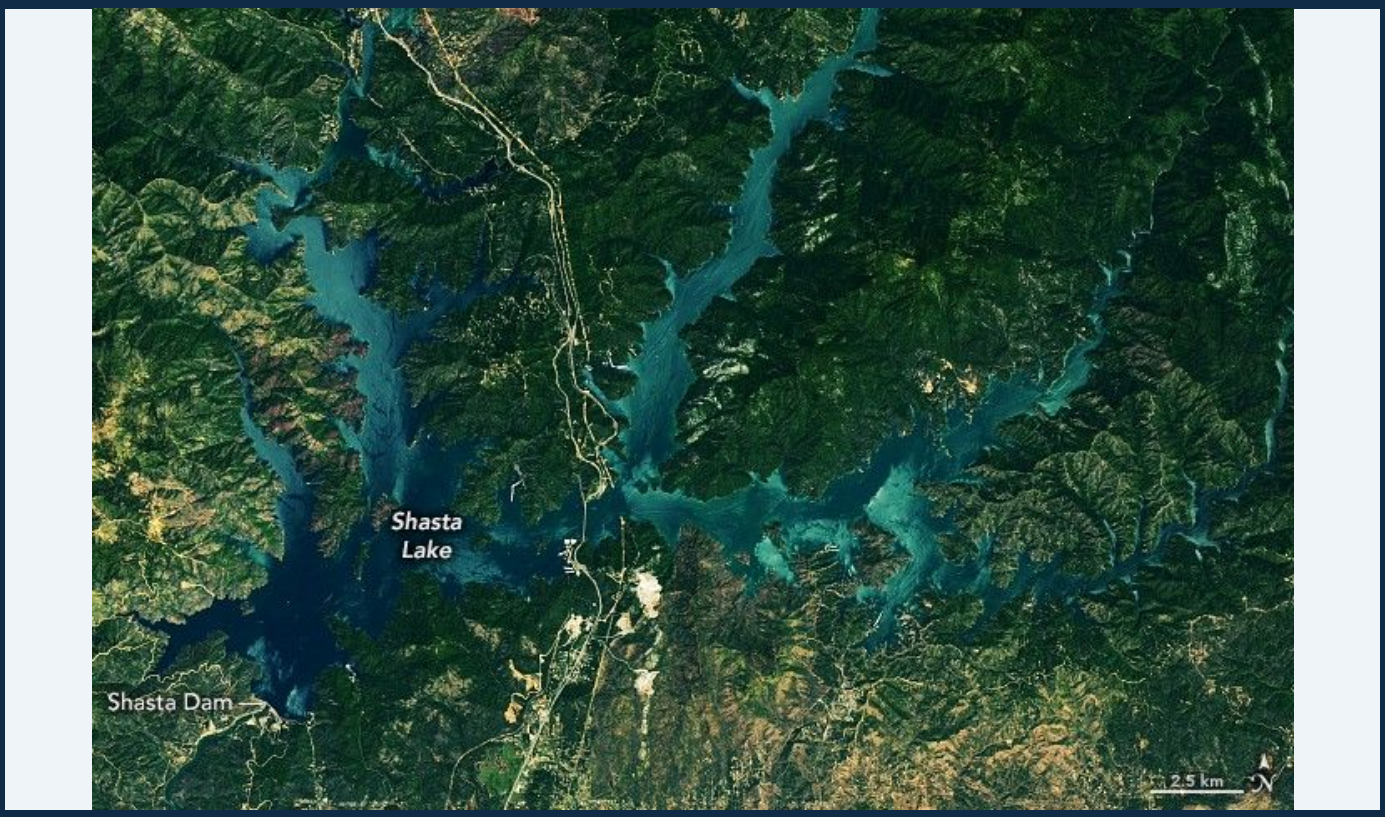
Drought, water & recovery

A full reservoir is a useful fact. It is not the whole water story.



Shasta Lake on 29 May 2023, after its spring refill. Credit: NASA Earth Observatory/Lauren Dauphin, using USGS Landsat data.

Historical evidence. Better questions. Useful records.

Reservoir snapshots, groundwater evidence and local impact reports reveal why drought recovery needs more than a single percentage.

What the records reveal

SCOPE AND METHOD

Selected U.S. examples from 2022-2023 plus a reporting method. Percent of capacity is kept separate from percent of historical average. These are historical records, not present-day drought conditions.

A COMPARISON WORTH MAKING

Surface water can rebound while groundwater remains depleted. Compare like measurements over time and preserve the denominator behind every percentage.

IMAGES AND UNCERTAINTY

Photographs and satellite views carry their original credits. Quantitative charts use cited values; conceptual diagrams are explicitly labeled and contain no invented measurements. AI assisted research and drafting; references were checked and limitations retained. A picture shows a place and moment; it does not prove an entire event boundary, impact or cause. This is a historical reference, not a live warning service.

IN THIS COLLECTION

01 Shasta: the reservoir rebound 3

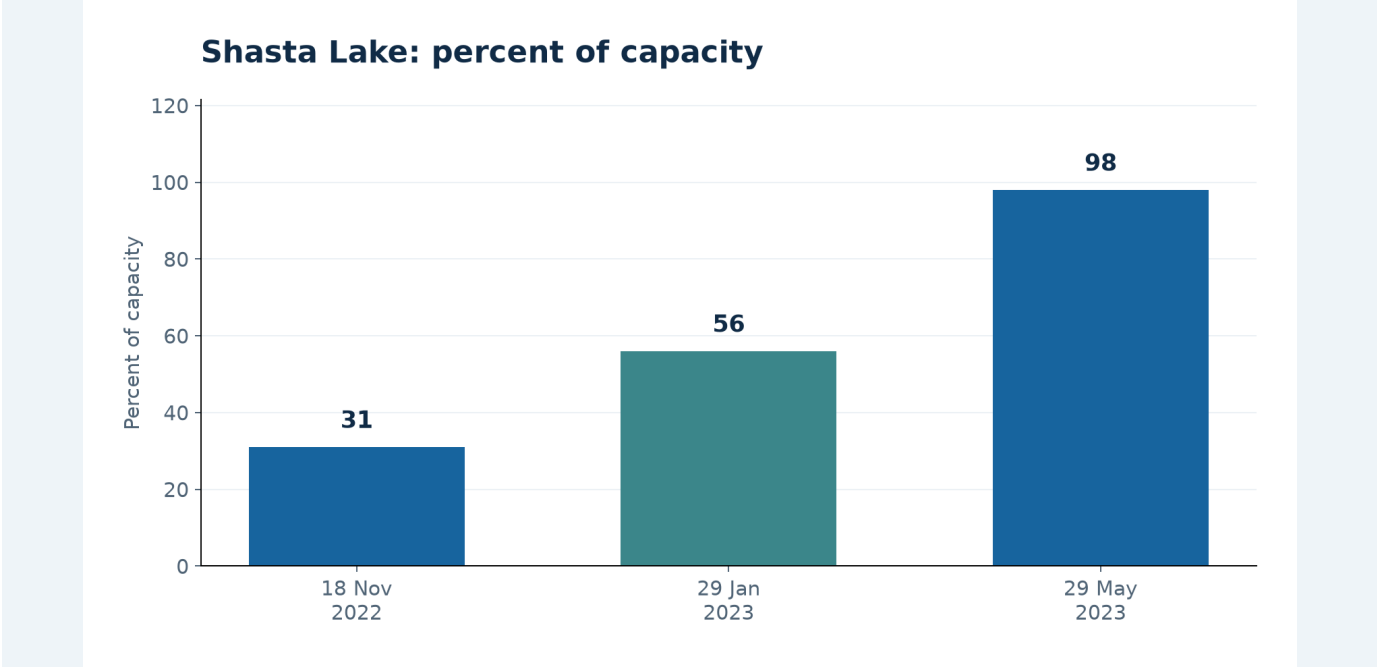
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Shasta: the reservoir rebound

18 November 2022-29 May 2023 | Shasta Lake, California



Dattle chart of California DWR figures reported by NASA in June 2023. Credit: Dattle; original graphic from the cited reference.

18 November 2022
31% of capacity

29 January 2023
56% of capacity

29 May 2023
98% of capacity

Reference
NASA citing California DWR

WHAT HAPPENED

Heavy rain and snowmelt refilled Shasta Lake after drought. NASA documented a rise from 31% to 98% of capacity between the two satellite-image dates.

WHAT THE DATA REVEALS

The January value was 56% of capacity but 87% of the historical average for that date. Those percentages answer different questions.

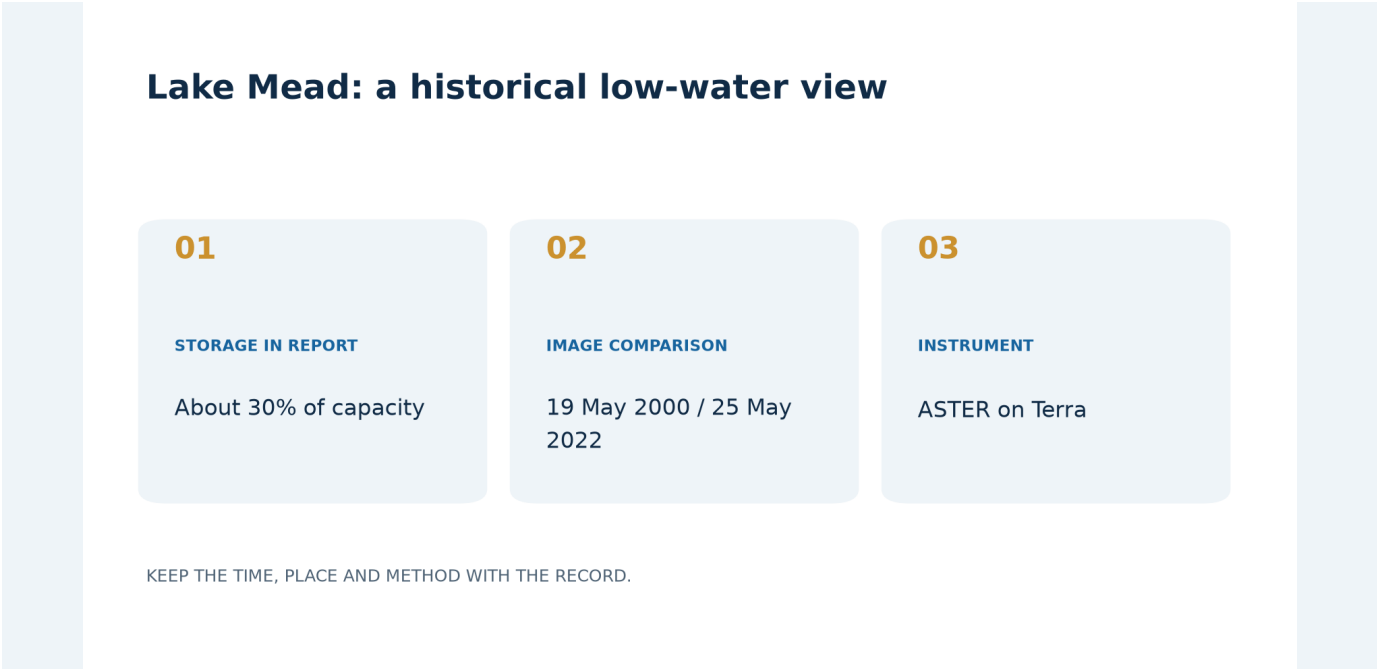
READ WITH CARE

A reservoir’s capacity is not its seasonal average, and a full reservoir does not establish that groundwater has recovered.

Source 1 > **Visual / data >**

Lake Mead: a historical low-water view

25 May 2022 image; report 26 May 2022 | Colorado River, Nevada-Arizona



Dattle reference diagram; labels summarize the cited source. Not an event photograph or measured time series. Credit: Dattle; original graphic from the cited reference.

Storage in report
About 30% of capacity

Image comparison
19 May 2000 / 25 May 2022

Instrument
ASTER on Terra

Record type
Historical reservoir snapshot

WHAT HAPPENED

JPL's May 2022 image comparison showed Lake Mead after a long decline in storage. The report described the reservoir at about 30% of capacity.

WHAT THE DATA REVEALS

Keep the acquisition dates and the source of the storage figure together. Shoreline retreat is visible, but capacity requires an additional measurement.

READ WITH CARE

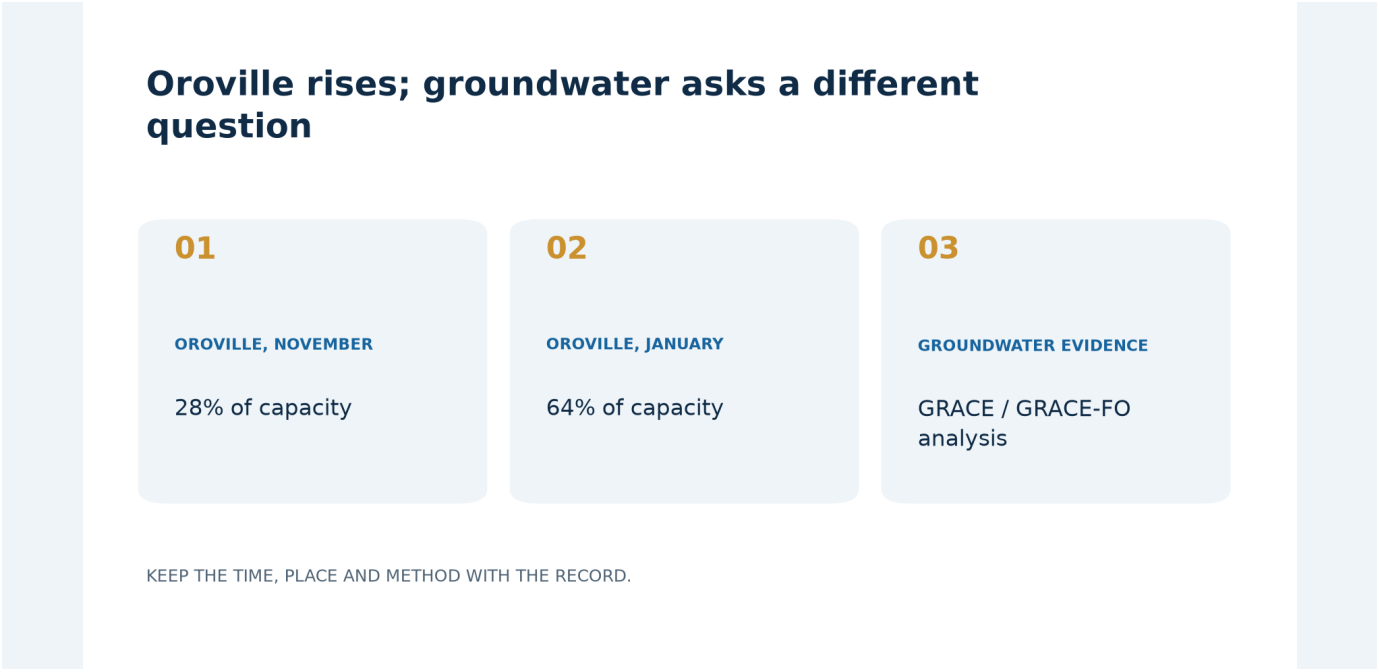
The 2022 figure is not today's level. Different reservoir shapes prevent waterline distance from being compared directly across lakes.

Source 1 >

Visual / data >

Oroville rises; groundwater asks a different question

19 November 2022-30 January 2023 | Oroville and California's Central Valley



Dattle reference diagram; labels summarize the cited source. Not an event photograph or measured time series. Credit: Dattle; original graphic from the cited reference.

Oroville, November
28% of capacity

Oroville, January
64% of capacity

Groundwater evidence
GRACE / GRACE-FO analysis

Measurement distinction
Surface storage versus groundwater

WHAT HAPPENED

NASA described Oroville's rapid refill while explaining continued groundwater depletion in the Central Valley. Rain and reservoir recovery do not automatically reverse long-term aquifer losses.

WHAT THE DATA REVEALS

Track the water store explicitly: reservoir, soil, snow or aquifer. An improvement in one does not establish the same improvement in the others.

READ WITH CARE

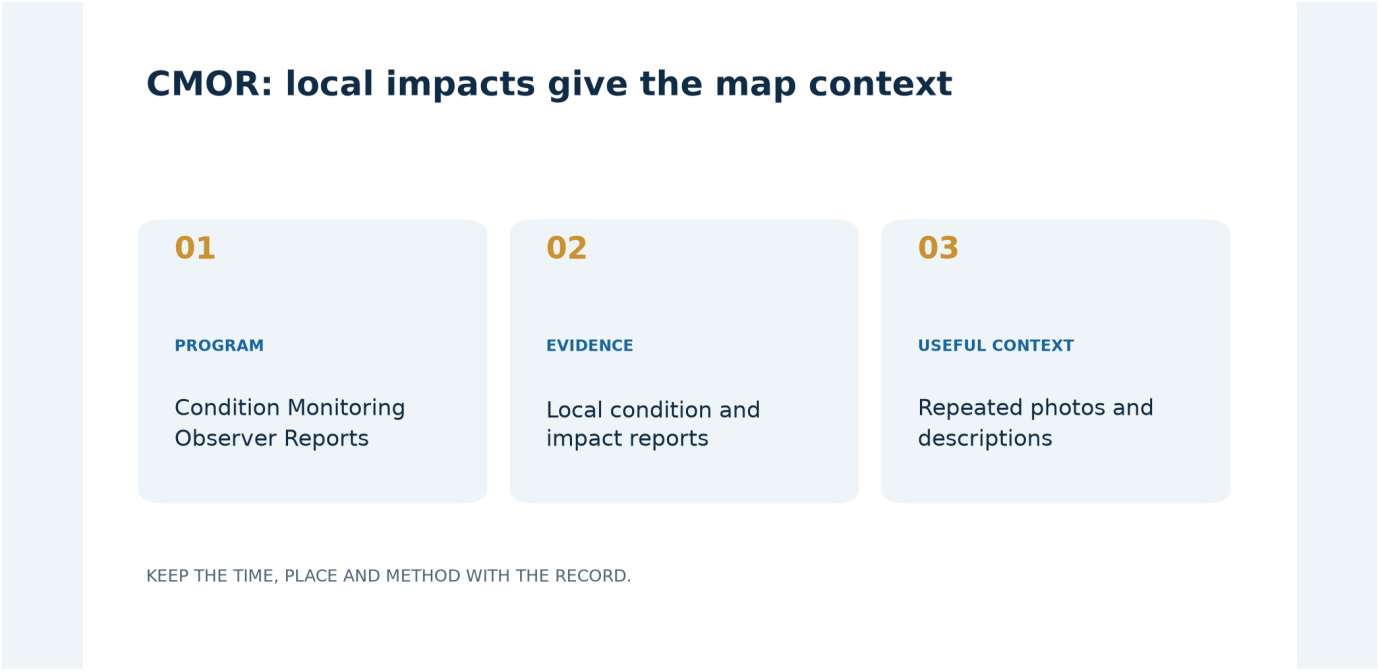
GRACE measures changes in total water storage; groundwater estimates require additional analysis. The graphic is a conceptual separation, not a measured water budget.

Source 1 >

Visual / data >

CMOR: local impacts give the map context

Monitoring method; program began 2018 | United States



Dattle reference diagram; labels summarize the cited source. Not an event photograph or measured time series. Credit: Dattle; original graphic from the cited reference.

Program
Condition Monitoring Observer Reports

Evidence
Local condition and impact reports

Useful context
Repeated photos and descriptions

Partner role
Complements official monitoring

WHAT HAPPENED

CMOR collects reports about local conditions and drought impacts. Observations can show effects on land, vegetation or water use that a broad map alone cannot describe.

WHAT THE DATA REVEALS

A repeatable site and consistent description make a dry-to-wet transition easier to evaluate. Record recovery as well as deterioration.

READ WITH CARE

A local report is not an official drought classification. Keep the official map date and local observation date separate.

Source 1 >

Visual / data >

From examples to observations

A USEFUL RECORD KEEPS ITS EVIDENCE

Keep the time, place, measurement method, unit, source and uncertainty with every observation. Separate what you saw from an estimate or interpretation. Repeat observations consistently, and retain the original evidence when updating a record.

SUGGESTED DATTLE FIELDS

- Site or basin and observation date
- Reservoir storage and capacity unit
- Historical-average period and percentage
- Groundwater or soil-moisture method
- Local impacts and repeat photographs
- Official drought category, source and uncertainty

AI AS AN ACCELERATOR

Use this prompt to draft a collection structure, then review it. AI can organize the questions and fields; it cannot supply missing observations or replace source verification.

> Create a Dattle for drought, water & recovery. Include Site or basin and observation date, Reservoir storage and capacity unit, Historical-average period and percentage, Groundwater or soil-moisture method, Local impacts and repeat photographs, Official drought category, source and uncertainty. Start with an empty collection. Separate observations, estimates and interpretations. Do not invent measurements, dates, locations or sources. Retain units, uncertainty and source links; flag missing information for review.

Explore Dattle at dattle.com. Availability, features and plan limits are described on the website.

Sources and image credits

Primary references checked November 12, 2026. Records and estimates can be revised. Every case page links to its evidence; full addresses are retained here for reuse.

01. Shasta: the reservoir rebound - primary reference
https://science.nasa.gov/earth/earth-observatory/california-reservoir-rebound-151422/

02. Lake Mead: a historical low-water view - primary reference
https://www.jpl.nasa.gov/images/pia25279-lake-mead-2022/

03. Oroville rises; groundwater asks a different question - primary reference
https://science.nasa.gov/earth/earth-observatory/reservoirs-rise-but-groundwater-woes-remain-150953/

04. CMOR: local impacts give the map context - primary reference
https://www.drought.gov/data-maps-tools/condition-monitoring-observer-reports-drought-cmor-drought