Preparing California's Water System for Climate Extremes

November 5, 2019

Ellen Hanak

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California water management must adapt to change

- Changing climate
- Population growth
- Mandated groundwater sustainability
- Technology, regulations
- State, federal, local relationships

Paso Robles. Photo: DWR

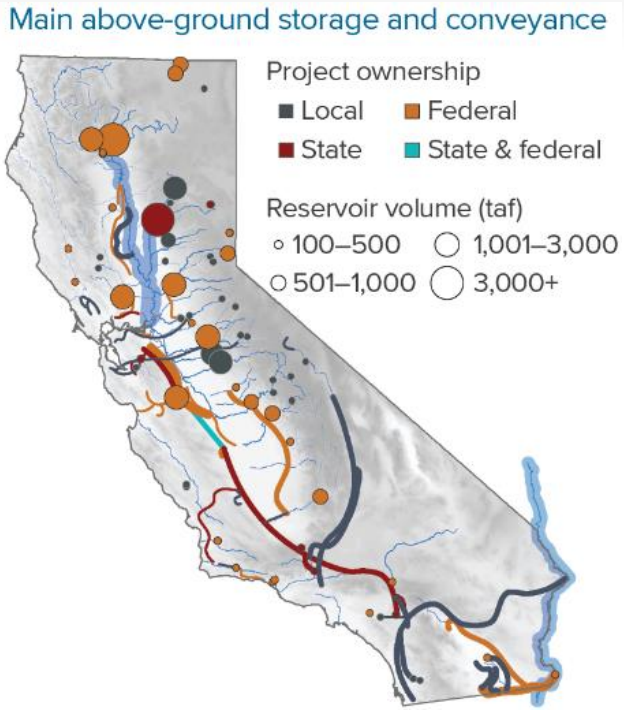
Climate pressures have broad impacts on California's water management…

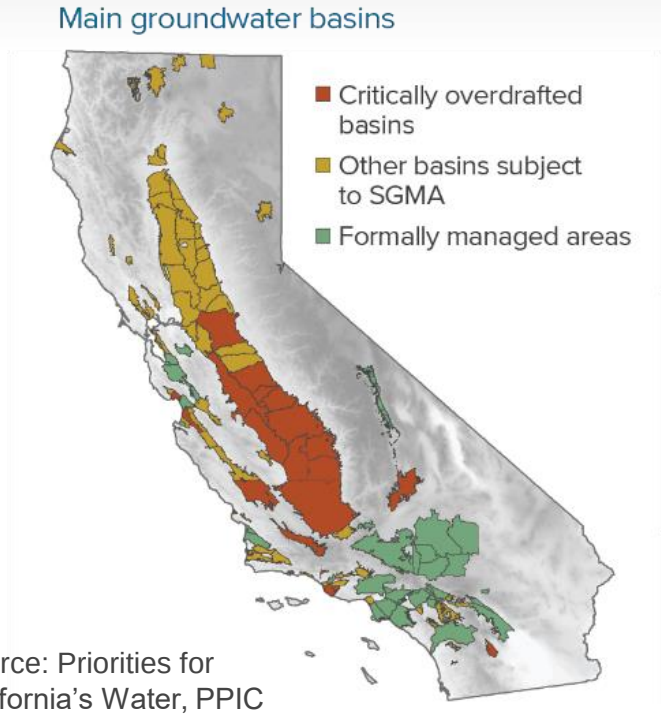
…and addressing them requires an innovative, integrated portfolio of solutions

- Increased volatility makes it harder to store water, manage floods, protect ecosystems
- Aging water grid based on outdated hydrology
- Increasing extremes affect supply and demand patterns

Oroville Spillway damage in 2017. Photo: DWR

Modernize the water grid





Source: Priorities for California's Water, PPIC

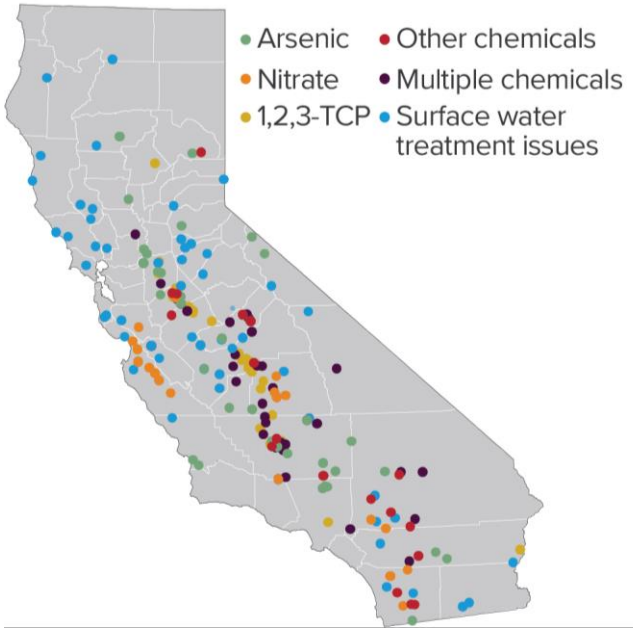
Prepare for changing supply and demand

- Emphasize regional portfolios
- Connect water and land use planning
- Make it easier to trade water

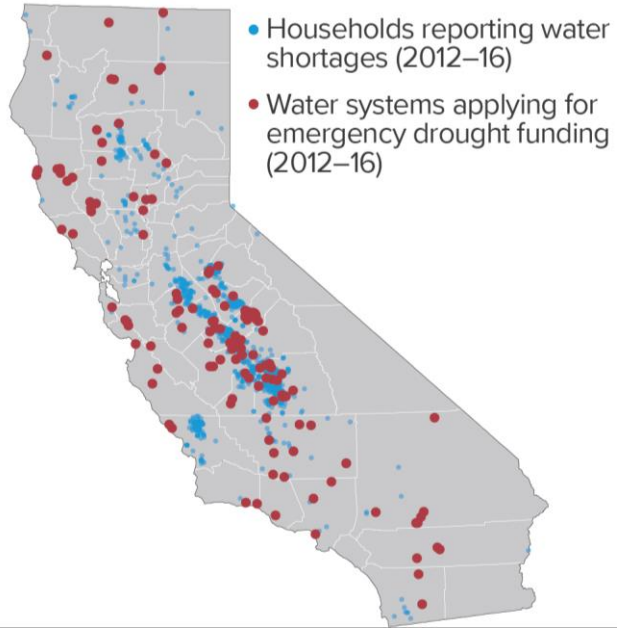
Water flowing from an irrigation system. Photo: Getty Images

Provide safe and affordable drinking water

Communities with unsafe water



Communities facing shortages



Source: Priorities for California's Water, PPIC

Reduce wildfire risk in headwater forests

- Pick up pace and scale of management on federal lands
- Use new tools on private lands
- Identify multiple benefits and beneficiaries
- Stretch available funds

Mechanical thinning. Photo: Michael De Lasaux

Improve the health of freshwater ecosystems

- Promote watershed-scale planning and management
- Use new tools (e.g., ecosystem water budgets)
- Anticipate, prepare for change

Many native fishes are at risk. Photo: Getty Images

These issues all come together in major watersheds

- Watershed-wide solutions are key to improving resilience, managing for competing goals

Sacramento-San Joaquin Basin
Photo: DWR

Colorado River Basin
Photo: Getty Images

Four principles for managing water in changing climate

- **Flexibility** to manage increased volatility and build resilience
- **Incentives** to implement smarter, more flexible management
- **Alignment** across agencies to make it easier to trade water, recharge aquifers, restore ecosystems
- **Multiple-benefit approaches** to broaden cooperation and leverage more sources of funding

Collaboration is essential for lasting solutions

Photo: Lori Pottinger

About these slides

These slides were created to accompany a presentation. They do not include full documentation of sources, data samples, methods, and interpretations. To avoid misinterpretations, please contact:

Ellen Hanak (hanak@ppic.org, 415-291-4433)

Thank you for your interest in this work.

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