



Project acronym: ReinChECC

Project title: Influence of reindeer herbivory on changing ecosystem carbon cycle dynamics on the Yamal Peninsula, West Siberia, Russia

Project leader: Marcus Spiegel, University of Oxford, United Kingdom

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Arctic Research Station (Russian Federation)

The project aims to quantify how reindeer herbivory affects Arctic carbon cycle feedbacks on the Yamal Peninsula, where the indigenous Nenets manage the world's largest reindeer herds. The influence of reindeer activity on carbon fluxes is likely important, as previous studies have shown that grazing mitigates shrub expansion and permafrost thaw due to warming. The research took place at the Erkuta field site, which is run by the Arctic Research Station. The work included a combination of drone mapping performed immediately before and after reindeer herds visited pasture areas and carbon flux measurements in enclosure experiments. The data collected address the effects of reindeer on vegetation biomass and the community composition and the implications for ecosystem functioning and the Earth system. Ultimately, the project has the potential to culminate in a spatially continuous map relating carbon fluxes to reindeer herbivory pressure within an Arctic landscape.