



Project acronym: HLD-Braid

Project title: High Latitude Dust deposition in the braidplain as a major source for fluvial transport

Project leader: Jan Kavan, Masaryk University, Czech Republic

Discipline: Earth Sciences & Environment: Water sciences/Hydrology

Station(s): Rif Field Station (Iceland)

The project was focused on the quantification of a short-term High Latitude Dust (HLD) deposition in the sandur of the Oxarfjordur area, about 50 km south of the Rif field station. The transport of the material through the braidplain is often affected by important input of aeolian material contributing significantly to sediment runoff from the catchment. On the other hand, the deposited fluvial material is often a source area for further aeolian transport. These processes are highly variable both in time and space. The aim of the project was thus to elucidate these processes. Such field experiments should contribute to our understanding of the interactions between fluvial and aeolian environments in the polar environment. We were able to set up dust deposition samplers not only within the sandur as proposed but also along the river towards south. In such a way we sampled more than 100 km of the river stream (dust deposition samples and actual water with suspended sediment content in corresponding parts of the river). These samples will be processed in the lab to estimate the deposition rate, suspended sediment concentration, chemical composition and grain morphology to assess the dominant way of transport. A mapping of fluvial forms with use of UAV was also done within the sandur.

Apart the main project (as described above), we were able to carry out a small project focused on water temperature dynamics in selected lakes (on the adjacent Langanes Peninsula) which was inspired by a similar project conducted by the project leader during the InterAct field work at Hornsund station (2019). This may bring interesting results in terms of comparison of the two localities.

To sum it up, we were exceptionally lucky with weather, which allowed us to do all what was

originally planned and add some more sampling localities to the main project. The study on water temperature dynamics was a welcomed bonus too.