



Water Management Program – Resilience is Now a Critical Asset for California Water Utilities

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Moderated by Andy Bochman, WEST YOST

Your Panelists



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The Why

Why This Conversation Matters

- The risk landscape is changing — **faster and more interconnected**
- Resilience is becoming a **critical asset for water utilities**
- Agencies are moving beyond strategy into **real-world implementation**

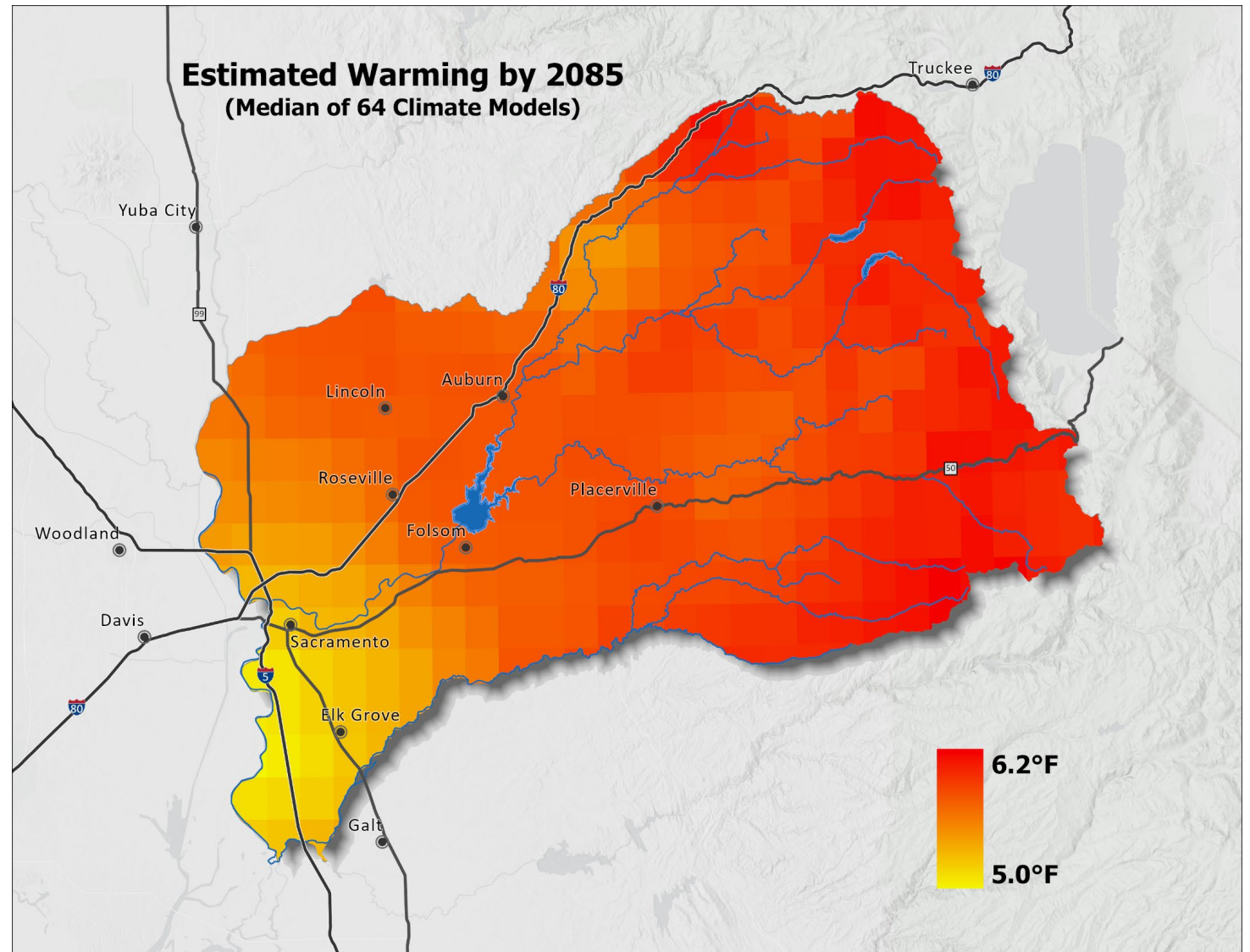
Today's discussion:

- A peer-level look at **how resilience is being operationalized**
- Lessons from agencies navigating **climate, infrastructure, and system risks**
- A shared conversation on **what's next for our industry**

Future Changes in Temperature

4 to 7 °F increase in temperature by year 2085.

Some models show 10 degrees by end of century



Ripple Effects of a Changing Water Cycle

Small shifts. Big consequences.

- Atmospheric rivers already drive major flood risk in the West (*damages ~\$1.1B annually; majority of CA levee failures*)
 - Up to **40% more rainfall**, **15% larger**, **+6 hours longer** per °C warming

Major earthquakes (Mw 5+) occur during dry periods

- Linked to **drought and groundwater extraction**
 - 2024 produced a record number of earthquakes for California, 144 at +4 mag.

Less water is making it to our systems

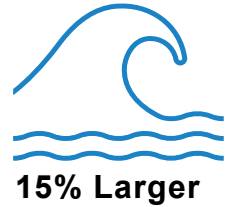
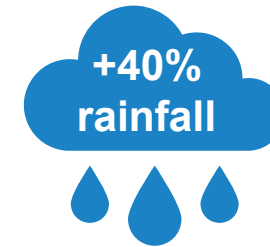
- More evaporation = less recharge to **rivers, reservoirs, and aquifers**
 - Increasing water vapor fuels torrential rainfall: per degree of warming, the atmosphere holds nearly 7% more water vapor, adding to heat retention

The ground is literally sinking

- San Joaquin Valley: **up to 1 foot/year subsidence (2006-2022)**
 - Subsidence may cause areas which were not previously the lowest-lying area to take on more water than previous flood plans accounted for

More is coming

- Winter **coastal waves are up a foot from 1970**. By 2035 the Moon Wobble stays in effect for a decade... By 2050, California sea levels rise by about a foot higher than 2000 levels...



Climate Adaptation Master Plan for Water

An Iterative and Adaptive Process to Achieve Long-Term Regional Resilience

CAMP4W integrates

- water resource planning
- infrastructure development
- climate adaptation
- finance planning

into one interconnected and iterative process





THANK YOU