

Snowpack

Snow levels encouraging, but it's early

California

SACRAMENTO — A snowstorm entering its third day and the promise of another one later in the week couldn't obscure the fact that California's snow water content is still below normal.

The state Department of Water Resources conducted its first manual snow survey of the season Jan. 3, finding a snow-water equivalence of 6 inches at Phillips Station in the Sierra Nevada range.

That's 5.3 inches less than the average early-January snow-water content of 11.3 inches as measured at Phillips since 1964, state officials said.

Frank Gehrke, the state's snow surveys chief, said the readings were actually an improvement considering the Phillips station 90 miles east of Sacramento was "pretty much bare ground" about a week earlier.

"Most of the snow we measured today came down in the last couple of days and is continuing to come down," Gehrke told reporters.



Courtesy of Natural Resources Conservation Service

NRCS hydrologist Julie Koeberle explains snow survey findings to reporters during a media day trek Dec. 29 at Oregon's Mount Hood. The snow was 85 inches deep and contained 24.4 inches of water content, above normal for this time of year.

Electronic readings have consistently shown California's snowpack to be below normal this season, despite frequent rainstorms that have put many areas in Northern and Central California above their average

seasonal rainfall totals.

For instance, as of Jan. 2, Redding had recorded 18.81 inches of rain as of Oct. 1, well above its normal 13.24 inches for the same period, and Sacramento had registered 9.63 inches of rain, above its nor-

mal 6.51 inches, according to the National Weather Service.

Readings from the DWR's 105 stations scattered throughout the Sierra Nevada on Jan. 3 found a snowpack holding 7.2 inches of water statewide, or 70 percent of its average for the date.

The readings came as a storm that arrived New Year's Day was producing low snow levels in Northern California, and NWS forecasters predicted an "atmospheric river" this weekend would bring increasing snow levels above 6,500 feet while dumping as much as 10 inches of rain in some foothill areas.

Gehrke's readings on Jan. 3 paled in comparison with his initial survey last year, when he found a snow depth of 54.7 inches and 16.3 inches of water content, both well above the Jan. 1 average.

However, this season's was better than his first reading of the 2014-15 water year, when he found only 4 inches of water content.

The DWR and cooperat-

ing agencies conduct manual snow surveys around the first of the month from January to May, providing a basis for determining allocation levels for state and federal water contractors.

The snowpack provides spring and summer runoff for reservoirs after the rains have stopped. As of Jan. 3, Shasta Lake, the federal Central Valley Project's main reservoir, was at 73 percent of its capacity and 118 percent of its normal level, according to the DWR. But Lake Oroville, the State Water Project's chief reservoir, was at 56 percent of capacity and 91 percent of normal on Jan. 3, the agency reported.

Idaho

IDAHO FALLS — Most of the state entered the new year with an exceptionally large mountain snowpack, but reservoir storage remains below average and the forecast calls for an extended cold and dry period in early January, water experts say.

The Idaho mountains typically have about 40 percent of their usual winter snowpack by the end of December. The Upper Snake Region, however, ended the month with more than half of its usual total, said Ron Abramovich, water supply specialist for Idaho at the USDA Natural Resources Conservation Service.

December storms more than compensated for sub-par moisture in November. Abramovich said the Upper Snake River Basin above Palisades Reservoir was inundated with 180 percent of its normal December snow-water equivalent, improving its total snowpack for the water year to 162 percent of normal.

"December was a good month for almost the whole state, bringing average or better moisture, especially in the Upper Snake," Abramovich said. "We're happy with what we've got so far."

December brought 148 percent of normal snow to the Henry's Fork, 125 percent of normal snow to the Boise Basin, 144 percent of normal snow to the Owyhee and Bruneau basins and 134 percent of normal snow to the Big Wood Basin.

December snowfall was below normal in the Northern Panhandle, which received 68 percent of its usual moisture, the Spokane River Basin, which received 86 percent of usual moisture, and the Weiser Basin, which received 83 percent of usual moisture.

Lyle Swank, water master for the Upper Snake district, said the reservoir system he manages is half full, but should be about two-thirds full by Jan. 1 during a normal season.

While December snowpack did brighten the irrigation outlook, Swank said January will start with a high-pressure system bringing dry and cold weather.

According to the National Weather Service, a New Year's Day storm brought a few inches of snow to much of the state, but then the weather turned dry, with near-record cold expected to persist for at least a week.

Idaho Wheat Commission Executive Director Blaine Jacobson said growers are concerned about the potential for the cold weather to kill patches of winter wheat, though a thick snow blanket should insulate fields.

Oregon

The statewide snowpack is 22 percent above average in early 2017, which is good news but not enough to inspire confidence in the 2017 irrigation season.

Before irrigators get too confident, it should be noted that snowpacks were even higher at this point last year, said Scott Oviatt, snow survey supervisor for Oregon at USDA's Natural Resources Conservation Service.

By April, though, the advantage of that early accumulation was wiped away by high temperatures and record

snowmelt, Oviatt said.

"At this point, it's wait-and-see," he said. "Things can change on a moment's whim in spring."

The above-average snowpack also reflects conditions in early winter — unless the snow keeps accumulating, Oregon will fall behind by spring, Oviatt said.

"You really need to have storms coming in periodically, if not daily, then two to three times a week," he said.

In early January, snowpack levels across Oregon ranged from a high of 39 percent above average in the Hood, Sandy and Lower Deschutes basins to a low of 9 percent below average in the Klamath Basin, according to NRCS data.

The danger of snowpacks melting quickly in spring is that in-stream flows won't be sufficient to meet the needs of irrigators during summer, said Oviatt.

A sudden rush of melting water can also overwhelm the control structures at irrigation reservoirs, forcing managers to release water that may not later be replenished, he said.

While the weather and temperature forecast for the upcoming months is a wild card, current conditions create more optimism than early 2015, when no snow was on the ground, he said.

Washington

YAKIMA — Washington state is starting the new year with healthy mountain snowpack and above average water storage in critical Yakima Basin reservoirs.

Statewide snowpack was 114 percent of normal on Jan. 3 and Yakima Basin reservoirs were 108 percent of average.

"Things look way better than the last two years. Way cooler, more normal temperatures and above normal precipitation," says Scott Pattee, water supply specialist of the Washington Snow Survey Office of the USDA Natural Resources Conservation Service in Mount Vernon.

Snow is piling up in the Cascades and the Climatic Prediction Center is predicting continued normal temperatures and above normal precipitation for the next three months, Pattee said.

Mission Ridge Ski Area, south of Wenatchee, claimed 39 inches in 24 hours the morning of Jan. 2. All the snow delayed the resort's opening that day as crews dug out.

Pattee said he could not confirm or deny that reading but that Snotel sites in about a 20-mile radius of the ski area received from 10 to 25 inches, mostly along Naneum Ridge southeast of Mission Ridge.

"Those sites were the largest pick up of any in the state in the last two days," Pattee said on Jan. 3. Sites around Mount Adams received 8 to 10 inches, the Olympics got 13 but the North Cascades was too cold to get any, he said.

On Dec. 30, he had said the Fish Lake Snotel site up the Cle Elum River gained 14 inches of snow in three days.

Snow water equivalent snowpack in the Spokane Basin was the lowest in the state at 80 percent of normal on Jan. 3. The upper Columbia was 98 percent, the central Columbia was 95, the upper Yakima was 87 and the lower Yakima was 97.

The lower Snake near Walla Walla was 91, the lower Columbia was 132, south Puget Sound (from Cascade crest to lowlands) was 112, central Puget Sound was 122, north Puget Sound was 108 and the Olympics, 131.

As of Dec. 30, the five mountain reservoirs in the Yakima Basin were at 46 percent of capacity, which is 109 percent of normal, according to the U.S. Bureau of Reclamation.

Reporters Tim Hearden, John O'Connell, Mateusz Perkowski and Dan Wheat contributed to this report.

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