

Priorities for California Water: Stewarding the Wet Years

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Ellen Hanak



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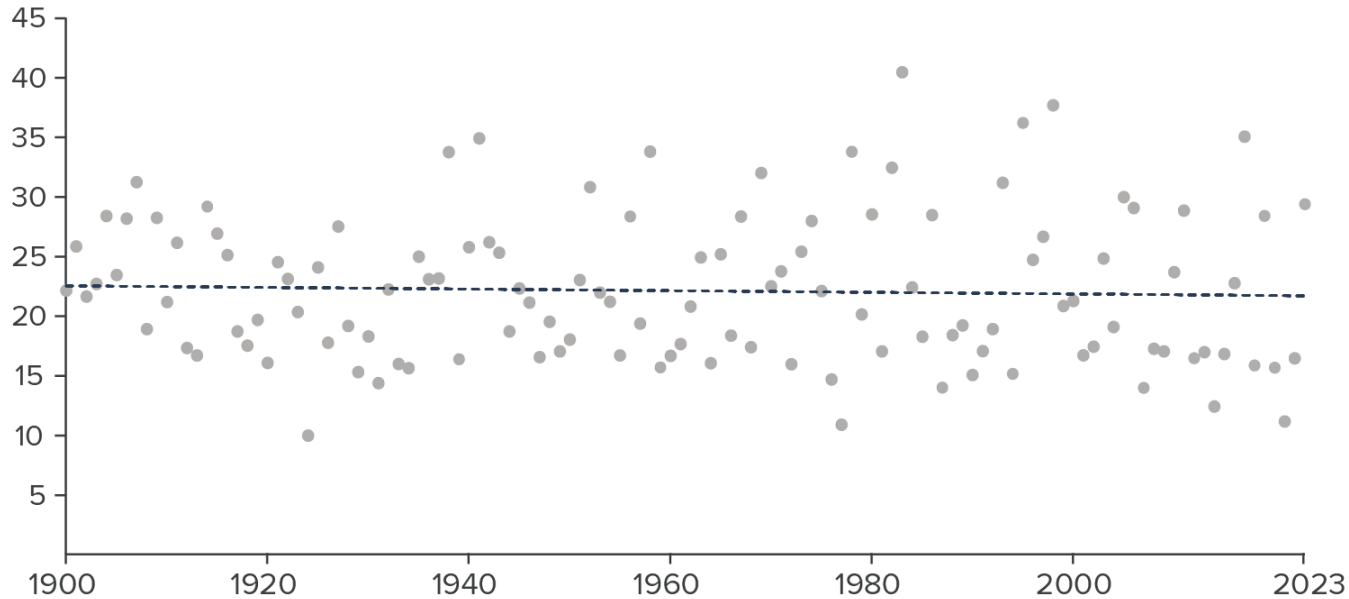
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On average, California's precipitation has not changed...

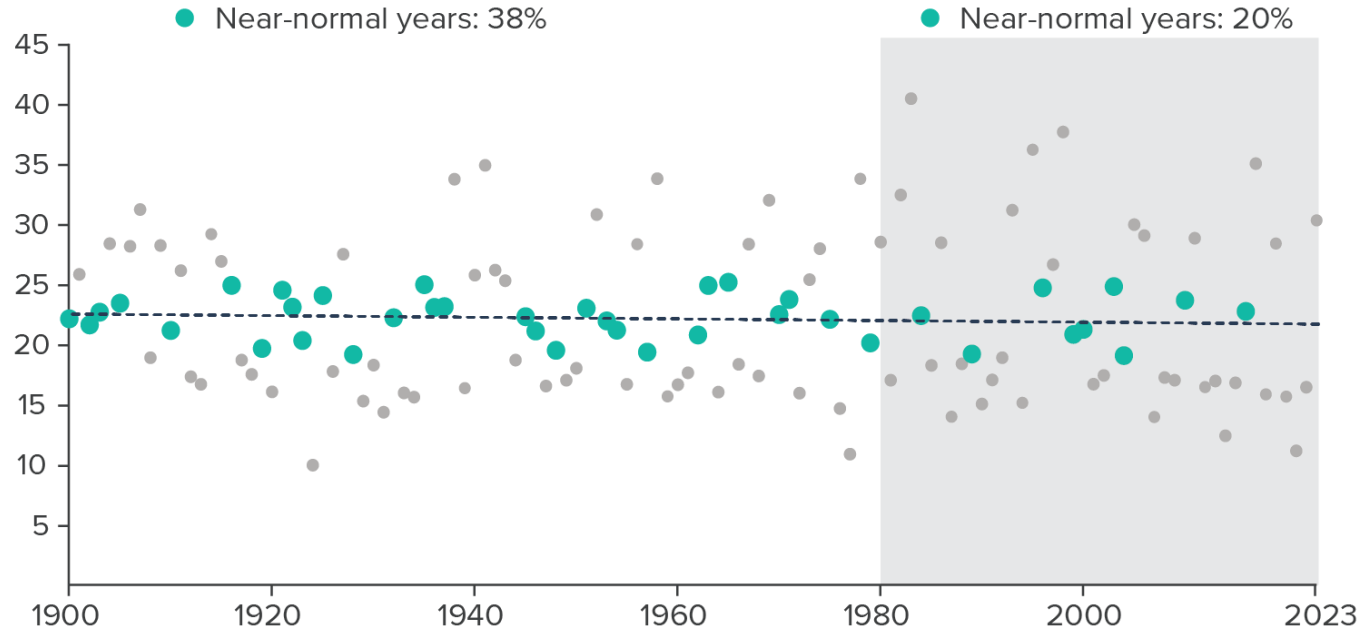
Annual precipitation (inches)



Source: Mount, Sencan, Dettinger, *PPIC Blog*, Sept. 27, 2023.

...but we're getting fewer "near-normal" years...

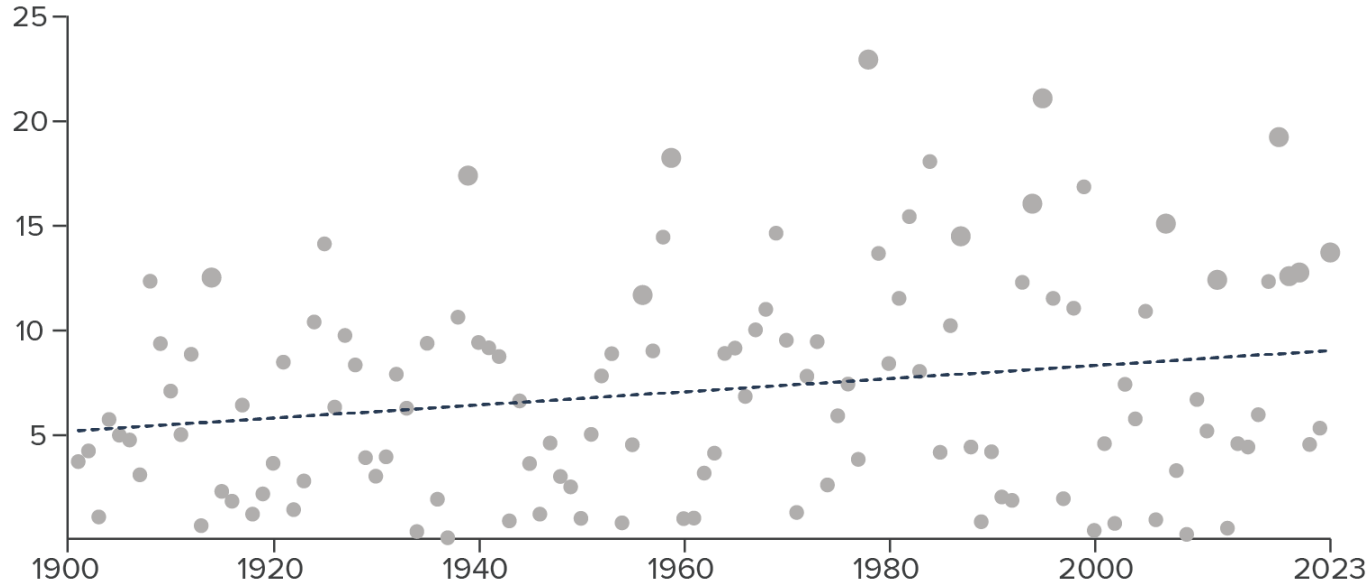
Annual precipitation (inches)



Source: Mount, Sencan, Dettinger, *PPIC Blog*, Sept. 27, 2023.

...and volatility is on the rise...

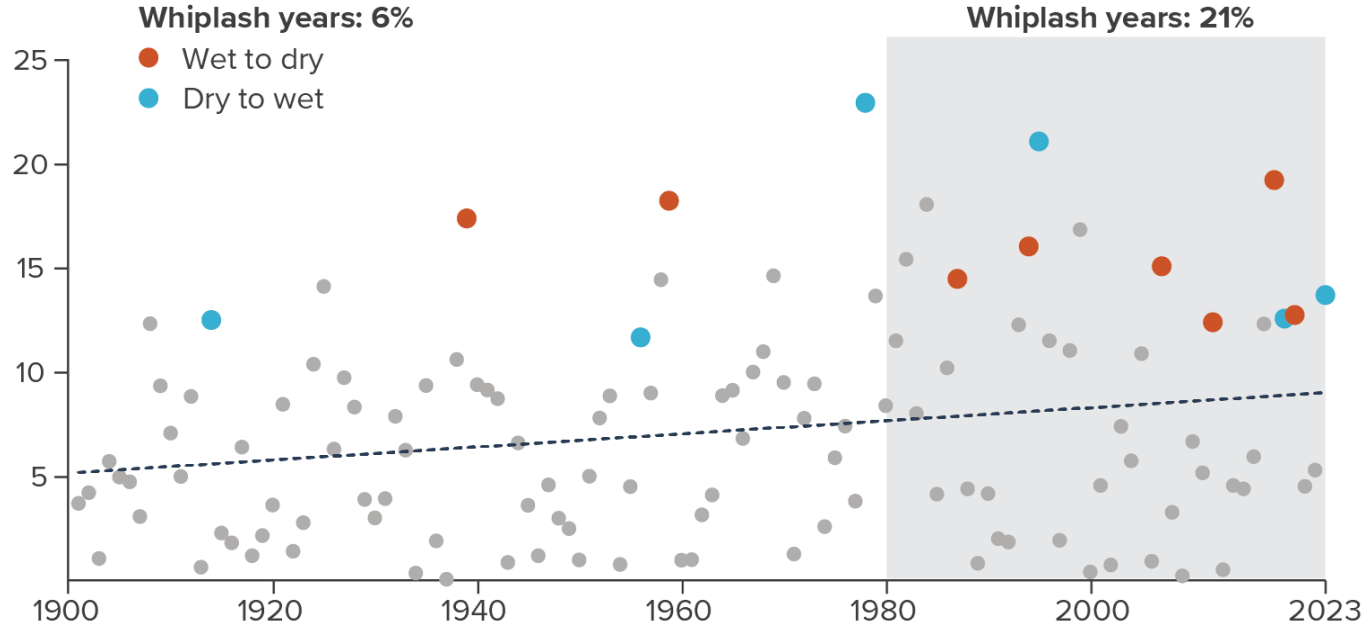
Annual precipitation change (absolute value, inches)



Source: Mount, Sencan, Dettinger, *PPIC Blog*, Sept. 27, 2023.

...with more frequent “whiplash” years

Annual precipitation change (absolute value, inches)



Source: Mount, Sencan, Dettinger, *PPIC Blog*, Sept. 27, 2023.

Chaotic water year 2023 was a case study in extremes

- **A very dry fall**—with expectations of continued drought
- **A “winter in three weeks”**—intense storms, widespread flooding
- **A dry mid-winter**—raising fears of repeating early 2022
- **An epic snowpack**—cool, late season storms, and the reemergence of Tulare Lake (first time since 1997)
- **A warm summer, with a surprise**—record precipitation, flash floods from Tropical Storm Hilary in Southern California

With all this water, how did we do?



Storing water in 2023: The good news

- Depleted surface reservoirs filled quickly
- New efforts to recharge depleted groundwater basins...
- ...including attempts to co-manage flood risk and recharge, supported by executive orders



Storing water in 2023: The pressure points

- Insufficient opportunities for storage south of the Delta
- Incomplete preparation for recharge
- Unrealized potential to improve community wells
- Lack of strategic storage for the environment



Managing floods in 2023: It could have been much worse

- Nearly 2 dozen deaths, \$4.6+ billion in damages
- Timing of storms, cool weather helped
- So did coordination, use of near-term forecasts



Managing floods in 2023: The growing challenges

- Aging, insufficient infrastructure
- Poor regional flood planning, response
- Gaps in protection for low-income communities
- Insufficient nature-based solutions
- And bigger storms are on the horizon



How can we do a better job managing wet years?

- **Plan better**—at the regional scale, for supply *and* floods
- **Invest**—in climate-smart, wallet-smart infrastructure
- **Improve permitting**—for all facets of wet-year management
- **Prioritize low-income communities**—supply *and* flood risk
- **Steward the environment**—storage, nature-based approaches

Next up: Some conversations about how to make it happen



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](mailto:hanak@ppic.org) (hanak@ppic.org; 415-291-4433)

Thank you for your interest in this work.