

# Renate Anna Irma Wilcke

*Dr. rer. nat.*

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## Education

- 04/2010 – 02/2014 **PhD**, *University of Graz, Wegener Center for Climate and Global Change and Institute for Geophysics, Astrophysics, and Meteorology, Graz.*  
PhD thesis: “Evaluation of Multi-Variable Quantile Mapping Based on Regional Climate Models”
- 10/2003 – 02/2010 **Diplom Meteorologist**, *Ludwig-Maximilians University, Munich.*  
Diploma thesis: “The Madden-Julian Oscillation, its behaviour and its impact on Northern Australia” – diploma thesis at the Bureau of Meteorology Australia, Darwin

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## Experience

### Vocational

- 01/2014 – current **PostDoc**, *Rosby Centre, SMHI, Norrköping, Sweden.*  
Reducing ensemble size, bias correction (RCM & GCM), statistical analysis
- 04/2010 – 12/2013 **Researcher**, *Wegener Center for Climate and Global Change, University of Graz, Graz, Austria.*  
Bias correction of regional climate model output
- 07/2008 – 09/2008 **Student research assistant**, *Department of Physics of the Atmosphere, Deutsches Zentrum für Luft- und Raumfahrt (DLR), Oberpfaffenhofen, Germany.*  
Evaluation of lightning data.
- 08/2006 – 08/2008 **Tutor**, *Ludwig-Maximilians-University, Department of Physics, Munich.*  
Tutor for practical physics exercises

### Training / Stays abroad / scientific visits

- 01/2015 **Winter school**, Geilo, Norge, SINTEF eVITA.  
Uncertainty Quantification for Physical Phenomena
- 03/2013 – 04/2013 **Short Term Scientific Mission**, *Department of Statistical Science, UCL, London, U.K., VALUE: COST Action ES1102 stipend for a collaboration with Dr. R. E. Chandler.*  
Work on inter-variable relations in RCMs
- 11/2012 **Training school**, Santander, Spain, VALUE: COST Action ES1102.  
Introduction to Dynamical and Statistical Downscaling

- 11/2008 – 06/2009 **Diploma thesis**, *Bureau of Meteorology Australia*, Darwin, Australia.  
Research for Master thesis: "The Madden-Julian Oscillation, its behaviour and its impact on Northern Australia"
- 02/2008 – 04/2008 **Internship**, *Bureau of Meteorology Australia*, Darwin, Australia.  
Evaluation of advancement of risk model for severe weather, evaluation of MJO correlating with ENSO
- 08/2007 – 09/2007 **Internship**, *Met Eireann*, Dublin, Ireland.  
Evaluation of ENSEMBLES runs for C4I

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## Languages

German	<b>native</b>
English	<b>fluent</b>
Latin	<b>intermediate</b>
French	<b>basic</b>
Swedish	<b>intermediate</b>

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## Computer skills

Expert	R, IDL, LaTeX
Intermediate	Python, Fortran95, HTML
Basic	MatLab, C++

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## Research Interests

- Bias adjustment of RCMs and GCMs
- Reducing ensemble size
- Statistical regional downscaling
- Inter-variable relationships in RCM output and after MOS
- Climate model evaluation
- Error characterisation of RCMs

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## Conferences

### 2015

- poster *Inter-variable relations in regional climate model outputs*, Wilcke R. A. I., A. F. Prein, R. E. Chandler, AGU Fall Meeting 2015, 15 December 2015, San Francisco, California
- oral *Analysis of inter-variable relations in regional climate model output*, Wilcke R. A. I., R. E. Chandler, EGU General Assembly 2015, 13 - 17 April 2015, Vienna, Austria

- oral *Selecting regional climate scenario for impact modelling studies*, Wilcke R. A. I., L. Bärring, EGU General Assembly 2015, 13 - 17 April 2015, Vienna, Austria
- convener *Session: Linkages between climate and impact models: methodological challenges to serve contextual demands*, Rössler, O., Fischer, A., Holzkämper, A., Kotlarski, S., Salzmann, N., Wilcke, R. A. I., EGU General Assembly 2015, 13 - 17 April 2015, Vienna, Austria

#### 2014

- oral *Selecting an optimum subset of climate models for climate impact studies*, Wilcke R. A. I., L. Bärring, T. Mendlik, 14th EMS Annual Meeting / 10th ECAC 2014, 6 - 10 October 2014, Prague, Czech Republic
- oral *Climate change signal in an ensemble of bias-corrected regional climate scenarios for Europe*, Wilcke R. A. I., G. Nikulin, L. Bärring, E. Kjellström, 14th EMS Annual Meeting / 10th ECAC 2014, 6 - 10 October 2014, Prague, Czech Republic
- poster *Reducing model ensemble size for climate change impact application – a case study*, Wilcke R. A. I., L. Bärring, T. Mendlik, 3rd International Lund Regional-Scale Climate Modelling Workshop, 16 - 19 June 2014, Lund, Sweden
- oral *Analysis of inter-variable relations in regional climate model output*, Wilcke R. A. I., R. E. Chandler, EGU General Assembly 2014, 28 April - 2 May 2014, Vienna, Austria

#### 2013

- oral *A detailed evaluation of quantile mapping on multivariate RCM output*, Wilcke R. A. I., T. Mendlik, A. Gobiet, 12th International Meeting on Statistical Climatology, 24 - 28 June 2013, Jeju, Korea

#### 2012

- poster *Physical Consistency of Multi-Parameter Error-Correction and Downscaling of Regional Climate Models*, Wilcke R. A. I., T. Mendlik, A. Gobiet, EGU General Assembly 2012, 23 - 27 April, 2012, Vienna, Austria
- oral *Physical Consistency of Multi-Parameter Error-Correction and Downscaling of Regional Climate Models*, Wilcke R. A. I., A. Gobiet, T. Mendlik, International Conference on End User Needs for Regional Climate Change Scenarios, 7 - 9 March 2012, Kiel, Germany

#### 2011

- oral *Multi-parameter Error Correction and Downscaling of Regional Climate Models*, Wilcke R. A. I., A. Gobiet, T. Mendlik, M. J. Themeßl, EMS Annual Meeting / ECAM 2011, 12 - 16 September 2011, Berlin, Germany

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## Workshops

- organiser Wilcke R. A. I., Rössler O., Fischer A., COST Action VALUE ESR-workshop “Reflecting the spread in downscaled climate model output: multiple observational datasets, multiple downscaling methods, and multiple climate simulations”, 15 - 16 June 2015, Norrköping, Sweden
- invited talk *Bias correction - quantile mapping - challenges*, Wilcke R. A. I., SPECS workshop “Seasonal forecasting and downscaling”, 8 - 12 September 2014, Santander, Spain

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## Publications

**Wilcke, R. A. I.** and L. Bärring. electing regional climate scenario for impact modelling studies. *Environmental Modelling & Software*, subm., 2015.

**Wilcke, R. A. I.** and R. E. Chandler. Validation of inter-variable relations in regional climate model outputs. *Int. J. Climat.*, subm., 2015.

D. Maraun, M. Widmann, J. M. Gutiérrez, S. Kotlarski, R. E. Chandler, E. Hertig, J. Wibig, R. Huth, and **Wilcke, R. A. I.** VALUE: A framework to validate downscaling approaches for climate change studies. *Earth's Future*, 3(1):1–14, 2015.

T. Marke, U. Strasser, F. Hanzer, J. Stötter, **Wilcke, R. A. I.**, and A. Gobiet. Scenarios of Future Snow Conditions in Styria (Austrian Alps). *J. Hydrometeor*, 16:261–277, 2015.

U. Strasser, U. Vilsmaier, F. Prettenhaler, T. Marke, R. Steiger, A. Damm, F. Hanzer, **Wilcke, R.A.I.**, and J. Stötter. Coupled component modelling for inter- and transdisciplinary climate change impact research: Dimensions of integration and examples of interface design . *Environmental Modelling & Software*, 60:180 – 187, 2014.

**Wilcke, R. A. I.** *Evaluation of Multivariable Quantile Mapping on Regional Climate Models*. Scientific Report No. 56-2014. Wegener Center Verlag Graz, January 2014. PhD thesis.

**Wilcke, R. A. I.**, T. Mendlik, and A. Gobiet. Multi-variable error-correction of regional climate models. *Climatic Change*, 120(4):pp 871–887, 2013.

A. Fischer, **Wilcke, R. A. I.**, M. Widmann, J. Wibig, and J. Eden. Report on downscaling inventory, WG 3–5. deliverable report, COST Action ES1102, VALUE, 2013.

**Wilcke, R. A. I.**, A. Leuprecht, and Gobiet A. Effects of Climate Change on Future Snow Conditions in Tyrol and Styria (CC-Snow), Final report – Climate. Scientific report no. 48-2012, Wegener Center Verlag, Graz, Austria, 2012.

**Wilcke, R. A. I.**, T. Marke, F. Hanzer, U. Strasser, and A. Gobiet. Effects of quantile mapping on impact models. *H.E.S.S.*, in preparation.