

Models predict Western U.S. snowpack in decline

The National Climate Assessment projected future snowpacks for Western mountain ranges under a high-emissions scenario.

Area/ mountain range	Snow water equivalent (% change)		Snow cover (% change)		Snowfall (% change)		Surface temperature (change in F*)	
	2050	2100	2050	2100	2050	2100	2050	2100
Cascades	-41.5	-89.9	-21.6	-72.9	-10.7	-50	1.6	7.4
Klamath	-50.8	-95.8	-38.6	-89	-23.1	-78.7	1.4	6.3
Rockies	-17.3	-65.1	-8.2	-43.1	1.7	-8.2	2.5	9.9
Sierra Nevada	-21.8	-89	-21.9	-77.7	-4.7	-66.6	2	8.1
Wasatch/Unita	-18.9	-78.7	-14.2	-61.4	4.1	-34.6	3.2	11
Western U.S.	-22.3	-70.1	-12.7	-51.5	-1.6	-21.4	2.3	9.4

Source: U.S. Global Change Research Program

*Degrees Fahrenheit

Capital Press graphic

U.S. climate report forecasts shrinking snowpacks

Winter of 2015 said to be 'harbinger'

By **DON JENKINS**
Capital Press

Snowpacks in Oregon, Idaho, Washington and California are expected to be much smaller by mid-century if greenhouse gas emissions continue to rise, according to federal projections released Nov. 3.

The Fourth National Climate Assessment, completed once every four years, asserts that the mild winter of 2014-15 may have foreshadowed the future.

"As a harbinger, the unusually low Western U.S. snowpack of 2015 may become the norm," according to the report.

The highly anticipated assessment, written by government and university scientists, reports that average temperatures globally and in the U.S. have risen by 1.8 degrees since 1885. The report concludes that it's "extremely likely" human-released greenhouse gases are the main cause.

In the Northwest — Oregon, Idaho and Washington — average temperatures are projected to rise by mid-century by 3.66 to 4.67 degrees, depending on different levels of carbon emissions. Temperatures in California and five other southwest states are



Washington Department of Ecology
This June 6, 2015, photo shows a snow-free 5,478-foot Bogachiel Peak in the Olympic Mountains. The National Climate Assessment said the low snowpack of 2015 could have been a peek at the future.

projected to rise by 3.72 to 4.80 degrees.

The warming is projected to continue in the latter half of the century, with average temperatures in the West expected to be about 8.5 degrees higher than current norms by 2100.

The low snowpack of 2015 preceded one of Washington's most severe droughts. The warm winter was caused by natural forces, not human-caused climate change, but Washington State Climatologist Nick Bond said the odds of such winters occurring will increase as baseline temperatures rise.

"It wasn't global warming, but it was a dress rehearsal for it," he said. "We know the times they are a-changing, and they already have to a certain extent."

As winter temperatures increase, the percentage of precipitation that falls as snow

will decrease. The snow that does stick will melt earlier in the spring, potentially disrupting water-management practices, according to the assessment.

In a high-emissions scenario, the average winter snowpack in the Cascades will have 41 percent less water by 2050 and 90 percent less by 2100. The Sierra Nevada, Klamath and Wasatch mountains are projected to have similar declines in snowpacks.

Precipitation is projected to increase in some places but decrease in other places. The northern U.S. is expected to have more precipitation in the winter and spring, according to the assessment.

"If we use our resources wisely, I could imagine for at least awhile, we'll have enough water to get by," Bond said.

Tiny Burnt River School shines at national FFA convention

By **ALIYA HALL**
Capital Press

UNION, Ore. — Shelby Swindlehurst was one of the first to join Burnt River School's FFA chapter when she was a sophomore at the high school. Now a sophomore at Eastern Oregon University studying agricultural sciences, she was awarded one of the organization's top honors, the American Degree, at this year's FFA national convention.

The degree is awarded to FFA members who have "demonstrated the highest level of commitment to FFA and made significant accomplishments in their supervised agricultural experiences," according to the FFA website.

Less than 1 percent of members are awarded the degree each year.

"At first I didn't realize how big it really was because I've never been around anyone who had it," she said. "Same with my advisor, but she knew it was a big deal. This year when I went to nationals, it was an eye-opener about how big an accomplishment it was."

Swindlehurst is the first in the Burnt River School District to receive the award.

Among the requirements for the American Degree are: receiving the State FFA Degree, being an active member for the past three years, having completed three years of systematic secondary school instruction in an agricultural education program, having graduated from high school, maintaining records to substantiate an outstanding supervised agricultural experience, earning at least \$10,000 and productively investing \$7,500 and having participated in at least 50 hours of community service.

Along with Swindlehurst, seven other students from



Courtesy of Jessica Wilson

From left, Stran Siddoway, Tim Barabas, Tyler Belveal, Noah Ray, Gustavo Ferrareto, Shea Swindlehurst, Shayla Winton, Shelby Swindlehurst and Jessica Wilson at the FFA convention. Barabas and Ferrareto placed ninth in the agriscience competition and Shelby Swindlehurst received the American Degree.

Burnt River participated at the convention. Shayla Winton, Noah Ray, Stran Siddoway, Shea Swindlehurst and Tyler Belveal went for the experience, and Gustavo Ferrareto and Tim Barabas competed.

Ferrareto and Barabas were exchange students from Brazil and Germany, respectively. Their Agriscience project compared 13 countries' agricultural knowledge.

"I didn't believe when Mrs. Wilson sent me the message telling me that we made it to nationals," Ferrareto said. "It was an incredible thing for Tim and I, the first people from Burnt River in FFA Nationals convention. Being exchange students made us feel a lot more special because we had the feeling that we did awesome even being against American high school students."

The results of their project showed that agricultural knowledge in urban areas of the countries were "not outstanding at all," Barabas said. The most surprising find: the U.S. ranked last in the overall average scores.

"Even in a country with an extremely effective agricultural education with FFA and subjects like animal science, ag mechanics, ag business and plant science, urban areas have a huge problem,"

Barabas said. "In our opinion, the lack of agricultural knowledge is an international problem, which can be solved even better by the cooperation of nations."

Ferrareto and Barabas placed ninth at the convention.

Although Burnt River High School, about 40 miles southwest of Baker City, Ore., has only 19 students enrolled at the high school, 17 of them are involved in FFA. Jessica Wilson, FFA advisor for the school district, said that half of the population is exchange students from around the urban U.S. and abroad.

"It's an opportunity we have that's available," she said. "I'd like it if we could get more kids to come to the school, kids that want to be in ag and experience life in the West."

Rory and Krystal Swindlehurst offer lodging for exchange students at the Burnt River Integrated Agriculture Research Ranch (BRIARR). Krystal Swindlehurst said she hopes that it helps the school grow.

"At our state convention almost every kid in our group was up there competing against schools with three thousand kids," she said. "I just think it shows that as a group they're very committed."

Marsh succeeds Gasperini at NCAE

By **DAN WHEAT**
Capital Press

Michael Marsh, a consultant and former CEO of Western United Dairyman, is succeeding Frank Gasperini Jr. as chief executive of the National Council of Agricultural Employers in Washington, D.C.

Marsh, 59, is a certified public accountant and has been a consultant in financial transactions, litigation support and media and public relations since December 2014. Before that, he was CEO of Western United Dairyman for 15 years, following seven years as director of finance and administration with the Almond Board of California. Both organizations are in Modesto, Calif. Marsh is a graduate of the University of Wyoming with degrees in accounting and history.

"Michael has the talents to drive NCAE forward through a very tough environment for agricultural employers," said Joe Young, NCAE board chairman of Goffstown, N.H.

Marsh has a "sterling results-oriented reputation" and the "vision and collaborative approach" needed, said Jon DeVaney, NCAE vice chairman and president of the Washington State Tree Fruit Association.

Marsh became NCAE president and CEO on Oct. 31. Gasperini, 66, will continue as executive vice president until Dec. 31.

"He is president. My job, at this point, is to assure his success," Gasperini said.

Gasperini has led NCAE since September 2008 and previously held sales, marketing and professional positions in agricultural industries.

Marsh succeeds Gasperini at NCAE

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