

# Steefan Contractor

Lvl 4 Mathews Bldg, Climate Change Research Centre | UNSW Sydney  
ARC Centre of Excellence for Climate System Science

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## Education

- Current                      PhD, Climate Science  
Jan 2015 onwards        ARC Centre of Excellence for Climate System Science & Climate Change  
Research Centre, Sydney, UNSW Sydney, Australia  
Supervisors: A/Prof Lisa Alexander, Dr Markus Donat, Prof Steven  
Sherwood  
Title: Has rainfall become more variable or more extreme across  
global land areas?  
Expected Completion: August 2018
- 2009 - 2013                Bachelors of Science (Advanced) with Honours,  
Major: Mathematical Physics  
ARC Centre of Excellence for Quantum Computation and Communication  
Technology & School of Physics, UNSW Sydney, Australia  
Thesis: High Frequency Measurements of Single Donors in Silicon  
Advisors: Prof Sven Rogge, Dr Giuseppe Tettamanzi

## Publications

**Contractor, Steefan**, Markus G. Donat, Lisa V. Alexander, Markus Ziese, Elke Rustemeier, Anja Meyer-Chrisoffer, Udo Schneider, Peter Finger, Andreas Becker and Imke Durre. "Rainfall Estimates on a Gridded Network (REGEN) – A global land-based gridded dataset of daily precipitation from 1950–2013". *Hydrol. Earth Syst. Sci. Discuss.*, <https://doi.org/10.5194/hess-2018-595>, in review, 2019

**Contractor, Steefan**, Markus G. Donat, Lisa V. Alexander. "Intensification of daily rainfall distribution across Australia". *Geophysical Research Letters* (2018). *Geophysical Research Letters*, 45, 8568– 8576. <https://doi.org/10.1029/2018GL078875>

**Contractor, Steefan**, Lisa V. Alexander, Markus G. Donat, and Nicholas Herold, "How Well Do Gridded Datasets of Observed Daily Precipitation Compare over Australia?" *Advances in Meteorology*, vol. 2015, Article ID 325718, 15 pages, (2015). doi:10.1155/2015/325718

Herold, N., L. V. Alexander, M. G. Donat, **S. Contractor**, and A. Becker, "How much does it rain over land?" *Geophysical Research Letters*, 43, 341–348, (2016). doi:10.1002/2015GL066615.

## Conferences/Talks

- Jun 2019                    **Talk & Poster**, Australian Meteorological & Oceanographic Society  
(AMOS) national conference 2019
- May 2018                    **Talk**, 8<sup>th</sup> GEWEX Science Conference, Canmore, Alberta, Canada
- Feb 2018                    **Poster**, AMOS and International Conference on Southern Hemisphere  
Meteorology and Oceanography Conference (AMOS-ICSHMO) 2018,  
Sydney, UNSW Australia
- Dec 2017                    **Talk**, American Geophysical Union (AGU) Fall Meeting 2017, New Orleans,  
Louisiana, USA
- Feb 2017                    **Talk**, AMOS National Conference 2017, Canberra, Australia
- Sep 2016                    **Invited seminar**, Global Precipitation Climatology Centre, Deutscher

Wetterdienst (DWD), Offenbach, Hesse, Germany  
 Jun 2016 **Talk**, International Meeting on Statistical Climatology 2016, Canmore, Alberta, Canada  
 Jun 2016 **Talk**, Canadian Meteorological & Oceanographic Society conference 2016, Fredericton, NB, Canada  
 May 2016 **Invited seminar**, National Centres for Env. Information, National Oceanic & Atmos. Administration, Asheville, NC, USA  
 Feb 2016 **Poster**, AMOS National Conference 2016, Melbourne, Australia  
 Oct 2015 **Talk**, Annual Postgraduate Review, Climate Change Research Centre, UNSW Sydney  
 July 2015 **Poster**, AMOS National Conference 2015, Brisbane, Australia  
 Aug 2015 **Talk**, ARCCSS Extreme Precipitation Workshop Bureau of Meteorology, Melbourne, Australia

### Scholarships/Awards

2016 - 2018 Australian Postgraduate Award, AU\$26,288 per annum  
 Jan 2015 ARC Centre of Excellence for Climate System Science (ARCCSS) domestic research scholarship, AU\$25,000  
 Dec - Jan 2014/15 ARCCSS Summer Research Scholarship, AU\$3500  
 Dec - Jan 2011/12 Faculty of Science Summer Research Scholarship, AU\$3000

### Professional Memberships

2019 Statistical Society of Australia  
 2019 Australian Meteorological and Oceanographic Society  
 2019 Australian Computer Society  
 2015-2017 Australian Meteorological and Oceanographic Society

### Work Experience

2017 – 2019 Tutor, UNSW Sydney, Australia  
 Course Name: CLIM3001 3<sup>rd</sup> Year Climate System Science  
 2011 - 2017 Tutor, UNSW Sydney, Australia  
 Course Names: PHYS 1160 Introduction to Astronomy, GENS4015 Brave New World  
 Aug 2013 - 2015 Research Assistant, The University of Sydney  
 Condensed Matter Theory Group  
 Project: Investigation of multiferroic properties of Cobalt doped perovskite ferroelectrics  
 2011 - 2015 Laboratory Demonstrator, UNSW Sydney  
 First Year Physics Laboratory

### Leadership Roles

2015 Student Representative for UNSW students, Early Career Researcher (ECR) Committee, ARC Centre of excellence for Climate System Science  
 2016 Social Representative, Climate Change Research Centre, UNSW Sydney  
 2011 - 2012 Elected Physoc (Physics society) representative, UNSW Sydney  
 Role: Publicity officer and events coordinator

### Public Outreach

I have co-created a website: [isithotrightnow.com](http://isithotrightnow.com), that compares today's daily average temperatures against historical observations to highlight the warming signal in cities around Australia. The

website offers easy to understand graphics and real-time data to journalists and general public related to regional changes and variability in temperatures, ultimately increasing public awareness and understanding of climate change.

### **Skills**

|                    |   |
|--------------------|---|
| Expert             | R, Fortran, C programming                             |
| Intermediate       | Python, HTML, CSS, SAS, Matlab, Mathematica, IDL, NCL |
| Data processing    | CDO, Bash, SQL  |
| Data visualisation | Tableau, XMGrace, R Shiny, D3                         |
| Documentation      | Latex, Git, Markdown, RMarkdown                       |

### **Numerical Modelling**

- Weather Research and Forecasting Model (WRF) Version 3.0, NCAR, NOAA
- Density Functional Theory Modelling (Quantum Chemistry)
- Coupled Model Intercomparison Project Phase 5 (CMIP5) model output