



The Arctic region is extremely sensitive to climate fluctuations, and the trend of air temperature changes is several times higher than the average for other areas of the globe. The current intensification of climate change affects the entire Arctic natural environment, which is reflected in the noticeable glaciers retreat, degradation of permafrost and the disappearance of sea ice. These three factors seem to have the strongest influence on the development of Arctic river deltas, but the scale and course of this interaction have not been thoroughly studied.

During **SVELTA** project, we want to tackle this challenge and answer the question of how the river delta systems in Svalbard Archipelago have responded to the last several decades of accelerated global warming and what might happen in the future when temperatures rise even faster. Using a mosaic of remote sensing methods and geographic information systems in combination with geomorphological mapping and river catchment monitoring, we will describe the current state of deltas supplied with water and sediments by glacier-fed river, snowmelt-fed streams, and rivers draining valley systems controlled by permafrost.

Remote sensing data showing delta changes since the end of the Little Ice Age along with the results of seasonal change mapping (2021-2022) will support our work on modeling of Svalbard deltas future reactions and design a new delta landscape model developing in the warmer Arctic scenario. **SVELTA** will result in the construction of a new research team focused on the processes controlling Svalbard delta evolution by joining leading polar teams from Poland, Czechia, Norway and partners from France and the United States.