THE CCRC ACTIVELY ENGAGES IN WORLD-CLASS RESEARCH FOCUSED ON CLIMATE SYSTEM SCIENCE TO HELP BETTER UNDERSTAND, PREDICT, AND ADAPT TO CLIMATE VARIABILITY AND CLIMATE CHANGE. WE ALSO EDUCATE UNSW STUDENTS, SUPPORT STEM, ENGAGE IN PUBLIC OUTREACH, AND ADVISE THE GOVERNMENT AND PRIVATE SECTORS ON CLIMATE-RELATED SCIENCE AND THE CAUSES AND CONSEQUENCES OF GLOBAL WARMING. WE ARE THE FOUNDATION FOR THE ARC CENTRE OF EXCELLENCE FOR CLIMATE EXTREMES.

ARC CENTRE OF EXCELLENCE FOR CLIMATE EXTREMES

The ARC Centre of Excellence for Climate Extremes (CLEx), led by CCRC’s Professor Andy Pitman, launched April 10, 2018.

CLEx builds on the research carried out by the earlier ARC Centre of Excellence for Climate System Science (ARCCSS) but focuses directly on extreme weather and climate events. It aims to improve our understanding of the processes that trigger these extreme events and build this understanding into climate modelling systems.

RESEARCH HIGHLIGHTS

- Intensification of Southern Hemisphere westerlies caused early deglacial atmospheric CO₂ rise: 10.1029/2018GL078875
- Wind energy is a resilient source of electricity over most of Australia: 10.1088/1748-9326/aae632
- Many climate models overestimate heat extremes over wet regions: 10.1029/2018GL079102
- Rain intensity increased over Australia during 1986-2013 compared to 1958-1985: 10.1029/2018GL078875
- Does predictability of fluxes vary between FLUXNET sites?: 10.5194/bg-15-4495-2018
- Total Antarctic ice shelf loss increases by 40% - 130% during twenty-first-century simulations: 10.1175/JCLI-D-17-0854.1
- How important is humidity to heat stress?: 10.1029/2018JD028969
- Future extreme precipitation intensity increases in the majority of CMIP5 models: 10.1175/JCLI-D-17-0683.1
- A new model of skipjack tuna movement in the tropical Pacific ocean: 10.1016/j.pocean.2018.04.007
- Tropical instability waves may impact ENSO intensity and predictability: 10.1007/s00382-018-4217-0

AWARDS & HONOURS

- Lisa Alexander: Outstanding Service Award, World Meteorological Organization for Climatology
- Alex Sen Gupta: Academy of Science Frederick White Medal
- Matt England: Tinker-Muse Prize for Science and Policy in Antarctica
- Jason Evans: Australian Meteorological Oceangoanic Society (AMOS) Priestley Medal
- Andy Pitman: Eureka prize finalist in the category ‘Leadership in Innovation and Science’
- Markus Donat: World Climate Research Programme Climate Observing System Data Prize
- Multiple student awards:
  - Nathan Cooper, Mia Gross, Sanaa Hobeichi and Manon Sabot

RESEARCH OUTPUTS

107 journal articles:
- 33% in top 10% most cited, 90% in SJR’s top 10%
- 23 publications with student first authors
- 14 publications in Nature family journals

INTERNATIONAL DELEGATION
- Lisa Alexander: Chair, World Meteorological Organization (WMO) Expert Team Sector-specific Climate Indices
- Katrin Meissner: Steering Committee, Cycles of Sea-Ice Dynamics in the Earth system (C-SIDE) PAGES
- Lisa Alexander: Executive Committee, International Association of Meteorology and Atmospheric Sciences (IAMAS)
- Lisa Alexander: Steering Committee, Analysis, Integration and Modelling of the Earth System (AIMES)
- Sarah Perkins-Kirkpatrick: Co-lead, WMO commission for climatology

NATIONAL & INTERNATIONAL LEADERSHIP

- Angela Maharaj: Vice President, Australian Meteorological and Oceanographic Society (AMOS)
- Gab Abravanel: Chair, Australian Energy and Water Exchange (OzEWEX) Benchmarking Working Group
- Andy Pitman: Review of Climate Risk Method for Regional Water Strategies, Department of Planning, Industry and Environment
- Jason Evans: Central Coast Council briefing, Climate Science and the Central Coast Context
- Stephen Gray: Member, ARC Major Investments Working Group
- Andy Pitman: National Committee for Earth System Science
- Andy Pitman: National Collaborative Research Infrastructure Strategy (NCRIS)
- Sarah Perkins-Kirkpatrick: Government briefing to parliamentary secretaries, Understanding extremes
- Andrea Taschett: AMOS Council Member

OUR MISSION

The CCRC actively engages in world-class research focused on climate system science to help better understand, predict, and adapt to climate variability and climate change. We also educate UNSW students, support STEM, engage in public outreach, and advise the government and private sectors on climate-related science and the causes and consequences of global warming. We are the foundation for the ARC Centre of Excellence for Climate Extremes.
EDITORIAL ROLES

- Lisa Alexander: Editor-in-Chief, Weather and Climate Extremes
- Jason Evans: Editor, Journal of Climate
- Agus Santoso: Associate Editor, Journal of Climate
- Martin De Kauwe: Associate Editor, Biogeosciences
- Martin De Kauwe: Editorial Board, Global Change Biology
- Martin De Kauwe: Editorial Board, New Phytophysiology
- Laurie Menviel: Editor, Climate of the Past
- Andrea Taschetto: Guest Editor, Atmosphere on Weather and Climate Extremes

VISITORS

- Martin Best, UK Met Office
- Ian Dunlop, Centre for Policy Development
- Simone Fatichi, ETH Zurich
- Helen Fricker, SCRIPPS
- Ryo Furue, JAMSTEC
- Stephen Griffies, GFDL
- Florentin Lemonnier, Sorbonne Université
- Nicola Maher, Max Planck Institute
- Gerald Meehl, UCAR
- Nagin Nazarian, MIT
- Robert Pincus, CIRES, NOAA
- Paulo Polito, University of São Paulo, Brazil
- Ivanne Radjawane, Bandung institute of Technology
- Regina Rodrigues, Federal University of Santa Catarina
- Olga Sato, University of São Paulo, Brazil
- Elisabeth Sikes, Rutgers University
- Damien Stone, National Institute of Water and Atmospheric Research
- Axel Timmerman, IBE Center for Climate Physics
- Caroline Ummenhoffer, Woods Hole Oceanographic Institution
- Allison Wing, Florida State University

GRADUATIONS

PHD STUDENTS

Oliver Angelil
Maxime Colin
Nadja Herger
Yue Li
Tammas Loughran
Helen Millman
Kaitlin Naughten
Nidhi Nishant
Marissa Parry
Ariaan Purich
Christopher Thomas

HONOURS STUDENTS

Kate Simmonds
Nish Su
Nicholas Yeung

PROMOTIONS

Katrin Meissner: Professor
Sarah Perkins-Kirkpatrick: Senior Lecturer
Alex Sen Gupta: Associate Professor

ARC GRANTS & FELLOWSHIPS COMMENCING IN 2018

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MEDIA HIGHLIGHTS

- 25 stories in ABC outlets (radio/television/online)
- 3 stories in The Australian
- 6 stories in The Guardian
- 6 stories in Fairfax Metro Media

- CGTN (1), CNN (1), Cosmos Magazine (2), FOX23 News (1), Herald Sun (1), SBS News (2), SMH (2), Ten Daily (1), The Conversation (1), The Daily Telegraph (1), The Sun UK (1), Triple J (2), The Morning Show - Channel 7
OUR VISION

THE CCRC IS A WORLD-LEADING RESEARCH CENTRE IN PHYSICAL AND BIOGEOCHEMICAL CLIMATE SCIENCE, EDUCATING THE AUSTRALIAN AND GLOBAL COMMUNITY ABOUT RISKS ASSOCIATED WITH CLIMATE VARIABILITY AND CHANGE.

www.ccrc.unsw.edu.au/publications