



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Assistant in Tropical Meteorology, Faculty of Environment



Salary: Grade 6 (£27,511 – 32,817 p.a.)

Reference: ENVEE1367

Closing date: 25 November 2019

Interviews: Expected to be held 28 November 2019

Fixed-term until 31 March 2020 due to external funding

Research Assistant in Tropical Meteorology, Institute of Climate and Atmospheric Sciences, School of Earth and Environment, Faculty of Environment

Do you have a background in tropical meteorology, dynamical meteorology, weather forecasting, convection, and weather model evaluation, or a related field? Do you want to further your career in one of the UK's leading research-intensive universities?

As part of the Weather and Climate for Science Services Partnership (WCSSP) Southeast Asia project called Tropical Cyclone Tracks (TCtracks), funded through the Met Office Newton Fund, an exciting opportunity has arisen for a research assistant to use convective-scale and global-scale Met Office Unified Model (MetUM) ensemble simulations and observations to investigate what determines the tracks of tropical cyclones (TCs) in both types of simulations.

Tropical cyclones that make landfall are one of the most costly and deadly atmospheric phenomena. TCs cause loss of life and enormous amounts of damage due to their destructive winds, heavy precipitation and effects on the sea, such as storm surges.

Supervised by Dr Juliane Schwendike, Dr Andrew Ross, and Dr Stephen Griffiths, you will investigate the differences between tracks in the global and convection-permitting (CP) MetUM forecasts and why they occur for some storms and not for other storms. This is important for forecasters since they use these forecasts to make decisions about the time and location of landfall and the intensity of the storm. Therefore, this project aims to (1) investigate how the environment is impacting the TC tracks in the global and CP MetUM ensemble simulations, and (2) investigate why there are differences between the global and CP ensemble simulations in some cases. Are these differences due to differences in the environment or due to differences in the storm size and depth between the global and CP simulations?

You will have an undergraduate or master's degree in Maths, Physics, Meteorology or a closely allied discipline, you may also have a PhD or be close to finishing your PhD in a quantitative physical science, and have experience in dynamical or tropical meteorology. You will be experienced in the analysis of large observational and/or numerical model datasets using a programming language such as Python, and have excellent written and oral communication skills.



What does the role entail?

As a Research Fellow your main duties will include:

- Contributing to in-depth process-based research into the dynamics of tropical cyclones;
- Investigating the differences in the track forecasts of Typhoon Hagupit (2014) between the global and CP ensemble and the differences between the forecasts for Typhoons Haiyan (2013) and Hagupit (2014);
- Investigating differences in the TC track forecasts between the global and CP ensemble for one or more additional storms;
- Advanced and innovative model analysis and diagnostic techniques to analyse numerical model data;
- Diagnosing key deficiencies in weather models through observation-based process model evaluation and comparison of models of differing complexity;
- Writing reports, undertaking literature reviews and preparing papers for publication, with guidance as necessary;
- Working both independently and as part of a larger team of researchers and stakeholders;
- Supporting research activities, including contributing to research results and outputs and to the generation of independent and original ideas, ensuring a successful programme of investigation;
- Collating and analysing data to inform the direction and progression of the research project;
- Participating in the research group and presenting research output where appropriate;
- Contributing to the research culture of the School, where appropriate;
- Continually updating your knowledge, understanding and skills in the research field.

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.

What will you bring to the role?

As a Research Assistant you will have:



- An undergraduate or master's degree in Maths, Physics, Meteorology or a closely allied discipline;
- A strong background in tropical or dynamical meteorology, particularly in the dynamics of tropical cyclones;
- Experience of analysing and interpreting state-of-the-art numerical weather prediction forecasts with the MetUM at a range of different resolutions to evaluate atmospheric processes; as well as experience of scientific programming in a language such Python and experience with the Linux operating system;
- Good interpersonal and communication skills, both written and verbal and the ability to communicate effectively with a wide range of stakeholders;
- Well-developed analytical skills;
- Good time management and planning skills, with the ability to meet tight deadlines;
- A proven ability to work well both individually and in a team;
- The ability to work unsupervised and to use your own initiative.

You may also have:

- A PhD or near completion in a quantitative physical science, such as atmospheric science, physics, applied mathematics or meteorology;
- Experience of contributing to the writing of papers for publication;
- Knowledge of forecast evaluation methods and metrics.

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.

Contact information

To explore the post further or for any queries you may have, please contact:

[Juliane Schwendike](#), Lecturer in Meteorology

Tel: +44 (0)113 343 1054

Email: j.schwendike@leeds.ac.uk



Additional information

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

Find out more about [Athena Swan](#) in the Faculty.

Find out more about our [School](#).

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

Find out more about [National Centre for Atmospheric Science \(NCAS\)](#)

Find out more about the [Met Office Academic partnership](#)

A diverse workforce

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

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on 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.

