



Glacio-meteorological conditions in the vicinity of the Belgian Princess Elisabeth Station, Antarctica

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During two consecutive reconnaissance surveys in 2004 and 2005 and a revisit in 2008, the glaciological and meteorological conditions of the vicinity of the new Belgian Princess Elisabeth Station (71°57'S; 23°20'E) on Utsteinen Ridge were investigated. We set up an automatic weather station, measured the ice thickness around the Utsteinen Ridge, and established a stake network. Results of these baseline investigations show that Utsteinen Ridge is a sheltered spot from the main katabatic winds and that also during the winter months, air temperatures are rather mild and witness the coreless winter. Mass balance is generally low (near zero) with accumulation to the east and relatively small ablation to the west of Utsteinen Ridge. Ice flow in the vicinity of the station is also minimal, since the Sor Rondane Mountains upstream of the station block most of the ice flow, a feature that is most apparent in the area where the station is situated. Measurements of the surface topography separated by four years show that the construction of the station seems to have a limited effect on the redistribution of snow around it.