



Seasonal variation of air temperature at the Mendel Station, James Ross Island in the period of 2006-2009

Kamil Laska (1), Pavel Prošek (2), and Ladislav Budík (3)

(1) Masaryk University, Department of Geography, Brno, Czech Republic (laska@sci.muni.cz, +420 549491490), (2) Masaryk University, Department of Geography, Brno, Czech Republic (prosek@sci.muni.cz), (3) Czech Hydrometeorological Institute, Brno, Czech Republic (budik@chmi.cz)

Key words: air temperature, seasonal variation, James Ross Island, Antarctic Peninsula

Recently, significant role of the atmospheric and oceanic circulation variation on positive trend of near surface air temperature along the Antarctic Peninsula has been reported by many authors. However, small number of the permanent meteorological stations located on the Peninsula coast embarrasses a detail analysis. It comprises analysis of spatiotemporal variability of climatic conditions and validation of regional atmospheric climate models. However, geographical location of the Czech Johann Gregor Mendel Station (hereafter Mendel Station) newly established on the northern ice-free part of the James Ross Island provides an opportunity to fill the gap. There are recorded important meteorological characteristics which allow to evaluate specific climatic regime of the region and their impact on the ice-shelf disintegration and glacier retreat. Mendel Station (63°48'S, 57°53'W) is located on marine terrace at the altitude of 7 m. In 2006, a monitoring network of several automatic weather stations was installed at different altitudes ranging from the seashore level up to mesas and tops of glaciers (514 m a.s.l.). In this contribution, a seasonal variation of near surface air temperature at the Mendel Station in the period of 2006-2009 is presented. Annual mean air temperature was -7.2 °C. Seasonal mean temperature ranged from +1.4 °C (December-February) to -17.7 °C (June-August). Frequently, the highest temperature occurred in the second half of January. It reached maximum of +8.1 °C. Sudden changes of atmospheric circulation pattern during winter caused a large interdiurnal variability of air temperature with the amplitude of 30 °C.