

Review for Roering et al. “ *Bedrock ledges, colluvial wedges, and ridgetop water towers: Characterizing geomorphic and atmospheric controls on the 2023 Wrangell landslide to inform landslide assessment in Southeast Alaska, USA*”

This study presents an example of a catastrophic shallow landslide in post-glacial terrain in southeastern Alaska. The authors provide a detailed description of the event and adopt a holistic approach to investigate the causes of its initiation and runout behavior. The study is motivated by the frequent occurrence of such events in Alaska and by the existing knowledge gap regarding the triggering mechanisms of shallow landslides in post-glacial landscapes. Ultimately, the work contributes valuable insights for improving landslide risk assessment.

The findings suggest that a combination of several factors contributed to the unique characteristics of this event—namely its unusually high H/L and W/L ratios, large affected area, and high entrainment rate. The most significant factor appears to be the geomorphic setting, where a flat to gently inclined wetland overlies a steep, poorly dissected hillslope. In addition, the step-bench geometry of the slope, resulting from contrasting bedrock strengths, likely facilitated the accumulation of substantial colluvial material that was later remobilized during the landslide. Heavy rainfall, rain-on-snow events, and temperature-induced snowmelt led to oversaturation of the soil layer, serving as the immediate trigger. The potential influence of windthrow and wood pests on root reinforcement is briefly discussed; however, due to limited data, no definitive conclusions can be drawn.

The manuscript is well written and presents a clear, logical progression of ideas from start to finish. I have only a few minor comments: the abbreviation *MP* should be defined upon its first appearance, and the label *NF* in Figure 2 should be made consistent with that used in the caption.

Regards,
J. Mey