ONE Planet
Doctoral Training Partnership

Natural Environment Research Council

ONE Planet Undergraduate Research Experience Placement (REP) Scheme

Placement title: Lake ecosystems in a changing climate: A focus on the Lake District

One Planet Research Theme:
Climate & Climate Change ☒ | Earth System Processes ☒ | Anthropocene ☐ | Environmental Informatics ☒

Supervisor: Sam Wilson
School/Department: School of Natural and Environmental Sciences (SNES)
University: Newcastle University

Supervision

Team members: Sam Wilson and David Earley

Placement Description:
This project engages students in the ecological monitoring programme of a UK National Park to understand how local land-use practices and global climate warming are impacting lake ecosystems. The OnePlanet REP student will evaluate the changes that can be observed in the long-term observing programme and participate in fieldwork organised by the supervisor at Newcastle University to conduct additional observations. The student will be involved in a range of fieldwork activity including: (1) harmful algal blooms in lake ecosystems (2) algal communities as an index of water quality (3) primary production measurements (4) ecological impacts of nuisance blue-green algae blooms (5) nutrient analyses. The overall objective is to enhance the long-term monitoring that has been ongoing for almost 80 years with new technology and analyses.

Timescale:
Outline of 6 weeks of work beginning on 1 July 2024:
Week1: Introductory session with the student to provide health and safety training, project familiarisation, contextual information. Week 2: Method and protocol training. Week 3: Fieldwork in the Lake District National Park, focusing on Lake Esthwaite and staying at the YHA hostel located opposite. Week 4: Laboratory analysis of field samples on campus working in Drummond, Ridley and the Medical School. Week 5: Interpretation of data within the context of long-term monitoring programme hosted by the Lake District National Park. Week 6: Completion of data analysis and report writing.

Itemised Budget for the Project:
Accommodation at YHA Estwaite (£70 per night for 3 nights, total £210); Food & expenses during fieldwork (£150); Contribution to consumables for field sampling (£70); Contribution to sample analysis costs (£50). Total: £480

Prerequisites:
Essential: Time Management; Organisation and Planning; Initiative; Basic scientific background

Desirable skills: One of the following three areas: data analysis, fieldwork or labwork

For more information, please contact sam.wilson@newcastle.ac.uk

Newcastle University

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