

PhD Scholarships in Climate Science

A suite of PhD projects are offered by academic staff in the Climate Change Research Centre (CCRC) at the University of New South Wales. If you are interested in pursuing a PhD in Climate Science please contact the academic whose areas of research interest you.

Dr Gab Abramowitz - Climate model evaluation (e.g. model calibration techniques, data assimilation techniques, model independence assessment and the use of empirical models in climate research) and applied maths in climate research in the areas of neural networks and clustering algorithms, non-linear time series analysis/chaos theory, distribution theory, monte-carlo simulation techniques.

[Prof. Matthew England](#) - Ocean dynamics, the ocean's thermohaline circulation, modes of climate variability (including El Nino, Indian Ocean Dipole, Southern Annular Mode), and Australian rainfall variability/change.

[Dr Jason Evans](#) – Land-atmosphere interactions, water cycle processes, remote sensing of the land surface, land surface & hydrological modelling, regional climate modelling, climate change impacts especially on fresh water resources and agriculture.

[Dr Donna Green](#) - Broad area of vulnerability to climate impacts, resilience, climate justice, climate adaptation and mitigation options through changing domestic energy policy. Impacts on remote communities and indigenous Australians are of particular interest.

[Dr Ben McNeil](#) - Ocean carbon cycle and biogeochemistry: ocean acidification, ocean CO2 variability in the past, present and future, climate change impact on ocean.

[Prof. Andy Pitman](#) - Land surface processes, global and regional modelling, projections of future mean and extreme climate, vegetation dynamics, carbon cycle, abrupt climate change, probabilistic projections of climate change.

[Dr Alex Sen Gupta](#) - Atmosphere, ocean and coupled climate modelling; IPCC model intercomparison; climate change and variability in the Southern Ocean; modes of climate variability, in particular the Southern Annular Mode and Indian Ocean Dipole and their effect on regional climate variability and change.

Prof. Steve Sherwood - Atmospheric physics and dynamics, cloud and convective processes, atmospheric aspects of climate change, climate feedbacks.

Scholarships are available for [Australian students](#) including Australian Postgraduate Awards and UNSW research excellence awards. See the [Graduate Research School](#) for details of available scholarships.

International students can access a variety of scholarship available to them including UNSW International Research Scholarships. Several countries also offer scholarships specifically for their citizens. For details go [here](#).

The CCRC offers a \$5,000 p.a. top up to all candidates who successfully obtain a PhD scholarship. There are also additional funds available for travel, conferences etc.

CCRC Scholarships

The CCRC has several fully funded scholarships available for outstanding Australian students to undertake PhDs in various aspects of climate science. Scholarship holders must demonstrate high academic achievement and be driven to answer significant questions concerning the physics, biophysics and/or impacts of climate change.

Specific opportunities exist for students interested in studying the impact of climate change on the water resources of the Murray-Darling basin. Possible topics include studying the land-atmosphere interactions within the basin including precipitation recycling, vegetation feedbacks on climate during drought, streamflow responses to changes in climate and changes in land-use, improving land cover classifications using satellite data, or improving the land-atmosphere parametrizations in climate models. However, outstanding applicants should want to define their own research focus and this is strongly encouraged.

International travel to research laboratories, workshops and conferences is expected and opportunities for fieldwork may exist. The resulting Ph.D. will position you for a career in hydrology and climate science: the key national research priority in Australia. A quantitative background in Earth or atmospheric sciences, physics or maths is preferred. Experience with a programming language, atmospheric or hydrology models, and/or GIS and remote sensing software would be advantageous. (Dr. Evans)

Another opportunity exists for students to explore the fundamentals of atmospheric physics and how these have helped control past and future climate changes. Possible research topics include environmental controls on storm severity, heat stress and other impacts in warmer climates, controls on rainfall globally and in the Australian region, and theory of atmospheric feedbacks on climate change, but outstanding students are encouraged to develop their own research topics. Most of projects would involve travel and/or collaboration with colleagues overseas. Successful projects will lead to improvements in the state of the art of models being used to explain current and past climate changes and predict that of the future, and will position students for future careers in scientific research or positions outside academia related to science and/or environmental and climate issues. Background in quantitative physical sciences preferred. (Prof. Sherwood)

These scholarships are valued at \$25,000 p.a. The applicant is expected to apply for an Australian Postgraduate Award, if successful these scholarships will be converted to an APA plus \$5,000 p.a. top up, taking the total annual income above \$25,000.

For further information please contact Dr. Jason Evans at jason.evans@unsw.edu.au (phone (02) 9385 7066) or Prof. Steven Sherwood at s.sherwood@unsw.edu.au (phone (02) 9385 8959).

Applications for a scholarship, including CV and academic transcript should be sent to: Dr Jason Evans, Climate Change Research Centre, Red Centre Building, University of New South Wales, Sydney NSW 2052, Australia