



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Orographic Convection, Faculty of Environment



Salary: Grade 7 (£39,355 – £46,735 p.a. depending on experience)

Reporting to: Dr Andrew Ross

Reference: ENVEE1802

Closing date: 21 March 2025

Fixed term - 33 months to complete specific time limited work

Location: School of Earth and Environment, Leeds (with scope for hybrid working)

We are open to discussing flexible working arrangements

Research fellow in Orographic Convection, School of Earth and Environment

Are you an ambitious researcher with a passion for the weather? Do you want to further your career in one of the UK's leading research-intensive universities, conducting fundamental research with real world applications?

Overview of the Role

[TEAMx](#) (Multi-scale transport and exchange processes in the atmosphere over mountains– programme and experiment) is an international research programme including a field campaign in the Alps during winter / summer 2025. This project will form part of the UK contribution to TEAMx, funded by the National Environmental Research Council (NERC). This project, joint with the British Antarctic Survey, is focussed on

- Advancing our understanding of the key physical processes controlling the initiation of orographic convection and the links with sub-grid orography.
- Evaluating the capabilities of the Met Office model to accurately represent moisture transport through mountainous regions at a range of scales.
- Improving the parametrisation of convection and related processes in the Met Office model over orography to deliver more accurate rainfall predictions.

The project will primarily be analysing observational and model data from the TEAMx field campaign, but there will be the opportunity to contribute to the summer field campaign in July 2025. The project is one of 4 funded as part of the UK contribution to TEAMx and so you will be collaborating with other researchers in the programme, as well as with international partners in TEAMx.

Based in the Institute of Climate and Atmospheric Science in the School of Earth and Environment you will join a large dynamic research community with internationally recognised expertise in atmospheric dynamics and convection. As one of the founder members of the Met Office Academic Partnership, Leeds has a long-standing and close collaboration with the Met Office and the post-holder will work closely with them to ensure pull-through of the research to operations.

Main duties and responsibilities

- Using observational in-situ and remote sensing data to identify interesting case studies for further analysis;
- Conducting case studies with the MetUM;



- Analysing the model simulations and observations to understand the processes controlling initiation and development of convection over complex terrain alongside evaluating the representation of these processes at different model resolutions / with different parametrisation schemes;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- 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 a relevant quantitative physical science such as Atmospheric Science, Meteorology, Physics or Applied Maths, or a closely allied discipline;
- A strong background or interest in atmospheric science;
- Experience in scientific programming in a language such as Python or Matlab and experience with the Linux operating system;



- 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 developing track record of peer reviewed publications in international journals;
- 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

- Experience of pursuing external funding to support research;
- A track record of research in convection, boundary layer meteorology or mountain meteorology;
- Experience in atmospheric dynamics
- Experience in handling and analysing large volumes of observational or numerical model data;
- Experience of running atmospheric models such as the MetUM;
- Experience of using observations to evaluate weather or climate models;

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 [Faculty of Environment](#)

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



Find out more about the [Institute for Climate and Atmospheric Science](#)

Find out more about [Equality 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 School of Earth and 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, those who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. 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.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our [How to Apply](#) information page or by getting in touch by [emailing HR via hr@leeds.ac.uk](mailto: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.

