Approaches to minimising risk in glaciated terrain travel

Benjamin Galton-Fenzi¹, J Paul Winberry², Jacqueline Comery³, and Geoff Wilson⁴

¹SkadiNu, Hobart, Australia (ben.galton-fenzi@skadinu.com)
²SkadiNu, Hobart, Australia (paul.winberry@gmail.com)
³SkadiNu, Hobart, Australia (jacque.comery@skadinu.com)
⁴5th Element Expeditions (geoff@5thelementexpeditions.com)

With expeditions into glaciated regions on the planet becoming more commonplace there is a need to be able to make route assessments to identify potential hazards for safe operational planning. We use an example from the recently completed “the Longest Journey”, a polar expedition that has broken the record for the longest solo unsupported polar journey in human history. The expedition route is in excess of 5,600 kilometres, commencing at the Russian Novolaskaya Station (Novo), to the Pole of Inaccessibility, to Dome Argus (Dome A), and returning to Novo. The estimation and provision of several derived quantities were provided along the route that included inferred crevassing potential of the, supplemented by reporting of additional terrain conditions and hazards. Here we present the route analysis and evaluation with what was actually found under field conditions with footage obtained during the traverse. We show significant success with apriori route planning can be obtained by careful analysis and expert interpretation of available data, that include satellite data based on visible and radar imagery. This approach to minimising hazard exposure can be usefully applied to other operations, including travel over remote and glaciated field locations for science and expedition purposes.