

### **Near-Surface Faceting on South Aspects in Southwest Montana**

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In the winter seasons of 2006/2007 and 2007/2008, Montana State University researchers set up weather stations on north and south aspects to gather detailed meteorological and radiation data. During observation periods of about three months, the Yellowstone Club Ski Patrol recorded daily snow crystal observations and took photographs in the top five centimeters of the snowpack at the two study plots, paying special attention to the location, frequency, timing, and intensity of the near-surface faceting events. The 2007/2008 season was characterized by above average snowfall and few periods of high pressure and throughout the winter facets grew more significantly than expected on south aspects. Using macroscopic photography in the field, six distinct radiation recrystallization events between February 14 and April 10 and one diurnal recrystallization event from February 18-22 were documented. These observations correlated well with measured radiation data. Our results demonstrate that radiation recrystallization occurs in southwest Montana, that such faceting occurs more rapidly toward springtime, and that well-developed facets can form in the near-surface layers in a matter of hours.