UNIVERSITY OF LINCOLN
JOB DESCRIPTION

JOB TITLE	Postdoctoral Research Associate (Seasonal Weather Prediction) fixed/term 36 months				
DEPARTMENT	School of Geography				
LOCATION	Brayford				
JOB NUMBER	COS774	**GRADE**	7	**DATE**	September 2020
REPORTS TO	Principal Investigator (Chair of Climate Science and Meteorology)				

CONTEXT

The School of Geography is rapidly developing its research profile in the areas of meteorology and climate science, as part of the Lincoln Centre for Water and Planetary Health. This includes a new externally funded (NERC) 3-year project on Northwest European seasonal weather prediction, led by Edward Hanna, Professor of Climate Science and Meteorology. The project aims to improve Northwest European weather prediction on a regional and seasonal basis through the development of innovative probabilistic statistical forecasts of the state of the North Atlantic jet stream and by comparison of these forecasts with those produced using dynamical seasonal forecasting models such as those used by the Met Office and other operational forecasting centres. It involves close collaboration with Co-Investigators and Partners at the Lincoln Institute for Agri-Food Technology (including the LIAT Director and NERC project Co-I, Prof. Simon Pearson), the Universities of Oxford, Reading and Sheffield, the Met Office and the European Centre for Medium-Range Weather Forecasts. Here we have an exciting opportunity for a PDRA with experience of statistical analysis and/or modelling, and ideally some meteorology/climate background, to join our growing team. The PDRA will work directly on the NERC project to help develop new techniques and push back the frontiers of knowledge and understanding in the topical and high-impact area of seasonal weather forecasting. We expect the project to begin on 1 March 2021 or ASAP thereafter during March.

JOB PURPOSE

The Research Associate is responsible for conducting research on the project, as directed by the Principal Investigator.

During this appointment the Research Associate will work closely with the Principal Investigator (E. Hanna), Co-Investigators, Project Partners and other PDRAs on the project to:

(1) Develop innovative probabilistic seasonal weather forecasts using complex systems and statistical modelling.

(2) Develop seasonal forecasts of North Atlantic atmospheric circulation and relate these to UK and Northwest European regional weather patterns and the probability of occurrence of extreme weather across the UK and Northwest Europe on a regional and seasonal basis.

(3) Use complex systems modelling together with dynamical meteorological insights to help interpret operational (e.g. Met Office and ECMWF) seasonal forecasts.

(4) Work with the LIAT Director (Prof. Simon Pearson) and project partners to determine the practical benefits of improved UK and Northwest Europe seasonal weather forecasts and enhance their uptake by potential users, focusing on the agri-food industry.

The focus of this position is on research, publication and outreach activities that are directly related to the NERC grant. However, it is expected to spend that the successful candidate would spend approximately 5% of their work time on project management activities, and there may be opportunities to make occasional contributions to the teaching of meteorology and/or climate science within the School of Geography. The successful candidate may also suggest their own ideas or topic of research, in collaboration with the PI, to co-develop an idea that could lead to further funding.

You will have recently finished or be finishing a PhD or PDRA position and have a desire to work in the School of Geography/Lincoln Centre for Water and Planetary Health.

KEY RESPONSIBILITIES

Literature Surveys
To undertake literature surveys and state-of-the-science investigations. Prepare reports as required.
Research
To perform specified research under the direction and with advice from the Principal Investigator, to generate original knowledge, contribute to decisions about research direction, and to prepare reports on results, as required. Lead on the production of research outputs, including software, reports, papers and other publications, and preparation for and presentation at international research conferences. Co-publish high-quality research papers with the PI and other collaborators, as appropriate. Plan and lead own day-to-day research activity within the context of the required research programme, exhibiting a high degree of autonomy. Produce monthly progress reports as required.
Liaison and Networking
Liaise with internal and external collaborators on the grant, and with colleagues in the School of Geography and Lincoln Institute for Agri-Food Technology, maintaining positive and effective working relationships; this may include liaison with senior personnel in other organisations including collaborators, sponsors and clients. Participate in internal research activities, including seminars, research meetings and continuous professional development activities.

In addition to the above, undertake such duties as may reasonably be requested and that are commensurate with the nature and grade of the post.

ADDITIONAL INFORMATION

Key working relationships/networks	
Internal	**External**
• Principal Investigator • Director of Research Centre • Head of School • Other academic staff within the School of Geography and LIAT	• Research collaborators • Sponsors and clients

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PERSON SPECIFICATION

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Selection Criteria	**Essential (E) or Desirable (D)**	**Where Evidenced Application (A) Interview (I) Presentation (P) References (R)**
Qualifications:		
Have, or about to receive, a PhD in relevant topic such as climatology or meteorology	**E**	**A**
Experience:		
Some experience of relevant research methods	**E**	**A/I**
Experience specific to project/area, e.g. statistical analysis and/or modelling and relevant computer software/programming (e.g. R, Fortran or C++).	**E**	**A/I**
Experience and record of scientific publication	**D**	**A**
Experience of dissemination of scientific results at conferences	**D**	**A**
Experience of research proposal writing	**D**	**A/I**
Experience of working with industrial partners	**D**	**A/I**
Experience of developing and maintaining a network of contacts throughout own work area	**D**	**A/I**
Experience of reviewing individual/team progress and performance and embedding organisational strategy into individual performance planning.	**D**	**A/I**
Skills and Knowledge:		
Knowledge specific to project/area	**E**	**A/I**
Ability to conduct original research in the subject area	**E**	**A/I**
Excellent written and verbal communication skills, including the ability to write reports and research outputs and deliver presentations	**E**	**A/I**
Ability to prioritise own workload and work to specified deadlines under pressure	**E**	**A/I**
Ability to communicate complex subjects to students	**E**	**A/I**
Excellent customer service skills with experience of responding efficiently and effectively to phone and email enquiries	**E**	**A/I**
Ability to analyse and solve problems with an appreciation of longer-term implications	**E**	**A/I**
Ability to assess and organise resources, and plan and progress work activities	**E**	**A/I**
Competencies and Personal Attributes:		
Flexible approach to workload	**E**	**I**
Ability to work on own and as part of a team	**E**	**A/I**

Enthusiasm and commitment	**E**	**I**
Experience in adapting own skills to new circumstances	**D**	**A/I**
Ability to develop creative approaches to problem solving	**E**	**A/I**
Have a strong interest in weather- and climate-related research	**E**	**A/I**
Be a clear scientific thinker	**E**	**A/I**
Have good skills of prioritisation	**E**	**A/I**

Essential Requirements are those, without which, a candidate would not be able to do the job. **Desirable Requirements** are those which would be useful for the post holder to possess and will be considered when more than one applicant meets the essential requirements.

Author	EH	**HRBA**	DB