Science for Humanitarian Emergencies & Resilience (SHEAR)

PhD Studentship:

Use of sub-seasonal to seasonal forecasts during ENSO phases for early action before hydrometeorological drought in Southern Africa

Improving the production, dissemination and use of cutting-edge S2S forecasts to build resilience to ENSO and other drivers of hydrometeorological drought in southern Africa

Supervisors: Dr Nick Klingaman, Dr Liz Stephens

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Department of Meteorology

University of Reading

Project description

The aim of this project is to improve the production, dissemination and use of cutting-edge S2S forecasts to build resilience to ENSO and other drivers of hydrometeorological drought in southern Africa. The outcomes of this project will contribute to Forecast-based Action initiatives in Southern Africa, including the Forecast-based Financing project in Mozambique (addressed by the FATHUM project team) and in Zambia.

Using reforecasts and forecast archives held at the European Centre for Medium-Range Weather Forecasts, the questions that the PhD Student will address include, but are not limited to:

- What is the skill and reliability of sub-seasonal to seasonal and seasonal meteorological and hydrometeorological forecasts for hydrometeorological drought in southern Africa.
- How does the skill of these forecasts in southern Africa vary with ENSO and Indian Ocean Dipole phase?
- How far in advance could the 2016 drought in Southern Africa be forecasted?
- What factors shaped the dissemination, interpretation and use of existing forecast products within and between different decision-making organisations in / operating within southern Africa?
- How might this new information about forecast skill and reliability have influenced their use for drought early warning / early action, how might it be used in future?

The student will be expected to engage with the FOREWARN group of the Start Network, with their research outputs feeding into the use of the Start Network's anticipation fund. The student will be expected to undertake placements during their PhD studies, e.g. to undertake interviews with Start Network NGOs, and to build capacity in the use of sub-seasonal to seasonal forecasts. The exact nature of these placements will be dependent on their language skills.

Project Advisors: George Adamson (King's College), Christel Prudhomme (ECMWF)

A farmer from Chiapato village in Zimbabwe, hard hit by the El Niño-induced droughts. *Photo credit: World Food Programme/Tatenda Macheka (https://www.wfp.org/stories/el-nino-faces-drought-zimbabwe)*

Skills and experience:

This project would be suitable for students with a degree in meteorology, climate science, physical geography or environmental science but with a willingness to undertake interdisciplinary research that involves social science approaches such as interviews and workshops. Students will be required to work in a unix programming environment with R, python or similar, previous experience is desirable but not essential as training will be provided.

Eligibility and funding:

Students must hold an undergraduate degree (equivalent of upper second-class honours) and preferably a Masters qualification in a relevant discipline.

Due to visa restrictions the student must spend at least 50% of their time at the University of Reading, the exact proportion will be set by the supervisors based on the student's previous experience and the budget available for placements. The student must work on this project full-time.

Applicants from the UK, South Asia or sub-saharan Africa are eligibile for a stipend of approximately £14553 per annum (tax free) and tuition fees at the UK / EU or overseas student rate for a period of three years with a possible further half year extension.

Contact:

For informal discussion about this studentship please contact Dr Nick Klingaman, University of Reading n.p.klingaman@reading.ac.uk.

How to apply:

To be considered for the studentship, please submit a CV, a cover letter highlighting your relevant background and experience, and two referees, to n.p.klingaman@reading.ac.uk.

Should you be selected for this post you will be invited to submit a formal application through the University of Reading online application system. Details of this and more can be found here: http://www.reading.ac.uk/graduateschool/gs-homepage.aspx.

Deadline: 15 October 2017 or until the position is filled.