

Adele K. Morrison

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Research summary

I study the physics of the ocean, building knowledge of what drives the ocean circulation and how it impacts global climate and sea level. My research involves using high resolution ocean and climate models to investigate ocean circulation change under past and future climate forcing. I enjoy being able to explain the direct societal impacts of my research and have developed a broad range of experience in scientific outreach and education.

Education

Doctor of Philosophy

- Uwe Radok Award for best PhD thesis from the Australian Meteorological and Oceanographic Society *Australian National University* 2014

Graduate Diploma in Education

- Bernhard Neumann Memorial Award for Outstanding Mathematics Student *University of Canberra* 2006

Bachelor of Science (Hons)

- University Medal in Physics and First Class Honours *Australian National University* 2005

Employment

Australian Research Council DECRA Fellow *Canberra, Australia*
Australian National University 2017 - present

Postdoctoral Research Associate *Princeton, USA*
Princeton University 2014 – 2016

Secondary School Physics and Mathematics Teacher *Canberra, Australia*
Radford College and ANU Secondary College 2007 – 2011

Awards

Malcolm McIntosh Prize for Physical Scientist of the Year 2022
One of the Prime Minister's Prizes for Science (\$50,000 prize)

L'Oréal - UNESCO For Women in Science Award 2020
One of five Australia / NZ Fellows (\$25,000 prize)

Meyers Medal 2018
A biennial award for early career researchers from the Australian Meteorological and Oceanographic Society

Uwe Radok Award **2014**
*For best PhD thesis in the fields of meteorology, oceanography,
glaciology or climatology awarded in Australia*

University Medal in Physics **2005**
For exceptional academic excellence across undergraduate studies at ANU

Scientific Leadership

Program Leader **2021 - present**
Australian Centre for Excellence in Antarctic Science

International Ocean Model Development Panel Member **2020 - present**
World Climate Research Program

Co-leader **2021 - present**
Consortium for Ocean and Sea Ice Modelling in Australia (COSIMA)

Committee Member, representing ANU and COSIMA **2022 - present**
ACCESS-NRI Scientific Advisory Committee

Grant Funding (as Chief Investigator)

ARC Discovery Project **\$340,000, 2023-2025**
Connecting ocean tides to the large-scale ocean circulation

ARC Special Research Initiative **\$20,000,000, 2022-2025**
The Australian Centre for Excellence in Antarctic Science

ARC Linkage Project **\$1,162,000, 2020-2023**
Building Australia's next-generation ocean-sea ice model

ARC Discovery Project **\$582,000, 2019-2023**
Risks of rapid ocean warming at the Antarctic continental margin

ARC Discovery Early Career Researcher Fellowship **\$360,000, 2017-2023**
Resolving the mechanisms and pathways of Antarctic dense water formation

U.S. Department of Energy: Regional & Global Climate Modeling Program Grant **A\$1,100,000, 2015-2017**
Three-dimensional structure of the Southern Ocean overturning circulation

Outreach and Media

I actively promote my research to the public, including through public talks, social media, articles in The Conversation, and interviews for TV and radio. Here are just a few recent examples:

Two minute outreach video about my science: **2022**
[Adele Morrison - 2022 Malcolm McIntosh Prize for Physical Scientist of the Year](#)

Lecturer at the National Youth Science Forum **2021**

Panel member at Girls in Science online event **2020**

Interview for the Canberra Times **2020**
[ANU Scientist Recognised for Climate Change Research](#)

Article in The Conversation **2018**

- [How an alien seaweed invasion spawned an Antarctic mystery](#) (2018)
- 25,000 reads, selected for republication in *The Conversation Yearbook 2018: 50 standout articles from Australia's top thinkers* (editor: J. Watson).