



Investigation of movement of the Hans glacier by GPS methods

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The aim of the expedition organised in the summer 2004 by the Faculty of Geodesy and Cartography of the Warsaw University of Technology was the determination displacements of chosen point of the Hans glacier. GPS methods were used. Hansbreen is a grounded tidewater glacier, which flows into the fjord of Hornsund in Southern Spitsbergen, near to the Polish Polar Station. World Glacier Monitoring Service included the Hans glacier to its database and it is currently researching. On the glacier surface there are 11 immersed ablation poles. For a few years there are conducting surveys of that ablation poles which tell us about the movement of the glacier and could be used for the world weather forecast. Up till now survey were executed by using tachimetr Leica TPS 1100 and only first 5 poles were measured and the rest was only approximately located. The reference point on the Flatrygen mountain was established and we performed survey of all 11 ablation poles by using RTK GPS methods. Analysis of the results of the measurements shows that the average movement of the Hans glacier is about 60 meters per year but it depends on season and weather conditions.