

An avalanche terrain assessment of proposed Manitoba Mountain and Whistle Stop hut-to-hut systems using a geographical information system

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Alaska Mountain and Wilderness Hut Association has proposed a hut-to-hut system on the Kenai Peninsula of Southcentral Alaska. A terrain assessment is first of several steps necessary before construction of huts begins. Locating huts in this remote area may increase the use of the area, with potential for an increase in less skilled users. It is important to provide all recreational users with safe routes and safes resting locations. A model was created to determine the amount of terrain in potential release areas. An equation was applied to the ridgelines above proposed hut sites to estimate potential run-out distances of slides. Results were compared to actual historical run-out in the area observed by the Alaska Railroad. All of this was calculated and displayed using both a GIS and knowledge of avalanche terrain. Raster data available for this area, and most of Alaska, has a fairly large cell size so many micro-terrain features are missed in the assessment. As a result of the cell size limitations there is a need for further study of these areas including field observations. Outlined in the following article is a preliminary assessment of the avalanche terrain along the proposed hut-to-hut systems at Manitoba Mountain and along the Whistle Stop route.