

Intra-annual variations in aeolian sediment movement rates at sub-Antarctic Marion Island

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Recent observations have recognized the increasing role of aeolian processes as a geomorphic agent on sub-Antarctic Marion Island. Thus, this poster presents the first data on intra-annual variations in the rates of aeolian sediment flux at Mesrug (46° 56' 41"S; 37° 49' 59"E) on sub-Antarctic Marion Island. Sub-Antarctic Marion Island has a hyper-oceanic climate, with cold and wet conditions and consistently strong wind velocities throughout the year. An intensive and high resolution environmental monitoring campaign was conducted between May 2015 and April 2016 at the study site. Aeolian transported sediment was collected using Big Spring Number Eight (BSNE) sediment traps at four different heights above the ground (i.e. 0.05, 0.25, 0.45, 0.65 m) on a monthly basis. The poster also investigates the relationships between monthly aeolian sediment flux and monthly average wind speed, maximum wind gusts, and monthly rain-free days to ascertain what the drivers of aeolian sediment movement are on sub-Antarctic Marion Island. This poster advocates long-term monitoring of aeolian processes and that the link between aeolian processes and synoptic climate must be established. Further, research on wind as a means to disperse genetic material on Marion Island should be investigated.