POSITION DESCRIPTION

Research Associate – Climate Extremes

Position Summary

The Australian Research Council's Centre of Excellence for Climate Extremes (CLEX) encompasses interconnected research programs focused on Weather and Climate Interactions, Drought, Attribution and Risk, Ocean Extremes and Coupled Modelling. CLEX is a major seven-year initiative funded by the Australian Research Council. The Centre is led by UNSW Sydney and partners with Monash, The University of Melbourne, The Australian National University and The University of Tasmania alongside a suite of national and international partner organisations. Climate extremes are the confluence of high impact weather and climate variability. The Centre works to improve our understanding of the processes that trigger or enhance extremes and build this understanding into our modelling systems. The improved predictions of climate extremes will help Australia cope with extremes now and in the future. The ARC Centre of Excellence for Climate Extremes provides a supportive and enriching workplace for its staff and students through its strong commitment to equity, diversity and inclusion and wellbeing initiatives.

The Research Associate contributes to collaborative research to better understand aspects of climate extremes. The specifics of the research project/s will depend on the interests and skillset of the research associate. Importantly, the role will contribute to one or more research programs within the Centre: Weather and Climate Interactions; Attribution and Risk; Drought; Ocean Extremes; Modelling. Specific areas of interest include, but are not restricted to, research on hail processes, boundary layer processes and synoptic scale processes. The Research Associate may also apply complementary expertise gained from outside of the traditional realms of weather and climate research to contribute to the Centre’s research objectives. Example areas could include mathematical modelling, data mining, machine learning, CAT modelling, LES modelling, economics, urban design etc.
The Research Associate reports to Professor Andrew Pitman based at UNSW and has no direct reports.

**Accountabilities**

Specific accountabilities for this role will depend on the applicant, but could include:

- Conduct research that utilises models, machine learning, specific techniques (e.g. atmospheric modelling, back trajectory modelling, weather typing, CAT modelling, LES modelling, data mining, single column modelling) to understand the past, present or future behaviour of one or more climate extremes.
- Maintain a strong focus on communicating research findings by publishing in highly ranked journals and presenting to peers at local, national and global conferences.
- Work collaboratively with other researchers among CLEX universities and partner organisations.
- Engage with relevant professional and industry bodies and stakeholders to foster collaborative partnerships.
- Contribute to the collegiate life of CLEX such as supporting PhD supervision, committee membership, leading workshops, etc.
- With the support of the Centre’s Knowledge Brokerage Team, the successful candidate will communicate relevant aspects of the research undertaken to stakeholders outside academia (e.g. through briefing notes, briefings to government, presentations at industry conferences, etc).
- Align with and actively demonstrate the [UNSW Values in Action: Our Behaviours](https://www.unsw.edu.au/about/unsw-values) and the [UNSW Code of Conduct](https://www.unsw.edu.au/about/unsw-code-conduct)
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

**Skills and Experience**

- PhD in a quantitative discipline, which could include atmospheric science, or other areas of relevant physical science, statistics, applied maths, economics, computer science etc.
- Specific experience in one of the following would be welcome: back trajectory modelling, boundary layer processes, synoptic meteorology, weather typing, machine learning, CAT modelling, LES modelling, data mining.
- Demonstrated ability to carry out scientific research independently and as part of a collaborative team.
- Demonstrated programming skills in a Unix/Linux environment (e.g. Fortran, Python, R) including code and data management.
- Strong research and publication track record (relative to opportunity) in an area listed in the position summary.
- High level analytical and problem-solving skills.
- Excellent verbal and written communication skills.
- Willingness to engage with stakeholders outside of academia (e.g. Government agencies, private businesses, NGOs, schools).
- An understanding of and commitment to UNSW’s aims, objectives and values in action, together with relevant policies and guidelines.
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

About this document

This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.