



The geomorphic action of wind-blown snow in the Maritime Antarctic. Preliminary results from Livingston Island.

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Wind-blown snow may cause a significant geomorphic action on exposed rock surfaces in polar and mountain environments, a process known as niveo-aeolian corrosion. Livingston Island (South Shetlands, Antarctic Peninsula region) shows a polar maritime climate with mean annual air temperatures at sea-level of ca. -2°C. 90% of the island is covered by glaciers, but several peninsulas are glacier-free with large areas of exposed bedrock terrain. Observations from Hurd Peninsula, a metasedimentary area with quartzites and shales (flysch facies) and frequent dolerite dykes, show that wind erosion is an active process on present-day geomorphological dynamics. Effects of corrosion have been observed on boulder surfaces and rock outcrops, as well as on moss covers. Painted poles have been installed at several sites in order to detect the direction of erosive winds. For obtaining snow and wind data a meteorological station has been installed in the vicinity of the Bulgarian Antarctic Station St. Kliment Ohridski, as well as air/snow temperature loggers and time-lapse cameras close to the Spanish Antarctic Station Juan Carlos I. ASAR satellite imagery provides a regional scale overview of snow cover. In this poster we present a first overview of the observations, preliminary results and discuss the methodology for the future systematical assessment of niveo-aeolian corrosion in Livingston Island.