

Dr. Katharina Bülow

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Curriculum Vitae

Oceanographer with extensive experience in regional climate modelling and statistical methods, with a 20 year working experience in joint research projects.

Born on the 19th September 1968 in Hamburg

Current position

started 11/2014 Research Scientist at the Climate Service Center Germany (GERICS):
I am conducting regional climate simulations within the EURO CORDEX framework to derive robust climate change information on high spatial resolution for Germany and the large river catchments draining into Germany, to provide consistent and user-tailored information for the federal agencies and climate impact and adaption research.

Research interest Statistical methods for the analysis of simulated and observed climate data, applied in projects dealing with climate change impact and adaptation.

Research experience

09/2011 -10/2014 Research Scientist at the Federal Maritime and Hydrographic Agency (Prof. Dr. Hartmut Heinrich):
I analysed climate-induced changes in currents and water levels using model simulations of regional coupled ocean atmosphere models. This work is part of the research program KLIWAS.

06/2001 - 08/2011 Research Scientist at the Max Planck Institute for Meteorology (Prof. Dr. Daniela Jacob):
My research focused on the occurrence of extremes like severe rainfall and droughts and their possible changes in the future. Therefore I analysed regional climate model results in the projects GLOWA-ELBE, KLIWA, KLIWAS and ENSEMBLES.

02/1997 - 04/2001 Research Scientist at the Hemholtz Centre Geesthacht (Prof. Dr. H. von Storch):
I validated a nutrient model for the river Elbe against observations. I performed sensitivity studies of the model parameterization by using the adjoint code of the model.

- 07/1996 - 12/1996 Research Scientist at Helmholtz Centre for Ocean Research Kiel (Planktology Department, Prof. Dr. B. Zeitschel):
Measuring the physical properties of the ocean on a JGOFS cruise and evaluating these observations.
- 04/1996 - 06/1996 Internship at the University of Rhode Island, U.S.A.
(Prof. Dr. M. L. Spaulding):
Prepared the integral real time estuarine monitoring and modelling system COASTMAP to Greenwich Bay, performed simulations of the tidal currents in the bay and compared them to observations.
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Academic studies

- 12/2009 Received a PhD at the University of Hamburg
Advisor: Prof. Dr. D. Jacob und Prof. Dr. H. Graßl
Topic: Time series analysis of regional temperature and precipitation simulations for Germany.
- 04/1990 - 02/1996 Oceanography at the University of Hamburg
Diploma thesis at the Federal Maritime and Hydrographic Agency (BSH), Advisor: Dr. G. Becker
Topic: Currents, stratification and fronts in the German Bight - Comparison of model simulations with observations of an experiment in the summer 1994.
- 10/1989 - 02/1990 Geology at the University of Berlin
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Computer Skills Python, Matlab, R, CDO, shell scripting, Fortran, Latex, MS Office

Languages German (native speaker), English (fluent)

Publications

- 2016 Preuschmann, S., & Bülow, K.: Unsicherheiten in Klimamodelldaten. In W. Strassdas & R. Zeppenfeld (Eds.), *Tourismus und Klimawandel in Mitteleuropa, Wissenschaft trifft Praxis - Ergebnisse der Potsdamer Konferenz 2014* (pp. 50–56). Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-14707-5>.
- 2016 Rechid, D., Meier, H. E. M., Schrum, C., Rummukainen, M., Moseley, C., Bülow, K., Alberto Elizalde, A., Su, J. Su, Pohlmann, T.: Annex chapter : Climate model simulations for the North Sea region. In M. Quante & F. Colijn (Eds.), *North Sea Climate Change Assessment* (pp. 495-504). Springer International Publishing. doi: 10.1007/978-3-319-39745-0.
- 2015 Pfeifer, S., Gobiet, A., Hänsler, A., Mudelsee, M., Rechid, D., Teichmann, C., & Jacob, D.: Robustness of Projected Changes in Seasonal and Extreme Precipitation from different Ensembles of Regional Climate Change Simulations for Germany, 1–28.

- 2015 Hennemuth, B., Bender, S., Bülow, K., Dreier, N., Hoffmann, P., Keup-Thiel, E. and Mudersbach, C. (2015) Collecting Statistical Methods for the Analysis of Climate Data as Service for Adaptation Projects. *American Journal of Climate Change*, 4, 8- 21.
<http://dx.doi.org/10.4236/ajcc.2015.41002>.
- 2014 Bülow, K., Dieterich, Ch., Elizalde, A., Gröger, M., Heinrich, H., Hüttl-Kabus, S., Klein, B., Mayer, B., Meier, H.E.M., Mikolajewicz, U., Narayan, N., Pohlmann, T., Rosenhagen, G., Schimanke, S., Sein, D., Su, J.: Comparison of three regional coupled ocean atmosphere models for the North Sea under today's and future climate conditions, *KLIWAS Schriftenreihe*, KLIWAS-27/2014, DOI:10.5675/Kliwas_27/201.
- 2013 Bülow, K., Ganske, A., Heinrich, H., Hüttl-Kabus, S., Klein, B., Klein, H., Möller, J., Rosenhagen, G., Schade, N., Tinz, B.: Comparing meteorological fields of the ENSEMBLES regional climate models with ERA-40-data over the North Sea, *KLIWAS Schriftenreihe*, KLIWAS-21/2013, DOI:10.5675/Kliwas_21.2013_ERA40data.
- 2012 Daniela Jacob, Katharina Bülow, Lola Kotova, Christopher Moseley, Juliane Petersen, Diana Rechid: Regionale Klimaprojektionen für Europa und Deutschland: Ensemble-Simulationen für die Klimafolgenforschung, CSC Report 6, Climate Service Center, Germany.
- 2012 Katharina Bülow: In Hamburg fiel der Startschuss für alle Klimaforscher weltweit, *Mitteilungen Deutsche Meteorologische Gesellschaft*, 01/2012, ISSN 0177-8501, Seite 30.
- 2010 Katharina Bülow: Zeitserienanalyse von regionalen Temperatur- und Niederschlagssimulationen in Deutschland, Dissertation, Universität Hamburg, *Berichte zur Erdsystemforschung*, 75, 2010.
- 2009 Krahe, P., Nilson, E., Carambia, M., Maurer, T., Tomassini, L., Bülow, K., Jacob, D. & H. Moser: Wirkungsabschätzung von Unsicherheiten der Klimamodellierung in Abflussprojektionen – Auswertung eines Multimodell-Ensembles im Rheingebiet. *Hydrologie und Wasserbewirtschaftung*. Heft 5/2009. S. 316-331.
- 2009 Bülow, K., Jacob, D., Tomassini, L.: Vergleichende Analysen regionaler Klimamodelle für das heutige und zukünftige Klima. Veranstaltung des BMVBS „KLIWAS – Auswirkungen des Klimawandels auf Wasserstraßen und Schifffahrt in Deutschland -1. Statuskonferenz“. *Kurzfassungen der Vorträge*, 18. – 19. März 2009, Bonn.
- 2003 Daniela Jacob und Katharina Bülow: Regionale Klimasimulationen zur Untersuchung der Niederschlagsverhältnisse in heutigen und zukünftigen Klimaten in F. Wechsung, A. Becker und P. Gräfe (Hrsg): *Auswirkungen des globalen Wandels auf Wasser, Umwelt und Gesellschaft im Elbegebiet*, Weissensee Verlag, Berlin 2005.
- 1998 Katharina Bülow, Ulrich Callies und Andreas Rhodin: Sensitivity Studies using a Nutrient Model for the River Elbe, in V. Bobovic and L.C. Larsen (Hrsg.), *Hydroinformatics '98*, A.A. Balkema, Rotterdam.