

## **Sliding into Spring: Understanding Glide Slab Avalanches in Glacier National Park, Montana**

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Historically, wet snow avalanche phenomena, such as wet slab avalanches and glide avalanches, have not been operational forecasting concerns because ski areas have closed and backcountry recreation has declined before wet snow avalanches become significant hazards. Yet because spring-like conditions will occur earlier with anticipated climate change, an operationally-relevant understanding of these phenomena is becoming more urgent. This is certainly the case for the Going-to-the-Sun Road in Glacier National Park, Montana, where annual spring snow removal operations are threatened by numerous glide cracks and glide avalanches. In this study, we investigate precursor conditions for release of glide avalanches by comparing air temperature variables for days with multiple, single, or no glide avalanches. Preliminary analysis of 2004 - 2007 data indicates glide slab avalanches occur multiple days after a spike in minimum air temperature, but not during the day of highest minimum temperature. Days with a single glide crack avalanche occur more frequently near the peak minimum air temperature. However, when multiple glide crack avalanches occurred in one day, these events were delayed more than the single avalanches following the temperature spike. This greater lag time suggests a need for adequate water transport to reach the bottom of the snowpack.