

#### What is the U.S. Drought Monitor (USDM)?

The USDM is a federally funded research project, producing a weekly assessment of drought conditions across the nation. Relied on by farmers, journalists, lawmakers and regulators, it exercises profound influence on public policy. Our analysis asks the following questions:

- How does USDM define and designate drought categories (and is this consistent with USDM's own stated methodology)?
- Does California's climate justify USDM's drought declarations?
- Is water storage considered by the USDM?



#### **Key Findings**

Statistical review revealed the following:

- USDM drought categorizations are not statistically consistent with long-term climate patterns and not reproducible
- Independently sourced climate data suggests drought frequency has only marginally increased
- USDM only measures "dryness", not water availability



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## "Drought Emergency"

Maroon:

**Exceptional Drought** 

Red:

Extreme Drought

Orange:

Severe Drought

Peach:

Moderate Drought

Yellow:

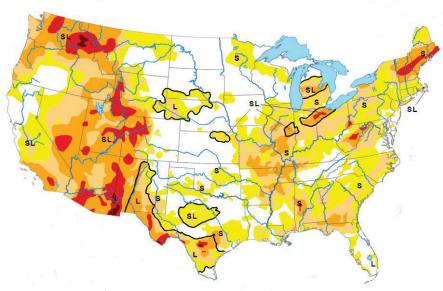
Abnormally Dry

White:

Normal or Wet

Conditions





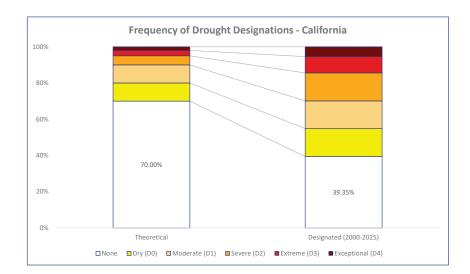


#### Droughts by USDM's Own **Methods**

Theoretical (col 1) based on historical 20th century designations (30%)

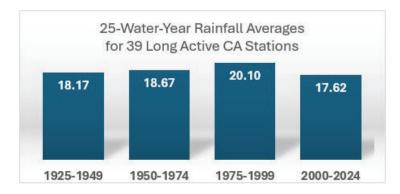
#### **Gross disparity to:**

Designated (col 2) by USDM in 21st century (60.65% = more than)2x as often as 30%)



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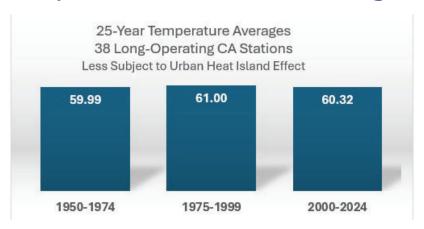
### California Rainfall Trends Unchanged



Most recent 25 years show average annual rainfall (in inches) almost identical to totals over 2 of preceding 3 quarter centuries



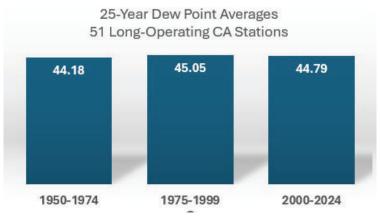
#### California Temperature Trends Unchanged



Temperatures as °F (for stations not subject to urban heat island effect) almost identical to totals over preceding 2 quarter centuries

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### California Dew Point Trends Unchanged



Dew Point (an absolute measure of atmospheric moisture) virtually identical to totals over preceding 2 quarter centuries



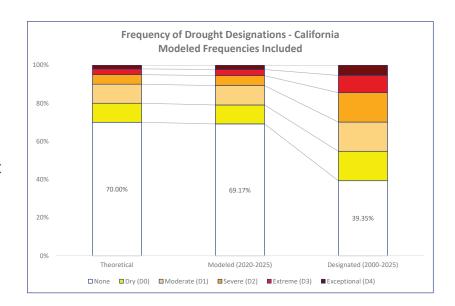
#### Droughts by: History, Data, **USDM**

Theoretical (col 1) based on **historical** 20th century designations

Modeled (col 2) based on 21st century station data (0.83% more than "Theoretical")

#### **Gross disparity to:**

Designated (col 3) by **USDM** in 21st century (30.65% more than "Theoretical")

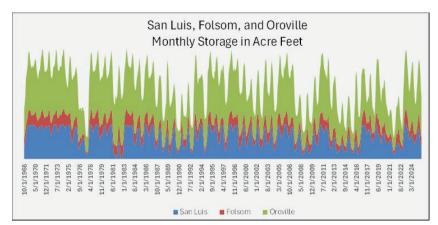




MesaWater

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## California's Major Reservoir Storage Unchanged



Reservoir storage since 1968 does not show significant downward trend; policy shapes storage levels, not rainfall (which is unchanged)

# Abundant Local Water Supply!

OC imports are lower this year (383 AF/day, Sept. 16-Oct. 15) than last year (470 AF/day, for same period)

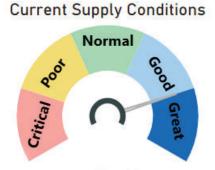
OC's two main local reservoirs are 95% full (Diamond Valley) and 84% full (Lake Matthews)

This year, OC to add 200,000 acre feet to regional storage, which is currently at 4 *million* acre feet

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October Water Supply Update





#### The USDM Misleads Policymakers

Our analysis finds the USDM drought designations to be inconsistent with their own stated methodology, as well as with historical climate data.

#### **RECOMMENDATIONS:**

- The USDM researchers should revisit their methods
- The USDM should be renamed as a "dryness" ratings
- California's climate trends don't justify declaring a "climate emergency"
- Water policy should be based on water availability, not USDM reports
- Climate adaptation should emphasize more water supply, not rationing



