Position Description

Postdoctoral Research Associate

Position Number: 00078030 *Position Title: Postdoctoral Research Associate* *Date Written: September 2019*	*Faculty / Division: Faculty of Science* *School / Unit: Climate Change Research Centre* *Position Level: Level A*

ORGANISATIONAL ENVIRONMENT

UNSW is currently implementing a ten-year strategy to 2025 and our ambition for the next decade is nothing less than to establish UNSW as Australia's global university. We aspire to this in the belief that a great university, which is a global leader in discovery, innovation, impact, education and thought leadership, can make an enormous difference to the lives of people in Australia and around the world.

Following extensive consultation in 2015, we identified three strategic priority areas. Firstly, a drive for academic excellence in research and education. Universities are often classified as 'research intensive' or 'teaching intensive'. UNSW is proud to be an exemplar of both. We are amongst a limited group of universities worldwide capable of delivering research excellence alongside the highest quality education on a large scale. Secondly, a passion for social engagement, which improves lives through advancing equality, diversity, open debate and economic progress. Thirdly, a commitment to achieving global impact through sharing our capability in research and education in the highest quality partnerships with institutions in both developed and emerging societies. We regard the interplay of academic excellence, social engagement and global impact as the hallmarks of a great forward-looking 21st century university.

To achieve this ambition, we are attracting the very best academic and professional staff to play leadership roles in our organisation.

VALUES IN ACTION: OUR UNSW BEHAVIOURS

UNSW recognises the role of employees in driving a high-performance culture. The behavioural expectations for UNSW are below.

Demonstrates Excellence	Delivers high performance and demonstrates service excellence.
Drives Innovation	Thinks creatively and develops new ways of working. Initiates and embraces change.
Builds Collaboration	Works effectively within and across teams. Builds relationships with internal and external stakeholders to deliver on outcomes.
Embraces Diversity	Values individual differences and contributions of all people and promotes inclusion.
Displays Respect	Treats others with dignity and empathy. Communicates with integrity and openness.

OVERVIEW OF RELEVANT AREA AND POSITION SUMMARY

The Climate Change Research Centre (CCRC) is a multi-disciplinary research group comprising one of the largest university research facilities of its kind in Australia. CCRC houses research expertise in the key project areas of atmospheric convection and global climate modelling. The centre also houses expertise in global climate change and extremes of weather and climate. Our oceans program focuses on global ocean thermohaline circulation, water-mass formation, the Antarctic Circumpolar Current, western boundary currents, and the ocean carbon cycle. On the land surface we focus on modelling terrestrial processes in climate models, to develop our understanding of the effects of carbon dynamics, hydrology and vegetation processes on climate.

The Climate Change research Centre is comprised of 11 full time academic staff, approximately 20 postdoctoral fellows, and over 35 PhD, Masters and Honours students. The Centre's annual budget is of the order of $5.0m+.

The CCRC is also the host department of the Australian Research Council Centre of Excellence for Climate Extremes (CLEx). Established in 2017, CLEx is a major initiative funded by the Australian Research Council. The Centre is an international research consortium of five Australian universities and a suite of outstanding national and international Partner Organisations. The Centre will 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 enable improvements in how Australia copes with extremes now and in the future.

The Postdoctoral Research Associate will work on a Discovery Project funded by the Australian Research Council, 'Risks of rapid ocean warming at the Antarctic continental margin'. (DP190100494) which aims to use high resolution ocean - sea ice models to examine mechanisms for warming of Antarctic continental shelf waters via both large-scale drivers and fine-scale processes. This Discovery Project is funded for 2019-2022 and represents a collaboration between investigators at UNSW, ANU and Geophysical Fluid Dynamics Laboratory, Princeton.

The position aims to better understand the oceanic processes which control the delivery of heat to Antarctica's continental shelf and adjacent ice shelves. Research foci may include, but not be limited to: (1) local and remote forcing (e.g. winds, variability, surface warming and freshening) of warming waters; (2) mechanisms governing shelf water intrusions (e.g. eddies, coastal-trapped waves, bottom flows, tides); and (3) feedbacks between Antarctic ice melt and the regional and global overturning circulation. The position may include playing a role in development of regional Antarctic high resolution ocean-sea ice models for better resolving processes on the Antarctic continental shelf and slope.

The role of Postdoctoral Research Associate reports to Scientia Professor Matthew England, and has nil direct reports. The Postdoctoral Research Associate will also work closely with other project investigators: Professor Andy Hogg (The Australian National University), Dr Paul Spence (The University of New South Wales) and Dr Adele Morrison (The Australian National University).

RESPONSIBILITIES

Specific responsibilities for this role include:

- Conduct research in line with the project's aims, independently and as part of a team and under the direction of the supervisor.
- Assist in the supervision of postgraduate or honours students in this project area as opportunities arise.

- Collaborate with other postdoctoral fellows on this project or others working on related matters to produce project outcomes.
- Prepare scientific reports and papers; coordinate research activities; participate in the setting of research directions and any other research activities as required.
- Maintain a strong focus on communication by interacting with the international research community, publishing in highly ranked journals, and presenting to peers at local and international conferences.
- Assist in the teaching of undergraduate courses (encouraged).
- 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.

SELECTION CRITERIA

- Completion of Ph.D. in physical oceanography, climate science, geophysical fluid dynamics or other relevant field, such as physics or mathematics as evidenced by a record of publications and independent research of a high international standard.
- Demonstrated experience in ocean modelling, and Antarctic coastal or Southern Ocean research is desirable
- Demonstrated experience in analysing output from numerical models of the climate system, with high-level expertise in programming (e.g. Fortran, Python) and High Performance Computing.
- Demonstrated ability to work effectively as part of a team and independently in a research environment.
- An ability to mentor research students in the field of expertise.
- Excellent verbal and written communication skills.
- Demonstrated capacity to deliver high quality project outcomes in a timely manner.
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

It is not the intention of the position description to limit the scope or accountabilities of the position but to highlight the most important aspects of the position. The aspects mentioned above may be altered in accordance with the changing requirements of the role.