

Title: Seasonal Controls on Terrain Stability and Soil Strength across Alaskan DoD Training Lands Relevant to Mobility and Land Management

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The overarching goal of this LUCI effort is to support infrastructure development and help soldiers rapidly assess conditions on the ground that may affect their ability to maneuver safely. Project results can also help with search and rescue and other remote operational activities across the Arctic. There is a big focus on seasonal freeze-thaw depth, snow depth and type, and ice thickness because uncertainties in those ground state conditions can add risk and increase danger. We can measure a lot of parameters remotely with satellites, airplanes, and UAS but this project seeks to better align those measurements, which are by definition “remote sensing” with ground-based measurements of snow pack conditions, ice thickness, and depth of seasonal freeze or thaw. We will query a variety of historical and real time airborne and ground based measurements with geospatial machine learning analyses.