

**DIFFERENTIATION OF THERMAL CONDITIONS IN THE  
FORLANDSUNDET REGION (NW SPITSBERGEN) IN SUMMER 2010.**

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The poster presents the results of air temperature measurements carried out in the Forlandsundet region (NW Spitsbergen) in summer 2010. Temperature was recorded using automatic weather station Davis Vantage PRO2 and MadgeTech loggers in 18 sites located in different environments such as tundra, glacier, and mountains at the height of 2 m a.g.l. The investigations were supported by the Polish-Norwegian Fund as part of the project entitled 'Arctic Climate and Environment of the Nordic Seas and the Svalbard-Greenland Area'.

The main results obtained are the following:

- i) Spatial temperature differentiation in the study area in the summer season is significant and reaches values of 3 and 4°C for mean seasonal and extreme characteristics, respectively,
- ii) The highest real temperature occurred on the Prins Karls Forland island, while the coldest one was in the firn field of the Waldemar Glacier. On the other hand, the highest values of temperature reduced to sea level were noted on the summit of Prins Heinrichfjella. No change was noted in the case of the spatial occurrence of the coldest temperatures,
- iii) Markedly the highest values of the diurnal temperature range were noted in the summit area of Prins Heinrichfjella, while the lowest ones were in the sites with the greatest maritime influences,
- iv) Larger spatial differentiation of temperature was noted in diurnal hours than in "night" hours, as well as in days with less cloudiness and with the occurrence of local winds, e.g. foehns.