

# Project Title: Carbon cycling in deglaciating aquatic landscapes

**Lead Institution/Department:** University of Bristol, School of Geographical Sciences

**Primary Supervisor:** Liz Bagshaw

**Co-Supervisor:** Anne Jungblut, Natural History Museum

**Co-Supervisor:** Suzanne McGowan, Netherlands Institute of Ecology

**Scholarship:** A fully funded PhD studentship including UK fees, annual stipend, and a research budget, is available at the University of Bristol. Study will begin in September 2025 and is funded for four years. The deadline for applications is 31<sup>st</sup> January 2025.

## Project aims and methods

In Arctic landscapes dominated by retreating glaciers, a range of permanent and ephemeral aquatic habitats host microbial communities. These communities play a critical role in local and regional carbon cycling, yet the mechanisms that store or release carbon remain poorly understood. This project will survey microbial community composition across a deglaciating landscape in Greenland and measure their relative activity using a range of geochemical and microbial techniques. We will use the data to assess the carbon budget of the different habitats (glaciers, lakes, rivers, streams) to understand how it might change in the future. The project is a collaboration between the University of Bristol and the Natural History Museum and will make use of the excellent laboratory facilities at both institutions, including cutting edge microbial and geochemical analysis suites. The student will also collaborate with the Netherlands Institute of Ecology to take advantage of additional lab facilities for pigment analyses, and an archive of historic data that enrich our contemporary observations. The student may have the opportunity to participate in polar fieldwork.

## Candidate Requirements

We are seeking a candidate with enthusiasm for a broad spectrum of environmental sciences. The project would suit someone with skills in microbiology, geochemistry, geoscience, geography or ecology. The project may involve polar fieldwork, but this is not a project requirement: analyses of archive and newly collected samples can be undertaken in the laboratory. The project is available on a part-time basis, and we are happy to accommodate flexible working. We welcome and encourage applications from under-represented groups.

## Useful Links

Please contact [liz.bagshaw@bristol.ac.uk](mailto:liz.bagshaw@bristol.ac.uk) for informal enquiries.

- <https://www.bristol.ac.uk/geography/courses/postgraduate/>
- <https://www.bristol.ac.uk/study/postgraduate/research/geographical-sciences-physicalgeography/>

**How to Apply:** Please apply to the “Geography (PhD)” programme at <https://www.bristol.ac.uk/study/postgraduate/apply/>

