

Project acronym: BEACh

Project title: Biodiversity and Ecology of the Arctic Intertidal: Changes Over Time

Project leader: Catherine Waller, University of Hull, UK

Discipline: Life Sciences & Biotech

Station(s): GINR (Greenland), ARCST (Greenland)

The objective of BEACh is to understand and predict the response of the Arctic intertidal environment to ongoing and future change. Our favoured field sites (Greenland Institute of Natural Resources, Arctic Station) represent coastal areas in the West of Greenland. We intend on mapping the area, collecting sediment, invertebrates and algae using of a minimum of 3 replicate quadrats representing each habitat at each location. We will record the latitude and longitude, air and water temperature and the tidal height of each sample. Objectives: 1. Establish a baseline understanding of the intertidal in Arctic and subArctic Greenland. 2. Quantify changes in communities and species (distributions and growth rates) over time by comparing to historic records. 3. Create a legacy of a database of past and present records and easy to follow methods to allow for future replication of the study for monitoring e.g. students, ecotourism and citizen science. 4. Assess the impact of microplastic pollution both in sediments and intertidal organisms. Efforts will be made to minimise the environmental impact of the study. Where possible only voucher specimens of algae and invertebrates will be collected. Standard ethical and preservation procedures will be followed. Two people are required for minimum safe working practices in the intertidal. The proposed dates (~7 days at each station) include travel time within sites, reconnaissance, mapping, collection of samples, cataloguing and preservation of biological material and preliminary identifications in the laboratory.