University of Reading

JOB DESCRIPTION

Vacancy reference:	SRF16974
Post Title:	Research Scientist
Grade:	Grade 6
School/Department:	National Centre for Atmospheric Science, School of Mathematical, Physical and Computational Sciences
Reports to:	Dr. Nicholas Klingaman
Responsible for:	None

Purpose

We seek a post-doctoral Research Scientist for the "Forecasting Air-Sea Coupled Interactions in Numerical weather prediction for Atmospheric Tropical Extremes" (FASCINATE) project. This project aims to understand and improve the ability of the UK Met Office numerical weather model to predict tropical cyclones in the West Pacific, particularly near the Philippines. We will develop an atmosphere-ocean coupled configuration of the Met Office model and re-forecast previous cyclones, to evaluate the effect of air-sea feedbacks on prediction skill. The project will involve close collaboration with the Met Office and the Philippines Atmospheric Geophysical and Astronomical Services Administration.

Main duties and responsibilities

- Identify relationships between West Pacific tropical cyclone activity and large-scale tropical phenomena, such as the El Nino Southern Oscillation and the Madden-Julian Oscillation.
- Assess the predictive skill for West Pacific tropical cyclone activity in the Met Office numerical weather prediction and seasonal forecasting systems, including how this skill varies based on the large-scale phenomena above.
- Assist with the development and implementation of an air-sea coupled configuration of the Met Office numerical weather prediction model.
- Perform and evaluate re-forecasts of West Pacific tropical cyclones with the air-sea coupled configuration developed above.
- Prepare scientific papers for publication.
- Attend national and international conferences to promote the results of the project.
- Attend project meetings at the Met Office and in the Philippines.
- Interact with collaborators at the Met Office and in the Philippines.
- Maintain an awareness of current progress in relevant research areas, to ensure that the research carried out remains at the cutting edge.

Supervision received

Supervision will be provided by the Principal Investigator of the project, Dr. Nicholas Klingaman, as well as by Prof. Pier Luigi Vidale and Dr. Kevin Hodges. The PI will provide extensive support to develop and implement the air-sea coupled model configuration. Prof. Vidale and Dr. Hodges have decades of expertise in tropical cyclone research.

Supervision given

There are opportunities for the post-holder to be involved in teaching graduate and undergraduate courses, and to supervise or co-supervise M.Sc. and B.Sc. research projects.

Contact

The post-holder will be based in NCAS-Climate and the Department of Meteorology at the University of Reading. The post-holder will work closely with project partners at the Met Office and at the Philippines Atmospheric Geophysical and Astronomical Services Administration.

Terms and conditions

Full-time post. Fixed term.

Occasional travel to the Philippines, and/or elsewhere in Southeast Asia, will be required (2-3 trips over the course of the project). The post-holder will be expected to present the results of this research at national and international conferences, as well as at project meetings at the Met Office in Exeter.

Expected start date: 1 April 2017.

This document outlines the duties required for the time being of the post to indicate the level of responsibility. It is not a comprehensive or exhaustive list and the line manager may vary duties from time to time which do not change the general character of the job or the level of responsibility entailed.

Date assessed:

PERSON SPECIFICATION

Job Title		School/Department	
Research Scientist		**MPCS/NCAS-Climate**	

Criteria	Essential	Desirable
Skills Required	• Strong scientific analytical skills. • Strong computer programming skills. • Familiarity with high-performance computing • Good communication skills. • Ability to manipulate large datasets.	• Strong Fortran programming skills. • Strong Python programming skills.
Attainment	• Ph.D. in Mathematics, Computer Science or a Physical Science, or equivalent research experience. • A publication record appropriate to experience.	• A Ph.D. in climate, Earth system or atmospheric science.
Knowledge	• Knowledge of, or evidence of a serious interest in, tropical atmospheric dynamics and tropical cyclones. • Understanding of physical processes relating to weather and climate.	• Knowledge of tropical cyclones, particularly in the West Pacific. • Knowledge of modes of tropical climate variability and their teleconnections.
Relevant Experience	• Research in a physical science. If the science is not climate-related, then evidence of the ability to acquire relevant knowledge. • Experience of statistical analysis and visualisation of large and complex scientific datasets.	• Climate research, particularly tropical meteorology. • Running the Met Office Unified Model. • Analysis of climate model output. • International collaboration and travel.
Disposition	• Self-motivated and capable of independent work • Capable of working within a team to deliver common goals. • Willingness to travel to relevant institutions and events.	• Enjoy working as part of a team.
Other	• Clear potential to deliver an outstanding research record.	

Completed by: Nicholas Klingaman   Date: 12/01/17