

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, 2021-
HEAD, MPI-M Scientific Computing Lab, 2013-2020
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 January 17, 2022

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

PROFESSOR (TENURED): July 1, 2007-2009 (August 2008 - August 2010 on leave)

ASSOCIATE PROFESSOR (TENURED): appointment, July 1, 2003 - June 30, 2007

ASSISTANT PROFESSOR: In the area of dynamic meteorology, July 1, 1999 - June 30, 2003

National Center for Atmospheric Research, Boulder, CO, USA, 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. Initiated the Thompson Lectures Series.

Synopsis of Research Interests

Professor Stevens is interested in how atmospheric water vapor, and clouds, shape climate — globally and regionally. His contributions to understanding how turbulent mixing and cloud microphysical processes influence cloud amount have been instrumental in quantifying how clouds respond to warming, and how radiative forcing responds to aerosol perturbations. His research has identified different ways in which clouds organize themselves, how varied processes — such as precipitation, air sea interaction, and radiative cooling — influence this organization, and how clouds couple to larger-scale circulation systems to help determine the pattern of climate change. These interests have led him to develop new observational techniques and to expand the frontiers of simulation science.

Selected Honors and Awards

- NAMED AND HONORARY LECTURES: Supercomputing 2020 Keynote Lecture, Virtual (2020); 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)
- Best Visualization Award SC21; The International Conference for High Performance Computing, Networking, Storage, and Analysis (with Niklas Röber, 2021)
- ISI Highly Cited Researcher (2019-2021)
- Meteorological Society of Japan, Publication Award (2020)
- 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 23 PhDs and 28 master students, and also supervised 27 postdoctoral fellows. He has served as an examiner or committee chair for many more PhD, master and bachelor thesis committees.

Post-Doctoral Supervision

Theresa Mieslinger (science management), Heike Konow (science management), Jiawei Bao, Matthias Brueck, George Datseris, Anurag Dipankar, Stephanie Fiedler, Rieke Heinze, Thijs Heus, Cathy Hohenegger, Marcus Klingebiel, Lukas Kluft, Tobias Kölling, 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, Christian Wengel, Julia Windmiller

Doctoral Supervision

23. Laura Paccini. Sensitivity of resolved convection to ocean and land surfaces in the tropical Atlantic and Amazon basin. *Reports on Earth System Science*, 250, 2021. (Joint with Dr Cathy Hohenegger)
22. Theresa Mieslinger. Small and Optically Thin Clouds in the Trades, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 249, 2021. (Joint with Prof. Stefan Bühler)
21. Hauke Schulz. Meso-scale patterns of shallow convection in the trades, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 248, 2021
20. Geet George. Observations of meso-scale circulation and its relationship with cloudiness in the tropics, PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 246, 2021. (Joint with Dr. Sandrine Bony)
19. Lukas Kluft. Benchmark calculation of the climate sensitivity of radiative-convective equilibrium. PhD Thesis, University of Hamburg, Hamburg, *Reports on Earth System Science*, 239, 2020. (Joint with Prof. Stefan Bühler)
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 Hamburg, 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-Jovicic, 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

Stella Bourdin** (2020); 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

** Partial supervision as part of an École Centrale Paris master's internship

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 lectures and co-organizes (together with Victor Brovkin and 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

- PI (joint with S. Bony) of EUREC⁴A, January and February 2020, Barbados and Western Tropical Atlantic
- 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-
- PI (joint with D. Lenschow) of DOCIMS, 2005
- PI (joint with R. Rauber) of the RICO Field Study, 2004 - 2005, St. Johns, Antigua
- PI of the DYCOMS-II Field Study, 2001, Coronado, CA
- Scientific Participant, Horizontal Array Turbulence Study (HATS), 2000, Kettleman City, CA

Professional Activities

- MEMBER PERSPECTIVE COMMISSION: Max Planck Society Chemistry, Physics Technology Section (2022–)
- LEAD PRINCIPAL INVESTIGATOR: NextGEMS, Next Generation Earth Modeling Systems. A 4 year €11 million Horizon 2020 funded project (2021–)
- 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: “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 (2012–2014)
- 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: Ernst Strüngmann Forum (2021–); Vulcan Climate Modeling External Advisory Committee (2020–2021); DWD (German Meteorological Service, 2014–); Department of Physics, Leipzig University (2013–2017); NCAR Earth System Laboratory (2010–2012); ETH Center for Climate System Modeling (2010–, Chair since 2014); 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, 2019– as chair)
- EDITOR: *Journal of the Meteorological Society of Japan Special Issue on Global Storm Resolving Modelling* (2019–2021); *AGU Advances* (2019–); *Bulletin of the American Meteorological Society* (2012–2017); *Atmospheric Chemistry and Physics* (2010–2013); *Journal of the Atmospheric Sciences* (2002–2007)
- DRAFTING COMMITTEE: AMS Information Statement on Climate Change (2020–); Royal Society position paper on Earth-system modelling (2021)
- JURY MEMBER: BBVA Frontiers of knowledge (2009–, Chair 2012–); AXA Outlook Awards, Chair (2013)

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; 2019: EUREC⁴A Experiment Planning)
- Organizer of the ISSI (International Space Science Institute) International Team on “The Role of Shallow Circulations in Organizing Convection and Cloudiness in the Tropics”, Bern (2017)
- Co-lead for the ISSI workshop on “Shallow Clouds, Water Vapor, Circulation and Climate Sensitivity”, Bern (2016)
- Co-organizer, International Summer School on Clouds and Climate, Les-Houches (2013)
- Co-Organizer of Institute for Pure and Applied Mathematics Long Program on “Model and Data Hierarchies for Simulating and Understanding Climate”, UCLA, Los Angeles (2010)
- Organizer of Institute for Pure and Applied Mathematics Summer school on “Modern Applied Mathematics for the Atmospheric and Oceanic Sciences”, UCLA, Los Angeles (2003)

Funded Research

- German Ministry for Research: preWarmWorld, € 181 245, Coordinator, 2021-2023
- European Commission (Grant Agreement 101003470): H2020 – NextGEMS: Next Generation Earth Modelling Systems, € 11 000 000, Coordinator, 2021-2025
- 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: \$ 2000, completed 1999, and The Structure of Small-Scale Atmospheric Turbulence Near Interfaces: \$ 4000, completed 2001

Publications

Prof. Stevens has contributed more than 275 refereed publications to the scientific literature. He has an (ISI) h-index of 76, more than 23 000 citations, 4000 in 2021. He was recognized as an ISI highly cited researcher in the field of geosciences in 2019, 2020 and 2021. Prof. Stevens has contributed six book chapters and co-edited three books. Among these are “Clouds and Climate: Climate Science’s Greatest Challenge” the definitive graduate textbook on clouds and climate, and Chapter 7, “Clouds and Aerosol” as a lead author for the Fifth Assessment Report of the IPCC. An updated list of his publications is maintained [here](https://www.mpimet.mpg.de/en/staff/bjorn-stevens/publications/refereed-publications/)².

- [296] Jiawei Bao and Bjorn Stevens. The elements of the thermodynamic structure of the tropical atmosphere. *Journal of the Meteorological Society of Japan*, 99:1483–1499, 2021. doi:10.2151/jmsj.2021-072.
- [295] Bjorn Stevens and Masaki Satoh. Editorial for the special edition on DYAMOND: The DYNAMICS of the Atmospheric general circulation Modeled On Non-hydrostatic Domains. *Journal of the Meteorological Society of Japan*, 99:1393–1394, 2021. doi:10.2151/jmsj.2021-d.
- [294] Lukas Kluft, Sally Dacie, Manfred Brath, Stefan A. Buehler, and Bjorn Stevens. Temperature-dependence of the clear-sky feedback in radiative-convective equilibrium. *Geophysical Research Letters*, 48, 2021. doi:10.1029/2021GL094649.
- [293] Paul Keil, Hauke Schmidt, Bjorn Stevens, and Jiawei Bao. Variations of tropical lapse rates in climate models and their implications for upper tropospheric warming. *Journal of Climate*, 34:9747–9761, 2021. doi:10.1175/JCLI-D-21-0196.1.
- [292] Heike Konow, F. Ewald, Geet George, M. Jacob, Marcus Klingebiel, T. Kölling, A. E. Luebke, Theresa Mieslinger, V. Pörtge, Jule Radtke, M. Schäfer, Hauke Schulz, R. Vogel, M. Wirth, Sandrine Bony, S. Crewell, A. Ehrlich, L. Forster, A. Giez, F. Gödde, S. Groß, M. Gutleben, M. Hagen, Lutz Hirsch, Friedhelm Jansen, Theresa Lang, B. Mayer, M. Mech, Marc Prange, S. Schnitt, Jessica Vial, A. Walbröl, M. Wendisch, K. Wolf, T. Zinner, M. Zöger, F. Ament, and Bjorn Stevens. EUREC⁴As HALO. *Earth System Science Data*, 13:5545–5563, 2021. doi:10.5194/essd-13-5545-2021.
- [291] Geet George, Bjorn Stevens, Sandrine Bony, Robert Pincus, Chris Fairall, Hauke Schulz, Tobias Kölling, Quinn T. Kalen, Marcus Klingebiel, Heike Konow, Ashley Lundry, Marc Prange, and Jule Radtke. JOANNE: Joint dropsonde Observations of the Atmosphere in tropical North at-laNtic mesoscale Environments. In open review for Earth System Science Data. *Earth System Science Data*, 13:5253–5272, 2021. doi:10.5194/essd-13-5253-2021.
- [290] Theresa Lang, Ann Kristin Naumann, Bjorn Stevens, and Stefan Buehler. Tropical free-tropospheric humidity differences and their effect on the clear-sky radiation budget in global storm-resolving models. *Journal of Advances in Modeling Earth Systems*, 13, 2021. doi:10.1029/2021MS002514.

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

- [289] Marcus Klingebiel, Heike Konow, and Bjorn Stevens. Measuring shallow convective mass flux profiles in the trade wind region. *Journal of the Atmospheric Sciences*, 78:3205–3214, 2021. doi:[10.1175/JAS-D-20-0347.1](https://doi.org/10.1175/JAS-D-20-0347.1).
- [288] Jiawei Bao, Bjorn Stevens, Lukas Kluft, and Diego Jimenez. Changes in the tropical lapse rate due to entrainment and their impact on climate sensitivity. *Geophysical Research Letters*, 48, 2021. doi:[10.1029/2021GL094969](https://doi.org/10.1029/2021GL094969).
- [287] Johann H. Jungclaus, Stephan Lorenz, Hauke Schmidt, Oliver Gutjahr, Helmut Haak, Carolin Mehlmann, Uwe Mikolajewicz, Dirk Notz, Dian Putrasahan, Jin Song von Storch, Leonidas Linardakis, Victor Brovkin, Fatemeh Chegini, Veronika Gayler, Marco A. Giorgetta, Stefan Hagemann, Tatiana Ilyina, Peter Korn, Jürgen Kröger, Wolfgang A. Müller, Holger Pohlmann, Thomas Raddatz, Lennart Ramme, Christian H. Reick, Rainer Schneck, Reiner Schnur, Bjorn Stevens, Florian Andreas Ziemann, Martin Claussen, Jochem Marotzke, Fabian Wachsman, Martin Schupfner, Thomas Riddick, Karl-Hermann Wieners, Nils Brüggemann, Rene Redler, Philipp de Vrese, Julia E. M. S. Nabel, Teffy Sam, and Moritz Hanke. The ICON Earth System Model Version 1.0. *Journal of Advances in Modeling Earth Systems*, 2021. doi:[10.1002/essoar.10507989.1](https://doi.org/10.1002/essoar.10507989.1).
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