# ANDREW MARSHALL

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**CSIRO Affiliate | University of Tasmania Adjunct Senior Researcher**
**Australian & British dual citizenship**

## *100-word Biography*

Andrew is a Senior Research Scientist at the Bureau of Meteorology and an Adjunct Senior Researcher at the University of Tasmania.

Andrew's time is shared between exploring drivers of global climate variability and extremes on multi-week to interannual timescales (blocking, SAM, MJO, monsoons, IOD, QBO, ENSO), developing the Bureau's seasonal forecast system, collaborating in Australian and international research clusters, and interfacing with operations and planning through regular delivery of tailored climate briefings.

With a passion for science education, Andrew has also been a partner in CSIRO's STEM Professionals in Schools Program, and President of the Australian Meteorological and Oceanographic Society.

## *Education*

**PhD in Mathematical Sciences | 2006 | Monash University, Clayton VIC**

Madden-Julian Oscillation: role of air-sea interaction and the MJO-ENSO relationship

**BSc (Hons) in Atmospheric Science (First Class) | 1998 | Monash University, Clayton VIC**

Majors in applied mathematics and physics

**Victorian Certificate of Education | 1994 | Brighton Grammar School, Brighton VIC**

Tertiary Entrance Rank of 94.4

## *Employment History*

Andrew's employment history covers a broad range of topics in meteorology, oceanography and climatology. These include climate variability, sub-seasonal and seasonal forecasting, ocean-atmosphere interaction, palaeoclimate research and climate change. With research experience spanning regional-to-global and weather-to-millennial scales, Andrew has developed a broad understanding of the climate system.

**Senior Research Scientist | Bureau of Meteorology, Hobart TAS | Mar 2009 – present**
Understanding drivers of variability and extremes on multi-week to interannual timescales

**Climate Scientist | Met Office Hadley Centre, Exeter UK | Feb 2007 – Mar 2009**
Understanding the Impact of stratospheric resolution on seasonal forecast skill for Europe

**Postdoctoral Research Fellow | Monash University, Clayton VIC | Jan 2005 – Feb 2007**
Understanding the sensitivity of the Australian monsoon to late Quaternary climate forcing
Supervised by Prof Amanda Lynch

**Summer Vacation Studentship | Bureau of Meteorology, Melbourne VIC | Jan 2001 – Feb 2001**
Understanding the impact of climate model initial conditions on ENSO forecasts
Supervised by Dr Oscar Alves

**International travel | Canada & United Kingdom | Jun 1999 – Jan 2001**
Incorporating visits to Univ. Toronto, McGill Univ., Victoria Univ. and Univ. Reading

**Research Assistant | Monash University, Clayton VIC | Jan 1999 – May 1999**
Understanding recent changes in clear-sky UV radiation in Melbourne
Supervised by Prof David Karoly

## *Supervising experience*

Andrew has broad supervising experience across a range of topics, institutions, and career levels.

**Mandy Freund | CSIRO Postdoctoral Fellow, Melbourne VIC | Jan 2019 – present**
Tropical climate variability for agriculture

**Xiaoxuan Jiang | Univ. Tasmania Honours Student, Hobart TAS | Jul 2018 – Jun 2019**
Stratospheric influence on tropical cyclone tracking

**Laura Davies | Univ. Tasmania Postdoctoral Fellow, Hobart TAS | Jul 2015 – Mar 2019**
Seasonal sea-ice prediction

**Lizzie Donovan | Bureau of Meteorology Postgraduate, Hobart TAS | Oct 2013 – Mar 2015**
Future projections of ENSO and its teleconnection to rainfall variability

**Christopher White | Bureau of Met. Research Scientist, Hobart TAS | Jan 2012 – May 2013**
Predictions of heat extremes on the multi-week timescale

## *Outreach & Teaching*

**STEM Professionals in Schools (Primary) | Hobart TAS | Mar 2014 – Dec 2019**
Teaching weather, climate and general science lessons to grades Kinder, Prep, 1, 5 and 6.

**School of Mathematical Sciences at Monash University | Clayton VIC | 1998, 1999, 2001-2004**
Tutoring meteorology and mathematics students in large study groups and one-to-one

**Monash Science Centre (Primary) | Melbourne VIC | 2001 – 2002**
Teaching weather lessons to grades 3 – 6

## *Activities & Committees*

**Australian Meteorological and Oceanographic Society (AMOS)**
National President (2018 – 2020)
National Vice-President & Conference and Events Working Group Chair (2016 – 2018)
Tasmania Regional Centre Chair (2014 – 2016)
National Conference Convener (Hobart 2014)
National Secretary (2003 – 2007)
Melbourne Regional Chair (2005 – 2006), Vice-Chair (2004 – 2005) & Secretary (2002 – 2004)
Student Workshop Convener (2005)

**Collaborations**

Adjunct Senior Researcher at University of Tasmania (2019 – present)
Contractor at Hydro Tasmania (2019 – present)
Associate Investigator at ARC Centre of Excellence for Climate Extremes (2018 – present)
SPARC Stratospheric Network for the Assessment of Predictability committee (2017 – present)
CLIVAR-GEWEX Asian-Australian Monsoon Working Group (2016 – present)
S2S Monsoon Prediction Sub-project (2015 – present)
Affiliate staff at CSIRO (2009 – present)

## *Awards*

Lightning Lecture Prize at ARC CoE for Climate System Science Annual Workshop (2017)
Outstanding Reviewer Award for Environmental Research Letters (2016)
Exceeding Output Award for exceptional contributions to Hadley Centre research (2008)
Golden Key Society Award for Academic Excellence at Monash University (1997)
Dux of Mathematics at Brighton Grammar School (1993)

## *Hobbies & Interests*

Swimming and cycling, music and songwriting, travel and camping, community fundraising

## *Selected Publications*

Andrew has 53 peer-reviewed published papers (25 first-authored) across various topics.
For a complete list with hyperlinks see http://www.marine.csiro.au/~mar75h/publications.html

**Domeisen et al. (2019)**, The role of the stratosphere in subseasonal to seasonal prediction. Part I: Predictability of the stratosphere | *Journal of Geophysical Research, 125* | https://doi.org/10.1029/2019JD030920

**Marshall et al. (2018)**, Southern Annular Mode impacts on global ocean surface waves | *Ocean Modelling, 129* | doi:10.1016/j.ocemod.2018.07.007

**Marshall et al. (2017)**, Impact of the Quasi-Biennial Oscillation on predictability of the Madden-Julian Oscillation | *Climate Dynamics, 49* | doi:10.1007/s00382-016-3392-0

**Marshall et al. (2015)**, Subseasonal Prediction of Australian Summer Monsoon Anomalies | *Geophysical Research Letters, 42* | doi:10.1002/2015GL067086

**Marshall et al. (2015)**, Madden Julian Oscillation impacts on global ocean surface waves | *Ocean Modelling, 96* | doi:10.1016/j.ocemod.2015.06.002

**Marshall et al. (2015)**, Initiation and amplification of the Ningaloo Niño | *Climate Dynamics, 45* | doi:10.1007/s00382-015-2477-5

**Marshall et al. (2014)**, Intra-seasonal drivers of extreme heat over Australia in observations and POAMA-2 | *Climate Dynamics, 43* | doi:10.1007/s00382-013-2016-1

**Marshall et al. (2014)**, Impacts of the MJO in the Indian Ocean and on the Western Australian coast | *Climate Dynamics, 42* | doi:10.1007/s00382-012-1643-2

**Hudson et al. (2013)**, Improving intraseasonal prediction with a new ensemble generation strategy | *Monthly Weather Review, 141* | doi:10.1175/MWR-D-13-00059.1

**Marshall et al. (2010)**, Improved predictability of Stratospheric Sudden Warming events in an atmospheric general circulation model with enhanced stratospheric resolution | *J. Geophys. Res, 115* | doi:10.1029/2009JD012643

**Marshall et al. (2009)**, Impact of the QBO on surface winter climate | *Geophysical Research, 114 | doi:10.1029/2009JD011737*

## *Presentations*

**Over 150 talks, lectures, seminars and briefings | 1999 – present**

Delivered across Australia, Austria, Canada, China, Germany, Italy, New Caledonia, New Zealand, Scotland, South Korea, UK and USA

**18 invited presentations at professional meetings**

Including IUGG 2019, ARC Centre of Excellence for Climate Extremes workshops 2013 – 2015, ICSHMO 2012, MOCA 2009, PAGES Global Monsoon Symposium 2008, and EGU General Assembly 2006