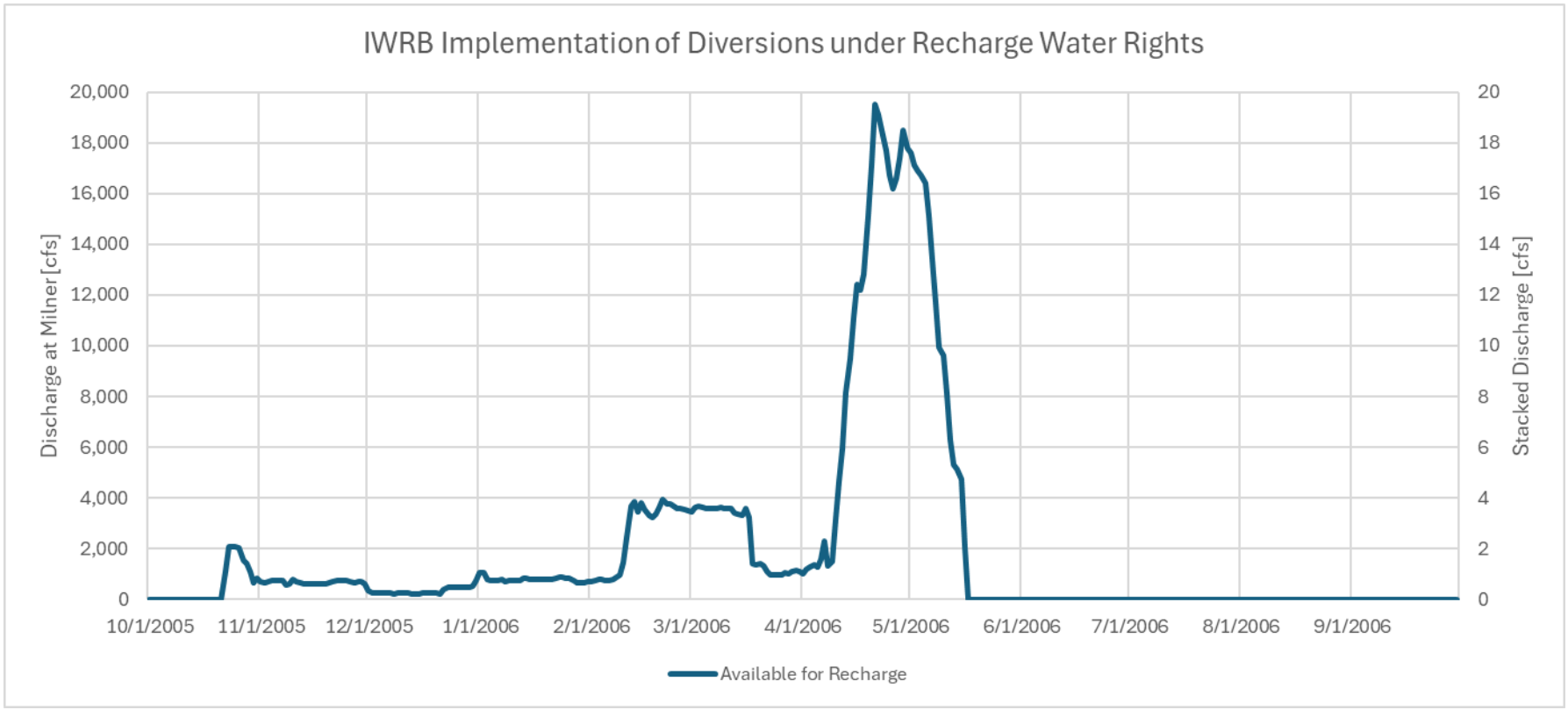
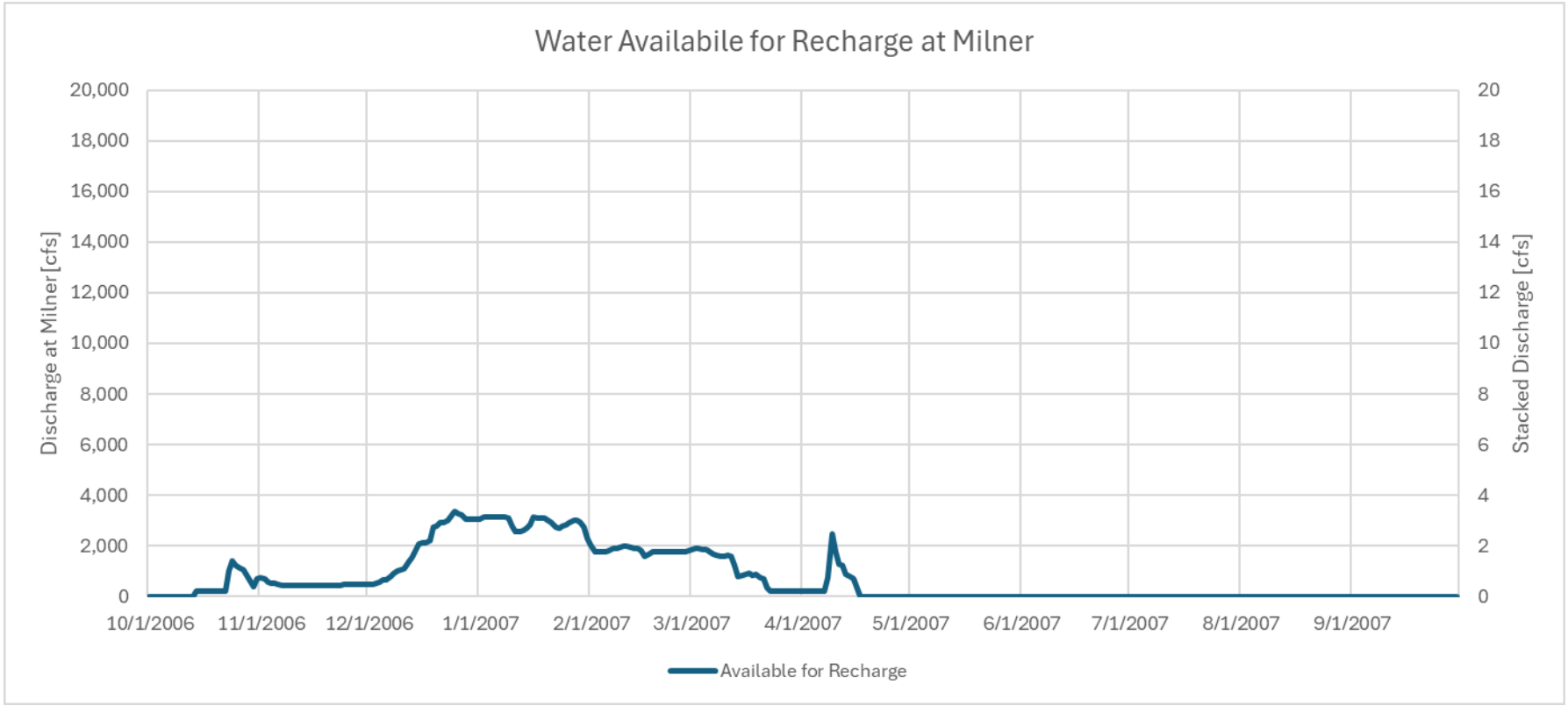


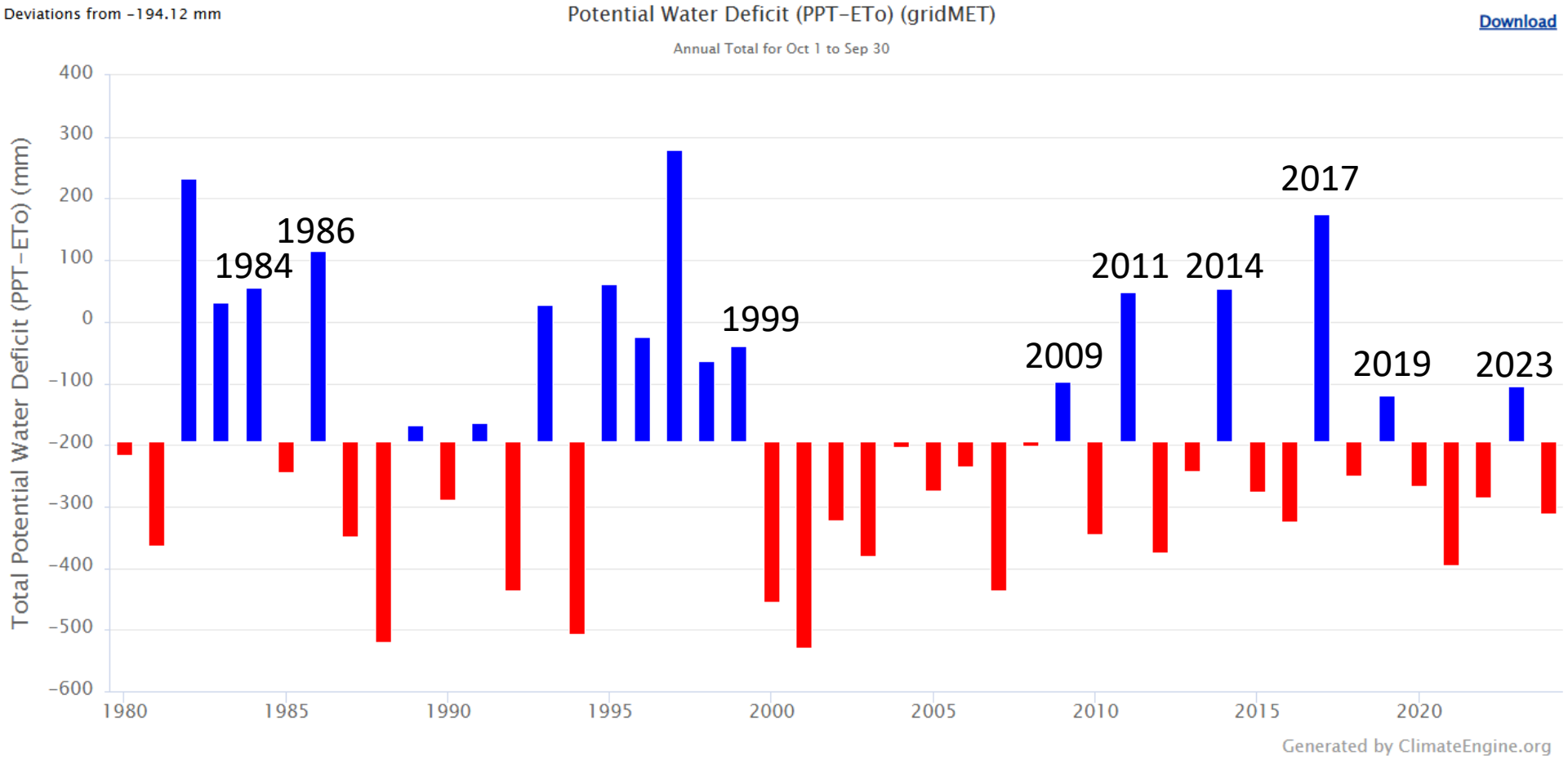
Water Supply Available at Milner 2006



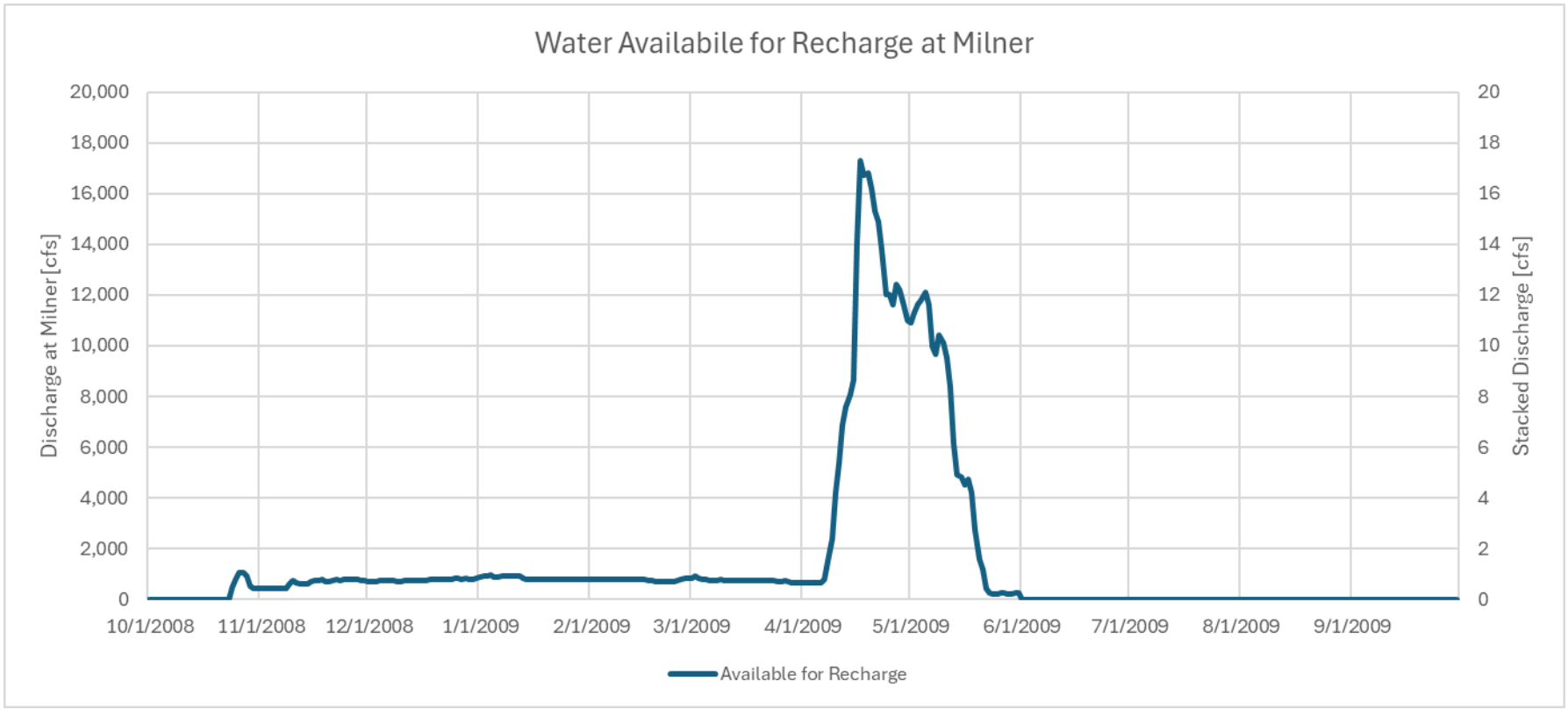
Water Supply Available at Milner 2007



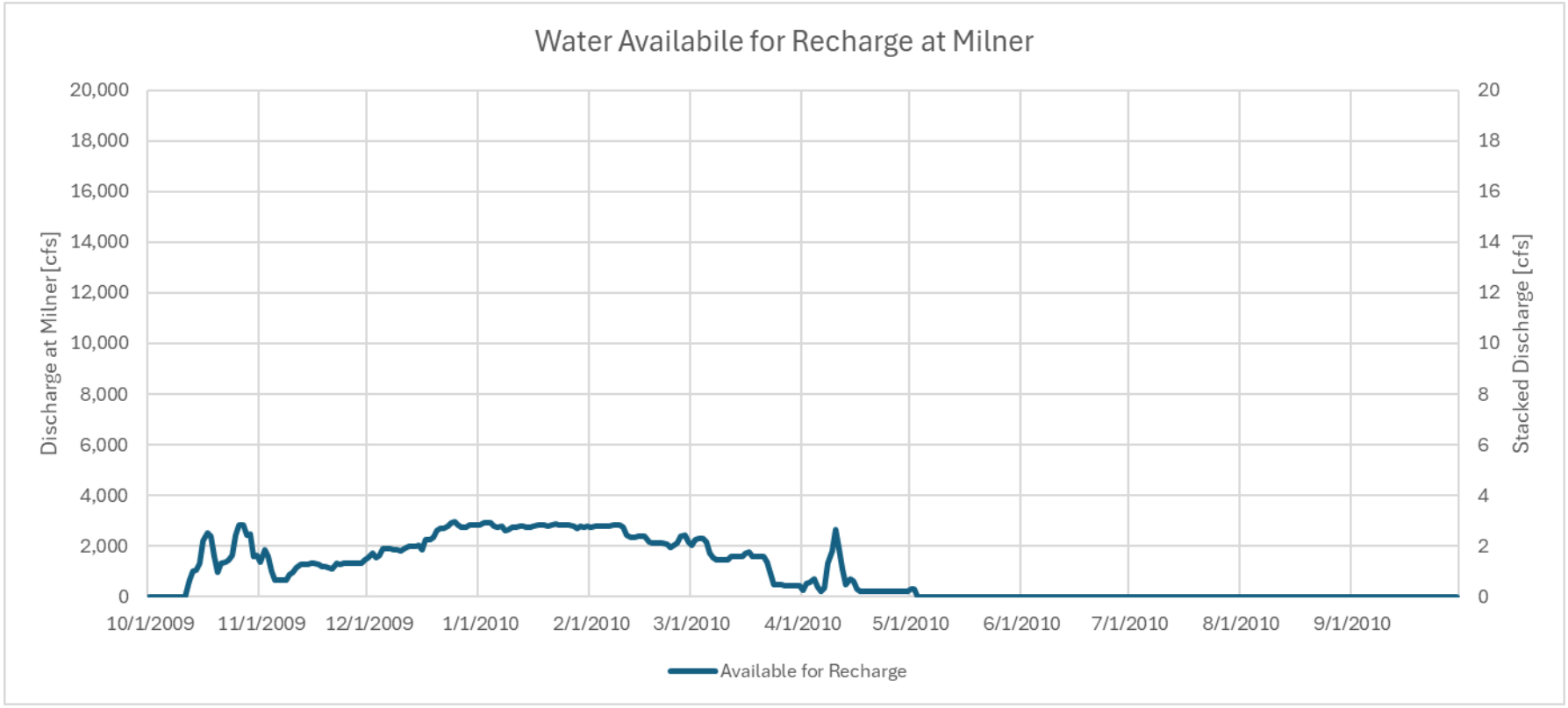
Climate of the Snake Basin 1980-2024



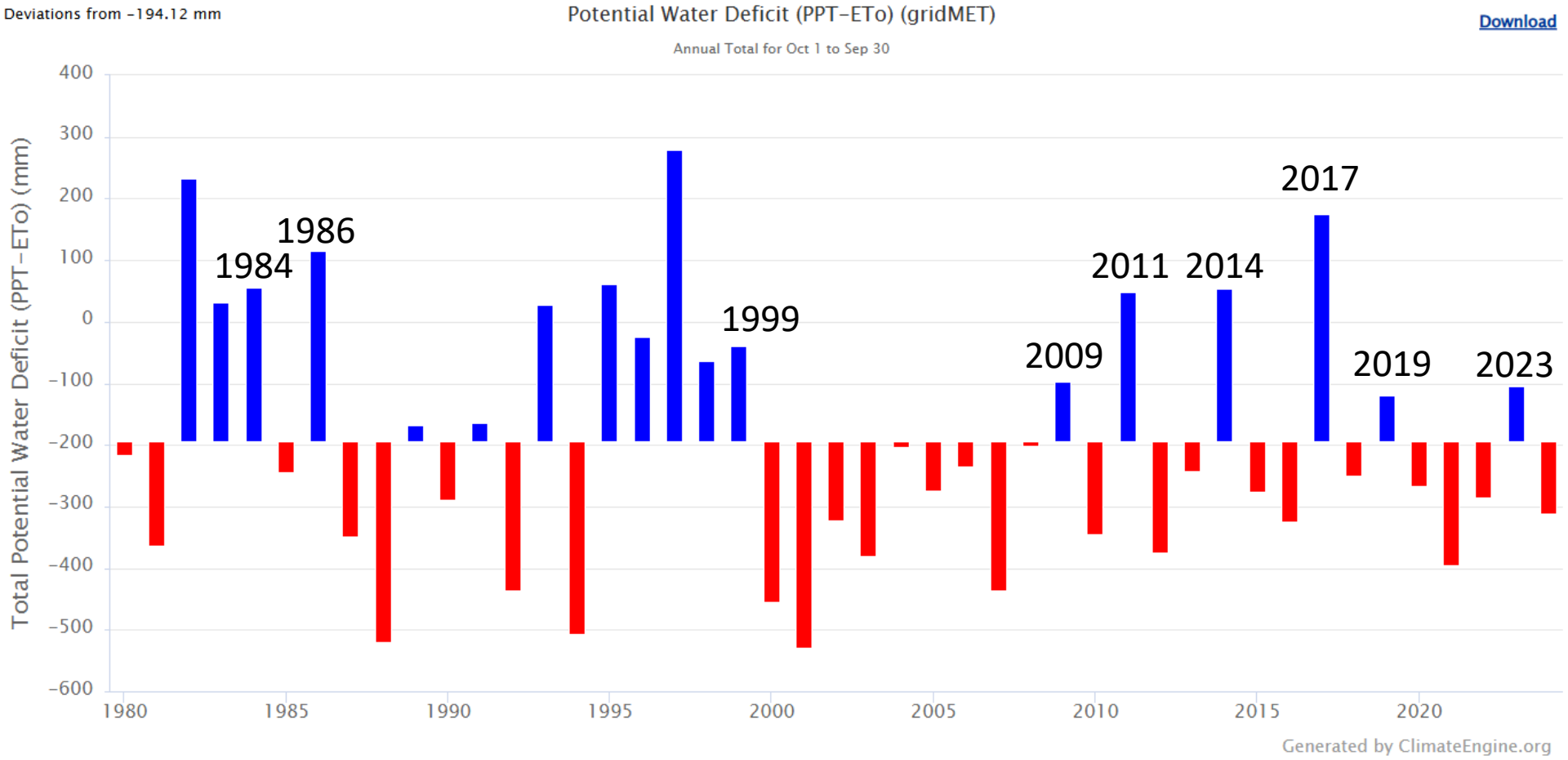
Water Supply Available at Milner 2009



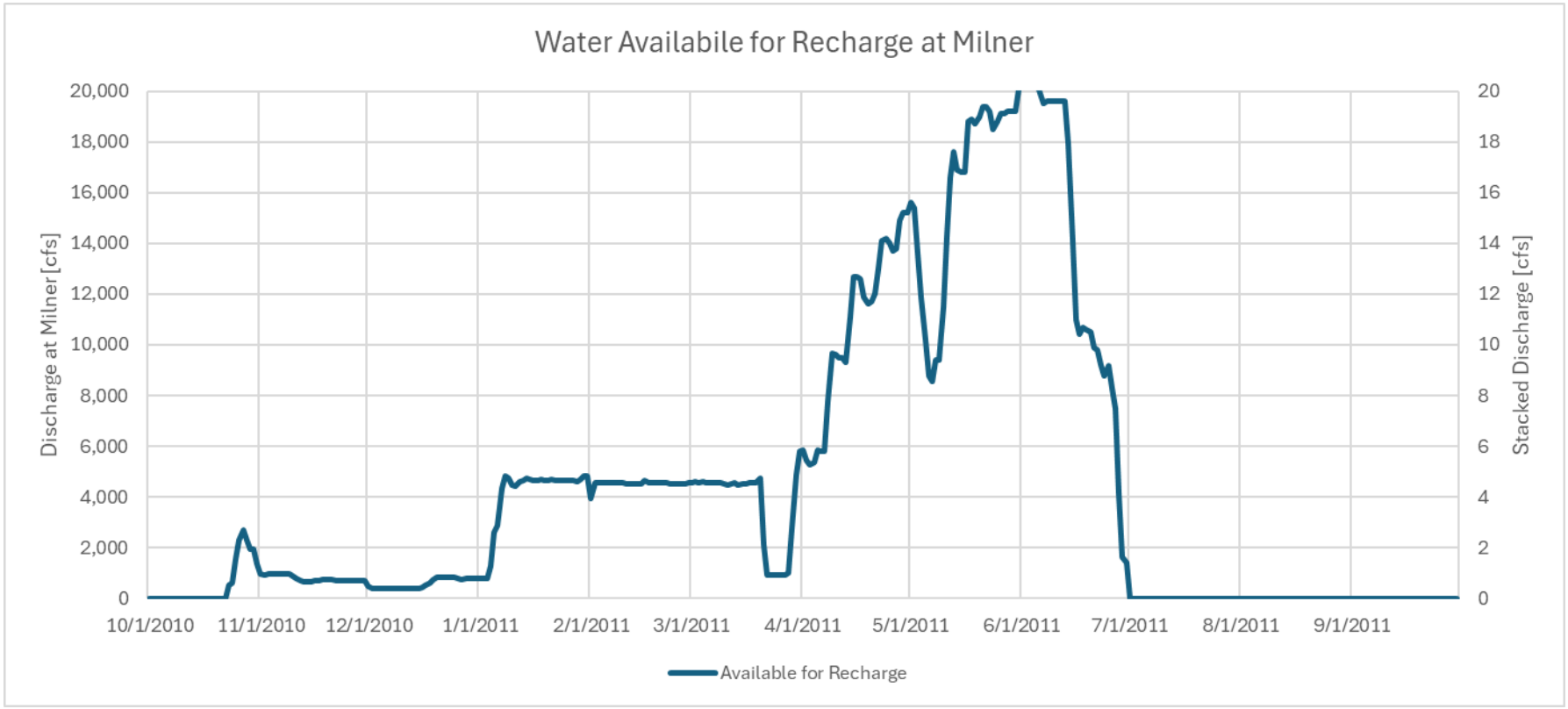
Water Supply Available at Milner 2010



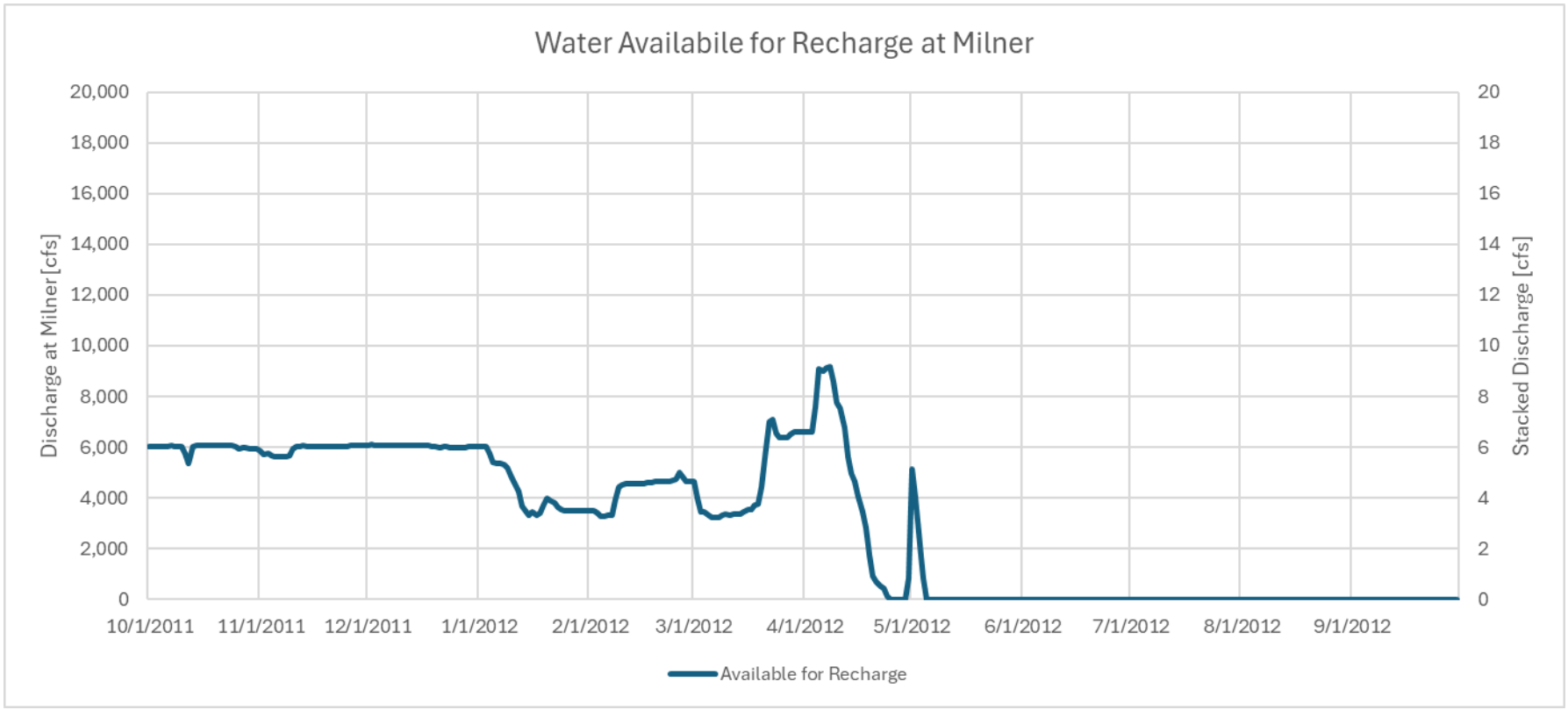
Climate of the Snake Basin 1980-2024



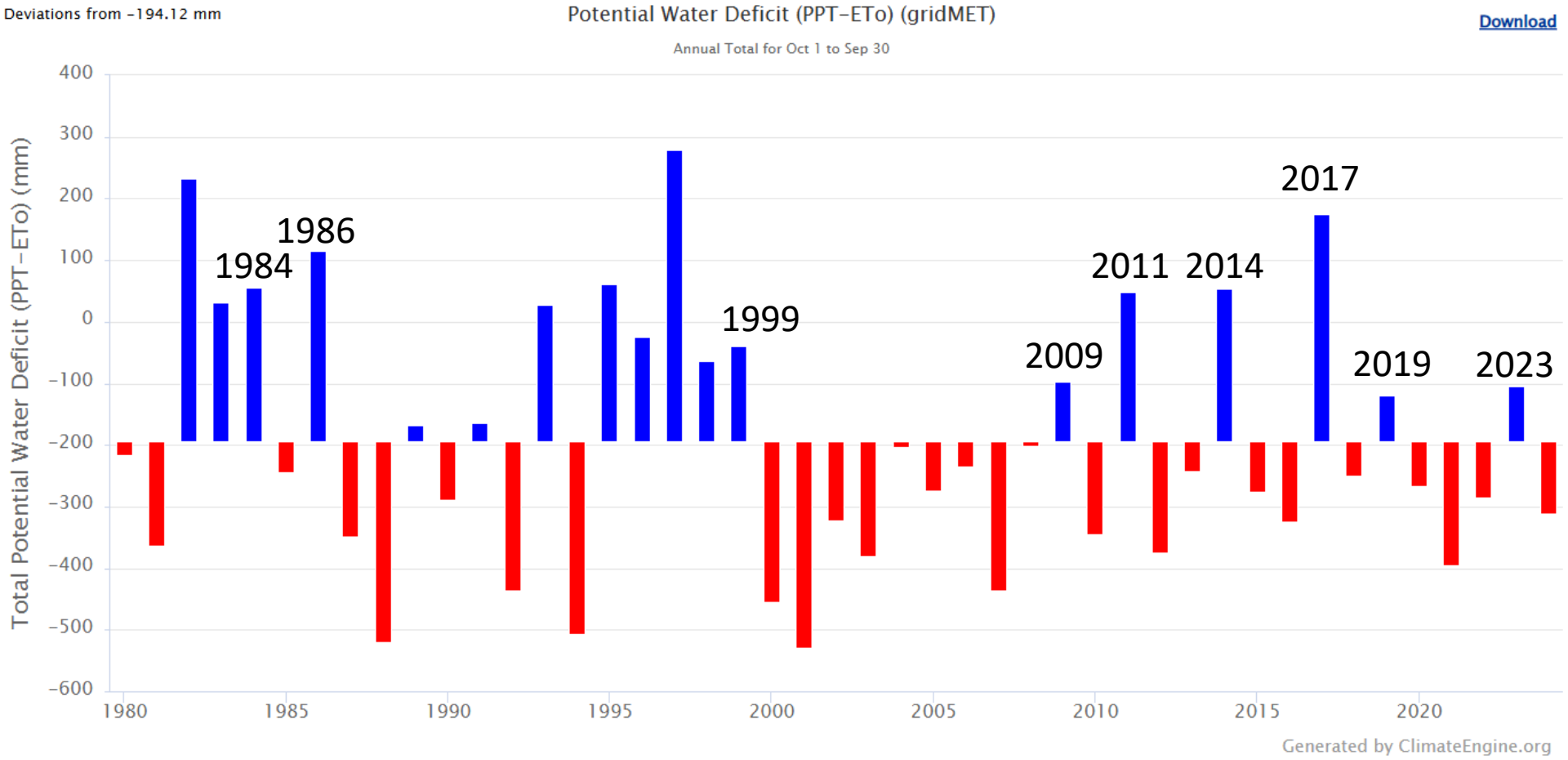
Water Supply Available at Milner 2011



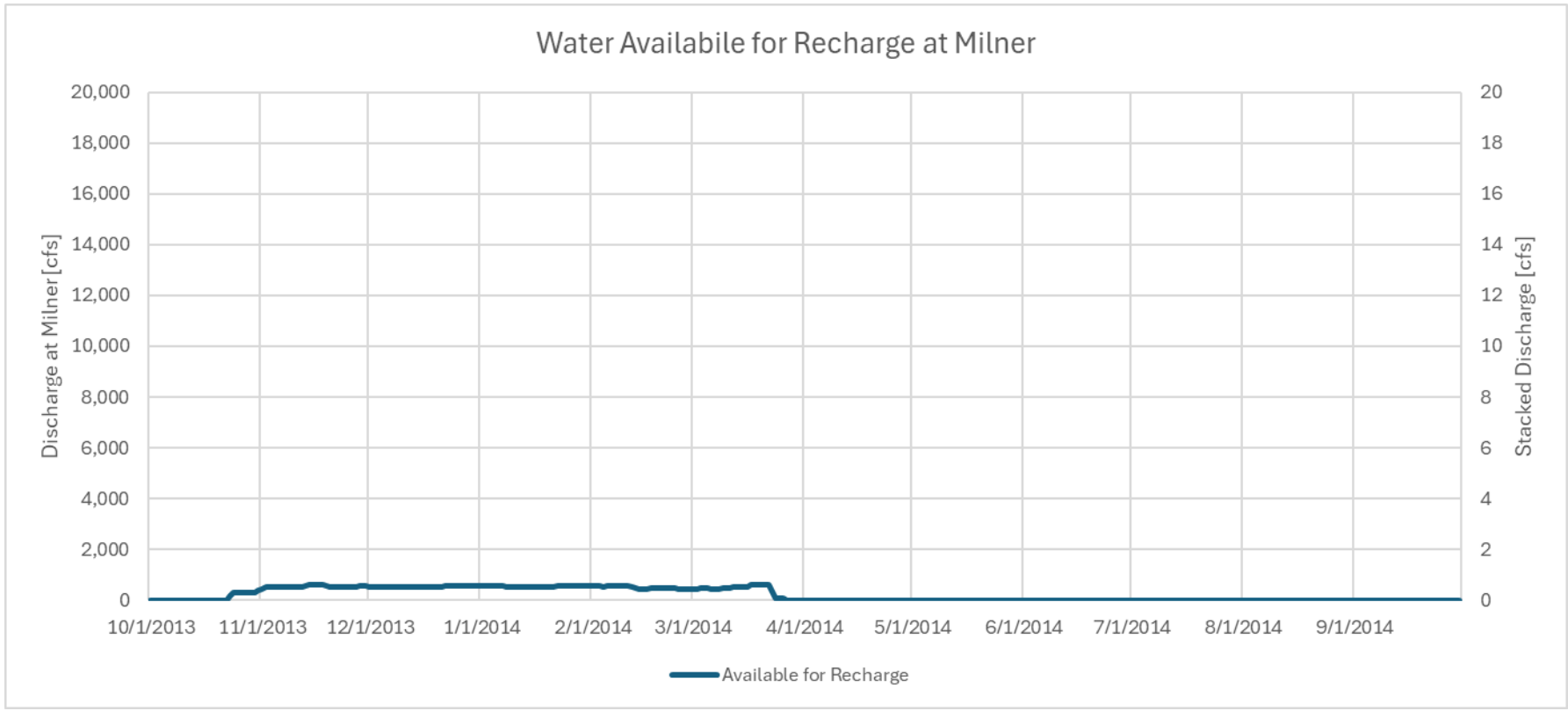
Water Supply Available at Milner 2012



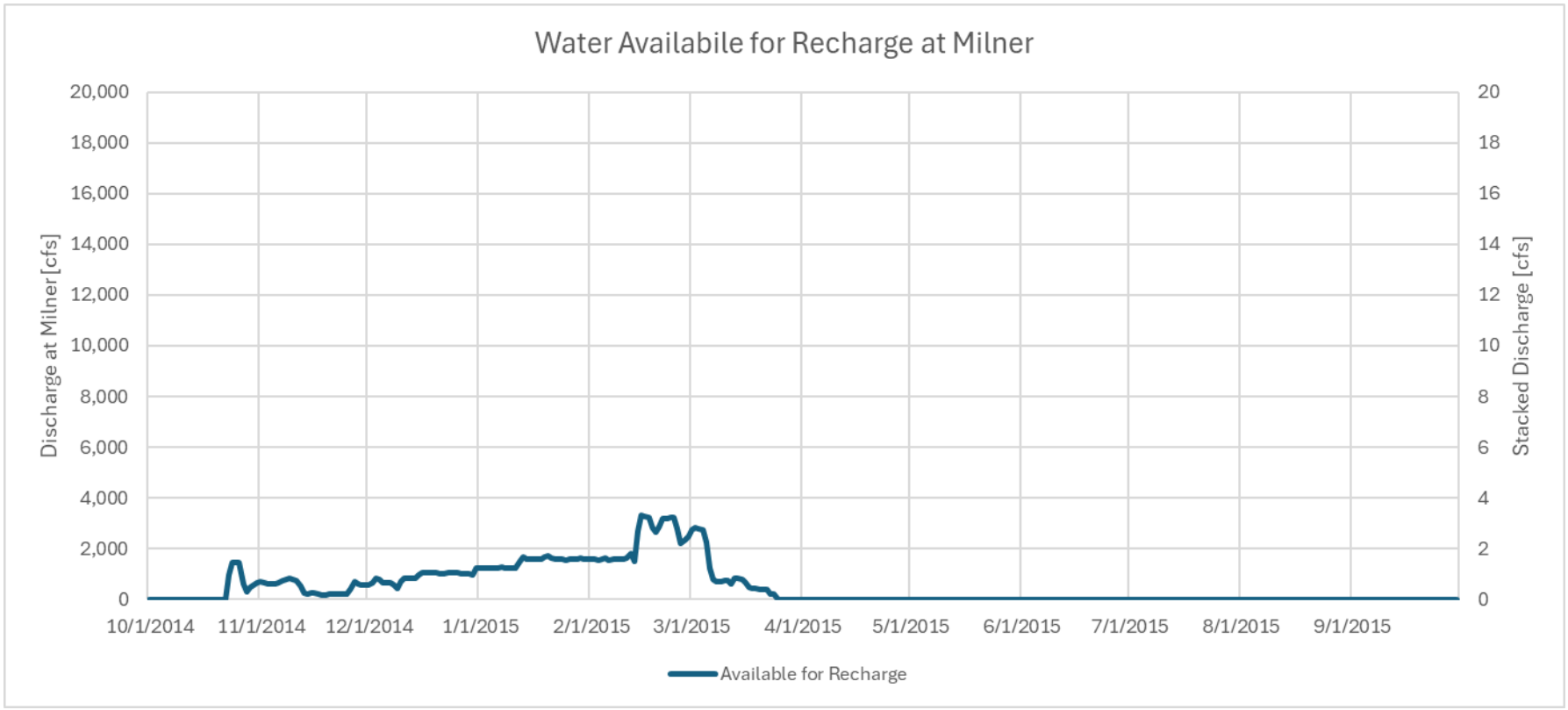
Climate of the Snake Basin 1980-2024



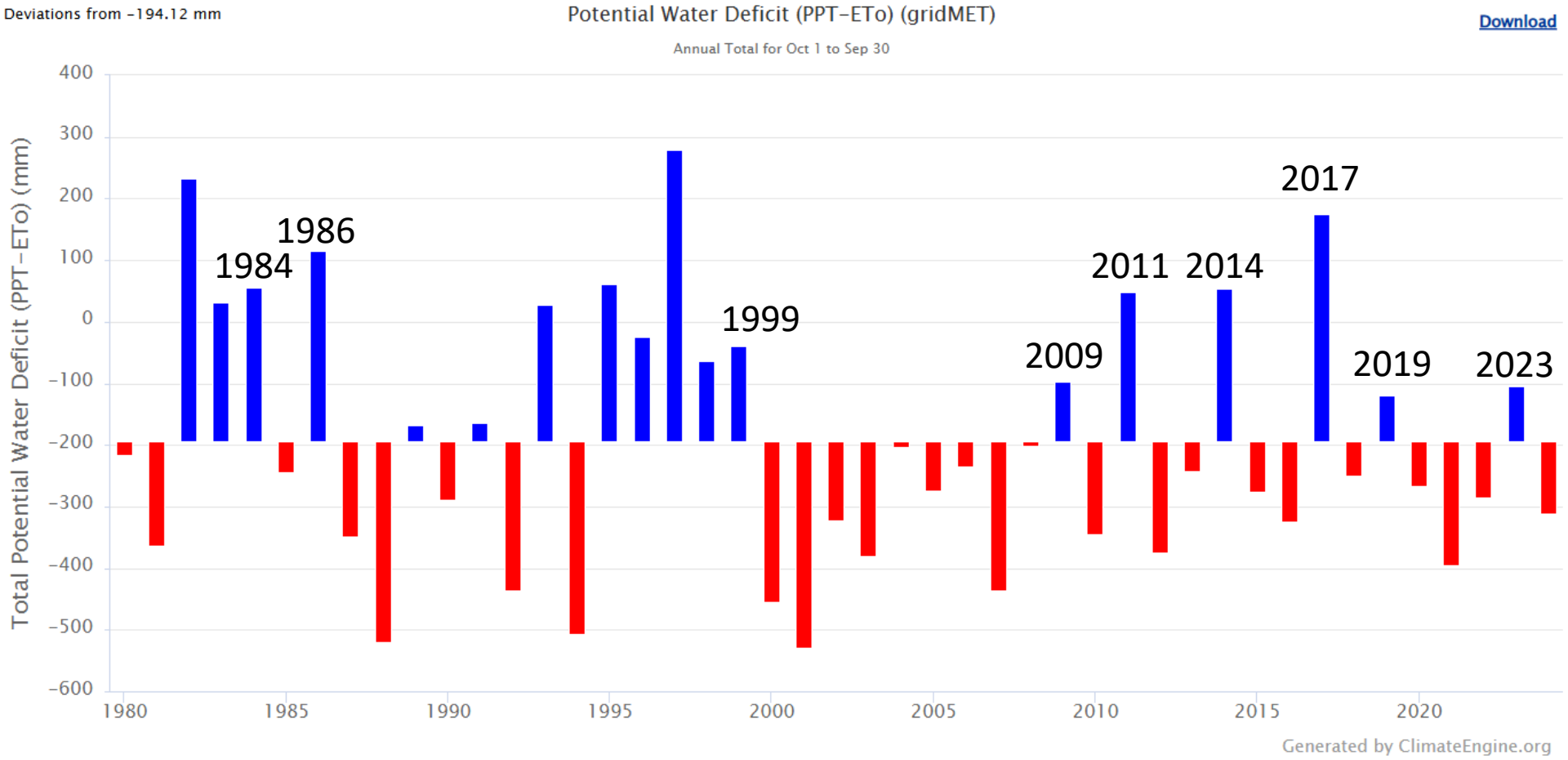
Water Supply Available at Milner 2014



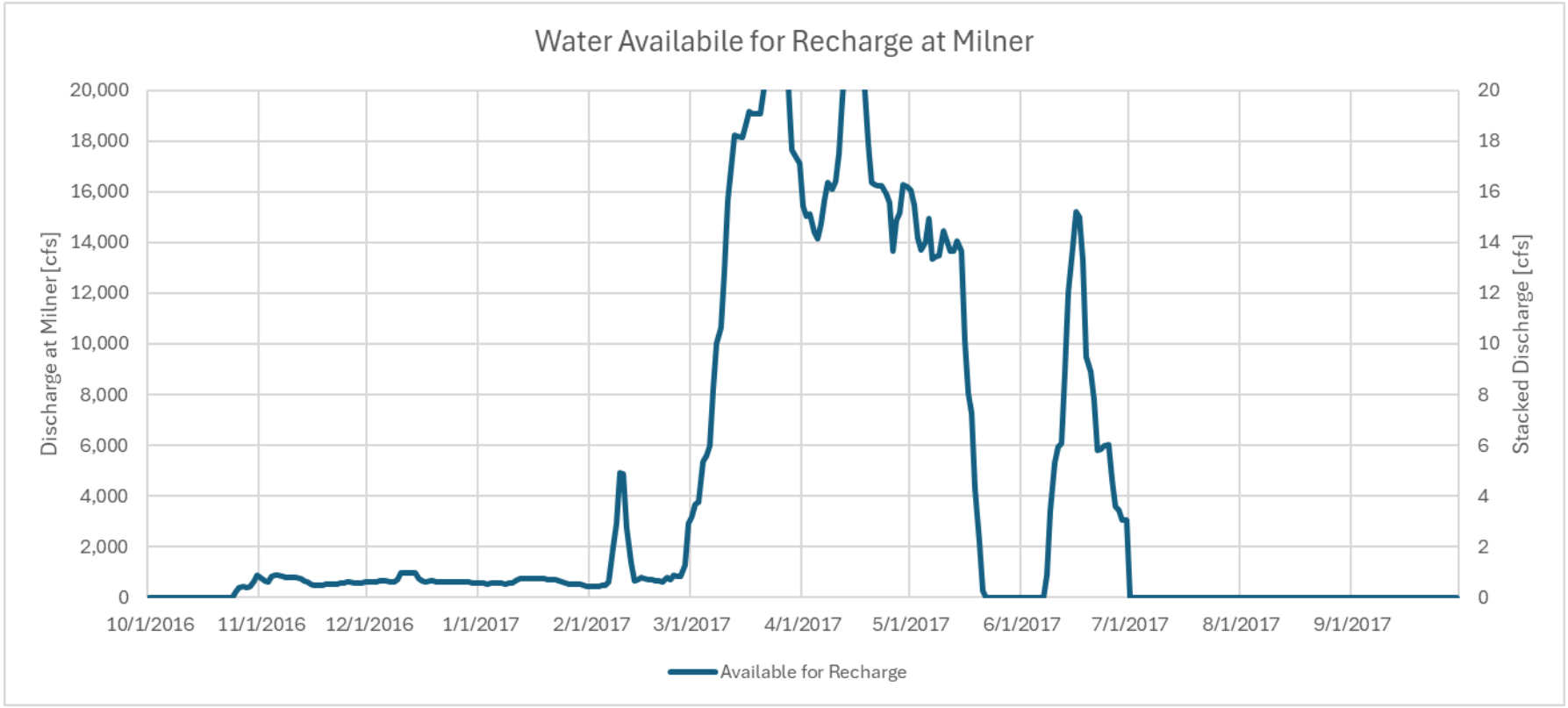
Water Supply Available at Milner 2015



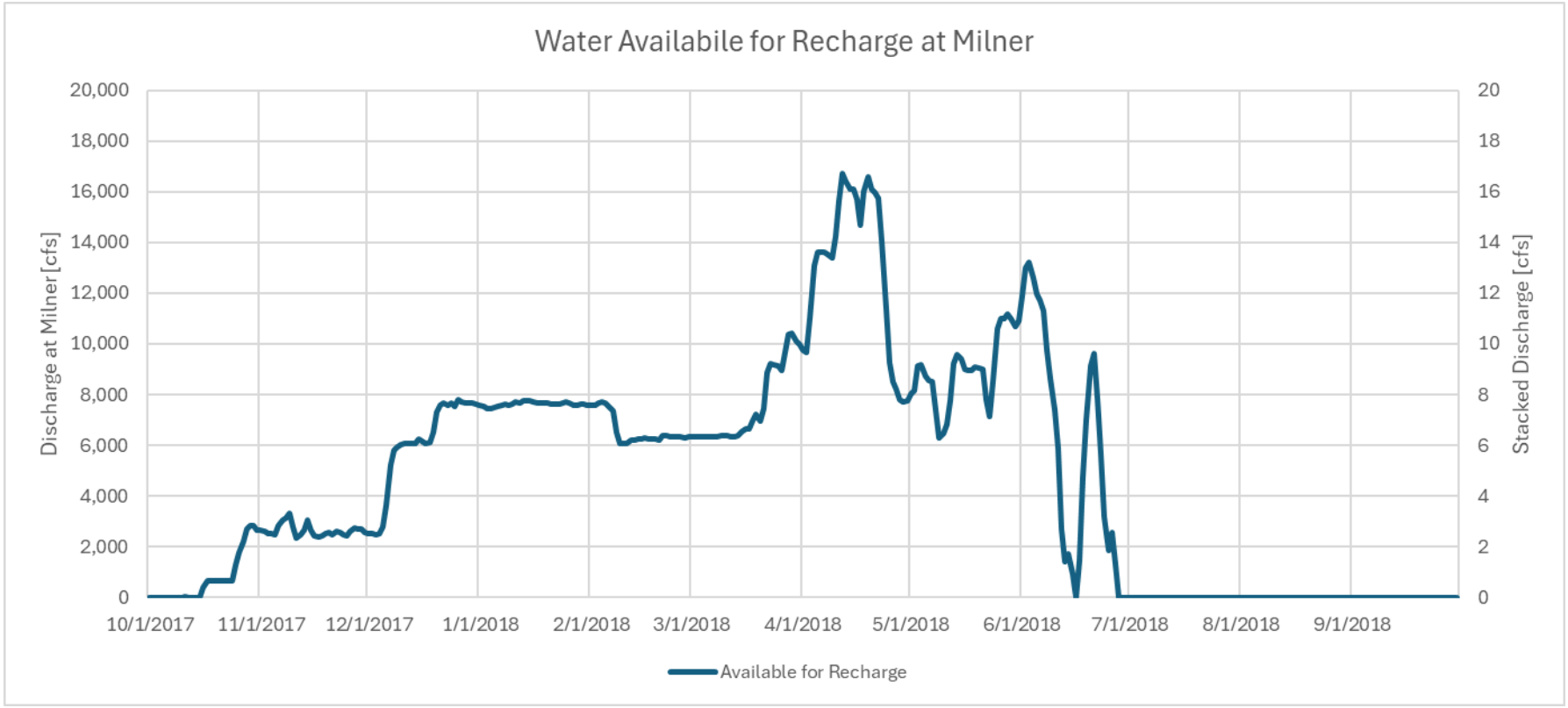
Climate of the Snake Basin 1980-2024



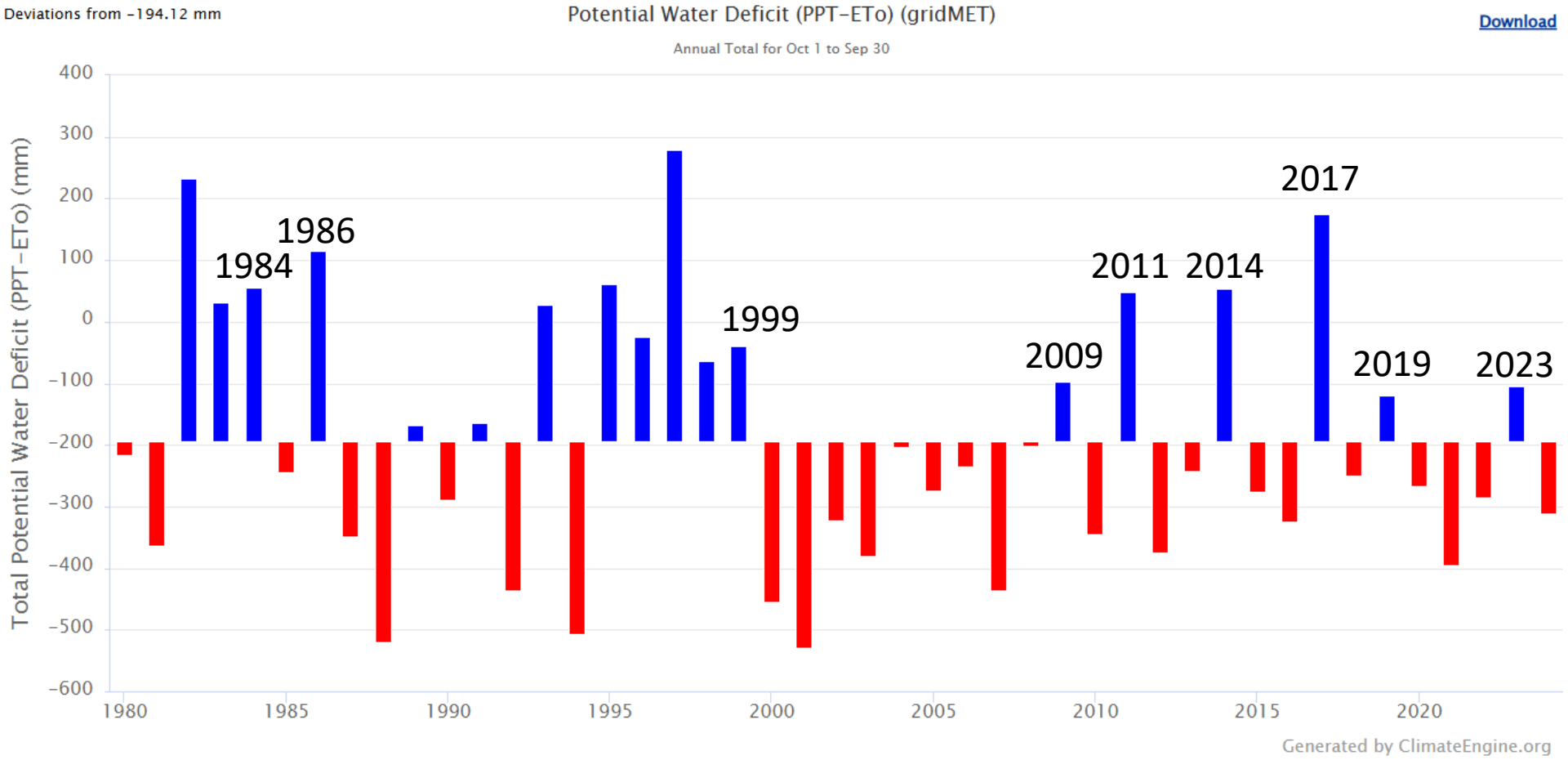
Water Supply Available at Milner 2017



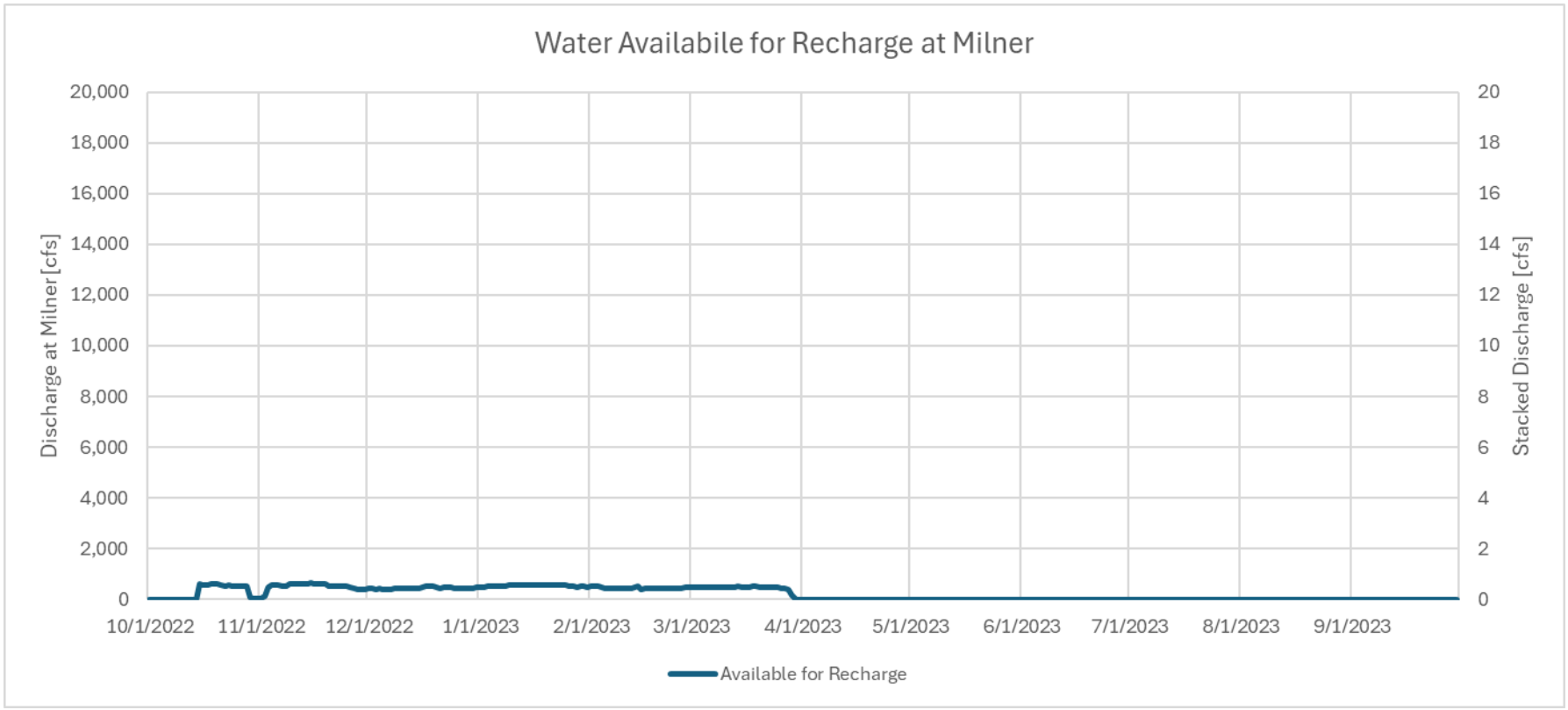
Water Supply Available at Milner 2018



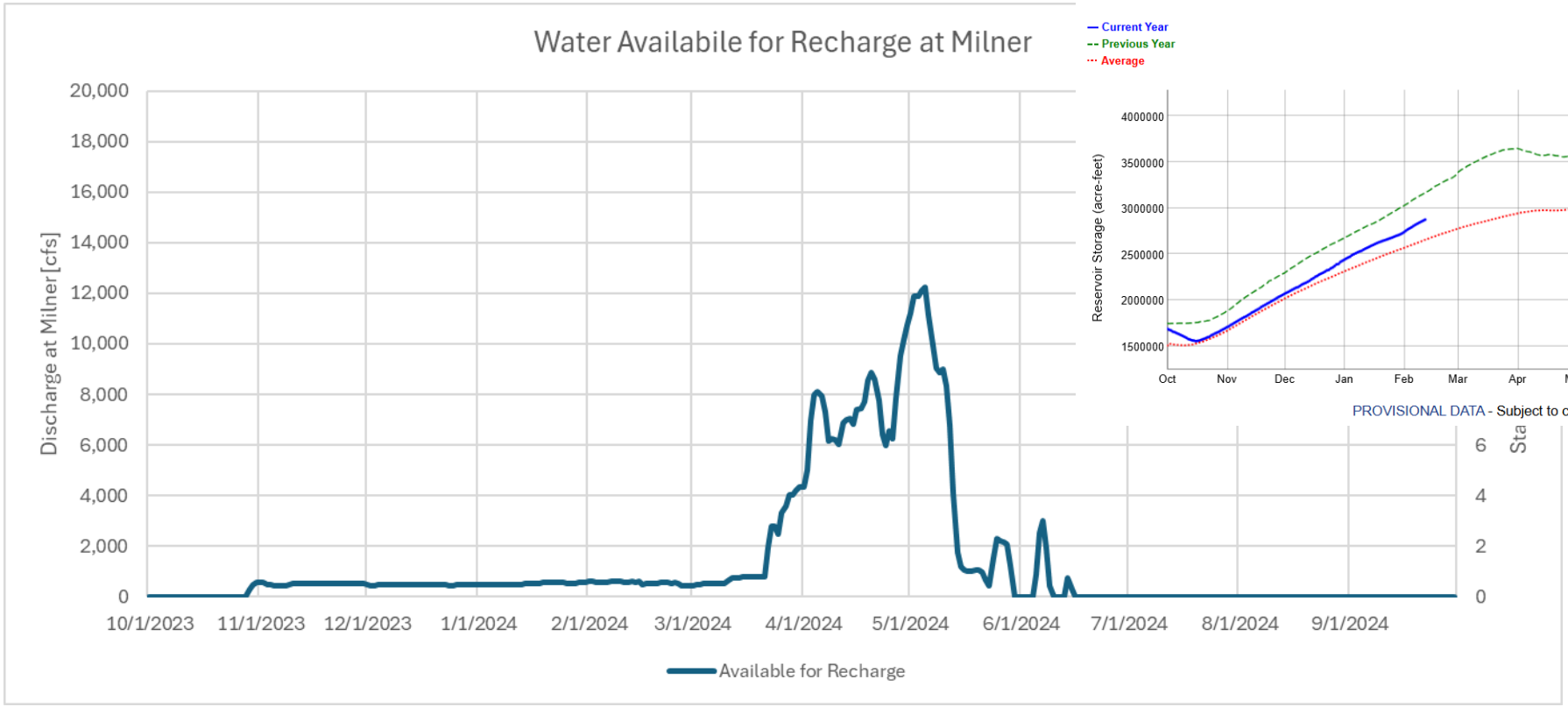
Climate of the Snake Basin 1980-2024



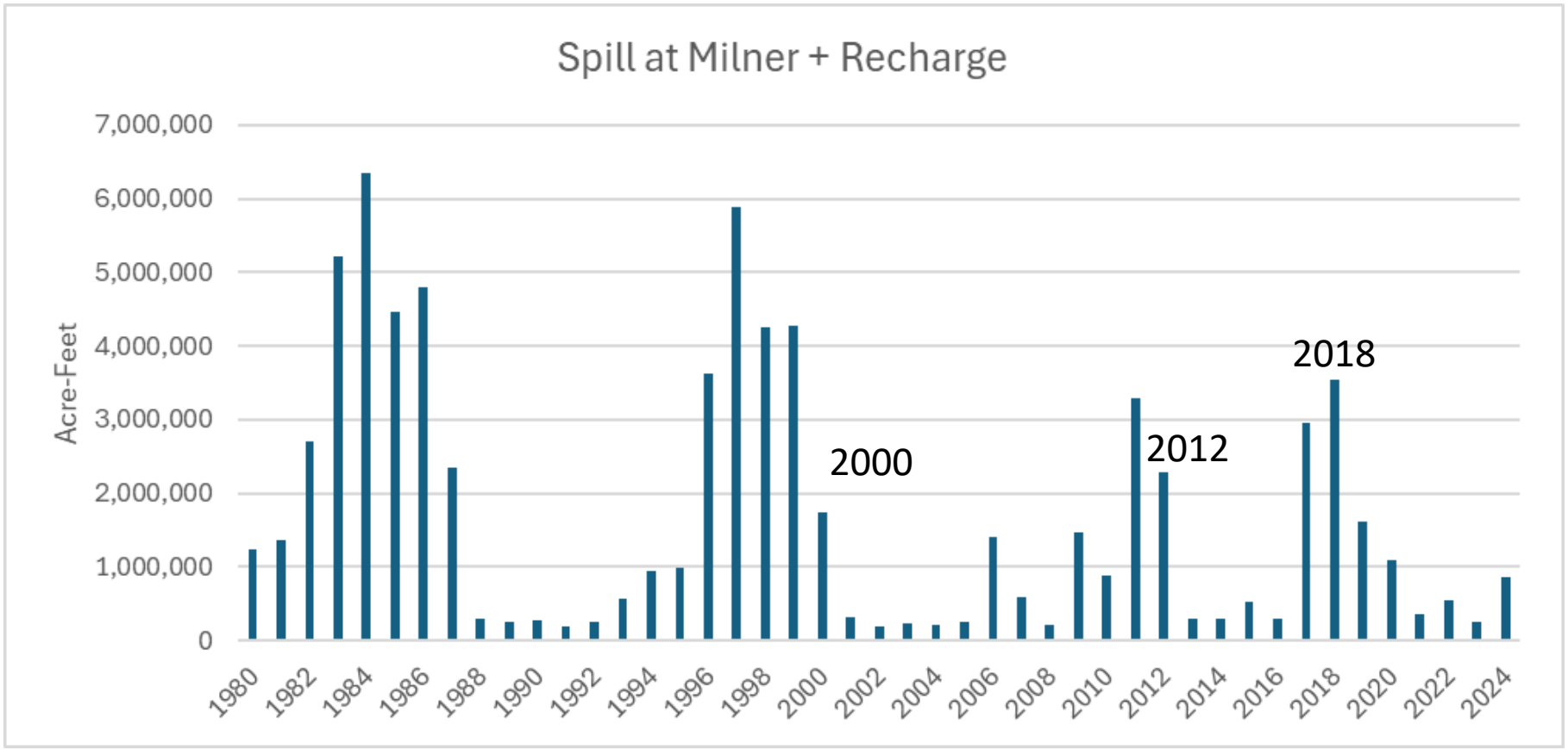
Water Supply Available at Milner 2023



Water Supply Available at Milner 2024



Best Recharge Years since 2000



When is the most water available for Recharge?

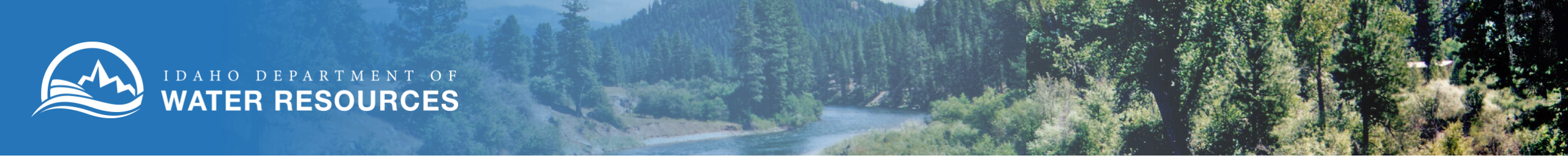
The historical record indicates that the year after a pluvial is the best time for recharge because flood control operations will occur throughout much of the winter. During the pluvial years flood control often begins in February or March which provides 1 to 2 months of recharge without irrigation limiting diversion capacity, but in the year after a pluvial flood control can last almost all winter.

Since 2000 the three best years for recharge were: 2000, 2012, 2018.

IDAHO DEPARTMENT OF
WATER RESOURCES

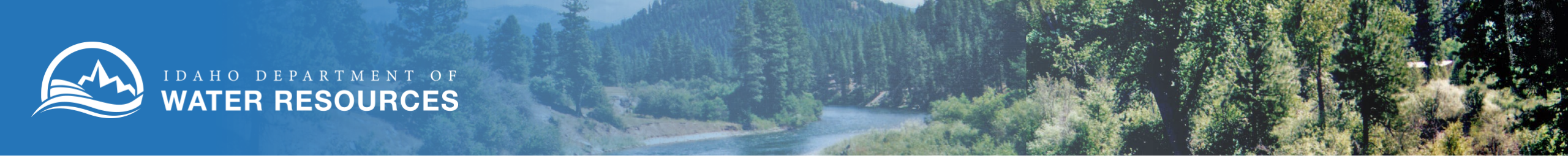
IDWR Injection Well Permitting (MAR)

Erik Boe
Water Compliance Bureau Chief, RRO
February 18, 2025



IDWR Injection Well Processing (MAR)

- Background
- 5R21 Application Process
- EPA Comments
- Next steps



Background

- IDWR received primacy to administer Class V Injection Wells from the EPA in 1985
- IDAPA 37.03.03 "Injection Well Rules"
  - Rules establish criteria and standards for the injection of fluids
    - Title 40, CFR Parts 141, 142, 144, 145, and 146
    - Chapter 39, Title 42, Idaho Code "Injection Wells"

Key Concepts

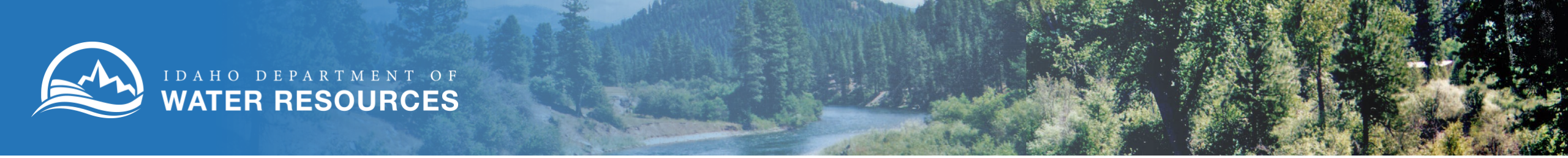
- All proposed injection wells are assigned EPA Subclassifications
  - Defined by the source of the injectate
- MAR injection wells are considered a 5R21 subclass
- Canals are used as conduit to route river water to the Point of Injection (POI)
  - Not allowed to contain Agricultural Waste (Irrigation) Runoff

5R21✓ Aquifer Recharge Wells - are used to recharge depleted aquifers and may inject fluids from a variety of sources such as lakes, streams, domestic wastewater treatment plants, other aquifers, etc.

Key Concepts

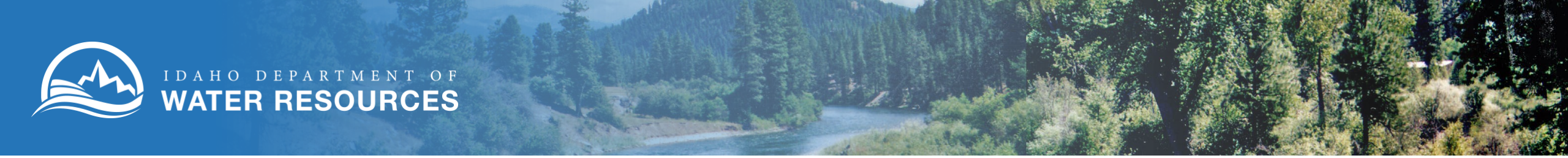
- Agricultural Waste Runoff (5F1) injection wells are not considered for MAR
- New 5F1 injection wells have not been permitted since around 2000
- Existing 5F1 injection wells can be re-permitted, but have injection rate restrictions

5F1 ✓ Agricultural Drainage Wells - receive irrigation tailwaters, other field drainage, animal yard, feedlot, or dairy runoff, etc.



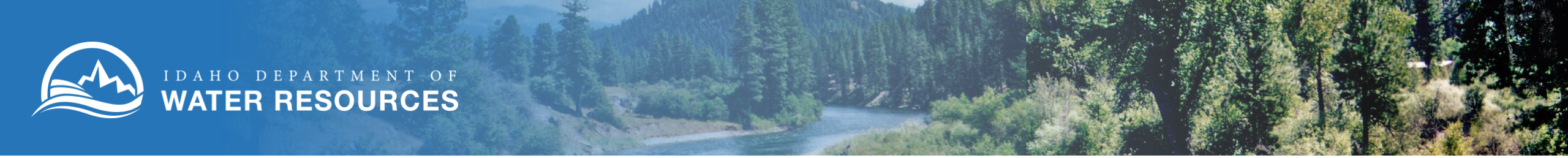
Program Challenges

- Leadtime is increasing
  - Over the last couple years, projects are increasing in complexity
  - ❖ One (1) FTE program responsible for +21,000 shallow injection wells and +1,300 deep injection wells w/ renewals 3-10 years



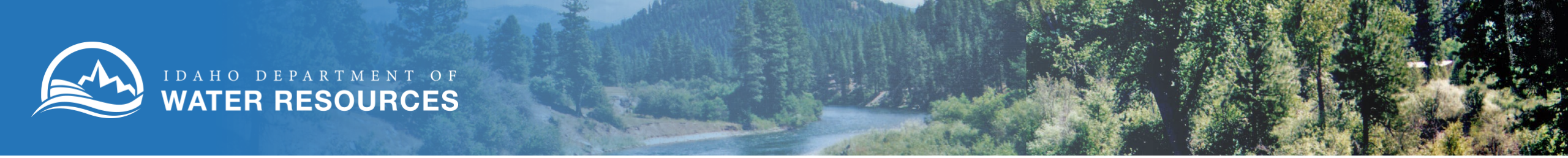
5R21 Application Process (MAR)

1. Application received
2. Additional information requested
3. Application Review
4. Draft monitoring plan
5. Create draft permit
6. Public notice
7. Draft final permit or denial



1. Application Received

- FTE reviews application for completeness
- Data is entered into UIC database
- Often missing necessary information



2. Additional Information Requested, Includes:

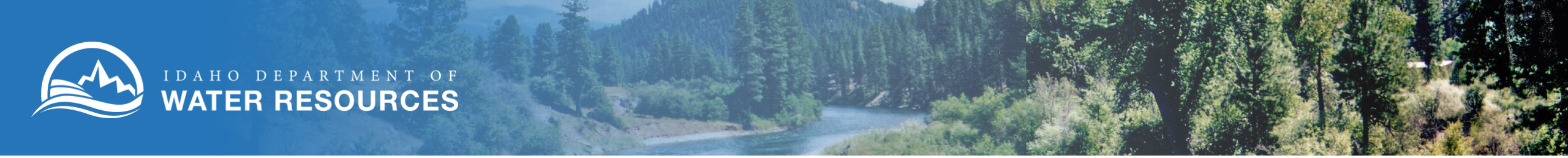
A. Project description
   - Purpose, physical description of recharge site

B. Quality, composition, and quantity of fluids to be injected

C. Geologic and hydrogeologic conditions
   - Regional, local, and at the point of injection

D. Information to demonstrate that the injection well will not endanger a USDW (Rule 070.02.d)

E. Proposed monitoring plan

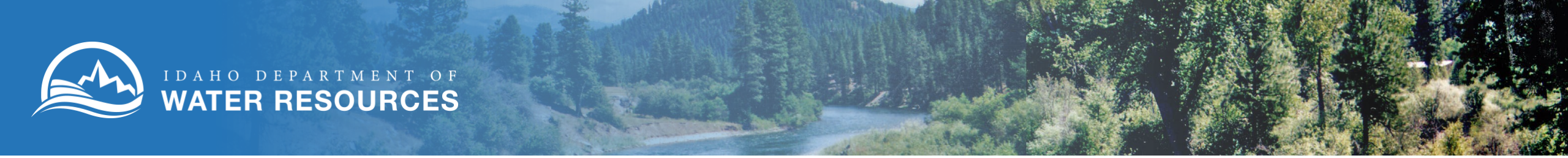


3. Application Review

- Ensure completeness
- Determine the area of influence (AOI)
- Identify domestic wells, or PWSs, within the AOI
- If domestic well(s) within AOI, monitoring required

4. Draft Monitoring Plan, Includes:

A. Background
B. Monitoring locations and frequency
C. Recharge Site Operation
D. Contingency Actions
E. Catastrophic Events.
F. Map.
G. Table 1. Monitoring Summary.
H. Table 2. Surface Water: Monthly Monitoring Constituents.
I. Table 3. Ground Water: Bi-Weekly Monitoring Constituents.



5. Create Draft Permit

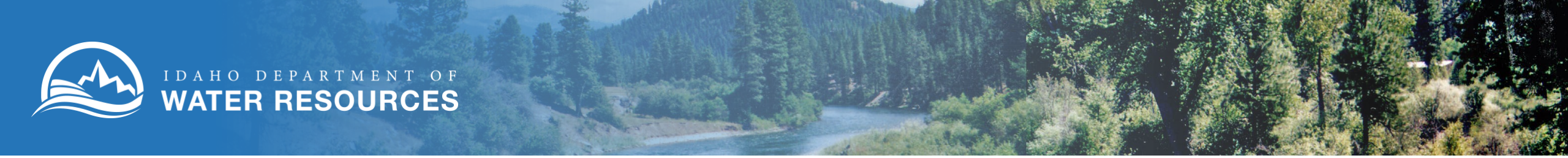
- Add appropriate conditions
- Attach Monitoring Plan, IDWR analyses, Application, Additional information

6. Public Notice

- Adraft permit notice is published in a newspaper of general circulation for the county in which the well is located (Rule 070.03.b)
- Comments must be submitted to IDWR within thirty (30) days following publication
- Hearing may be held by the Director if deemed necessary

7. Draft Final Permit or Denial

- If the application meets requirements described in rule, the final permit is drafted and issued
- If the Director finds that USDW cannot be protected from 'unreasonable contamination', the draft permit may be denied (Rule 070.04.b)

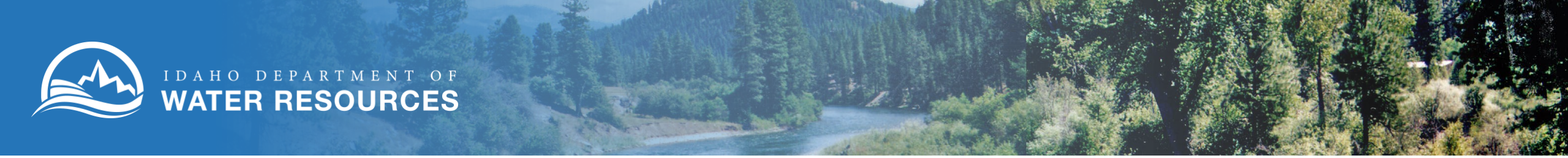


EPA Comments Regarding 5R21 Inj. Wells

- A central component of the UIC program is the protection of USDWs from endangerment. Section 1421(d)(2) of the Safe Drinking Water Act states that "underground injection endangers drinking water sources if such injection may result in any contamination in underground water which supplies or can reasonably be expected to supply any public water system and the contamination may result in the system not complying with any national primary drinking water regulation or otherwise adversely affect human health."

- Prior to approval of the 5R21 (aquifer recharge) wells, applications must provide information that supports or demonstrates that USDW will be protected from 'Endangerment.'

- As a 'primacy' program, state regulation of Class V Injection Wells must be "as stringent, or more stringent" then corresponding federal regulation.

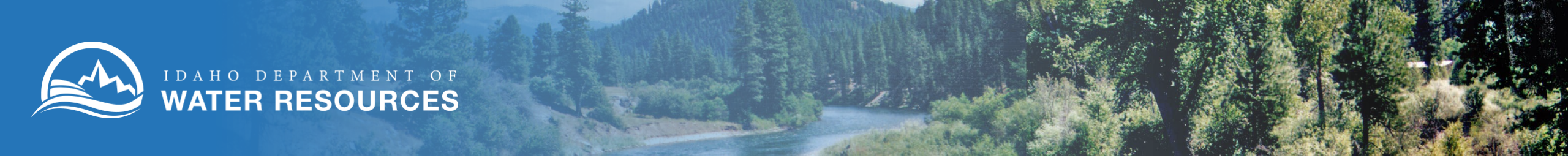


Next Steps

- Technical working group with EPA to ensure the state is permitting MAR injection wells in compliance with federal code.
- Technical working group with DEQ to discuss overlapping regulation and collaborate on assessment of MAR projects.

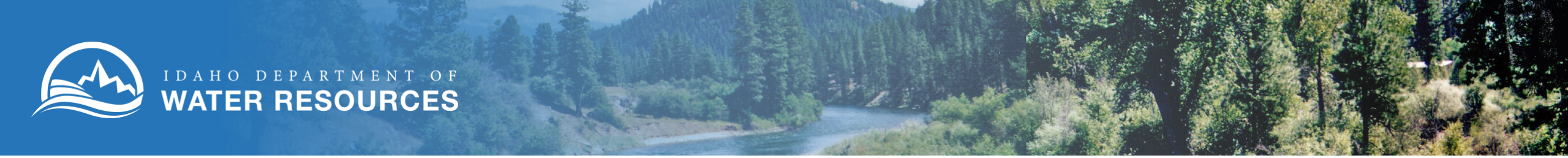
Overlap of State Rules:

- Source Water Protection
- Public Drinking Water System Rules (IDAPA 58.01.08)
- Idaho Ground Water Quality Rule (IDAPA 58.01.11)



Potential outcomes

- Changes to how we process 5R21 applications
- Updates to permit conditions
- New spatial tools to determine whether or not MAR projects will impact Source Drinking Water
- Applicant will need to provide site specific information that supports or demonstrates that injection activities will not endanger a USDW aquifer.



Potential outcomes

- More to come as technical working groups with EPA and DEQ progress

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Questions?