



Two flavors of drought

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In common with many snowy areas of the world, the Pacific Northwest receives most of its precipitation in the October-March period, and snow provides much of the storage for summer water use. Two distinct types of drought occur: winters with low snowpack, either because of unusually low precipitation or unusually high temperatures, and exceptionally dry summers. The summers of 2003 and 2004 exemplified the summer type of drought, while 2005 exemplified the winter type. The two flavors of drought have different impacts on water-dependent resources, including municipal water supply, agriculture, forest ecosystem health, and wildfire. Owing to the lead time afforded by the low-snow (winter) type of drought, combined with the skill of seasonal forecasts in the winter and new modeling capabilities, the predictability of the two types of droughts is substantially different. Examples of a new data assimilation and hydrologic modeling capability show the emerging potential for better real-time drought diagnosis and prediction.