

Sample: what this outlook said from December 2024 data, next to what the SNOTEL stations then measured. First regular issue: January 2027.

Western Snowpack Outlook: March 1 and April 1, 2025

Amphibian Publishing · from data through 2024-12 · snow water equivalent as percent of the 1991-2020 normal, with the odds of a low / near-normal / high snowpack year

Why snowpack can be forecast. By late December a good share of the season's snow is already on the ground, and the rest of the winter's precipitation leans one way or the other with the Pacific. Adding those two together gives a usable read on the water that will be in the snowpack at the start of the melt season. Tested over 1982-2025 against the SNOTEL station network, the January outlook tracks the March 1 outcome with a correlation of 0.3 to 0.7 depending on the region (strongest in the northern Rockies), and gets the direction right about two years in three.

Outlook by region

Region	March 1 snowpack (expected, and odds low / near / high)	April 1 snowpack	What happened (SNOTEL)
Colorado-Utah	110% 10% above normal 30 32 38	107% 7% above normal 30 37 33	77% (Mar 1) / 78% (Apr 1)
Northern Rockies (MT ID WY)	104% near normal 31 36 33	112% 12% above normal 28 37 35	98% (Mar 1) / 98% (Apr 1)
Sierra-Cascades (CA NV OR WA)	94% 6% below normal 24 33 42	93% 7% below normal 23 36 41	99% (Mar 1) / 107% (Apr 1)
Southwest (NM AZ)	62% 38% below normal 32 35 33	snowpack usually gone by April	14% (Mar 1) / 11% (Apr 1)

Odds: chance that the region's snowpack ends in the lower, middle or upper third of the previous 30 years. Regions are weighted by each climate division's normal snowpack (water volume), so high mountains dominate. Expected percent is the central estimate; the odds are the better guide to risk.

How to use it

- Water supply and reservoirs:** a low-snowpack lean in January is early warning for runoff forecasts, allocations and drought declarations; a high lean flags flood-season and spill planning.
- Hydropower and irrigation districts:** size the odds against your own runoff-to-snowpack relationships; this is the input, not the streamflow forecast.
- Resorts:** the March 1 figure is the back half of the season and the spring-skiing base; the odds table is more useful than the single number.
- What this does not say:** snowfall inches, storm timing, or any single basin or elevation band; NRCS basin forecasts remain the authority for streamflow.

Track record

Checked against 844 SNOTEL stations, 1982-2025: January outlooks for March 1 snowpack correlate with the outcome at +0.68 (northern Rockies), +0.62 (Southwest, where the swings are largest), +0.30 (Colorado-Utah) and +0.30 (Sierra-Cascades) over 1982-2011; since 2012 Colorado-Utah has been +0.59 and the Sierra-Cascades +0.49. Direction right in 65-82% of years outside the Southwest. The full test record is public on our verification page. Monthly from the January issue, with a November early read for the northern Rockies and Southwest; contact: outlook@amphibianpublishing.com.

Amphibian Publishing is independent and not affiliated with or endorsed by NOAA, NRCS or the National Weather Service. Snowpack history: ERA5 (Copernicus) and NRCS SNOTEL. Guidance on seasonal odds; not a substitute for official water-supply forecasts.