■ CLIMATE AFFECTS GRAPES

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Applegate Valley does not have any long-term climate stations, its statistics were included in the Rogue Valley AVA.

The study showed that trends of the climate parameters important for grape growing and wine production were consistent with those of the north-south regions of AVAs: less frost and longer growing season in California and shorter growing season and greater frost risk in Oregon and Washington. Elevation and proximity to the coast determine heat accumulation and risk of frost. Thus the Rogue Valley, which is inland and at a higher elevation than most AVA growing regions, has a greater risk of frost and a shorter growing season than other AVAs included in the study.

The overall data analysis shows that the average temperatures during the growing season have warmed by 0.6 - 1.3 degrees F. However, Greg warns that "trends always have underlying variability. Our trends in climate, like those elsewhere, are not a perfect linear increase every year, but incremental, as cool and late years do still occur. They just occur not as cool or late as they did decades ago.

"For example, this year the winter was cooler than any year in the last ten years or so, but it was still warmer than any winter in the 1970s. The cool and wet winter led to a coolish spring this year and delayed vine growth, but only relative to the last five years. Vine growth was average compared to the last 15 years, but still earlier than anything in the 1970s."

This trend toward longer growing seasons is a worldwide phenomenon, which, combined with the higher maximum and minimum temperatures, has helped some areas increase the range of cultivars. But it has also increased the range of pests and diseases. Additional warming, if it continues as the study suggests, will affect the types of grapes grown, the timing of all aspects of cultivation, the alteration of regional wine styles. It will even cause changes to the locations of traditional grape-growing regions.

This study and others like it lead to a prediction of more grape growers moving into the Applegate and Rogue valleys. Climate change is already pushing the prime growing area for premium wines north from their Napa and Sonoma strongholds. However, this trend is offset by the humidity of the more northerly climates that brings with it pests, mold, and mildew. In addition, water and water usage will continue to be an issue for all agricultural endeavors. According to NPR, citing a paper published in 2013 in the journal *Proceedings of the National Academy of Sciences,* "Grape growers may need to move their vineyards to higher latitudes and higher elevations to beat the heat of global warming." That is why many California grape growers are buying property in Oregon and Washington.

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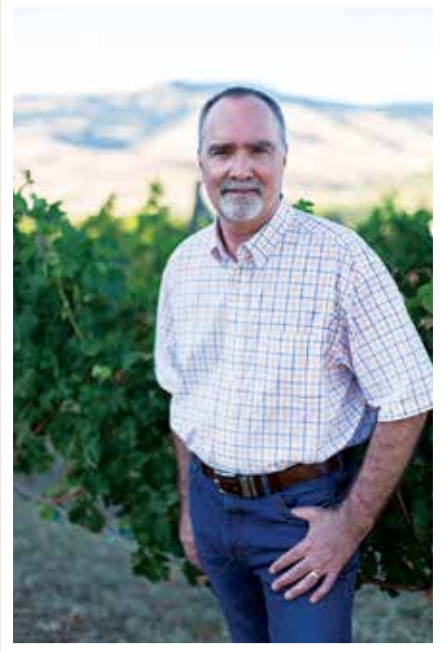
Greg Jones takes new position in McMinnville



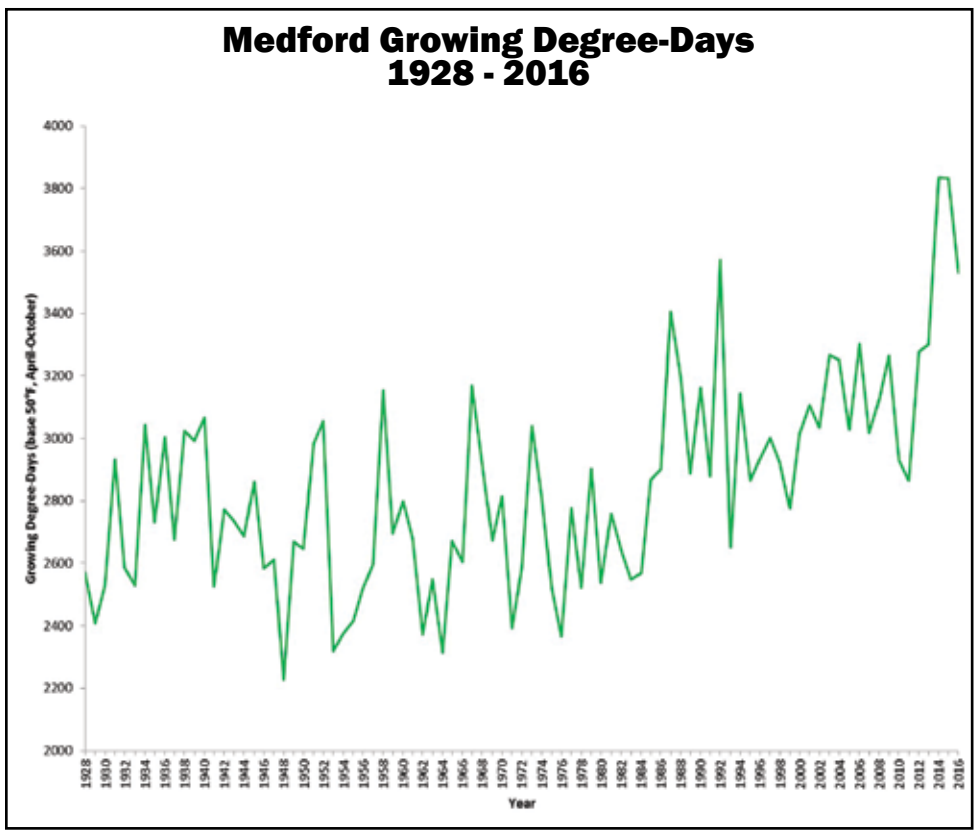
After 20 years at Southern Oregon University (SOU), Greg Jones has moved on—to Linfield College in the Willamette Valley as director of wine education.

"I'm excited to come to a small, private liberal arts college that is student-centered and regionally engaged and in the heart of the Oregon wine industry. While at Linfield, I plan to continue my research and outreach throughout Oregon, California, and the Pacific Northwest, while maintaining a strong presence as a leader of numerous national and international research teams and organizations devoted to studying viticulture and wine production," Greg said.

At SOU, in addition to being a professor and research climatologist in environmental science and policy, Greg served as director of the Division of Business, Communication and the Environment.

Greg was a contributing author to the 2008 Nobel Peace Prize-winning Intergovernmental Panel on Climate Change report. He earned a bachelor's degree and a PhD in environmental sciences with a concentration in atmospheric sciences from the University of Virginia. His research while at Virginia led his father, Earl Jones, to plant the Spanish grape variety tempranillo in Roseburg, Oregon, in 1995 and to create Abacela Winery. His stepmother, Hilda, serves on the board of directors for the Oregon Wine Board.

Last year, *Wine Business Monthly* included Greg among its top 50 wine industry leaders for his work as one of the wine world's leading climate researchers.



This graph shows the variation from year to year and the trend over the time period. 2016 was cooler than the two previous years, but still the fourth warmest overall. The 1981 - 2010 average is 3005, while the 1928 - 1980 average is 2725. Note: The Applegate Valley does not have any long-term climate stations to plot the same kind of diagram; however, "what happens in Medford happens in the Applegate, just a little lower in the absolute numbers," said Greg.

Climatic parameters used in study by Greg Jones

The daily maximum and minimum temperatures used were from the USHCN data covering 11 climatic parameters for grape growing. Five of the growing-season parameters represented temperature: (1) average temperature, (2) average maximum temperature, (3) average minimum temperature, (4) average temperature of the ripening period (August 15 - October 15), and (5) growing days of 50 degrees F or higher. The other six parameters were on frost and the critical minimum temperature with occurrence below 32 degrees F, and included the number of days below 32 degrees F, both annually and during spring (March - May) and fall (September - November). Also important to the data parameters are the dates of the last spring frost and the first fall frost. Finally, the length of the frost-free period was also studied.

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If you're willing and able, email gater@applegater.org.