



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Modelling Quaternary Ice-sheet Evolution, Faculty of Environment



Salary: Grade 7 (£39,105 – £46,485 p.a. depending on experience)

Reporting to: Lauren Gregoire

Reference: ENVEE1780

Fixed term for 18 months to complete specific time limited work

Location: University of Leeds (with scope for hybrid working)

We are open to discussing flexible working arrangements

Research Fellow in Modelling Quaternary Ice-sheet Evolution, School of Earth and Environment, Faculty of Environment

Overview of the Role

Are you an ambitious glaciologist or climatologist looking for your next challenge? Do you want to work with world leaders in ice sheet and climate science to advance our understanding of ice sheets? Do you want to further your career in one of the UK's leading research-intensive Universities? The University of Leeds is recruiting a postdoctoral researcher to model and reconstruct the collapse of the Cordilleran ice sheet during the last deglaciation.

In this role, you will work with [Dr Lauren Gregoire](#) (University of Leeds) and Dr Christopher Darvill (University of Manchester) and an team of scientists from the UK, USA and Canada to produce the first 3-D reconstruction of the collapse of the former Cordilleran Ice Sheet in western North America during the last deglaciation (21,000-7,000 years ago). The project will use a paired data-modelling approach. Your role will be to run and analyse ensembles of BISICLES ice sheet simulations run interactively within a climate model and standalone. Simulations will be conducted alongside a separate package of field-based empirical data collection, with the expectation that the two work packages inform one another to create robust reconstructions of Cordilleran Ice Sheet change. This will provide key information to understand past abrupt climate and sea level and test ice sheet models used for future projections. You will collaborate closely with project team members [Dr Christopher Darvill](#) (The University of Manchester), [Dr Jeremy Shakun](#) (Boston College, USA), [Dr Shaun Marcott](#) (University of Wisconsin-Madison, USA), [Dr Brian Menounos](#) (University of Northern British Columbia, Canada), [Dr Alberto Reyes](#) (University of Alberta, Canada), as well as two PhD students (USA), one Masters student (Canada) and two undergraduate interns (Canada). To improve collaboration and understanding between empirical and modelling teams, there may be opportunities for you to join fieldwork in Canada.

You will have, or be close to obtaining, a PhD in Glaciology or palaeoclimate and have extensive experience of using models and observations to study climate and/or ice sheet evolution. Applications for part-time work (e.g. 80% FTE), job-share or other flexible working arrangements are encouraged.



Main duties and responsibilities

- Creating and analysing ensembles of [BISICLES](#) ice sheet simulations and FAMOUS-ice coupled climate-ice sheet simulations of the Cordilleran ice sheet evolution during the last deglaciation;
- Using the fieldwork data and other existing datasets of Cordilleran ice sheet retreat to rule out unrealistic simulations and adjust model output to produce an ensemble of the plausible evolution of the Cordilleran ice sheet during the last deglaciation;
- Developing research objectives and contributing to setting the direction of the research project in collaboration with members of the project team;
- Evaluating methods and results from other researchers and relating such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results and outputs through conference presentations;
- Working both independently and also as part of a larger team of researchers;
- Engaging in knowledge-transfer activities, expected to include: cross-training and network building within the international team (particularly across the empirical-modelling divide); public outreach activities such as producing educational resources and working with science reporters. You are encouraged to contribute towards developing additional knowledge-transfer activities;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training and mentoring of undergraduate and/or postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.



Qualifications and skills

Essential

- A PhD or near completion (i.e. initial thesis to be handed in before the start date) in glaciology, climate, geography, geosciences or a closely allied discipline;
- A strong background in climatology or glaciology, including knowledge of the processes driving ice sheet evolution during the Quaternary;
- Demonstrated expertise in setting up and running climate and/or ice sheet model simulations on high-performance computers;
- Extensive experience in managing, processing, visualising and analysing complex and multi-dimensional climate data, and excellent experience in scientific programming (e.g. in FORTRAN, R or Python);
- Good time management and planning skills (with the ability to manage competing demands and work effectively to meet deadlines without close support) and a proven ability to work well both individually and in a team;
- Excellent written and verbal communication in English, including good presentation skills and the proven ability to write clearly and succinctly for publication;
- A proven ability to work well both individually and in a team;
- A strong motivation to work on this project and a commitment to your own continuous professional development.

Desirable

- Knowledge of quaternary changes in climate and ice sheets and how these are reconstructed;
- Expertise in performing model sensitivity analysis, calibration or uncertainty quantification;
- Experience of participating in fieldwork;
- High-quality peer-reviewed publication(s).

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.



Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information please visit: www.gov.uk/skilled-worker-visa

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: <https://www.gov.uk/global-talent>

Find out more about the [Priestley International Centre for Climate](#)

Find out more about the [Faculty of Environment](#)

Find out more about the [School of Earth and Environment](#)

Find out more about our [Research and associated facilities](#)

Find out more about Equality and Inclusion in the [faculty](#)

Working at Leeds

We are a campus based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

Our University

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Environment we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian, people who belong to a minority ethnic community; people who identify as LGBT+; and disabled people.

The Faculty of Environment has received a prestigious Athena SWAN silver award from [Advance HE](#), the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and



shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at hr@leeds.ac.uk

Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.

