



**Australian
National
University**

Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Earth Sciences
Department/Unit:	Climate & Ocean Geoscience
Position Title:	Postdoctoral Fellow
Classification:	Academic Level A
Position No:	TBA
Responsible to:	Adele Morrison
Number of positions that report to this role:	N/A
Delegation(s) Assigned:	N/A

PURPOSE STATEMENT:

The Research School of Earth Sciences is the leading centre of Earth and Marine research in Australia. Researchers have a tradition of excellence in addressing the world's challenges in the Earth sciences, such as contributing to a sustainable future by modelling ocean currents and climate change to inform societal debate and actions, researching the formation of economic deposits of critical minerals, developing innovative and sustainable technologies by which critical metals can be extracted from ore, and using sophisticated seismic studies to understand the nature of the deep earth and to manage geohazards.

This position sits within the Climate & Ocean Geoscience Group within RSES as well as the ARC Australian Centre for Excellence in Antarctic Science (ACEAS), a national-scale, university-led, international centre focused on helping the world community prepare for climate risks emerging from East Antarctica and the Southern Ocean by integrating knowledge of the ocean, atmosphere, cryosphere and ecosystems, and their interplay. ACEAS will grow to support the activities of around 150 researchers, administrative staff, and students, with exciting opportunities to collaborate across disciplinary and institutional boundaries. Further information on ACEAS is available at <http://antarctic.org.au/>.

The position of **Postdoctoral Fellow** in Ocean Modelling aims to better understand the oceanic processes which control the delivery of heat to Antarctica's continental shelf and adjacent ice shelves, using high resolution ocean-sea ice modelling. Key science questions include 1) understanding projected ocean feedbacks on basal melt, including changes in polynya dynamics, ice shelf cavity circulation and cross-slope heat exchange, 2) quantifying the sensitivity of ocean heat transport to changes in local and remote forcing (e.g. winds, upstream freshwater fluxes and the open ocean heat reservoir), and 3) investigating mechanisms governing warm intrusions onto the shelf (e.g. eddies, coastal-trapped waves, bottom flows, tides). Depending on the **Postdoctoral Fellow's** interests, the position may also include contributing to the development of regional Antarctic high resolution ocean-sea ice models for better resolving processes on the Antarctic continental shelf and slope.

The successful candidate will contribute to ACEAS Program 1 which addresses the overarching question: "How can shifts in carbon, heat and moisture transport in the Antarctic and Southern Ocean system be better constrained to improve projections of future climate and sea level changes?" and Program 3 which addresses the overarching question "What is the risk of ice mass loss from key subglacial basins over the next decades to centuries, and what are the consequences for the local oceans and ecosystems?".

ACEAS provides a supportive and enriching workplace for its staff and students through its strong commitment to equity, diversity and inclusion and wellbeing initiatives.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Postdoctoral Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships with the academic and professional School and College staff, students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national and, where possible, international colleagues.

Role Statement:

In their role as an Academic Level A the Postdoctoral Fellow is expected to:

- Undertake independent research in the area of ocean modelling with a view to publishing original and innovative results in refereed journals, present research at academic seminars and at national and international conferences, and collaborate with other researchers at a national and/or international level.
- Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.
- Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Assist with supervision of research students.
- Assist to supervise research support staff in your research area.
- Actively contribute to all aspects of the operation of ACEAS and, where relevant, the School. This may include representation through committee memberships.
- Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public, including promoting research and teaching links across ANU in the areas of ocean and climate science.
- Maintain high academic standards in all education, research and administration endeavours.
- Take responsibility for their own workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.
- Demonstrate an understanding of equal opportunity principles and policies and a commitment to their application in a university context.
- Other duties as required that are consistent with the classification of the position.
- Comply with all ANU policies and procedures, and in particular those relating to workplace health and safety and equal opportunity.

Skill Base:

A Level A academic will work with the support and guidance from more senior academic staff and is expected to develop their expertise in research with an increasing degree of autonomy.

A Level A academic will normally contribute to teaching at the institution, at a level appropriate to the skills and experience of the staff member, engage in scholarly, research and/or professional activities appropriate to their profession or discipline, and undertake administration primarily relating to their activities at the institution. The contribution to teaching of Level A academics will be primarily at undergraduate level.

SELECTION CRITERIA:

- A PhD (or awarding of a PhD within six months of appointment commencement) in physical oceanography, climate science, or other relevant field, such as physics or mathematics with independent research experience as evidenced by publications in peer-reviewed journals of a high international standard.
- Achievement in a research field related to ocean dynamics.
- 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.
- An ability for problem solving and for independent research.
- The ability to assist in the supervision of students working on research projects.
- Demonstrated ability to work collaboratively in a research team covering multiple disciplines and achieve collective as well as individual outcomes.
- Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.
- A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature:		Date:	November 2021
Printed Name:	Adele Morrison	Uni ID:	3367669
References:			
Academic Minimum Standards			

 Australian National University	<h1>Pre-Employment Work Environment Report</h1>
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Position Details

College/Div/Centre	College of Science	Dept/School/Section	Research School of Earth Sciences
Position Title	Postdoctoral Fellow	Classification	Academic Level A
Position No.	TBC	Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.
- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance <https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook>
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- 'Regular' hazards identified below must be listed as 'Essential' in the Selection Criteria - see 'Employment Medical Procedures' at http://info.anu.edu.au/Policies/_DHR/Procedures/Employment_Medical_Procedures.asp

Potential Hazards

<ul style="list-style-type: none"> Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a regular or occasional part of the duties. 					
TASK	regular	occasional	TASK	regular	occasional
key boarding	<input checked="" type="checkbox"/>	<input type="checkbox"/>	laboratory work	<input type="checkbox"/>	<input type="checkbox"/>
lifting, manual handling	<input type="checkbox"/>	<input type="checkbox"/>	work at heights	<input type="checkbox"/>	<input type="checkbox"/>
repetitive manual tasks	<input type="checkbox"/>	<input type="checkbox"/>	work in confined spaces	<input type="checkbox"/>	<input type="checkbox"/>
Organizing events	<input type="checkbox"/>	<input type="checkbox"/>	noise / vibration	<input type="checkbox"/>	<input type="checkbox"/>
fieldwork & travel	<input type="checkbox"/>	<input type="checkbox"/>	electricity	<input type="checkbox"/>	<input type="checkbox"/>
driving a vehicle	<input type="checkbox"/>	<input type="checkbox"/>			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	<input type="checkbox"/>	<input type="checkbox"/>	gamma, x-rays	<input type="checkbox"/>	<input type="checkbox"/>
ultraviolet	<input type="checkbox"/>	<input type="checkbox"/>	beta particles	<input type="checkbox"/>	<input type="checkbox"/>
infra red	<input type="checkbox"/>	<input type="checkbox"/>	nuclear particles	<input type="checkbox"/>	<input type="checkbox"/>
laser	<input type="checkbox"/>	<input type="checkbox"/>			
radio frequency	<input type="checkbox"/>	<input type="checkbox"/>			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	<input type="checkbox"/>	<input type="checkbox"/>	microbiological materials	<input type="checkbox"/>	<input type="checkbox"/>
allergens	<input type="checkbox"/>	<input type="checkbox"/>	potential biological allergens	<input type="checkbox"/>	<input type="checkbox"/>
cytotoxics	<input type="checkbox"/>	<input type="checkbox"/>	laboratory animals or insects	<input type="checkbox"/>	<input type="checkbox"/>
mutagens/teratogens/	<input type="checkbox"/>	<input type="checkbox"/>	clinical specimens, including	<input type="checkbox"/>	<input type="checkbox"/>
carcinogens			blood		

pesticides / herbicides	<input type="checkbox"/>	<input type="checkbox"/>	genetically-manipulated specimens	<input type="checkbox"/>	<input type="checkbox"/>
			immunisations	<input type="checkbox"/>	<input type="checkbox"/>
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:	Adele Morrison			Date:	November 2021



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Position Description

College/Division:	College of Science
Faculty/School/Centre:	Research School of Earth Sciences
Department/Unit:	Climate & Ocean Geoscience
Position Title:	Research Fellow – Ocean Modelling
Classification:	Academic Level B
Position No:	TBA
Responsible to:	Adele Morrison
Number of positions that report to this role:	0
Delegation(s) Assigned:	N/A

PURPOSE STATEMENT:

The Research School of Earth Sciences is the leading centre of Earth and Marine research in Australia. Researchers have a tradition of excellence in addressing the world's challenges in the Earth sciences, such as contributing to a sustainable future by modelling ocean currents and climate change to inform societal debate and actions, researching the formation of economic deposits of critical minerals, developing innovative and sustainable technologies by which critical metals can be extracted from ore, and using sophisticated seismic studies to understand the nature of the deep earth and to manage geohazards.

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KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Research Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships with the academic and professional School and College staff,

students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national and, where possible, international colleagues.

Role Statement:

In their role as an Academic Level B the Research Fellow is expected to:

- Undertake independent research in the area of ocean modelling with a view to publishing original and innovative results in refereed journals, present research at academic seminars and at national and international conferences, and collaborate with other researchers at a national and/or international level.
- Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.
- Supervise students working on individual or group projects at undergraduate, honours, graduate-coursework levels. Supervision of research students.
- Assist to supervise Postdoctoral Fellows and research support staff in your research area.
- Actively contribute to all aspects of the operation of ACEAS and, where relevant, the School. This may include representation through committee memberships.
- Assist in outreach activities including to prospective students, research institutes, industry, government, the media and the general public, including promoting research and teaching links across ANU in the areas of ocean and climate science.
- Maintain high academic standards in all education, research and administration endeavours.
- Take responsibility for their own workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.
- Demonstrate an understanding of equal opportunity principles and policies and a commitment to their application in a university context.
- Other duties as required that are consistent with the classification of the position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity.

Skill Base:

A Level B academic will undertake independent research in their discipline or related area. In research and/or scholarship and/or teaching a Level B academic will make an independent contribution through professional practice and expertise and coordinate and/or lead the activities of other staff, as appropriate to the discipline.

A Level B academic will normally contribute to teaching at undergraduate, honours and postgraduate level, engage in independent scholarship and/or research and/or professional activities appropriate to their profession or discipline. The academic will normally undertake administration primarily relating to their activities at the institution and may be required to perform the full academic responsibilities of and related administration for the coordination of an award program of the institution.

SELECTION CRITERIA:

- A PhD in physical oceanography, climate science, or other relevant field, such as physics or mathematics with significant research experience as evidenced by a record of well-cited publications in peer-reviewed journals, a record of developing and maintaining collaborations and by other measures such as awards, and invitations to present at conferences.
- Demonstrated achievement in a research field related to ocean dynamics.
- Proven 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.
- A demonstrated ability and commitment to apply for competitive external funding to support individual and collaborative research activities.
- Evidence of an ability and willingness to teach at all levels.
- Proven ability for problem solving and for independent research.
- The ability to supervise and graduate high quality PhD/Masters research students.
- Demonstrated ability to work collaboratively in a research team covering multiple disciplines and achieve collective as well as individual outcomes.
- Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students and colleagues at all levels.

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Printed Name:	Adele Morrison	Uni ID:	3367669

References:

[Academic Minimum Standards](#)

 <div style="display: inline-block; vertical-align: middle;"> Australian National University </div>	<h1>Pre-Employment Work Environment Report</h1>
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Organizing events	<input type="checkbox"/>	<input type="checkbox"/>	noise / vibration	<input type="checkbox"/>	<input type="checkbox"/>
fieldwork & travel	<input type="checkbox"/>	<input type="checkbox"/>	electricity	<input type="checkbox"/>	<input type="checkbox"/>
driving a vehicle	<input type="checkbox"/>	<input type="checkbox"/>			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	<input type="checkbox"/>	<input type="checkbox"/>	gamma, x-rays	<input type="checkbox"/>	<input type="checkbox"/>
ultraviolet	<input type="checkbox"/>	<input type="checkbox"/>	beta particles	<input type="checkbox"/>	<input type="checkbox"/>
infra red	<input type="checkbox"/>	<input type="checkbox"/>	nuclear particles	<input type="checkbox"/>	<input type="checkbox"/>
laser	<input type="checkbox"/>	<input type="checkbox"/>			
radio frequency	<input type="checkbox"/>	<input type="checkbox"/>			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	<input type="checkbox"/>	<input type="checkbox"/>	microbiological materials	<input type="checkbox"/>	<input type="checkbox"/>

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mutagens/teratogens/ carcinogens	<input type="checkbox"/>	<input type="checkbox"/>	clinical specimens, including blood	<input type="checkbox"/>	<input type="checkbox"/>
pesticides / herbicides	<input type="checkbox"/>	<input type="checkbox"/>	genetically-manipulated specimens	<input type="checkbox"/>	<input type="checkbox"/>
			immunisations	<input type="checkbox"/>	<input type="checkbox"/>
OTHER POTENTIAL HAZARDS (please specify):					
Supervisor/Delegate Name:		<i>Adele Morrison</i>		Date:	November 2021