

## **Review of the 2010 Water Year in Colorado**

Nolan J. Doesken, Mike Gillespie and Wendy Ryan  
Department of Atmospheric Science, Colorado State University

**Abstract.** The 2010 water year brought a typical and yet unique assortment of weather conditions to the state that impacted hydrologic conditions throughout the year. The year began with an extremely cold October (2009) with heavy early snow over the Colorado Front Range. November rebounded warm and dry. Then winter set in in earnest in December with heavy snows especially in SW Colorado and some bone chilling early-December temperatures that damaged some of Colorado's expanding West Slope vineyards. Southern Colorado took another hit from an extensive early January storm system but meanwhile the Upper Colorado River mainstem missed most of the early and midwinter snows. Storm patterns switched as moved into spring. Southern Colorado warmed and dried, while the northern mountains took their turn for cold and snowy weather. Widespread April precipitation soaked the eastern plains and helped launch the 2010 winter wheat crop towards a very productive year. Snow melted fast and early in southern Colorado during a period of warm May weather. This rapid runoff may have been enhanced by large accumulations of dust from a series of spring windstorms across the Southwest. While in the northern mountains cool, cloudy, wet weather allowed snowpacks to linger and increase. Then a week of very warm, sunny weather in early June followed by a few days of widespread rain resulted in a surge of snowmelt runoff that raised the levels of rivers and streams in northern Colorado to their highest levels since 1997 or 1999 and produced wild river conditions for summer river rafters. For the rest of the year, above average temperatures were the rule across all of Colorado. Frequent showers and thunderstorms moistened the state through early August – again helping to assure good crops along with the adequate surface water supplies. But the last 7 weeks of the water year were very dry and unseasonably warm – especially in September. As the year ended, streamflows decreased to below average for that time of year over much of the state, but reservoir levels ended the year very near average statewide and above average for some of the large reservoirs of northern Colorado. Graphics will be presented to help tell the story of the 2010 water year and its hydrologic consequences.