Priorities for California Water: Thriving with Less

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Supported with funding from the annual sponsors of the PPIC Water Policy Center
We are in the era of the hot drought

Source: Climate Tracker, Western Regional Climate Center

1950-2000 baseline
One big change: A thirstier atmosphere

Evaporative Demand Water Year 2021

Water Year Evaporative Demand
California North of 36N

Source: Mike Dettinger
The 2012-16 drought “broke” our groundwater supplies

- Dramatic groundwater level declines with increasing costs and dry wells
- Groundwater water quality degradation
- Widespread land subsidence
- Surface water depletions impacting flows and ecosystems
- Culminating in the 2014 Sustainable Groundwater Management Act

2021 “broke” the Central Valley water supply system

Where water goes in the Delta watershed

<table>
<thead>
<tr>
<th>Year</th>
<th>Water sources</th>
<th>Water uses</th>
<th>Delta outflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Water sources: Net runoff, Storage release</td>
<td>Water uses: Upstream use, In-Delta use, Exports</td>
<td>Delta outflow: System outflow, Ecosystem outflow, Uncaptured outflow</td>
</tr>
</tbody>
</table>

100% of 2021 runoff was used upstream or within the Delta

Did 2022 “break” the Colorado River?

- Conditions are worsening fast, and feds are pressing for more action
- California has largest share, most senior rights
- But urban, ag communities will need to adapt to using less

Source: NASA Earth Observatory
The consequences of scarcity are widespread

- Farmland falling—esp. in Sacramento Valley
- Dry drinking water wells in many small communities
- Tight supplies in some import-dependent cities (esp. So Cal)
- Crisis for fish, waterbirds

California has the capacity to adapt to changing conditions

- Smart demand management
  - Continued efficiency gains, flexible trading, nimble state oversight
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- **Strategic supply investments**
  - Alternative supplies (e.g., recycled water)
  - Above and below-ground storage, conveyance to take advantage of wet years
We need to take better advantage of wet years

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- Safety nets and farmland transition support
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- Governor’s new drought strategy addresses many of these issues
And there are new resources available to help

- Federal support
  - Bipartisan Infrastructure Bill
  - Inflation Reduction Act

- State support
  - Drought and Water Resilience Package (2021)
  - Climate Resilience Package (2021)
  - Drought Response and Resilience Package (2022)
  - Nature-based Solutions Package (2022)
Today’s panels: How to better manage through surplus and shortage?
Note on the use of 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:

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Thank you for your interest in this work.