UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Signal-to-noise errors in climate models, Faculty of Environment

Salary: Grade 7 (£41,064 – £48,822 p.a. depending on experience)

Reporting to Professor Amanda Maycock

Reference: ENVEE1874

Fixed-term for 36 months – the post is required to complete a specific task or time limited work

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

We are open to discussing flexible working arrangements

Research Fellow in Signal-to-noise errors in climate models
School of Earth and Environment, Faculty of Environment

Are you an ambitious researcher looking for your next challenge? Do you have a background in weather and climate science? Do you want to further your career in one of the UK's leading research-intensive Universities?

You will join a team of climate scientists at the University of Leeds to work on the new NERC-funded (4SEE) project. 4SEE is a 4-year project coordinated by the University of Exeter and involving the National Oceanography Centre and the UK Met Office. You will work with Prof Amanda Maycock and Dr Juliane Schwendike to investigate the mechanisms underlying weak atmospheric circulation signals in extratropical climate predictions and projections. You will analyse reanalysis datasets and climate model simulations to establish the representation of different processes related to atmospheric dynamics (eddy mean flow interaction, atmosphere-ocean coupling, teleconnections), identify model errors in the representation of these processes, and their implications for climate predictions and future projections. You will work collaboratively with scientists across the project.

You will have, or be close to obtaining, a PhD in the field of Atmospheric, Ocean or Climate Science and have extensive experience of using models and observations to study weather and climate processes. You will have knowledge of atmospheric dynamics. You will have evidence of a strong commitment to publishing scientific results at an international level.

Main duties and responsibilities

- Working with and in support of Prof Maycock and Dr Schwendike to ensure the objectives and deliverables of the 4SEE project are successfully met;
- Developing and implementing diagnostic approaches to quantify atmospheric processes relevant to the extratropical atmosphere (e.g., wave mean flow interaction, atmosphere-ocean coupling, stratosphere-troposphere coupling, tropical-extratropical teleconnections).
- Evaluating the representation of these atmospheric processes in a range of climate prediction and projection models and compare with reanalysis data;

- Understanding the role of atmospheric and oceanic resolution in the representation of extratropical atmospheric processes using new simulations performed in the project with variable resolution;
- Exploring the use of emergent constraint approaches to reduce uncertainty in climate projections based on model process representation;
- Developing research objectives and contributing to the direction of the research project in collaboration with 4SEE project partners;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and 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. the initial thesis needs to have been handed in at the point of application in meteorology, atmospheric or climate science or a closely allied discipline;
- A strong background in scientific programming (e.g. Python) and data analysis;
- Extensive experience of analysing climate datasets such as reanalysis data, weather or climate model output;
- Excellent knowledge of large-scale atmospheric dynamics and climate processes;



- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- A proven track record of peer-reviewed publications in well regarded climate and atmospheric science journals;
- The ability to independently design and conduct research to address an identified research gap;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

Desirable

- Previous knowledge of signal-to-noise errors in climate models;
- Previous experience of research on midlatitude atmospheric processes;
- Previous knowledge of climate predictability.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

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.

Find out more about our School of Earth and Environment

Find out more about the Faculty of Environment

Find out more about our Research and associated facilities

Find out more about equality in the Faculty.

A diverse workforce

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 and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

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.

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.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@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.