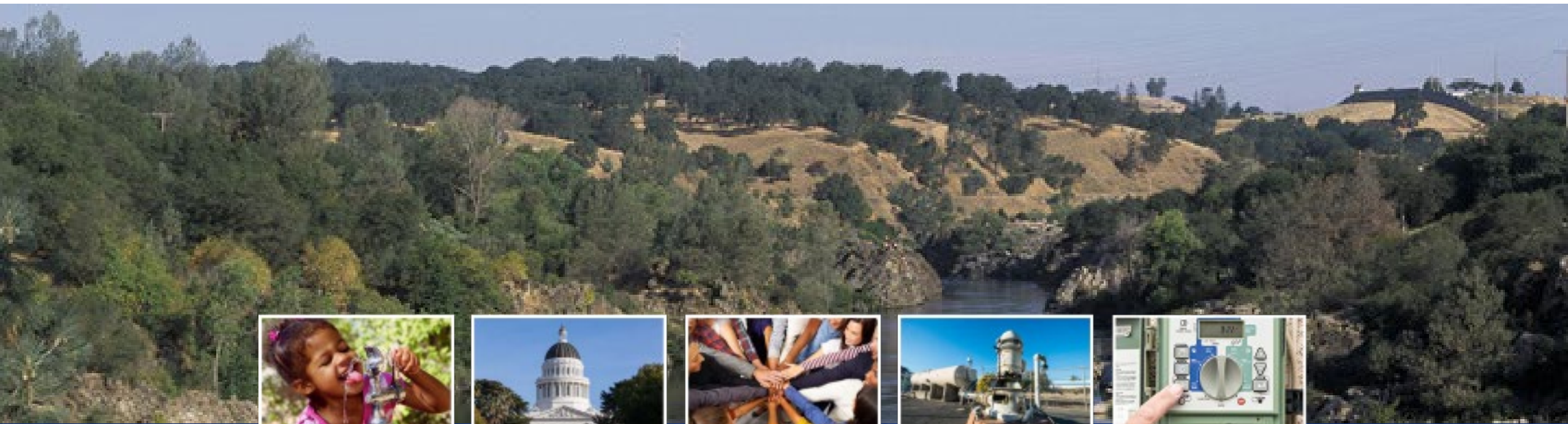


Watershed Resilience Pilot Project



February 12, 2026

Grant from DWR

Five Watershed Resilience Pilot Project Grants:

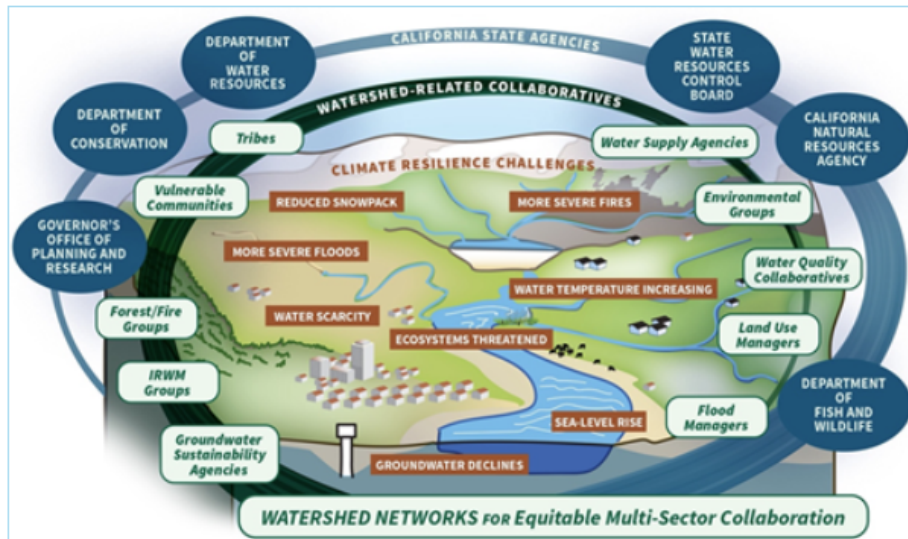
- American, Bear, Consumnes Rivers
- Ventura River
- Russian River
- Pajaro River
- Calaveras River





CALIFORNIA DEPARTMENT OF WATER RESOURCES

Watershed Resilience Program



Watershed Networks

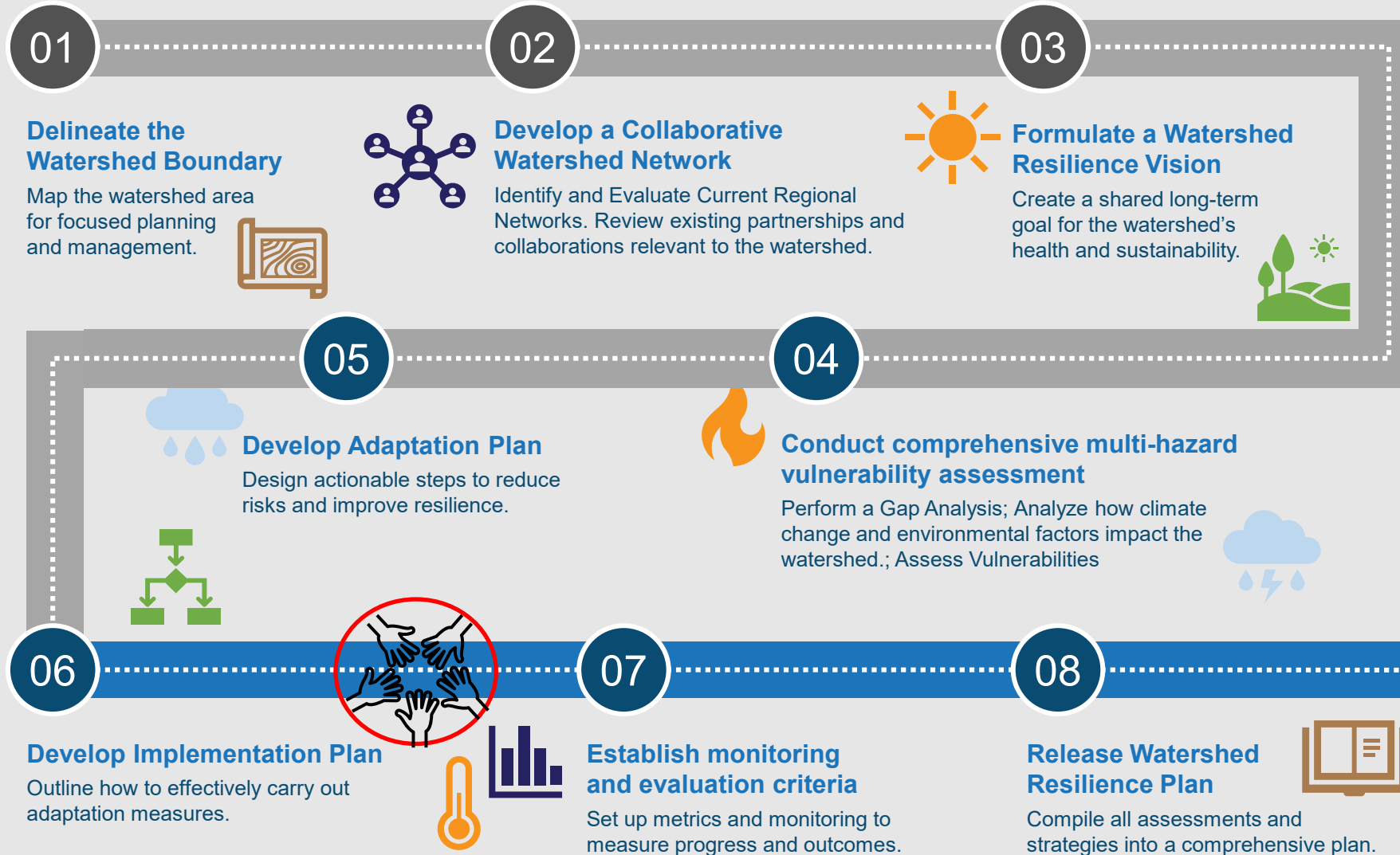
Graphic showing the many partners involved in watershed networks for equitable multi-sector collaboration and the climate resilience challenges they face.

The **California Water Plan Update 2023** emphasizes the need for watershed-based solutions, climate resilience, and equity through collaboration with local partners to address climate extremes.

Key aspects of this approach are:

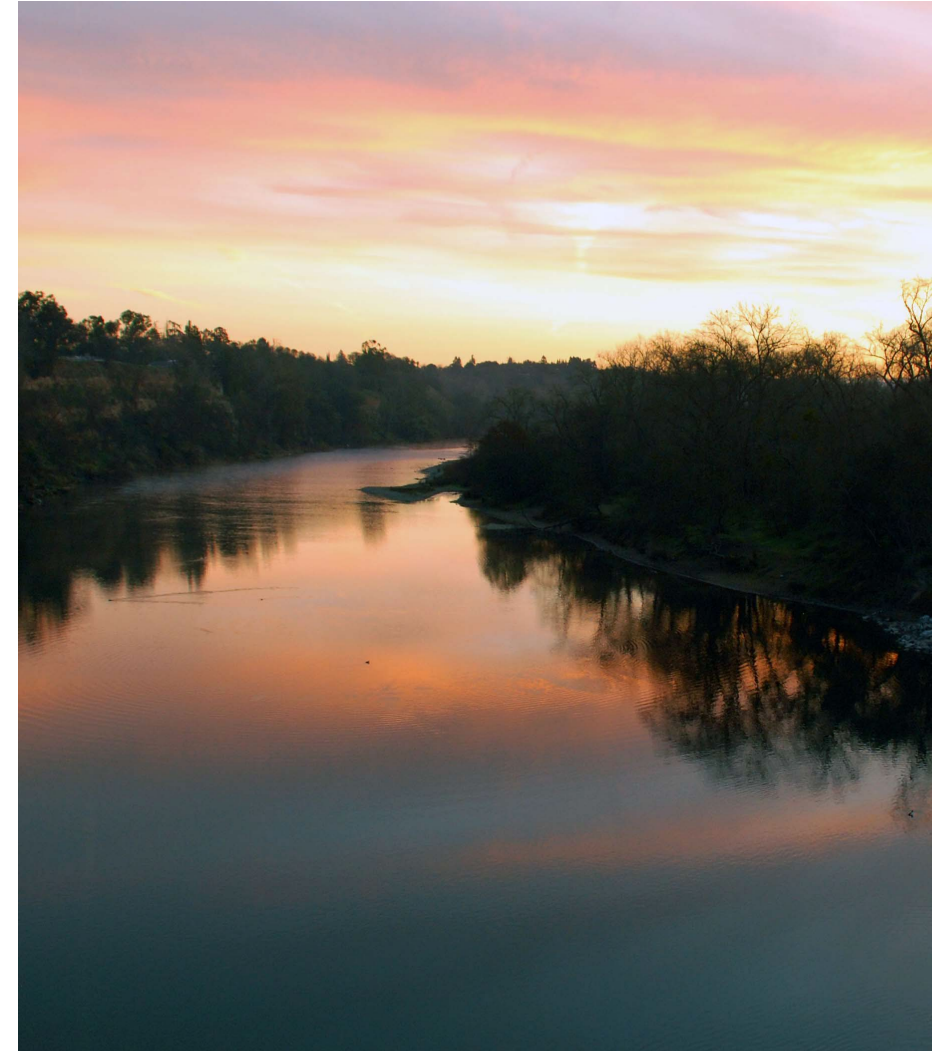
- Managing water from headwaters to outflow at a watershed scale.
- Prioritizing equity and inclusiveness.
- Analyzing climate risks and adaptations at the watershed level.
- Collaborating across water, flood, groundwater, quality, forest/fire, ecosystem, and land use sectors.
- Developing metrics to track outcomes regionally and statewide.

Pilot Roadmap

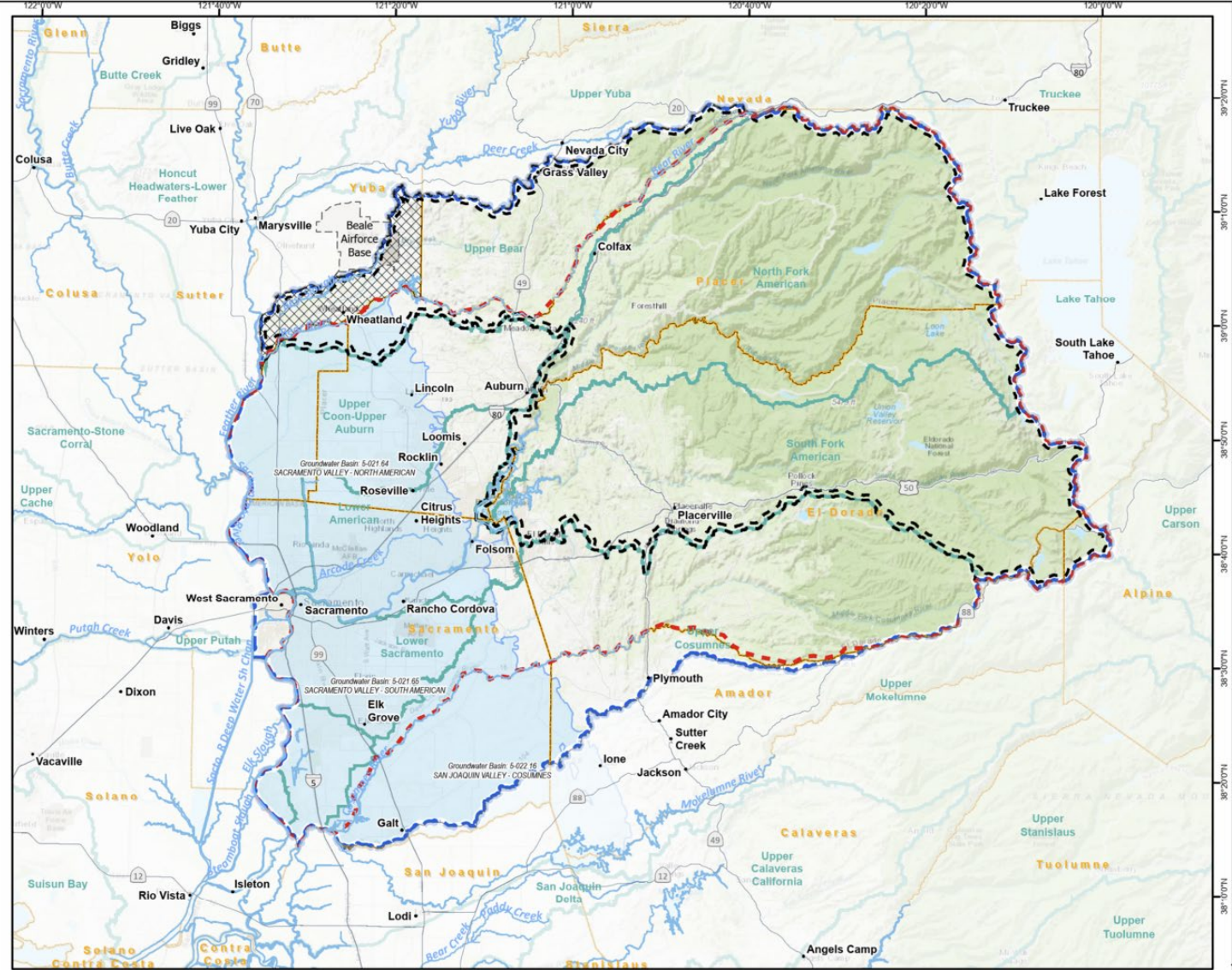


Vision Statement

Sustainably manage the American, Bear, and Cosumnes River watersheds using a science-based, collaborative, and inclusive approach that incorporates traditional knowledge and balances ecological and economic needs to sustain the long-term resilience of our local communities and ecosystems.

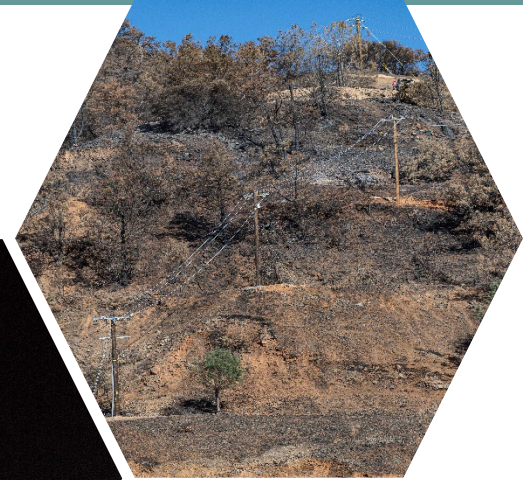


Watershed Boundary



Multi-sector water management:

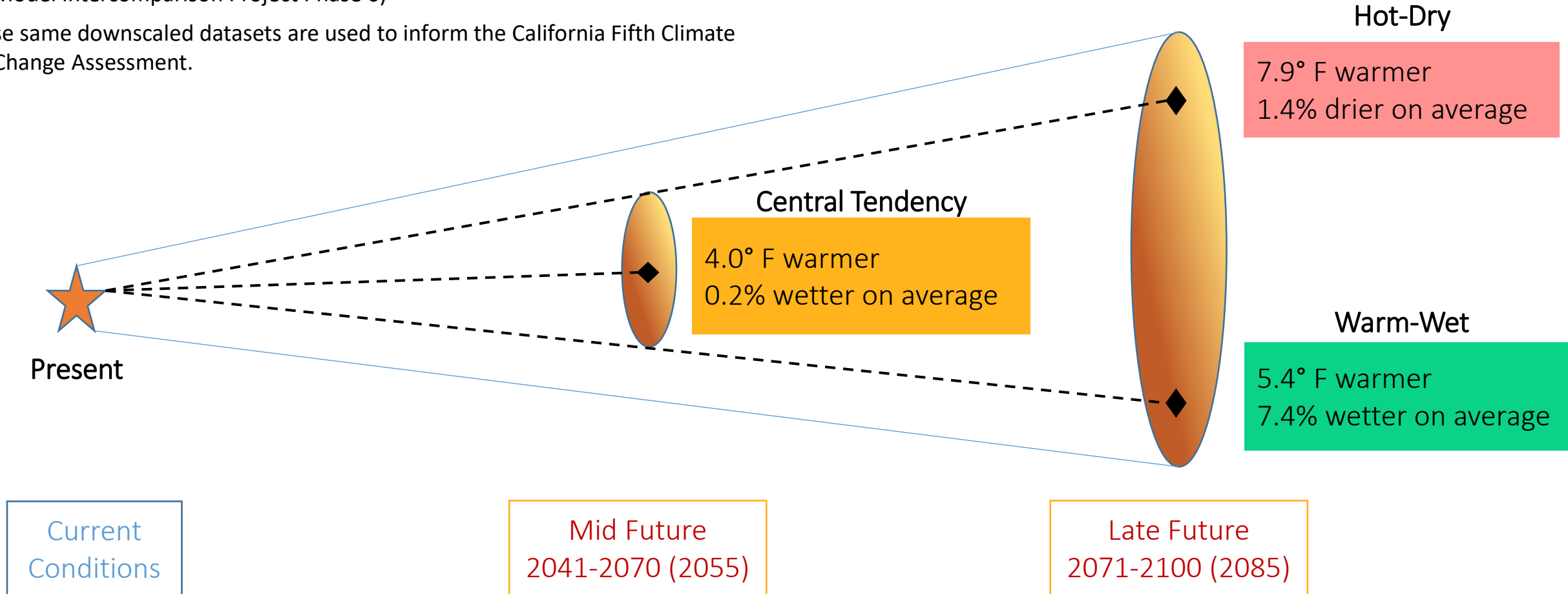
1. Forest and Wildfire Management
2. Hydropower
3. Ecosystems
4. Groundwater
5. Water Supply
6. Flood Management
7. Water Quality
8. Recreation



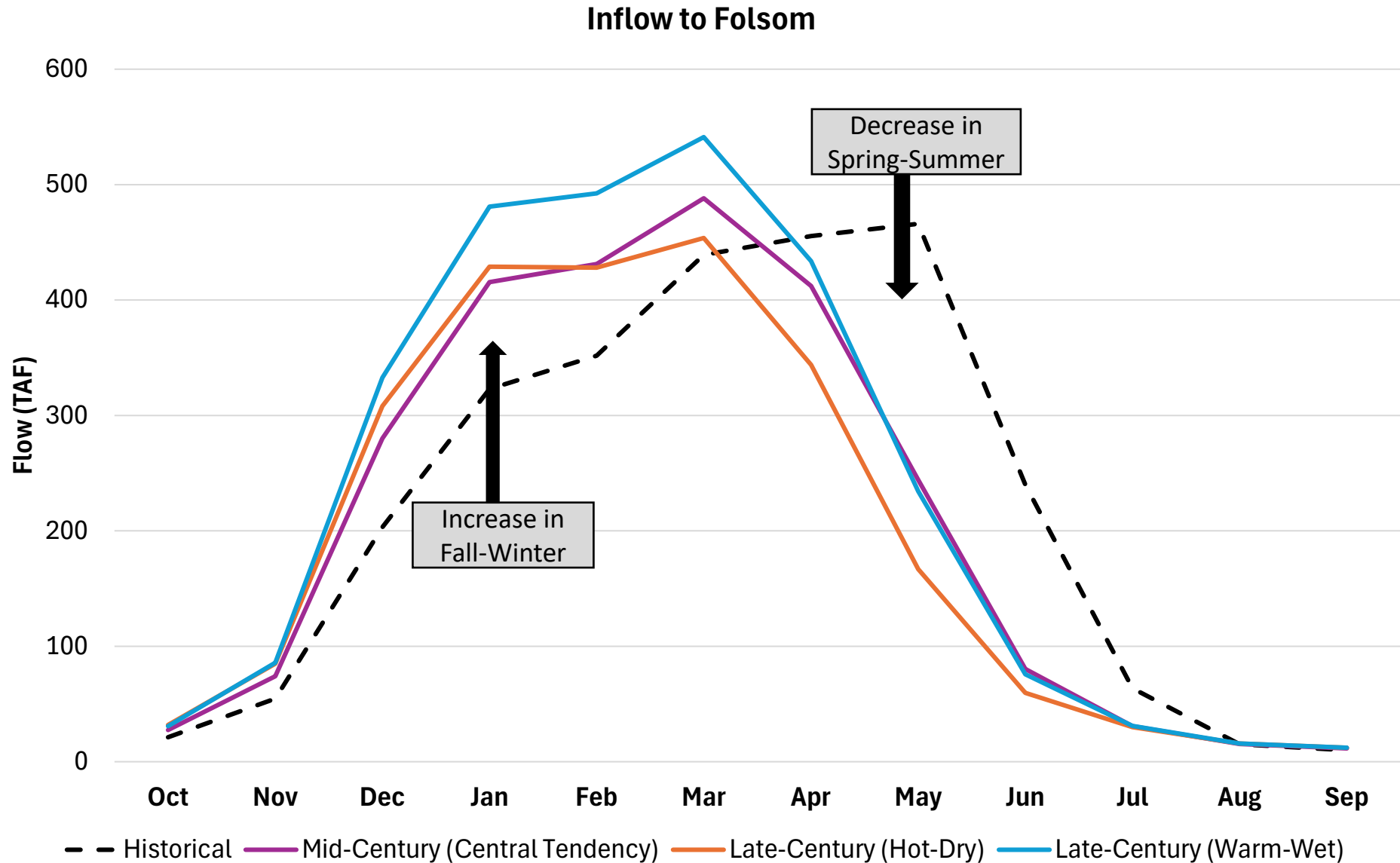
Climate Scenarios for Quantitative Assessment

Scenarios based on downscaled climate model projections from CMIP6 (Coupled Model Intercomparison Project Phase 6)

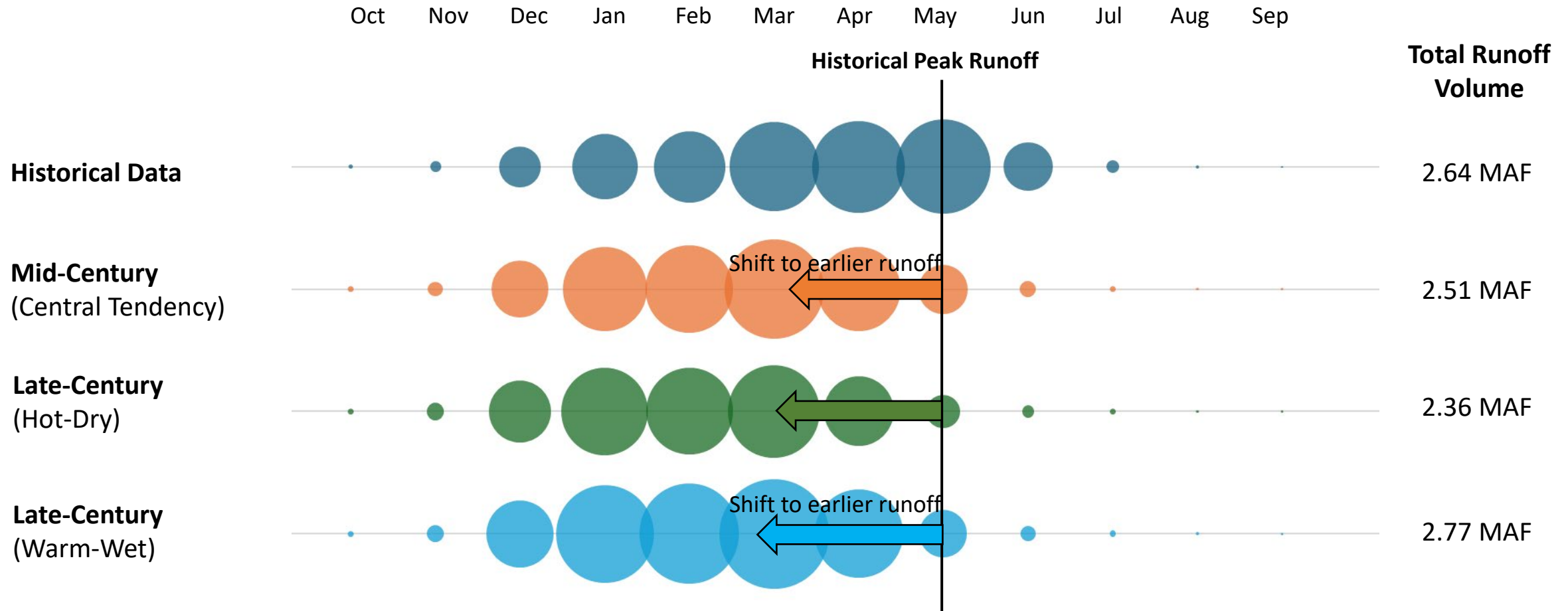
These same downscaled datasets are used to inform the California Fifth Climate Change Assessment.



American River Streamflow Hydrograph



Changes in Timing of Peak Inflow to Folsom

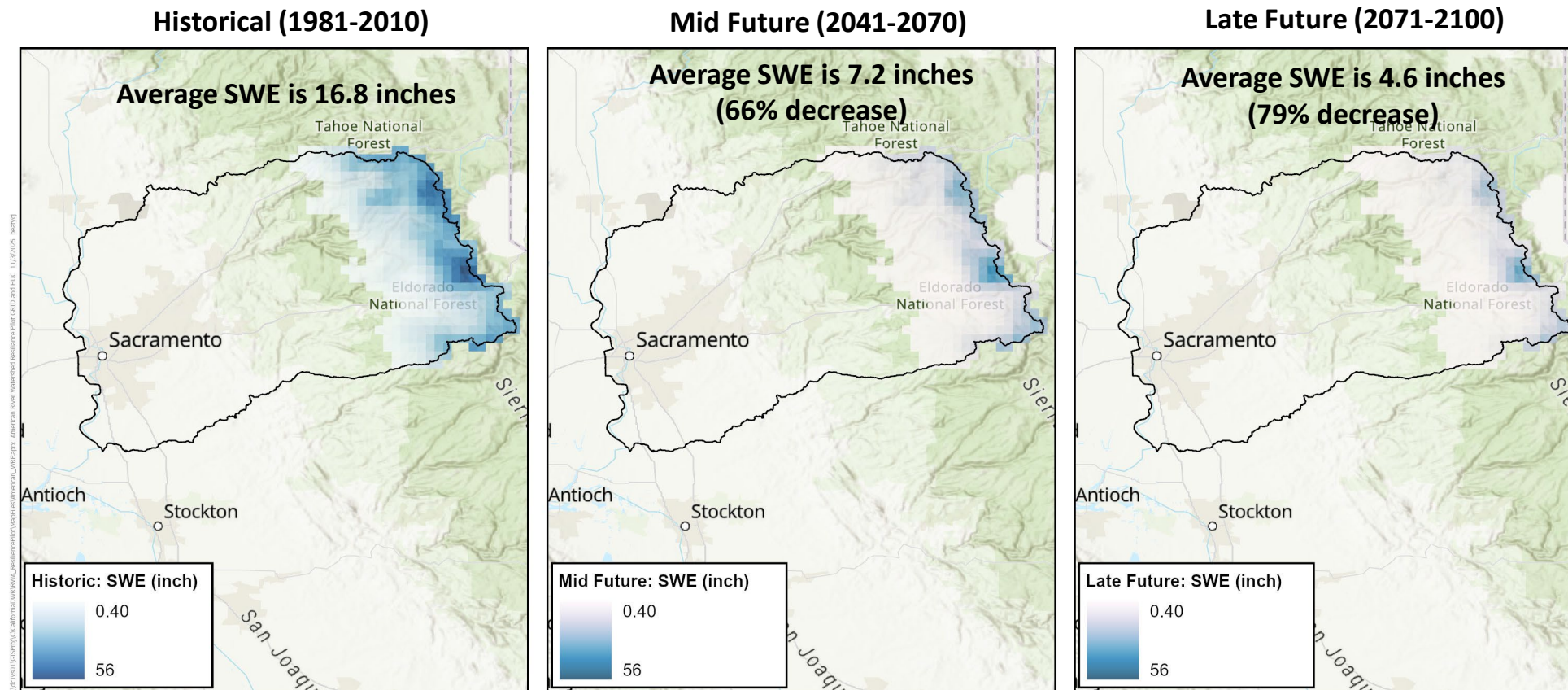


MAF = million acre-feet

Peak inflow to Folsom could occur up to **2 months earlier**

Change in April 1 Snow (measured as snow water equivalent, or SWE)

- Significant reduction in snow under both future periods as early snow melt and more precipitation will fall as rain instead of snow.
- Accelerated snowmelt cause early runoff, lower spring runoff, increases flood risks, impacts reservoir operations.



Impacted Sectors

Surface Water Supply

Flood Management

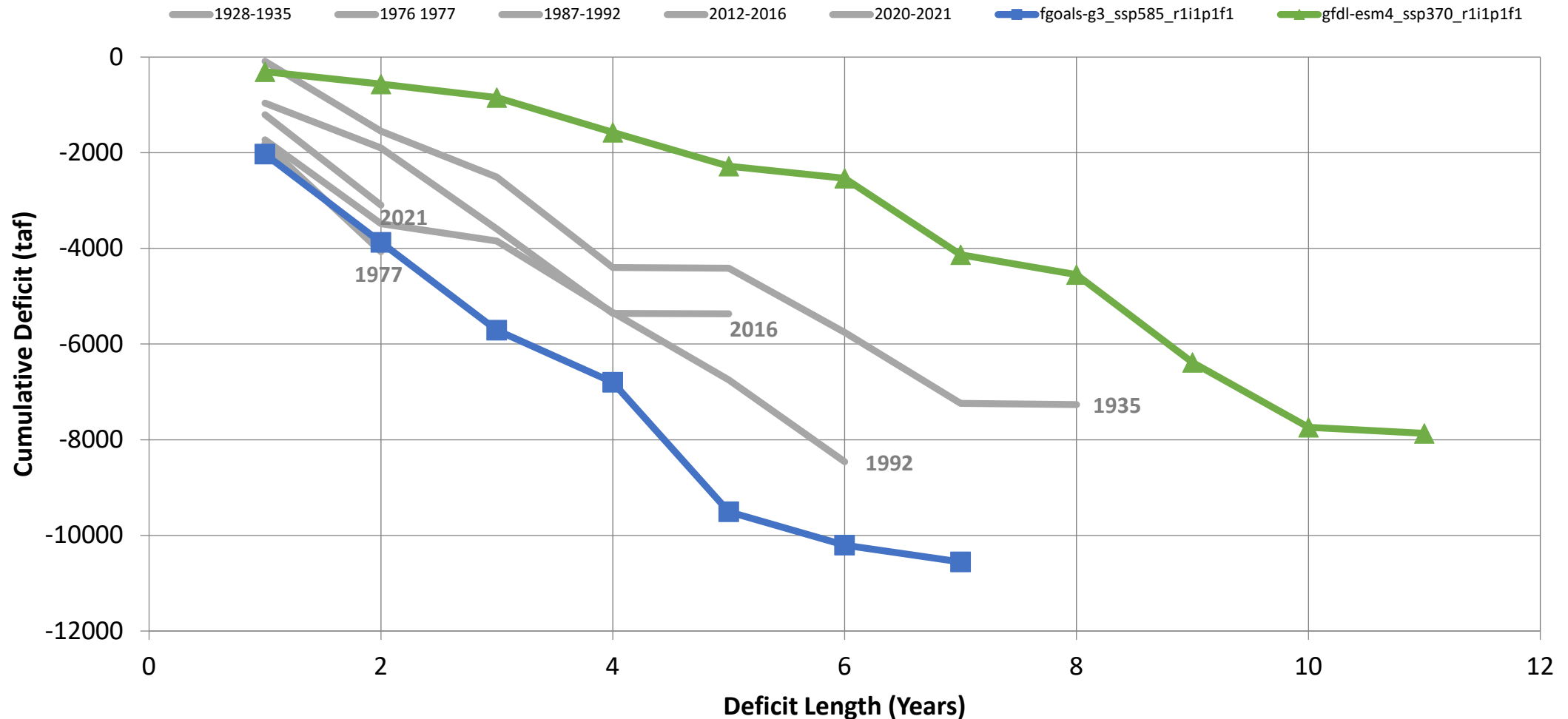
Hydropower

Recreation

Ecosystem

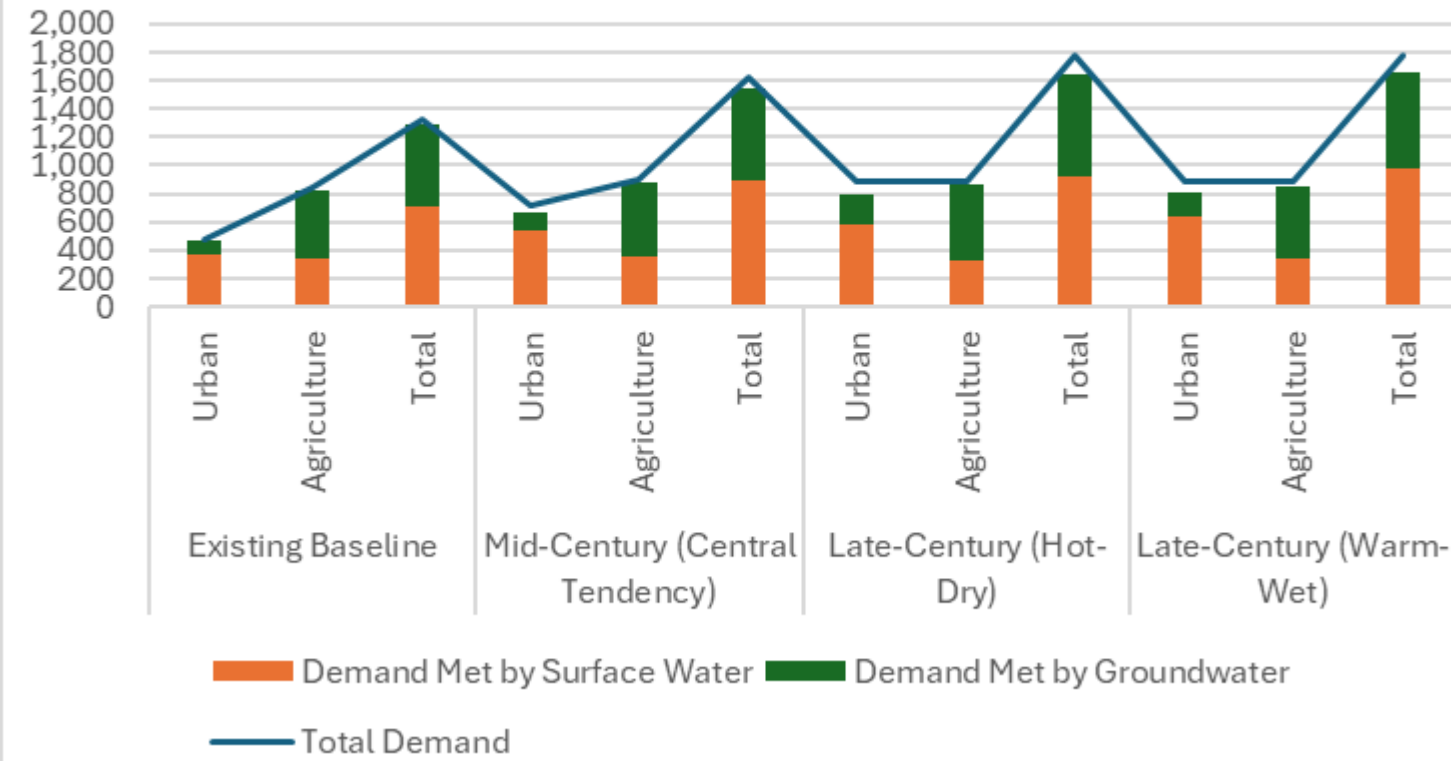
Drought Severity and Duration - Projections

Cumulative Streamflow Deficits in Observed and Projected Natural Flows
Deficit Defined as 1-yr Mean below Long-Term Mean
Folsom Unimpaired Inflow, WY 1922-2021



Agriculture and Urban Water Supply

Long-Term Average Water Budget for Valley Floor & Foothill Regions (TAF/yr).



Key Findings

- Agricultural and Urban demand increases from 1,350 TAF/yr to 1,800 TAF/yr by late century.
- Increased water shortages, from 29 TAF/yr (Baseline) to 132 TAF/yr (Late-Century HD).
- Increased reliance on groundwater to offset growing demands and reduced surface water.

Adaptation Strategies & Actions

Adaptation Strategies

Adaptation Actions

1 – Secure Surface Water Supply Entitlements	5	●●●●●
2 – Develop and Implement Demand Management	6	●●●●●●
3 – Implement Sustainable Groundwater Management	10	●●●●●●●●●●
4 – Increase Water Reuse	3	●●●
5 – Secure Drinking Water Infrastructure	6	●●●●●●
6 – Manage Stormwater as a Resource	5	●●●●●
7 – Improve Drought Preparedness and Response	4	●●●●
8 – Ensure All Residents have Access to Clean and Affordable Water	3	●●●

Adaptation Strategies & Actions

3 – Implement Sustainable Groundwater Management		
3a	Implement sustainable groundwater management in the <i>Sustainable Groundwater Management Act</i> -regulated groundwater basins consistent with approved plans and best practices.	Implementation and Operations
3b	Engage in the development of Statewide sustainable groundwater management policies, regulations, and legislation to protect the interests of headwaters and rural mountain counties.	Coordination and Collaboration
3c	Enhance alignment in groundwater management, drought resilience, and well permitting practices.	Coordination and Collaboration
3d	Improve understanding of groundwater conditions and long-term sustainability in fractured rock formation.	Science and Data
3e	Develop County-level policy for well permitting and management to address groundwater sustainability for fractured rock aquifers and basin areas that are not subject to management under a Groundwater Sustainability Agency.	Policy and Institutional
3f	Implement conjunctive use, in-lieu groundwater recharge, and aquifer storage and recovery projects where feasible to achieve regional sustainable groundwater management.	Implementation and Operations
3g	Identify key recharge areas (floodplains, paleo channels, and quarries) and protect via zoning.	Planning and Strategy
3h	Use cropland for stormwater recharge, and partner with farmers to flood fields and recover water later.	Implementation and Operations
3i	Conduct a well vulnerability assessment and mitigation program for small systems and domestic wells (including risk screening, prioritization, deepening/replacement, and emergency interties).	Implementation and Operations
3j	Institutionalize and scale flood diversion agreements for managed recharge.	Implementation and Operations

Adaptation Strategies & Actions

Adaptation Strategies		Adaptation Actions
9.1 – Develop Data and Tools for Improved Watershed Understanding, Knowledge Sharing, and Transparency	8	●●●●●●●●
9.2 – Implement Sustainable Forest Management	6	●●●●●●
9.3 – Implement Multi-benefit Watershed Protection and Restoration Projects	9	●●●●●●●●●
9.4 – Enhance Environmental Flows & Aquatic Habitat Resilience	6	●●●●●●
10 – Prevent Contamination of Surface Water and Groundwater Resources	8	●●●●●●●●
11 – Reduce the Risk of Flooding in Communities	12	●●●●●●●●●●●●

Adaptation Strategies & Actions

Adaptation Strategies

Adaptation Actions

12 – Promote Fire-Adapted Communities

8



13 – Increase Community Capacity for Sustainable Management and Resilience to Major Disasters

6



14 - Preserve and enhance access to open space and support sustainable recreation

2



15 – Preserve and optimize reservoir and river system operations

7

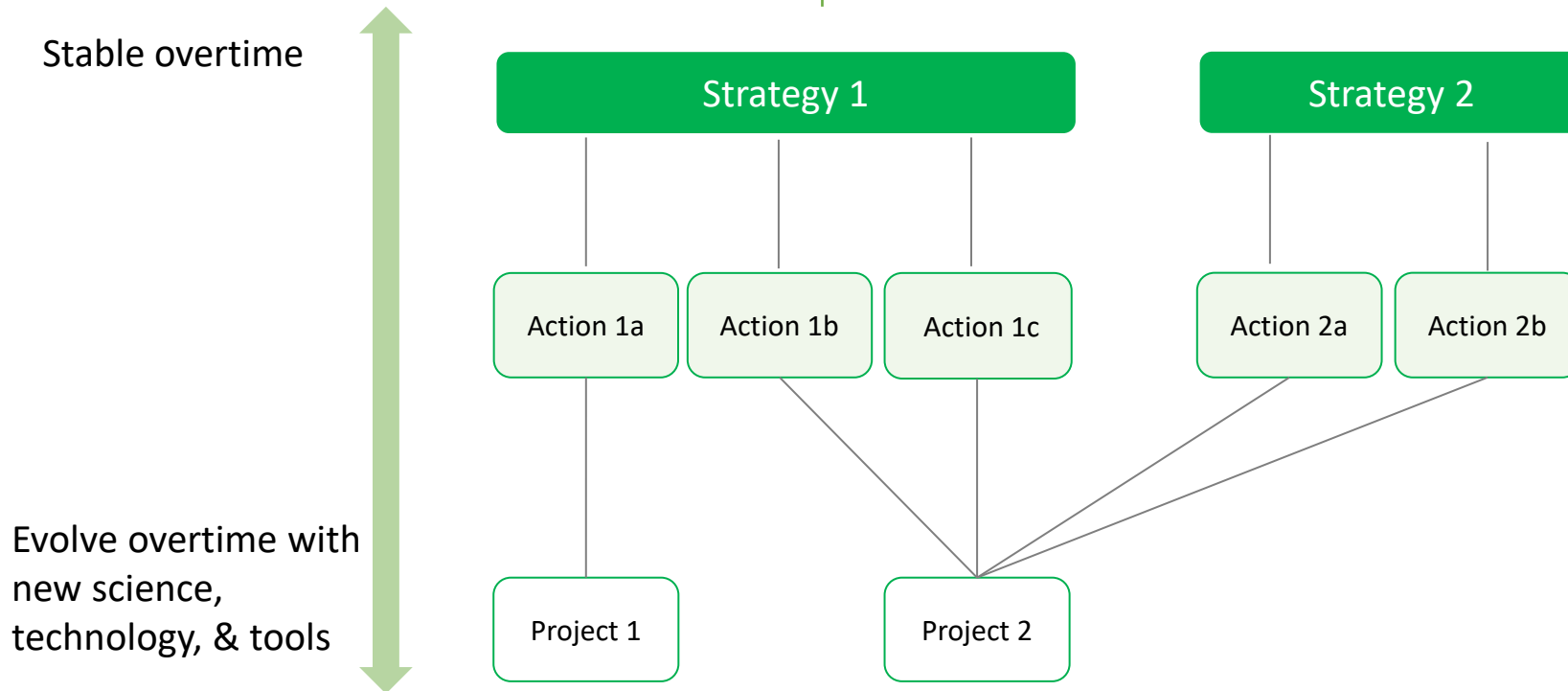


16 - Enhance and streamline policies, regulations, and funding for resilient watershed management

5



Adaptations Framework



Adaptation Strategies (19)

Ex: Implement Sustainable Groundwater Management



Adaptation Actions (128)

Ex: Implement conjunctive use and groundwater recharge.



Implementation Projects

Ex: Flood-MAR and dry-well recharge projects along the Cosumnes River

Equity in the Implementation Plan

- Equity is a key criteria to guide adaptation strategy development and prioritize implementation
- Directing actions to communities with the greatest combined climate exposure and social vulnerability
- Designing projects so benefits are meaningful, accessible, and locally relevant
- Aligning implementation with state and federal climate-equity funding criteria
- Ensuring communities are engaged early in implementation

Schedule

- Draft Resilience Report to be shared with Watershed Network on March 20 (tentatively) – **feedback deadline TBD**
- Final Resilience Report to be submitted to RWA Staff/DWR on **March 31**



Thank you!

<https://rwawatershedsresilience.com/>

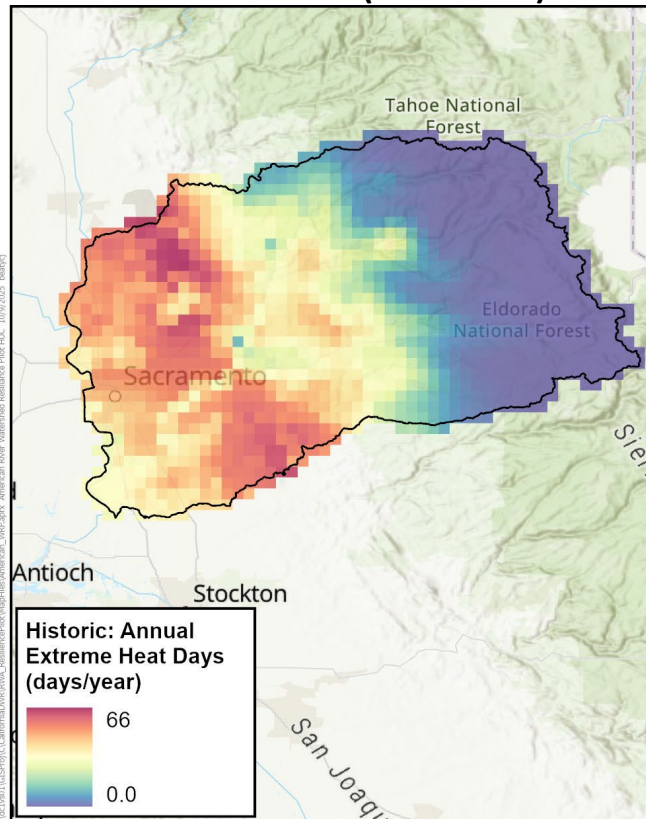


Extreme Heat

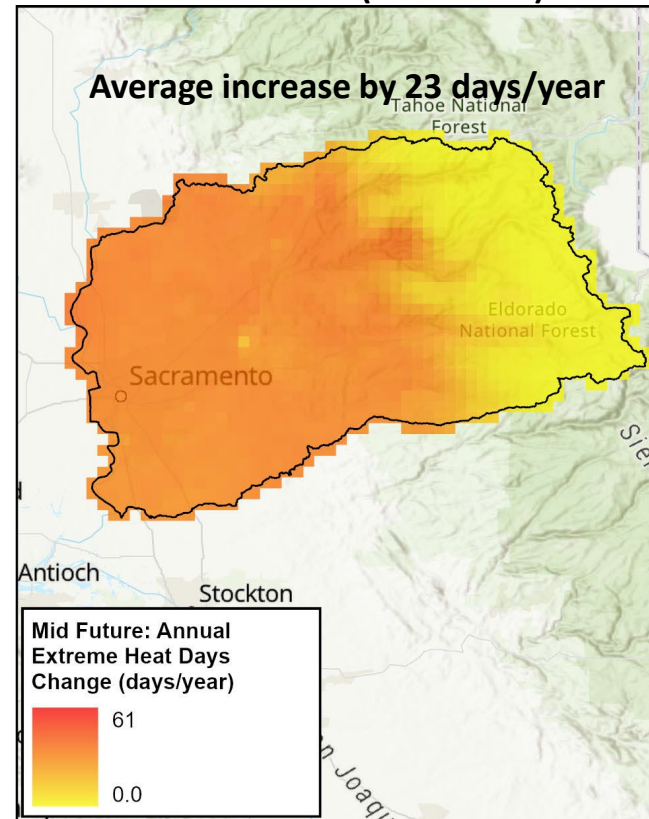
Change in Extreme Heat Days (days > 95F) for the American River Region

- Warmer regions of Valley Floor are more prone to extreme heat days
- Number of extreme heat days will increase by 20 to 40 days across region
- Extreme heat will increase irrigation demands, increase water temperature, and impact recreation activities.

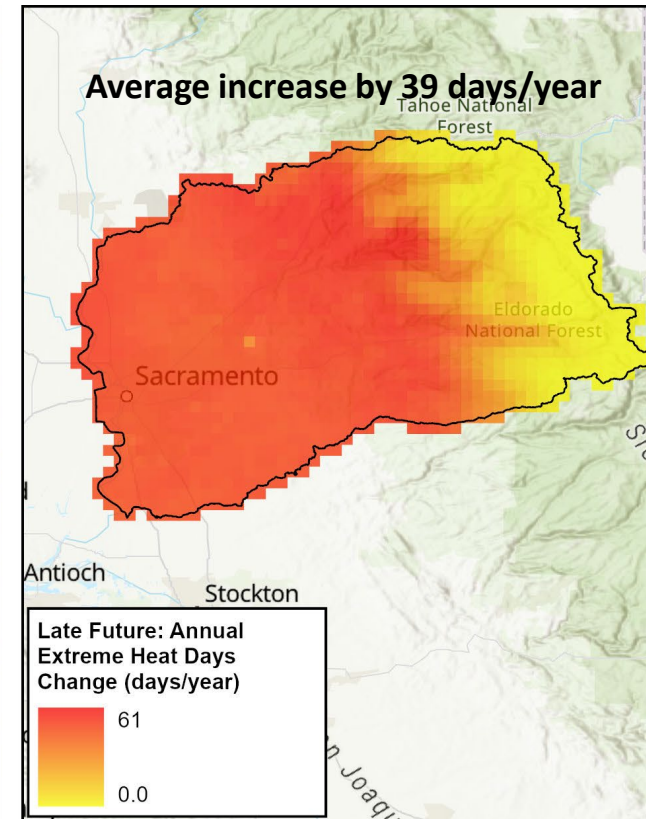
Historical (1981-2010)



Mid Future (2041-2070)



Late Future (2071-2100)



Impacted Sectors

Agriculture

Ecosystem

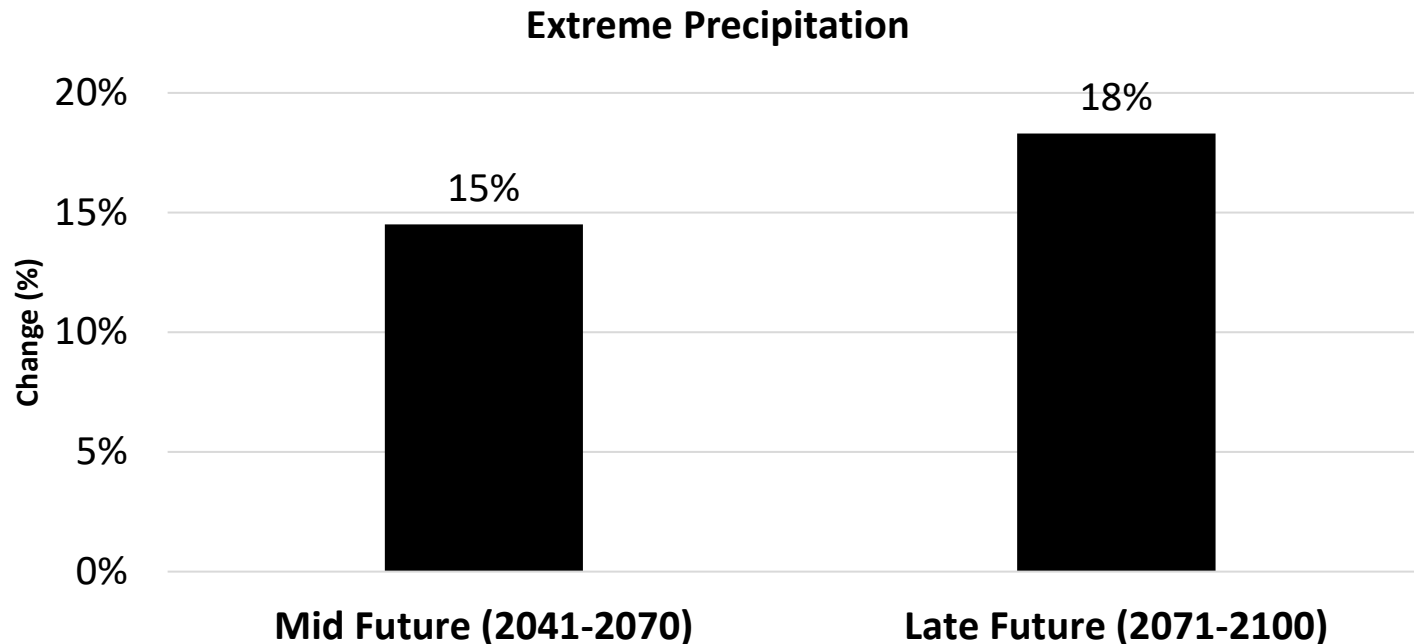
Recreation

Surface Water Supply

Hydropower

Change in Extreme Precipitation for the American River Region

- Extreme precipitation increases by **15% in mid future** and **18% in late future**.
- Upper watersheds are projected to higher increase in extreme precipitation as compared to other regions in the watershed.
- Increase in extreme precipitation is the primary driver of flood risks.



Impacted Sectors

Flood Management

Groundwater Supply

Surface Water Supply