

CURRICULUM VITAE¹

Bjorn B. Stevens

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Personal History

Born 19 April, 1966, Augsburg Germany
Family Married (Andrea Brose); two children, Saskia (born 1997), Anouk (born 1999)

Education

Ph.D. Atmospheric Science, 1992-1996, Colorado State University, Ft. Collins, CO, USA
Dissertation: “On the Dynamics of Precipitating Stratocumulus”
Adviser: William R. Cotton
M.Sc. Electrical Engineering, 1988-1990, Iowa State University, Ames, IA, USA
Thesis: “Astrophysical Jets and Implications of Low Frequency Observations”
Adviser: John Basart
B.Sc. Electrical Engineering, 1984-1987, Iowa State University, Ames, IA, USA

Professional Experience

Max Planck Institute for Meteorology, Hamburg, 1998-1999, 2008-

DIRECTOR AT MPI-M AND SCIENTIFIC MEMBER OF MAX PLANCK SOCIETY, 2008-
MANAGING DIRECTOR, 2011-2014
HEAD, MPI-M Scientific Computing Lab, 2013-
HEAD, International Max Planck Research School for Earth System Modeling, 2009-2011
VISITING SCIENTIST: Alexander von Humboldt postdoctoral fellowship, 1998-1999

University of Hamburg, 2009-

PRINCIPAL INVESTIGATOR AND STEERING COMMITTEE MEMBER: Cluster of Excellence “Integrated
Climate System Analysis and Prediction”, 2010-
PROFESSOR (§ 17), 2009-

Freie Universität & Konrad-Zuse-Zentrum für Informationstechnik, Berlin, 2007

SABBATICAL VISITOR: Guest of Prof. R. Klein, presented lectures on “Cloud Math” in the math
department during summer semester.

¹Updated October 16, 2020

Dep't of Atmospheric and Oceanic Sciences, University of California, Los Angeles, 1999-2011

PROFESSOR (TENURED): Continuing appointment, July 1, 2007

ASSOCIATE PROFESSOR (TENURED): Continuing appointment, July 1, 2003

ASSISTANT PROFESSOR: In the area of dynamic meteorology, appointment July 1, 1999

National Center for Atmospheric Research, Boulder, CO, 2000-2009

AFFILIATE SCIENTIST: Working jointly with the Climate and Global Dynamics and Mesoscale and Microscale Meteorology Divisions to understand and quantify the role of small-scale processes in large-scale circulations.

Advanced Study Program, NCAR, Boulder CO, USA, 1996-1998

POST-DOCTORAL FELLOW: Research related to entrainment, sub-grid scale closures in large-eddy simulation, and physical processes in cloud-topped boundary layers. Visiting member of the Geophysical Turbulence Program, Advanced Study Program seminar, and Thompson Lectures Coordinator. Participant in 1997 Project LEARN.

Synopsis of Research Interests

Professor Stevens' research blends modeling, theory and field work to help articulate the role of aerosols, clouds and atmospheric convection in the climate system. He has made pioneering contributions to both theory and modelling of mixing and microphysical processes and their impact on the structure and organization of clouds. He has conceived and led landmark observational studies to: quantify cloud-top entrainment; decipher the structure of vertical motion in the tropical atmosphere; elucidate the role of precipitation on cloud cover; and test mechanisms of cloud feedbacks thought to underpin a large climate sensitivity. His contribution to an understanding of how clouds respond to warming, and how radiative forcing responds to aerosol perturbations, has proven fundamental to our present comprehension of the susceptibility of Earth's climate to perturbations.

Selected Honors and Awards

- LECTURER: Crafoord Prize Invited Lecture, Stockholm (2018); Paco Ynduráin Lecture, University of Madrid (2018); Real Sociedad Española de Física Lecture (2018); Jule Charney Lecture, AGU (2017); G20 summit partner programme Lecture (2017); Carlson Lecture, New England Aquarium and MIT Lorenz Center (2015); Henry Houghton Lecturer, MIT (2014); Simons Lecture, Simons Foundation (2013); Bavarian State Opera Lecture (2012); Tzvi Gal-Chen Lecturer, University of Oklahoma (2011); Thompson Lecturer, NCAR (2010)
- Colorado State University, College of Engineering, Distinguished Alumni Award (2004)
- The Clarence Leroy Meisinger Award of the American Meteorological Society (2002)
- NASA New Investigator Award (2002)
- Editors Award, Journal of Atmospheric Sciences (2001)
- NSF CAREER Award (1999)
- Alexander von Humboldt Foundation, Fellowship (1998 -1999)
- NCAR - ASP Post-doctoral Fellowship (1996 -1998)
- NASA/EOS Graduate Fellowship on Global Change (1994)

Supervision

Prof. Stevens has been responsible, or co-responsible, for the supervision of 18 PhDs and 27 master students, and also supervised 22 postdoctoral fellows. He has served as an examiner or committee chair for many more PhD, master and bachelor thesis committees.

PostDoctoral Supervision

Jiawei Bao, Matthias Brueck, George Datsieris, Anurag Dipankar, Stephanie Fiedler, Rieke Heinze, Thijs Heus, Cathy Hohenegger, Marcus Klingebiel, Anna Luebke (science management), Thorsten Mauritsen, Ann Kristin Naumann, Roel Neggers, Louise Nuijens, Florian Rauser (science management), Wiebke Schubotz (science management), Irina Sandu, Levi Silvers, Margreet van Zanten, Jessica Vial, Aiko Voigt, Julia Windmiller

Doctoral Supervision

18. Tobias Benjamin Becker. On the interaction of precipitating convection with its environment and the role of convective organization, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 202, 2017
17. Raphaela Vogel. The influence of precipitation and convective organization on the structure of the trades, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 199, 2017. (Joint with Dr. Louise Nuijens)
16. Bartholomeus Jacobus Henricus van Stratum. The influence of misrepresenting the nocturnal boundary layer on daytime convection in large-eddy simulation. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 187, 2017
15. Dagmar Fläschner. Intermodel spread in global and tropical precipitation changes. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 183, 2016. (Joint with Dr. Thorsten Mauritsen)
14. Angela Cheska Siongco. Drivers of precipitation biases in the tropical Atlantic sector. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 181, 2016. (Joint with Dr. Cathy Hohenegger)
13. Ritthik Bhattacharya. A two turbulence kinetic energy model for the scale adaptive treatment of the planetary boundary layer. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 154, 2014
12. Suvarchal Kumar Cheedela. Single Column Models and Low Cloud Feedbacks. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 148, 2014
11. Katrin Lonitz. Susceptibility of trade wind cumulus clouds to precipitation. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 147, 2014
10. Vera Schemann. Towards a scale aware cloud process parameterization for global climate models. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 145, 2014. (Joint with Prof. Johannes Quaas)
9. Benjamin Möbis. Factors Controlling the Position of the Inter-Tropical Convergence Zone on an Aquaplanet. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 129, 2013
8. Daniel Klocke. Assessing the uncertainty in climate sensitivity. PhD Thesis, University of Ham-

- burg, Hamburg, *Reports on Earth System Science*, 95, 2011. (Joint with Prof. Johannes Quaas)
7. Louise Nuijens, Precipitating Shallow Cumulus Convection, University of California, Los Angeles, 2010
 6. Panu Trivej, Spatio-temporal properties of shallow clouds with an emphasis on the area distribution of radar echoes, University of California, Los Angeles, 2009
 5. Chien-Ming Wu, A study of the diurnal cycle of moist convection over land using a cloud system resolving model, University of California, Los Angeles, 2008. (Joint with Prof. Akio Arakawa)
 4. Verica Savic-Jovcic, The structure and mesoscale organization of precipitating stratocumulus, University of California, Los Angeles, 2008
 3. Simona Bordoni, On the role of eddies in monsoonal circulations: observations and theory, University of California, Los Angeles, 2007. (Joint with Prof. Tapio Schneider)
 2. Brian P. Medeiros, Cloud-climate interactions in general circulation models, University of California, Los Angeles, 2007
 1. Yunyan Zhang, On the Application of Mixed-Layer Model to the Stratocumulus-Topped Boundary Layer, University of California, Los Angeles, 2006. (Joint with Prof. Michael Ghil)

Masters Supervision

Almuth Dorothea Neuberger (2020); Minjares-Gonzalez, Monica (2020, joint with Hartmut Borsch); Alon Azoulay** (2019, joint with Hauke Schmidt); Jan Kaiser** (2018, joint with Thorsten Mauritsen); Paul Keil** (2018, joint with Thorsten Mauritsen); Hyunju Jung (2018, joint with Ann Kristin Naumann); Octave Tessiot* (2018); Marie-Lea Pouliquen* (2018); Matthias-Heinz Retsch** (2018, joint with Thosten Mauritsen and Cathy Hohenegger); Aude Untersee* (2017); Tim Rohrschneider (2017, joint with Dr. Thorsten Mauritsen); Astrid Eichhorn** (2016, joint with Dr. Jürgen Bader); Hauke Schulz (2016, joint with Dr. Cathy Hohenegger); Jobst Müsse (2015, joint with Dr. Stefan Kinne); Tobias Becker (2014, joint with Dr. Jürgen Bader); Daniel Bittner (2014, joint with Dr. Louise Nuijens); Dagmar Popke (2013); Heiner Matthias Brück (2013, joint with Dr. Louise Nuijens); Jörg Burdanowitz (2013, joint with Dr. Louise Nuijens); Jonathan Jan Schubert (2012, joint with Dr. Traute Crueger); Malte Rieck (2011); Louise Nuijens (2005); Panu Trivej (2005); Brian Medeiros (joint with Prof. A. Hall) (2003); Simona Bordoni (2003); Jianjun Duan (2003); Verica Savic (2003)

* Partial supervision as part of ENS master's internship

** Largely formal supervision

Teaching

Prof. Stevens teaches regularly, mainly at the University of Hamburg where he offers a graduate course (on varying topics) every winter semester, and has also taught undergraduate cloud physics. In addition to contributions to summer schools he co-organizes (with Dr. Antje Weitz) the annual introductory course for the International Max Planck Research School on Earth System Science in the summer semester. While still at UCLA he contributed to the teaching programme at all levels, including to help develop a new undergraduate course on the climate system, as well as graduate courses on atmospheric thermodynamics, turbulence and convection.

Field Studies

- Co-PI and Lead (joint with S. Bony) of EUREC⁴A, January and February 2020
- Scientific Member, Maria S. Merian Cruise 82-2, April-May 2019
- PI of the HALO NARVAL2 mission (Next-generation Aircraft Remote-Sensing for Validation Studies), August 2016
- PI of the HALO NARVAL-South mission (Next-generation Aircraft Remote-Sensing for Validation Studies), December 2013
- PI of the Barbados Cloud Observatory, 2010-
- Co-PI (with D. Lenschow) of DOCIMS, 2005
- PI and lead organizer (joint with R. Rauber) of the RICO Field Study, 2004 - 2005, St. Johns, Antigua
- PI and lead organizer of the DYCOMS-II Field Study, 2001, Coronado, CA
- Scientific Participant, Horizontal Array Turbulence Study (HATS), 2000, Kettleman City, CA

Professional Activities

- PROJECT OFFICE AND MISSION ADVISORY GROUP EarthCARE (Earth Cloud, Aerosol and Radiation Explorer), joint satellite mission between European Space Agency and Japanese Aerospace Exploration Agency (guest status, 2017-2019)
- PRINCIPAL INVESTIGATOR AND LEADER International Team “The Role of Shallow Circulations in Organizing Convection and Cloudiness in the Tropics”, International Space Science Institute (2017)
- LEAD PRINCIPAL INVESTIGATOR: HD(CP)², High Definition Clouds and Precipitation for Climate Prediction, a six year, €25 million, national project supported by the Germany Ministry of Education and Research (2013-2019)
- LEAD AUTHOR: Intergovernmental Panel on Climate Change, IPCC Fifth Assessment Report (2012-)
- SCIENTIFIC STEERING COMMITTEES: World Climate Research Programme (WCRP) Grand Science Challenge: “Clouds, Circulation and Climate Sensitivity” (2012-, co-lead); Working Group on Coupled Modelling, WGCM (2012-2017); Coupled Model Intercomparison Project, CMIP (2013-2018); Cloud Feedback Model Intercomparison Project, CFMIP (2012-2016); Global Atmospheric System Studies, GASS (2009-2012)
- SCIENTIFIC ADVISORY BOARDS: Vulcan Climate Modeling External Advisory Committee (2020-); DWD (German Meteorological Service, 2014-); Department of Physics, Leipzig University (2013-); NCAR Earth System Laboratory (2010-2012); ETH Center for Climate System Modeling (2010-); HALO / BMBF Gulfstream G 550 (2009-); Aerosol, Clouds, Precipitation and Climate Initiative (2009-2011, Co-Chair 2010); European Facility for Airborne Research (2008-2011, Chair 2008)
- APPOINTMENT COMMITTEES: Max Planck Institute for Gravitational Physics (Albert Einstein Institute) (2017); Alexander von Humboldt Prize Commission Max Planck Society (2017-); Universität Hamburg (2012, 2017); Max Planck Institute for Astrophysics (2016); Institute of Meteorology, Freie Universität Berlin (2016); Max Planck Institute for Software Systems (2016); Max

Planck Institute for Plasma Physics (2011, 2015); Tenure Commission of Max Planck Society's Chemistry, Physics & Technology Section (2014); Fritz Haber Institute of the Max Planck Society (2013); Max Planck Research Group Leaders (2009, 2014, 2016)

- EDITOR: *AGU Advances* (2019-); *Drafting Committee for the AMS Information Statement on Climate Change* (2017-2019); *Bulletin of the American Meteorological Society* (2012-2017); *Atmospheric Chemistry and Physics* (2010-2013); *Journal of the Atmospheric Sciences* (2002-2007)
- JURY MEMBER: BBVA Frontiers of knowledge (2009-, Chair 2012-); AXA Outlook Awards, Chair, (2013)

Funded Research

- European Commission (Grant Agreement 855187): Contribution to the ERC Grant USMILE - Understanding and Modelling the Earth System with Machine Learning, €232 596, 2020-2026
- German cluster of excellence CLICCS: Climate, Climatic Change, and Society: responsible for Sensitivity and Variability in the Climate System – A2: Clouds and Tropical Circulation, €909 145, 2019-2025
- European Commission (Grant Agreement 820829): H2020 - CONSTRAIN, Constraining uncertainty of multi decadal climate projections, €757 983, 2019-2023
- German Ministry for Research: MONSOON - The changing monsoon circulation in global storm resolving simulations, €788 989, Coordinator, 2019-2022
- Platform for Advanced Scientific Computing (PASC): ENIAC - Enabling ICON model on heterogeneous architectures, €134 460, Co-PI, 2017-2020
- German Ministry for Research: HD(CP)², High Definition Clouds and Precipitation for Climate Prediction, phase 2, €1 500 000, Coordinator, 2016-2019
- European Commission (Grant Agreement 603445): BACCHUS Impact of Biogenic versus Anthropogenic emissions on Clouds and Climate: towards a Holistic UnderStanding, €405 762, 2013-2017
- European Commission (Grant Agreement 312979): IS-ENES II: Infrastructure for the European Network for Earth System Modelling – phase 2, €345 869, 2013-2017
- DFG CLISAP II - Integrated Climate System Analysis and Prediction: Sub-project A2: Climate Processes and Feedbacks, €544 248, 2012-2017
- German Ministry for Research: HD(CP)², High Definition Clouds and Precipitation for Climate Prediction, phase 1, €1 300 000, Coordinator, 2012-2016
- German Ministry for Research: MiKlip LiCoS Linking Composition and Circulation on Intermediate Spatio-Temporal Scales, €263 000, 2011-2015
- DFG (with Dr. Heiko Schmidt and Dr. Juan Pedro Mellado): Analyse und numerische Simulation von Stratocumulus Wolken, €136 300, 2011-2015
- European Commission (Grant Agreement 244067): EUCLIPSE EU Cloud Intercomparison, Process Study and Evaluation Project, €427 000, 2010-2014
- DOE Cloud-Feedback Studies with a Physics Grid, \$365 764, 2010-2012
- NSF Multiscale modeling of atmospheric processes: \$1 000 000, 2006-2011 (Prof. A. Arakawa as Co-PI)

- NSF (ATM-00342625): Precipitation and Convective Statistics in the Trades: Observations, Simulations and Parameterization: \$551 844, through 2008
- DFG (with Dr. Hauke Schmidt and Prof. Norbert Peters): Metström: Ein hybrides Frontverfolgungsverfahren für Stratocumulus Wolken unter Berücksichtigung instationärer “Entrainment”-Prozesse, €124 500, 2007-2011
- NSF (ATM-00336849): Collaborative Research: Climate Process Team on Low-Latitude Cloud Feedbacks on Climate Sensitivity: \$271 630, through 2006
- NSF (DMS-0139666, CO-I with Prof. J. D. Neelin as PI): Collaborative Research: The Weak Temperature Gradient Equations for Tropical Atmosphere Dynamics: \$180 017, completed 2006
- NASA (NGT5-30499 Investigations of links between subtropical stratocumulus and monsoons: (Bordoni, student fellowship) \$48 000, through 2006
- NASA New Investigator Program: Surface Divergence and Non-Precipitating Boundary Layer Clouds: Integrating Simple Models Using Satellite Data: \$286 653, through 2006
- NSF CAREER (ATM-9985413): The Marine Cloud-Topped PBL and Large-Scale Circulations: \$433 966, 2001-2006
- NSF (ATM-0097053): Tests of Large Eddy Simulations of the Stratocumulus Topped Planetary Boundary Layer: \$350 623, completed 2005
- NSF (as CO-I): CMG Training: Modern Applied Mathematics for Atmospheric and Oceanic Sciences: \$150 000, completed 2004
- UCLA Council on Research Assistant Professor Initiative: SGS2000: Evaluating the Spatial Structure of Small-Scale Turbulence in the Atmospheric Surface Layer: \$2 000, completed 1999, and The Structure of Small-Scale Atmospheric Turbulence Near Interfaces: \$4 000, completed 2001

Workshop and Meeting Organization

- Initiation and organizational lead for Understanding Clouds and Precipitation, Meetings, Berlin (2016, 2019)
- Ringberg Workshops (2013: Global Cloud Resolving Modeling; 2014: Grand Challenge on Clouds, Circulation and Climate Sensitivity; 2015: Earth’s Climate Sensitivity; 2018: Bounding Aerosol Effective Radiative Forcing)

Publications

Prof. Stevens has contributed more than 240 refereed publications to the scientific literature, including three book chapters and two edited books. He has an (ISI) h-index of 63, >15 000 citations (>2500 in 2019). Prof. Stevens was a lead-author of Chapter 7, “Clouds and Aerosols” for the Fifth Assessment Report of the IPCC and, together with Sandrine Bony, leads the WCRP Grand Science Challenge on Clouds, Circulation, and Climate Sensitivity. A full list of his publications is maintained [here](https://www.mpimet.mpg.de/en/staff/bjorn-stevens/publications/refereed-publications/)².

- [271] Raphaela Vogel, Sandrine Bony, and Bjorn Stevens. Estimating the shallow convective mass flux from the subcloud-layer mass budget. *Journal of the Atmospheric Sciences*, 77:1559–1574, 2020. [doi:10.1175/JAS-D-19-0135.1](https://doi.org/10.1175/JAS-D-19-0135.1).
- [270] A. Pier Siebesma, Sandrine Bony, Christian Jakob, and Bjorn Stevens. *Clouds and climate: Climate science greatest challenge*. Cambridge University Press, Cambridge, 2020.
- [269] Jessica Vial, Raphaela Vogel, Sandrine Bony, Bjorn Stevens, David M. Winker, Xia Cai, Cathy Hohenegger, Ann Kristin Naumann, and H el ene Brogniez. A new look at the daily cycle of trade wind cumuli. *Journal of Advances in Modeling Earth Systems*, 11:3148–3166, 2019. [doi:10.1029/2019MS001746](https://doi.org/10.1029/2019MS001746).
- [268] Simone R odder, Matthias Heymann, and Bjorn Stevens. Historical, philosophical and sociological perspectives on Earth System Modeling: Introduction to a special section. *Journal of Advances in Modeling Earth Systems*, 12, 2020. [doi:10.1029/2020MS002139](https://doi.org/10.1029/2020MS002139).
- [267] Matthias Brueck, Cathy Hohenegger, and Bjorn Stevens. Mesoscale marine tropical precipitation varies independently from the spatial arrangement of its convective cells. *Quarterly Journal of the Royal Meteorological Society*, 146:1391–1402, 2020. [doi:10.1002/qj.3742](https://doi.org/10.1002/qj.3742).
- [266] Allison A. Wing, Catherine L. Stauffer, Tobias Becker, Kevin A. Reed, Min-Seop Ahn, Nathan P. Arnold, Sandrine Bony, Mark Branson, George H. Bryan, Jean-Pierre Chaboureau, Stephan R. de Roode, Kulkarni Gayatri, Cathy Hohenegger, I-Kuan Hu, Fredrik Jansson, Todd R. Jones, Marat Khairoutdinov, Daehyun Kim, Zane K. Martin, Shuhei Matsugishi, Brian Medeiros, Hiroaki Miura, Yumin Moon, Sebastian K. M uller, Tomoki Ohno, Max Popp, Thara Prabhakaran, David Randall, Rosimar Rios-Berrios, Nicolas Rochetin, Romain Roehrig, David M. Romps, James H. Ruppert Jr., Masaki Satoh, Levi G. Silvers, Martin S. Singh, Bjorn Stevens, Lorenzo Tomassini, Chiel C. van Heerwaarden, Shuguang Wang, and Ming Zhao. Clouds and convective self-aggregation in a multi-model ensemble of radiative-convective equilibrium simulations. *Journal of Advances in Modeling Earth Systems*, 12, 2020. [doi:10.1029/2020MS002138](https://doi.org/10.1029/2020MS002138).
- [265] N. Bellouin, J. Quaas, E. Gryspeerdt, Stefan Kinne, P. Stier, D. Watson-Parris, O. Boucher, K.S. Carslaw, M. Christensen, A.-L. Daniau, J.-L. Dufresne, G. Feingold, Stephanie Fiedler, P. Forster, A. Gettelman, J. M. Haywood, F. Malavelle, U. Lohmann, T. Mauritsen, D.T. McCoy, G. Myhre, J. M ulmenst adt, D. Neubauer, A. Possner, Maria Rugenstein, Y. Sato, M. Schulz, S. E. Schwartz, O. Sourdeval, T. Storelvmo, V. Toll, D. Winker, and Bjorn Stevens. Bounding aerosol radiative forcing of climate change. *Reviews of Geophysics*, 58, 2020. [doi:10.1029/2019RG000660](https://doi.org/10.1029/2019RG000660).

²<https://www.mpimet.mpg.de/en/staff/bjorn-stevens/publications/refereed-publications/>

- [264] J.D. Annan, J.C. Hargreaves, T. Mauritsen, and Bjorn Stevens. What could we learn about climate sensitivity from variability in the surface temperature record? *Earth System Dynamics*, 11:709–719, 2020. doi:[10.5194/esd-11-709-2020](https://doi.org/10.5194/esd-11-709-2020).
- [263] Bjorn Stevens, S. Bony, H. Brogniez, L. Hentgen, Cathy Hohenegger, C. Kiemle, T. S. L’Ecuyer, Ann Kristin Naumann, H. Schulz, P. A. Siebesma, Jessica Vial, D. M. Winker, and P. Zuidema. Sugar, gravel, fish, and flowers: Mesoscale cloud patterns in the tradewinds. *Quarterly Journal of the Royal Meteorological Society*, 146:141–152, 2020. doi:[10.1002/qj.3662](https://doi.org/10.1002/qj.3662).
- [262] Stephan Rasp, Hauke Schulz, Sandrine Bony, and Bjorn Stevens. Combining crowd-sourcing and deep learning to understand meso-scale organization of shallow convection. *Bulletin of the American Meteorological Society*, 2019. doi:[10.1175/BAMS-D-19-0324.1](https://doi.org/10.1175/BAMS-D-19-0324.1).
- [261] Bjorn Stevens, Claudia Acquistapace, Akio Hansen, Rieke Heinze, Carolin Klinger, Daniel Klocke, Wiebke Schubotz, Julia Windmiller, Panagiotis Adamidis, Ioanna Arka, Vasileios Barlakas, Joachim Biercamp, Matthias Brueck, Sebastian Brune, Stefan Buehler, Ulrike Burkhardt, Guido Cioni, Montserrat Costa-Surós, Susanne Crewell, Traute Crueger, Hartwig Deneke, Petra Friederichs, Cintia Carbajal Henken, Cathy Hohenegger, Marek Jacob, Fabian Jakub, Norbert Kalthoff, Martin Köhler, Thirza W. van Laar, Puxi Li, Ulrich Lohnert, Andreas Macke, Nils Madenach, Bernhard Mayer, Christine Nam, Ann Kristin Naumann, Karsten Peters, Stefan Poll, Johannes Quaas, Niklas Röber, Nicolas Rochetin, Harald Rybka, Leonhard Scheck, Vera Schemmann, Sabrina Schnitt, Axel Seifert, Fabian Senf, Metodija Shapkalijeovski, Clemens Simmer, Shweta Singh, Odran Sourdeval, Dela Spickermann, Johan Strandgren, Octave Tessiot, Nikki Vercauteren, Jessica Vial, Aiko Voigt, and Günter Zängl. The added value of large-eddy and storm-resolving models for simulating clouds and precipitation. *Journal of the Meteorological Society of Japan*, 98:395–435, 2020. doi:[10.2151/jmsj.2020-021](https://doi.org/10.2151/jmsj.2020-021).
- [260] Cathy Hohenegger, Luis Kornblueh, Daniel Klocke, Tobias Becker, Guido Cioni, Jan Frederik Engels, Uwe Schulzweida, and Bjorn Stevens. Climate statistics in global simulations of the atmosphere from 80 to 2.5 km grid spacing. *Journal of the Meteorological Society of Japan*, 98(Spec. Ed. on DYAMOND, 2020):73–91, 2020. doi:[10.2151/jmsj.2020-005](https://doi.org/10.2151/jmsj.2020-005).
- [259] Raphaela Vogel, L. Nuijens, and Bjorn Stevens. Influence of deepening and mesoscale organization of shallow convection on stratiform cloudiness in the downstream trades. *Quarterly Journal of the Royal Meteorological Society*, 146:174–185, 2020. doi:[10.1002/qj.3664](https://doi.org/10.1002/qj.3664).
- [258] Thorsten Mauritsen, Juergen Bader, Tobias Becker, Jörg Behrens, Matthias Bittner, Renate Brokopf, Victor Brovkin, Martin Claussen, Traute Crueger, Monika Esch, Irina Fast, Stephanie Fiedler, Dagmar Popke, Veronika Gayler, Marco A. Giorgetta, Daniel S. Goll, Helmut Haak, Stefan Hagemann, Christopher Hedemann, Cathy Hohenegger, Tatiana Ilyina, Thomas Jahns, Diego Jimenez Cuesta de la Otero, Johann H. Jungclaus, Thomas Kleinen, Silvia Kloster, Daniela Kracher, Stefan Kinne, Deike Kleberg, Gitta Lasslop, Luis Kornblueh, Jochem Marotzke, Daniela Matei, Katharina Meraner, Uwe Mikolajewicz, Kameswarrao Modali, Benjamin Möbis, Wolfgang A. Müller, Julia E. M. S. Nabel, Christine Nam, Dirk Notz, Sarah S. Nyawira, Hanna

- Paulsen, Karsten Peters, Robert Pincus, Holger Pohlmann, Julia Pongratz, Max Popp, Thomas Raddatz, Sebastian Rast, Rene Redler, Christian H. Reick, Tim Rohrschneider, Vera Schemmann, Hauke Schmidt, Reiner Schnur, Uwe Schulzweida, Katharina D. Six, Lukas Stein, Irene Stemmler, Bjorn Stevens, Jin Song von Storch, Fangxing Tian, Aiko Voigt, Philipp de Vrese, Karl-Hermann Wieners, Stiig Wilkenskjeld, Erich Roeckner, and Alexander Winkler. Developments in the MPI-M Earth System Model version 1.2 (MPI-ESM1.2) and its response to increasing CO₂. *Journal of Advances in Modeling Earth Systems*, 11:998–1038, 2019. doi:[10.1029/2018MS001400](https://doi.org/10.1029/2018MS001400).
- [257] Heike Konow, Marek Jacob, Felix Ament, Susanne Crewell, Florian Ewald, Martin Hagen, Lutz Hirsch, Friedhelm Jansen, Mario Mech, and Bjorn Stevens. A unified data set of airborne cloud remote sensing using the HALO Microwave Package (HAMP). *Earth System Science Data*, 11:921–934, 2019. doi:[10.5194/essd-11-921-2019](https://doi.org/10.5194/essd-11-921-2019).
- [256] Bjorn Stevens, F. Ament, S. Bony, S. Crewell, F. Ewald, S. Gross, A. Hansen, Lutz Hirsch, M. Jacob, T. Kölling, H. Konow, B. Mayer, M. Wendisch, M. Wirth, K. Wolf, Stephan Bakan, M. Bauer-Pfundstein, Matthias Brueck, J. Delanoë, A. Ehrlich, D. Farrell, M. Forde, F. Gödde, H. Grob, M. Hagen, E. Jäkel, Friedhelm Jansen, C. Klepp, Marcus Klingebiel, M. Mech, G. Peters, M. Rapp, A.A. Wing, and T. Zinner. A high-altitude long-range aircraft configured as a cloud observatory –the NARVAL expeditions. *Bulletin of the American Meteorological Society*, 100:1061–1077, 2019. doi:[10.1175/BAMS-D-18-0198.1](https://doi.org/10.1175/BAMS-D-18-0198.1).
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