

Winter storms blanket the East, while the U.S. West is wondering: Where's the snow?

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Published: December 1, 2025 2:17pm EDT



Much of the West has seen a slow start to the 2026 snow season.

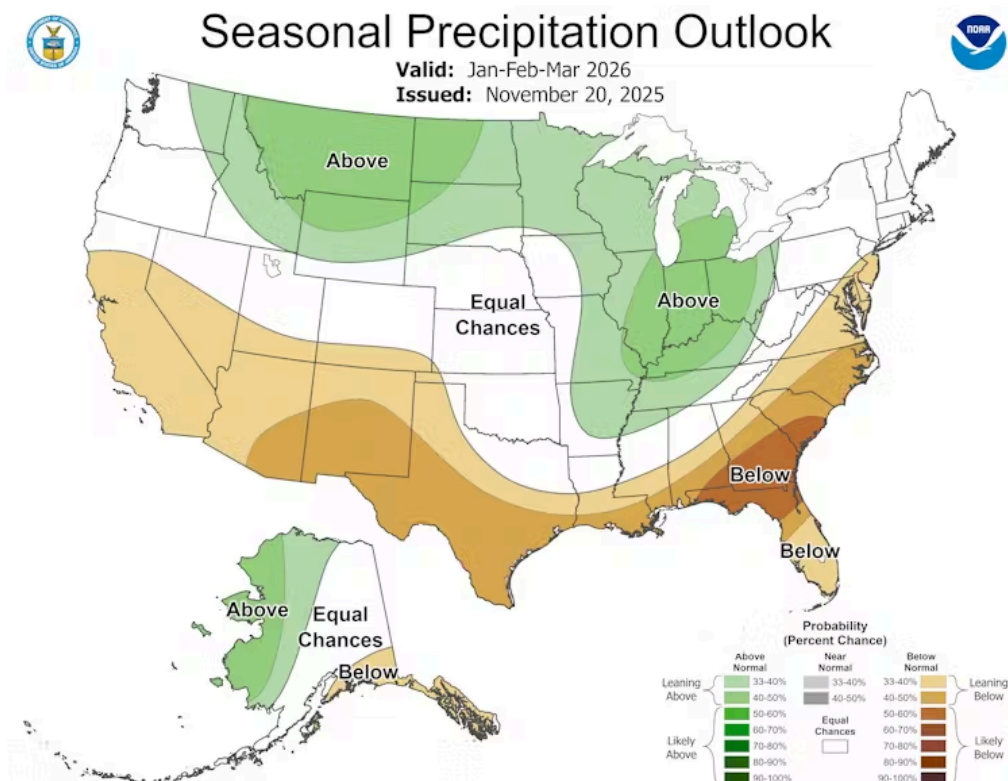
Hyoung Chang/The Denver Post

Ski season is here, but while the eastern half of the U.S. digs out from winter storms, the western U.S. snow season has been off to a very slow start.

The snowpack was far below normal across most of the West on Dec. 1, 2025. Denver didn't see its first measurable snowfall until Nov. 29 – more than a month past normal, and its latest first-snow date on record.

But a late start isn't necessarily reason to worry about the snow season ahead.

Adrienne Marshall, a hydrologist in Colorado who studies how snowfall is changing in the West, explains what forecasters are watching and how rising temperatures are affecting the future of the West's beloved snow.



The National Weather Service Climate Prediction Center's seasonal outlook for January through March 2026 largely follows a typical La Niña pattern, with warmer and drier conditions to the south, and wetter and cooler conditions to the north.

NOAA

What are snow forecasters paying attention to right now?

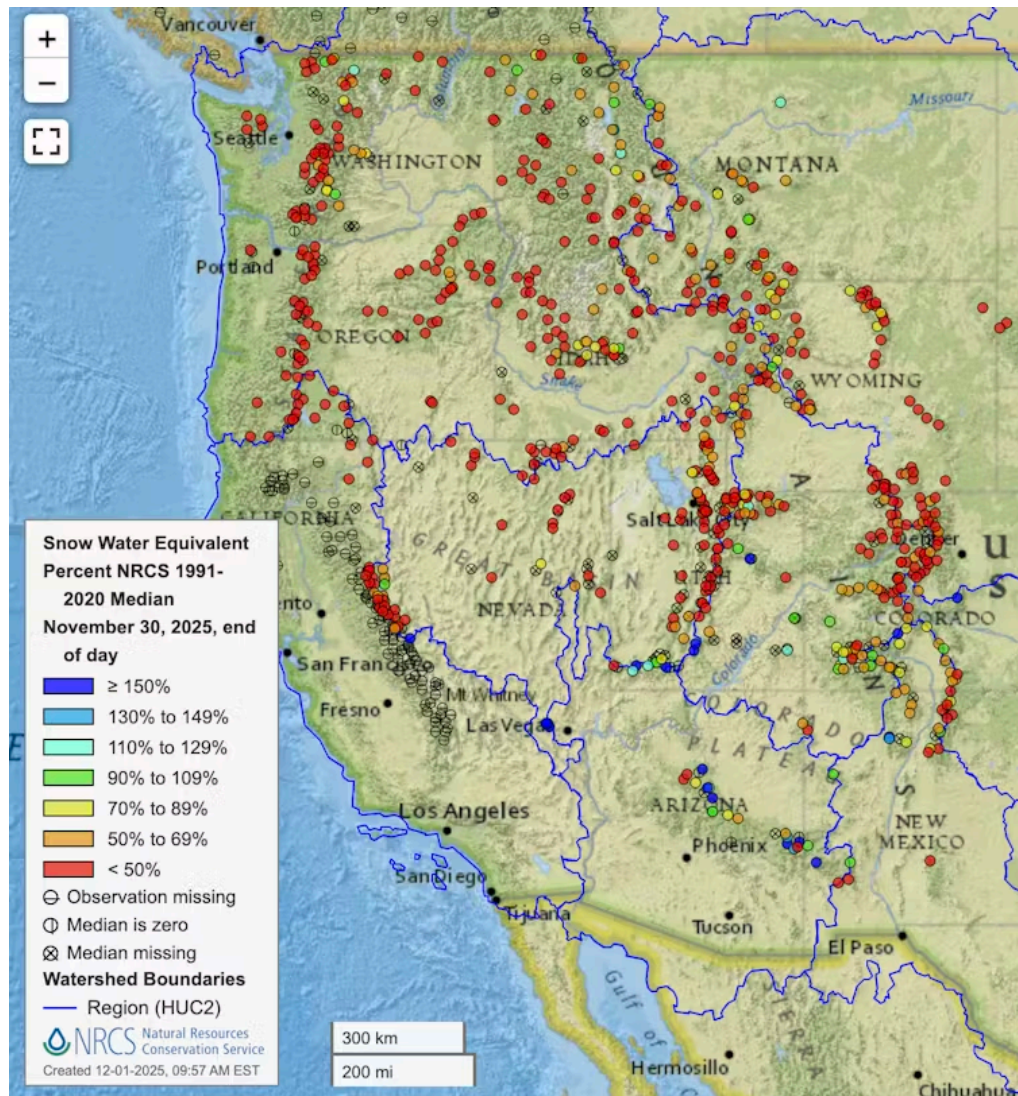
It's still early in the snow season, so there's a lot of uncertainty in the forecasts. A late first snow doesn't necessarily mean a low-snow year.

But there are some patterns that we know influence snowfall that forecasters are watching.

For example, the National Oceanic and Atmospheric Administration is forecasting La Niña conditions for this winter, possibly switching to neutral midway through. La Niña involves cooler-than-usual sea-surface temperatures in the Pacific Ocean along the equator west of South America. Cooler ocean temperatures in that region can influence weather patterns across the U.S., but so can several other factors.

La Niña – and its opposite, El Niño – don't tell us what will happen for certain. Instead, they load the dice toward wetter or drier conditions, depending on where you are. La Niñas are generally associated with cooler, wetter conditions in the Pacific Northwest and a little bit warmer, drier conditions in the U.S. Southwest, but not always.

When we look at the consequences for snow, La Niña does tend to mean more snow in the Pacific Northwest and less in the Southwest, but, again, there's a lot of variability.



Scientists often gauge snow conditions by snow-water equivalent, a measure of the amount of water stored in a snowpack. Most of the Western U.S. was far below normal on Nov. 30, 2025. Parts of the Southwest were above normal, but this early in the season, normal is very low to begin with in many of those areas.

USDA Natural Resources Conservation Service

Snow conditions also depend heavily on individual storms, and those are more random than the seasonal pattern indicated by La Niña.

If you look at NOAA's seasonal outlook maps, most of Colorado and Utah are in the gap between the cooler and wetter pattern to the north and the warmer and drier pattern to the south expected during winter 2026. So, the outlook suggests roughly equal chances of more or less snow than normal and warmer or cooler weather across many major ski areas.

How is climate change affecting snowfall in the West?

In the West, snow measurements date back a century, so we can see some trends.

Starting in the 1920s, surveyors would go out into the mountains and measure the snowpack in March and April every year. Those records suggest snowfall has declined in most of the West. We also see evidence of more midwinter melting.

How much snow falls is driven by both temperature and precipitation, and temperature is warming

In the past few years, research has been able to directly attribute observed changes in the spring snowpack to human-caused climate change. Rising temperatures have led to decreases in snow, particularly in the Southwest. The effects of warming temperatures on overall precipitation are less clear, but the net effect in the western U.S. is a decrease in the spring snowpack.

When we look at climate change projections for the western U.S. in future years, we see with a high degree of confidence that we can expect less snow in warmer climates. In scenarios where the world produces more greenhouse gas emissions, that's worse for snow seasons.

Should states be worried about water supplies?

This winter's forecast isn't extreme at this point, so the impact on the year's water supplies is a pretty big question mark.

Snowpack – how much snow is on the ground in March or April – sums up the snowfall, minus the melt, for the year. The snowpack also affects water supplies for the rest of the year.

The West's water infrastructure system was built assuming there would be a natural reservoir of snow in the mountains. California relies on the snowpack for about a third of its annual water supply.

However, rising temperatures are leading to earlier snowmelt in some areas. Evidence suggests that climate change is also expected to cause more rain-on-snow events at high elevations, which can cause very rapid snowmelt.



When snow melts quickly, it can cause flooding. That happened in 2023 in California, when fast melting from a heavy snow season flooded wide areas of farmland and almond orchards covering what was once Tulare Lake.

Luis Sinco/Los Angeles Times via Getty Images

Both create challenges for water managers, who want to store as much snowmelt runoff as possible in reservoirs so it's available through the summer, when states need it most for agriculture and for generating hydropower to meet high electricity demand. If the snow melts early, water resource managers face some tough decisions, because they also need to leave room in their reservoirs to manage flooding. Earlier snowmelt sometimes means they have to release stored water.

When we look at reservoir levels in the Colorado River basin, particularly the big reservoirs – Lake Powell and Lake Mead – we see a pattern of decline over time. They have had some very good snow and water years, and also particularly challenging ones, including a long-running drought. The long-term trends suggest an imbalance between supply and growing demand.

What else does snowfall affect, such as fire risk?

During low-snow years, the snowpack disappears sooner, and the soils dry out earlier in the year. That essentially leaves a longer summer dry period and more stress on trees.

There is evidence that we tend to have bigger fire seasons after low-snow winters. That can be because the forests are left with drier fuels, which sets the ecosystem up to burn. That's obviously a major concern in the West.

Snow is also important to a lot of wildlife species that are adapted to it. One example is the wolverine, an endangered species that requires deep snow for denning over the winter.

What snow lessons should people take away from climate projections?

Overall, climate projections suggest our biggest snow years will be less snowy in anticipated warmer climates, and that very low snow years are expected to be more common.

But it's important to remember that climate projections are based on scenarios of how much greenhouse gas might be emitted in the future – they are not predictions of the future. The world can still reduce its emissions to create a less risky scenario. In fact, while the most ambitious emissions reductions are looking less likely, the worst emissions scenarios are also less likely under current policies.

Understanding how choices can change climate projections can be empowering. Projections are saying: Here's what we expect to happen if the world emits a lot of greenhouse gases, and here's what we expect to happen if we emit fewer greenhouse gases based on recent trends.

The choices we make will affect our future snow seasons and the wider climate.

Adrienne Marshall receives funding from the National Science Foundation, the National Oceanic and Atmospheric Administration, the United States Geological Survey, the Colorado Department of Transportation, and the Alfred P. Sloan Foundation, and has received previous funding from the Carnegie Institution of Washington.

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