

CURRICULUM VITAE¹

Bjorn B. Stevens

Max-Planck-Institut für Meteorologie
Bundesstraße 53, D-20146 Hamburg / Deutschland
Email: bjorn.stevens@mpimet.mpg.de
Web: www.mpimet.mpg.de/en/staff/bjorn-stevens/
Phone: +49-40-41173-421

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 February 3, 2021

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

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

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

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

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)
- ISI Highly Cited Researcher (2019-2020)
- Meteorological Society of Japan, 2020 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 19 PhDs and 28 master students, and also supervised 25 postdoctoral fellows. He has served as an examiner or committee chair for many more PhD, master and bachelor thesis committees.

Post-Doctoral Supervision

Jiawei Bao, Matthias Brueck, George Datseris, Anurag Dipankar, Stephanie Fiedler, Rieke Heinze, Thijs Heus, Cathy Hohenegger, Marcus Klingebiel, Lukas Klufft, 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

19. Lukas Klufft. 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 Thorsten 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

- Co-PI and Lead (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-
- 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-, 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)
- **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

- 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: \$2 000, completed 1999, and The Structure of Small-Scale Atmospheric Turbulence Near Interfaces: \$4 000, completed 2001

Publications

Prof. Stevens has contributed more than 250 refereed publications to the scientific literature, including five book chapters and three edited books. He has an (ISI) h-index of 70, 19 000 citations, 3 500 in 2020. 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. An updated list of his publications is maintained [here](#)².

- [274] Niklas Röber, Michael Böttinger, and Bjorn Stevens. Visualization of climate science simulation data. *IEEE Computer Graphics and Applications*, 41:42–48, 2021. [doi:10.1109/MCG.2020.3043987](https://doi.org/10.1109/MCG.2020.3043987).
- [273] S. Bony, Hauke Schulz, Jessica Vial, and Bjorn Stevens. Sugar, gravel, fish, and flowers: Dependence of mesoscale patterns of trade-wind clouds on environmental conditions. *Geophysical Research Letters*, 47, 2020. [doi:10.1029/2019GL085988](https://doi.org/10.1029/2019GL085988).
- [272] Stephanie Fiedler, Traute Crueger, Roberta D, Karsten Peters, Tobias Becker, David Leutwyler, Laura Paccini, Jörg Burdanowitz, Stefan A. Buehler, Alejandro Uribe, Thibaut Dauhut, Dietmar Dommenges, Klaus Fraedrich, Leonore Jungandreas, Nicola Maher, Ann Kristin Naumann, Maria Rugenstein, Mirjana Sakradzija, Hauke Schmidt, Frank Sielmann, Claudia C. Stephan, Claudia Timmreck, Xiuhua Zhu, and Bjorn Stevens. Simulated tropical precipitation assessed across three major phases of the Coupled Model Intercomparison Project (CMIP). *Monthly Weather Review*, 148:3653–3680, 2020. [doi:10.1175/MWR-D-19-0404.1](https://doi.org/10.1175/MWR-D-19-0404.1).
- [271] Bjorn Stevens and A. Pier Siebesma. Clouds as fluids. In *Clouds and climate: Climate science greatest challenge*, pages 35–73. Cambridge University Press, 2020. [doi:10.1017/9781107447738](https://doi.org/10.1017/9781107447738).

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

- [270] Sandrine Bony and Bjorn Stevens. Clouds and warming. In *Clouds and climate: Climate science greatest challenge*, pages 356–388. Cambridge University Press, 2020. doi:10.1017/9781107447738.
- [269] 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.
- [268] A. Pier Siebesma, Sandrine Bony, Christian Jakob, and Bjorn Stevens. *Clouds and climate: Climate science greatest challenge*. Cambridge University Press, Cambridge, 2020. doi:10.1017/9781107447738.
- [267] 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.
- [266] 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.
- [265] 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.
- [264] 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 Chaboureaud, 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.
- [263] 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.
- [262] 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.

- [261] 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.
- [260] 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.
- [259] 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 Jakob, 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 Schemann, Sabrina Schnitt, Axel Seifert, Fabian Senf, Metodija Shapkalijevski, 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.
- [258] 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.
- [257] 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.
- [256] 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 Schemann, 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).
- [255] 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).
- [254] 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).
- [253] Stephanie Fiedler, Bjorn Stevens, Matthew Gidden, S. J. Smith, Keywan Riahi, and Detlef van Vuuren. First forcing estimates from the future CMIP6 scenarios of anthropogenic aerosol optical properties and an associated Twomey effect. *Geoscientific Model Development*, 12:989–1007, 2019. doi:[10.5194/gmd-12-989-2019](https://doi.org/10.5194/gmd-12-989-2019).
- [252] Philipp Neumann, Peter Dueben, Panagiotis Adamidis, Peter Bauer, Matthias Brueck, Luis Kornblueh, Daniel Klocke, Bjorn Stevens, Nils Wedi, and Joachim Biercamp. Assessing the scales in numerical weather and climate predictions: Will Exascale be the rescue? *Philosophical Transactions of the Royal Society A*, 377, 2019. doi:[10.1098/rsta.2018.0148](https://doi.org/10.1098/rsta.2018.0148).
- [251] Sandrine Bony and Bjorn Stevens. Measuring area-averaged vertical motions with dropsondes. *Journal of the Atmospheric Sciences*, 76:767–783, 2019. doi:[10.1175/JAS-D-18-0141.1](https://doi.org/10.1175/JAS-D-18-0141.1).
- [250] Sally Dacie, Lukas Kluft, Hauke Schmidt, Bjorn Stevens, Stefan A. Buehler, Peer J. Nowack, Simone Dietmüller, Luke Abraham, and Thomas Birner. A 1D RCE study of some factors which might affect the tropical tropopause layer and surface climate. *Journal of Climate*, 32:6769–6782, 2019. doi:[10.1175/JCLI-D-18-0778.1](https://doi.org/10.1175/JCLI-D-18-0778.1).
- [249] Sarah Kang, Matt Hawcroft, Baoqiang Xiang, Yen-Ting Hwang, Hanjun Kim, Gabriel Cazes, Francis Codron, Traute Crueger, Clara Deser, Hodnebrog, Jiyeong Kim, Yu Kosaka, Teresa Losada, Carlos Mechoso, Gunnar Myhre, Seland, Bjorn Stevens, Masahiro Watanabe, and Sungduk Yu. Extratropical-Tropical Interaction Model Intercomparison Project (ETIN-MIP): Protocol and initial results. *Bulletin of the American Meteorological Society*, 100:2589–2606, 2019. doi:[10.1175/BAMS-D-18-0301.1](https://doi.org/10.1175/BAMS-D-18-0301.1).
- [248] Gabor Drotos, Tobias Becker, Thorsten Mauritsen, and Bjorn Stevens. Global variability in radiative-convective equilibrium with a slab ocean under a wide range of CO₂ concentrations.

- Tellus Series A-Dynamic Meteorology and Oceanography*, 72:1–19, 2020. doi:[10.1080/16000870.2019.1699387](https://doi.org/10.1080/16000870.2019.1699387).
- [247] Ann Kristin Naumann, Bjorn Stevens, and Cathy Hohenegger. A moist conceptual model for the boundary layer structure and radiatively driven shallow circulations in the trades. *Journal of the Atmospheric Sciences*, 76:1289–1306, 2019. doi:[10.1175/JAS-D-18-0226.1](https://doi.org/10.1175/JAS-D-18-0226.1).
- [246] Marcus Klingebiel, Virenda P. Ghatge, Ann Kristin Naumann, Florian Ditas, Mira L. Pöhlker, Christopher Pöhlker, Konrad Kandler, Heike Konow, and Bjorn Stevens. Remote sensing of sea salt aerosol below trade wind clouds. *Journal of the Atmospheric Sciences*, 76:1189–1202, 2019. doi:[10.1175/JAS-D-18-0139.1](https://doi.org/10.1175/JAS-D-18-0139.1).
- [245] T. Zhou, J. Luterbacher, S. Wu, Chao Li, Q. Chao, X. Cheng, Y. Duan, J. Li, Bjorn Stevens, S. Voigt, Y. Zhang, X. Zheng, and L. Zou. A new era of China-Germany joint research exploring the climate mystery of Earth. *Science Bulletin*, 64:1733–1736, 2019. doi:[10.1016/j.scib.2019.09.018](https://doi.org/10.1016/j.scib.2019.09.018).
- [244] Tim Palmer and Bjorn Stevens. The scientific challenge of understanding and estimating climate change. *Proceedings of the National Academy of Sciences of the United States of America*, 116:24390–24395, 2019. doi:[10.1073/pnas.1906691116](https://doi.org/10.1073/pnas.1906691116).
- [243] C. Kodama, Bjorn Stevens, Thorsten Mauritsen, T. Seiki, and M. Satoh. A new perspective for future precipitation change from intense extratropical cyclones. *Geophysical Research Letters*, 46:12435–12444, 2019. doi:[10.1029/2019GL084001](https://doi.org/10.1029/2019GL084001).
- [242] Lukas Kluft, Sally Dacie, Stefan A. Buehler, Hauke Schmidt, and Bjorn Stevens. Re-examining the first climate models: Climate sensitivity of a modern radiative-convective equilibrium model. *Journal of Climate*, 32:8111–8125, 2019. doi:[10.1175/JCLI-D-18-0774.1](https://doi.org/10.1175/JCLI-D-18-0774.1).
- [241] Wiebke Schubotz, Daniel Klocke, Ulrich Loehnert, Andreas Macke, Bjorn Stevens, and Allison Wing. An international conference that presents current advances in simulating and observing atmospheric processes. *Bulletin of the American Meteorological Society*, 100:ES251–ES254, 2019. doi:[10.1175/BAMS-D-19-0120.1](https://doi.org/10.1175/BAMS-D-19-0120.1).
- [240] Bjorn Stevens, Masaki Satoh, Ludovic Auger, Joachim Biercamp, Christopher S. Bretherton, Xi Chen, Peter Dueben, Falko Judt, Marat Khairoutdinov, Daniel Klocke, Chihiro Kodama, Luis Kornbluh, Shian-Jiann Lin, William M. Putman, Ryosuke Shibuya, Philipp Neumann, Niklas Roeber, Benoit Vanniere, Pier-Luigi Vidale, Nils Wedi, and Linjiong Zhou. DYAMOND: The Dynamics of the Atmospheric general circulation MOdeled on Non-hydrostatic Domains. *Progress in Earth and Planetary Science*, 6, 2019. doi:[10.1186/s40645-019-0304-z](https://doi.org/10.1186/s40645-019-0304-z).
- [239] Tim Rohrschneider, Bjorn Stevens, and Thorsten Mauritsen. On simple representations of the climate response to external radiative forcing. *Climate Dynamics*, 53:3131–3145, 2019. doi:[10.1007/s00382-019-04686-4](https://doi.org/10.1007/s00382-019-04686-4).

- [238] Masaki Satoh, Bjorn Stevens, Falko Judt, Marat Khairoutdinov, Shian-Jiann Lin, William M. Putman, and Peter Düben. Global cloud-resolving models. *Current Climate Change Reports*, 5:172–184, 2019. doi:[10.1007/s40641-019-00131-0](https://doi.org/10.1007/s40641-019-00131-0).
- [237] Nicola Maher, Sebastian Milinski, Laura Suarez-Gutierrez, Michael Botzet, Luis Kornblueh, Yohei Takano, Jürgen Kröger, Rohit Ghosh, Christopher Hedemann, Chao Li, Hongmei Li, Elisa Manzini, Dirk Notz, Dian Putrasahan, Lena Boysen, Martin Claussen, Tatiana Ilyina, Dirk Olonscheck, Thomas Raddatz, Bjorn Stevens, and Jochem Marotzke. The Max Planck Institute Grand Ensemble - Enabling the Exploration of Climate System Variability. *Journal of Advances in Modeling Earth Systems*, 11:2050–2069, 2019. doi:[10.1029/2019MS001639](https://doi.org/10.1029/2019MS001639).
- [236] Markus Reichstein, Gustau Camps-Valls, Bjorn Stevens, Martin Jung, Joachim Denzler, Nuno Carvalhais, and Prabhat. Deep learning and process understanding for data-driven Earth system science. *Nature*, 566:195–204, 2019. doi:[10.1038/s41586-019-0912-1](https://doi.org/10.1038/s41586-019-0912-1).
- [235] Andrea Lammert, Akio Hansen, Felix Ament, Susanne Crewell, Galina Dick, Verena Grützun, Henk Klein-Baltink, Volker Lehmann, Andreas Macke, Bernhard Pospichal, Wiebke Schubotz, Patric Seifert, Erasmia Stamnas, and Bjorn Stevens. A Standardized Atmospheric Measurement Data (SAMD) Archive for distributed cloud and precipitation process-oriented observations in Central Europe. *Bulletin of the American Meteorological Society*, 100:1299–1314, 2019. doi:[10.1175/BAMS-D-18-0174.1](https://doi.org/10.1175/BAMS-D-18-0174.1).
- [234] Traute Crueger, Marco A. Giorgetta, Renate Brokopf, Monika Esch, Stephanie Fiedler, Cathy Hohenegger, Luis Kornblueh, Thorsten Mauritsen, Christine Nam, Ann Kristin Naumann, Karsten Peters, Sebastian Rast, Erich Roeckner, Hauke Schmidt, Mirjana Sakradzija, Jessica Vial, Raphaela Vogel, and Bjorn Stevens. ICON-A: the atmospheric component of the ICON Earth System Model. Part II: Model evaluation. *Journal of Advances in Modeling Earth Systems*, 10:1638–1662, 2018. doi:[10.1029/2017MS001233](https://doi.org/10.1029/2017MS001233).
- [233] Dagmar Fläschner, Thorsten Mauritsen, Bjorn Stevens, and Sandrine Bony. The signature of shallow circulations, not cloud-radiative effects, in the spatial distribution of tropical precipitation. *Journal of Climate*, 31:9489–9505, 2018. doi:[10.1175/JCLI-D-18-0230.1](https://doi.org/10.1175/JCLI-D-18-0230.1).
- [232] Marco A. Giorgetta, Renate Brokopf, Traute Crueger, Monika Esch, Stephanie Fiedler, J. Helmert, Cathy Hohenegger, Luis Kornblueh, M. Köhler, Elisa Manzini, Thorsten Mauritsen, Christine Nam, Thomas Raddatz, Sebastian Rast, D. Reinert, Mirjana Sakradzija, Hauke Schmidt, Rainer Schneck, Reiner Schnur, L. Silvers, H. Wan, G. Zängl, and Bjorn Stevens. ICON-A: the atmospheric component of the ICON Earth System Model. Part I: Model description. *Journal of Advances in Modeling Earth Systems*, 10:1613–1637, 2018. doi:[10.1029/2017MS001242](https://doi.org/10.1029/2017MS001242).
- [231] Anna Luebke, Julien Delanoe, Vincent Noel, H el ene Chepfer, and Bjorn Stevens. A workshop on remote sensing of the atmosphere in anticipation of the EarthCARE satellite. *Bulletin of the American Meteorological Society*, 99:ES195–ES198, 2018. doi:[10.1175/BAMS-D-18-0143.1](https://doi.org/10.1175/BAMS-D-18-0143.1).

- [230] Juan-Pedro Mellado, Christopher Bretherton, Bjorn Stevens, and Matthew Wyant. DNS and LES for simulating stratocumulus: Better together. *Journal of Advances in Modeling Earth Systems*, 10:1421–1438, 2018. doi:[10.1029/2018MS001312](https://doi.org/10.1029/2018MS001312).
- [229] Hauke Schulz and Bjorn Stevens. Observing the tropical atmosphere in moisture space. *Journal of the Atmospheric Sciences*, 75:3314–3330, 2018. doi:[10.1175/JAS-D-17-0375.1](https://doi.org/10.1175/JAS-D-17-0375.1).
- [228] Bjorn Stevens, G. Drotos, Tobias Becker, and Thorsten Mauritsen. Tropics as tempest. In Venugopal Vuruputur, Jai Sukhatme, Raghu Murtugudde, and Remy Roca, editors, *Tropical Extremes: Natural Variability and Trends*, pages 299–310. Elsevier, Amsterdam, 2018.
- [227] Bjorn Stevens. Reply to Comment on “Rethinking the lower bound on aerosol radiative forcing” (Booth. B. et al (2018), *J. Climate*, 31, 9407–412). *Journal of Climate*, 31:9413–9416, 2018. doi:[10.1175/JCLI-D-18-0185.1](https://doi.org/10.1175/JCLI-D-18-0185.1).
- [226] Bart J. H. van Stratum and Bjorn Stevens. The impact of vertical mixing biases in large-eddy simulation on nocturnal low clouds. *Journal of Advances in Modeling Earth Systems*, 10:1290–1303, 2018. doi:[10.1029/2017MS001239](https://doi.org/10.1029/2017MS001239).
- [225] Cathy Hohenegger and Bjorn Stevens. The role of the permanent wilting point in controlling the spatial distribution of precipitation. *Proceedings of the National Academy of Sciences of the United States of America*, 115:5692–5697, 2018. doi:[10.1073/pnas.1718842115](https://doi.org/10.1073/pnas.1718842115).
- [224] Tobias Becker, Christopher S. Bretherton, Cathy Hohenegger, and Bjorn Stevens. Estimating bulk entrainment with unaggregated and aggregated convection. *Geophysical Research Letters*, 45:455–462, 2018. doi:[10.1002/2017GL076640](https://doi.org/10.1002/2017GL076640).
- [223] A.E. Dessler, Thorsten Mauritsen, and Bjorn Stevens. The influence of internal variability on Earth’s energy balance framework and implications for estimating climate sensitivity. *Atmospheric Chemistry and Physics*, 18:5147–5155, 2018. doi:[10.5194/acp-18-5147-2018](https://doi.org/10.5194/acp-18-5147-2018).
- [222] D. Klocke, Matthias Brueck, Cathy Hohenegger, and Bjorn Stevens. Rediscovering the doldrums in cloud resolving simulations of the Tropical Atlantic. *Nature Geoscience*, 10:891–896, 2017. doi:[10.1038/s41561-017-0005-4](https://doi.org/10.1038/s41561-017-0005-4).
- [221] Sandrine Bony, Bjorn Stevens, and David Carlson. Understanding clouds to anticipate future climate. *WMO Bulletin*, 66:8–11, 2017.
- [220] Jochem Marotzke, Christian Jakob, Sandrine Bony, Paul A. Dirmeyer, Paul A. O’Gorman, Ed Hawkins, Sarah Perkins-Kirkpatrick, Corinne Le Quéré, Sophie Nowicki, Katsia Paulavets, Sonia I. Seneviratne, Bjorn Stevens, and Matthias Tuma. Climate research must sharpen its view. *Nature Climate Change*, 7:89–91, 2017. doi:[10.1038/nclimate3206](https://doi.org/10.1038/nclimate3206).
- [219] Ronald J. Stouffer, Veronika Eyring, Gerald A. Meehl, Sandrine Bony, Cath Senior, Bjorn Stevens, and Karl Taylor. CMIP5 scientific gaps and recommendations for CMIP6. *Bulletin of the American Meteorological Society*, 98:95–105, 2017. doi:[10.1175/BAMS-D-15-00013.1](https://doi.org/10.1175/BAMS-D-15-00013.1).

- [218] Bjorn Stevens, G. Drotos, Tobias Becker, and Thorsten Mauritsen. Tropics as tempest. In Venugopal Vuruputur, Jai Sukhatme, Raghu Murtugudde, and Remy Roca, editors, *Tropical Climate Extremes: Natural Variability and Trends*. Elsevier, 2017.
- [217] P. Trivej, Bjorn Stevens, and Wanitcha Phansri. The onset and withdrawal of the rainy season in Eastern Thailand with regard to the flowering of mangosteens and durians. *Acta Geobalcanica*, 3:7–16, 2017. doi:10.18509/AGB.2017.01.
- [216] Sandrine Bony, Bjorn Stevens, Felix Ament, Susanne Crewell, Julien Delanoe, David Farrell, Cyrille Flamant, Silke Gross, Lutz Hirsch, Bernhard Mayer, Louise Nuijens, James H. Ruppert, Irina Sandu, Pier Siebesma, Sabrina Speich, Frederic Szczap, Raphaela Vogel, Manfred Wendisch, and Martin Wirth. EUREC4A: a field campaign to elucidate the couplings between clouds, convection and circulation. *Surveys in Geophysics*, available online, 2017. doi:10.1007/s10712-017-9428-0.
- [215] M. J. Webb, T. Andrews, A. Bodas-Salcedo, S. Bony, C. S. Bretherton, R. Chadwick, H. Chepfer, H. Douville, P. Good, J. E. Kay, S. A. Klein, R. Marchand, B. Medeiros, A. P. Siebesma, C. B. Skinner, Bjorn Stevens, G. Tselioudis, Y. Tsushima, and M. Watanabe. The Cloud Feedback Model Intercomparison Project (CFMIP) contribution to CMIP6. *Geoscientific Model Development*, 2017:359–384, 2017. doi:10.5194/gmd-10-359-2017.
- [214] Bjorn Stevens, Stephanie Fiedler, Stefan Kinne, Karsten Peters, Sebastian Rast, Jobst Müsse, Steven J. Smith, and Thorsten Mauritsen. MACv2-SP: a parameterization of anthropogenic aerosol optical properties and an associated Twomey effect for use in CMIP6. *Geoscientific Model Development*, 10:433–452, 2017. doi:10.5194/gmd-10-433-2017.
- [213] Allison A. Wing, Kevin A. Reed, Masaki Satoh, Bjorn Stevens, Sandrine Bony, and Tomoki Ohno. Radiative-Convective Equilibrium Model Intercomparison Project. *Geoscientific Model Development*, 2017. doi:10.5194/gmd-2017-213.
- [212] Bjorn Stevens, H. Brogniez, C. Kiemle, J-L Lacour, C Crevoisier, and J. Kiliani. Structure and dynamical influence of water vapor in the lower tropical troposphere. *Surveys in Geophysics*, available online, 2017. doi:10.1007/s10712-017-9420-8.
- [211] Jessica Vial, Sandrine Bony, Bjorn Stevens, and Raphaela Vogel. Mechanisms and model diversity of trade-wind shallow cumulus cloud feedbacks: a review. *Surveys in Geophysics*, available online, 2017. doi:10.1007/s10712-017-9418-2.
- [210] Rieke Heinze, Anurag Dipankar, Cintia Carbajal Henken, Christopher Moseley, Odran Sourdeval, Silke Trömel, Xinxin Xie, Panos Adamidis, Felix Ament, Holger Baars, Christian Barthlott, Andreas Behrendt, Ulrich Blahak, Sebastian Bley, Slavko Brdar, Matthias Brueck, Susanne Crewell, Hartwig Deneke, Paolo Di Girolamo, Raquel Evaristo, Jürgen Fischer, Christopher Frank, Petra Friederichs, Tobias Göcke, Ksenia Gorges, Luke Hande, Moritz Hanke, Akio Hansen, Hans-Christian Hege, Corinna Hoose, Thomas Jahns, Norbert Kalthoff, Daniel Klocke, Stefan Kneifel, Peter Knippertz, Alexander Kuhn, Thirza van Laar, Andreas Macke, Vera Maurer, Bernhard

- Mayer, Catrin I. Meyer, Shravan K. Muppa, Roeland A. J. Neggers, Emiliano Orlandi, Florian Pantillon, Bernhard Pospichal, Niklas Röber, Leonhard Scheck, Axel Seifert, Patric Seifert, Fabian Senf, Pavan Siligam, Clemens Simmer, Sandra Steinke, Bjorn Stevens, Kathrin Wapler, Michael Weniger, Volker Wulfmeyer, Gunther Zängl, Dan Zhang, and Johannes Quaas. Large-eddy simulations over Germany using ICON: A comprehensive evaluation. *Quarterly Journal of the Royal Meteorological Society*, 143:69–100, 2017. doi:10.1002/qj.2947.
- [209] Ann Kristin Naumann, Bjorn Stevens, Cathy Hohenegger, and Juan-Pedro Mellado. A conceptual model of a shallow circulation induced by prescribed low-level radiative cooling. *Journal of the Atmospheric Sciences*, 74:3129–3144, 2017. doi:10.1175/JAS-D-17-0030.1.
- [208] Aiko Voigt, Robert Pincus, Bjorn Stevens, Sandrine Bony, Olivier Boucher, Nicolas Bellouin, Anna Lewinschal, Brian Medeiros, Zhili Wang, and Hua Zhang. Fast and slow shifts of the zonal-mean intertropical convergence zone in response to an idealized anthropogenic aerosol. *Journal of Advances in Modeling Earth Systems*, 9:870–892, 2017. doi:10.1002/2016MS000902.
- [207] Stephanie Fiedler, Bjorn Stevens, and Thorsten Mauritsen. On the sensitivity of anthropogenic aerosol forcing to model-internal variability and parameterizing a Twomey effect. *Journal of Advances in Modeling Earth Systems*, 9:1325–1341, 2017. doi:10.1002/2017MS000932.
- [206] Tobias Becker, Bjorn Stevens, and Cathy Hohenegger. Imprint of the convective parameterization and sea-surface temperature on large-scale convective self-aggregation. *Journal of Advances in Modeling Earth Systems*, 9:1488–1505, 2017. doi:10.1002/2016MS000865.
- [205] Bjorn Stevens and Stephanie Fiedler. Reply to Comment on Rethinking the lower bound on aerosol radiative forcing (Kretschmar, J. et al (2017), *J. Clim.*, 30, 6579–6584). *Journal of Climate*, 30:6585–6589, 2017. doi:10.1175/JCLI-D-17-0034.1.
- [204] Bjorn Stevens. Clouds unfazed by haze. *Nature*, 546:483–484, 2017. doi:10.1038/546483a.
- [203] Rieke Heinze, Christopher Moseley, C. M. Böske, S. Muppa, V. Maurer, S. Raasch, and Bjorn Stevens. Evaluation of large-eddy simulations forced with mesoscale model output for a multi-week period during a measurement campaign. *Atmospheric Chemistry and Physics*, 17:7083–7109, 2017. doi:10.5194/acp-17-7083-2017.
- [202] Angela Cheska Siongco, Cathy Hohenegger, and Bjorn Stevens. Sensitivity of the summertime tropical Atlantic precipitation distribution to convective parameterization and model resolution in ECHAM6. *Journal of Geophysical Research-Atmospheres*, 122:2579–2594, 2017. doi:10.1002/2016JD026093.
- [201] Matthias Heinz Retsch, Cathy Hohenegger, and Bjorn Stevens. Vertical resolution refinement in an aqua-planet and its effect on the ITCZ. *Journal of Advances in Modeling Earth Systems*, accepted manuscript available online, 2017. doi:10.1002/2017MS001010.

- [200] R. Pincus, P. M. Forster, and Bjorn Stevens. The Radiative Forcing Model Intercomparison Project (RFMIP): Experimental Protocol for CMIP6. *Geoscientific Model Development*, 9:3447–3460, 2016. doi:[10.5194/gmd-9-3447-2016](https://doi.org/10.5194/gmd-9-3447-2016).
- [199] Veronika Eyring, Sandrine Bony, Gerald A. Meehl, Catherine A. Senior, Bjorn Stevens, Ron J. Stouffer, and Karl E. Taylor. Overview of the Coupled Model Intercomparison Project Phase 6 (CMIP6) experimental design and organisation. *Geoscientific Model Development*, 9:1937–1958, 2016. doi:[10.5194/gmd-9-1937-2016](https://doi.org/10.5194/gmd-9-1937-2016).
- [198] Dagmar Fläschner, Thorsten Mauritsen, and Bjorn Stevens. Understanding the intermodel spread in global-mean hydrological sensitivity. *Journal of Climate*, 29:801–817, 2016. doi:[10.1175/JCLI-D-15-0351.1](https://doi.org/10.1175/JCLI-D-15-0351.1).
- [197] Levi Silvers, Bjorn Stevens, Thorsten Mauritsen, and Marco A. Giorgetta. Radiative convective equilibrium as a framework for studying the interaction between convection and its large-scale environment. *Journal of Advances in Modeling Earth Systems*, 8:1330–1344, 2016. doi:[10.1002/2016MS000629](https://doi.org/10.1002/2016MS000629).
- [196] Sandrine Bony, Bjorn Stevens, David Coppin, Tobias Becker, Kevin A. Reed, Aiko Voigt, and Brian Medeiros. Thermodynamic control of anvil cloud amount. *Proceedings of the National Academy of Sciences of the United States of America*, 113:8927–8932, 2016. doi:[10.1073/pnas.1601472113](https://doi.org/10.1073/pnas.1601472113).
- [195] Raphaela Vogel, Louise Nuijens, and Bjorn Stevens. The role of precipitation and spatial organization in the response of trade-wind clouds to warming. *Journal of Advances in Modeling Earth Systems*, 8:843–862, 2016. doi:[10.1002/2015MS000568](https://doi.org/10.1002/2015MS000568).
- [194] Stephan R. De Roode, Irina Sandu, Johan J. van der Dussen, Andrew S. Ackerman, Peter Blossey, Dorota Jarecka, Adrian Lock, A. Pier Siebesma, and Bjorn Stevens. Large-eddy simulations of EUCLIPSE-GASS Lagrangian stratocumulus-to-cumulus transitions: Mean State, turbulence, and decoupling. *Journal of the Atmospheric Sciences*, 73:2485–2508, 2016. doi:[10.1175/JAS-D-15-0215.1](https://doi.org/10.1175/JAS-D-15-0215.1).
- [193] Bjorn Stevens, David Farrell, Lutz Hirsch, Friedhelm Jansen, Louise Nuijens, Ilya Serikov, Bjorn Brüggemann, Marvin Forde, Holger Linné, Katrin Lonitz, and Joseph M. Prospero. The Barbados Cloud Observatory - anchoring investigations of clouds and circulation on the edge of the ITCZ. *Bulletin of the American Meteorological Society*, 97:787–801, 2016. doi:[10.1175/BAMS-D-14-00247.1](https://doi.org/10.1175/BAMS-D-14-00247.1).
- [192] Ritthik Bhattacharya and Bjorn Stevens. A two Turbulence Kinetic Energy model as a scale-adaptive approach to modeling the planetary boundary layer. *Journal of Advances in Modeling Earth Systems*, 8:224–243, 2016. doi:[10.1002/2015MS000548](https://doi.org/10.1002/2015MS000548).
- [191] Gaby Rädel, Thorsten Mauritsen, Bjorn Stevens, Dietmar Dommenges, Daniela Matei, Katinka Bellomo, and Amy Clement. Amplification of El Niño by cloud longwave coupling to atmospheric circulation. *Nature Geoscience*, 9:106–110, 2016. doi:[10.1038/ngeo2630](https://doi.org/10.1038/ngeo2630).

- [190] Amy Clement, Mark A. Cane, Lisa N. Murphy, Katinka Bellomo, Thorsten Mauritsen, and Bjorn Stevens. Response to Comment on The Atlantic Multidecadal Oscillation without a role for ocean circulation. *Science*, 352:1527 b, 2016. doi:[10.1126/science.aaf2575](https://doi.org/10.1126/science.aaf2575).
- [189] Axel Seifert, Thijs Heus, Robert Pincus, and Bjorn Stevens. Large-eddy simulation of the transient and near-equilibrium behavior of precipitating shallow convection. *Journal of Advances in Modeling Earth Systems*, 7:1918–1937, 2015. doi:[10.1002/2015MS000489](https://doi.org/10.1002/2015MS000489).
- [188] Amy Clement, Katinka Bellomo, Lisa N. Murphy, Mark A. Cane, Thorsten Mauritsen, Gaby Rädel, and Bjorn Stevens. The Atlantic Multidecadal Oscillation without a role for ocean circulation. *Science*, 340(6258):320–324, 2015. doi:[10.1126/science.aab3980](https://doi.org/10.1126/science.aab3980).
- [187] Katrin Lonitz, Bjorn Stevens, Louise Nuijens, Lutz Hirsch, and Axel Seifert. The signature of aerosols and meteorology in long-term cloud radar observations of trade-wind cumuli. *Journal of the Atmospheric Sciences*, 72:4643–4659, 2015. doi:[10.1175/JAS-D-14-0348.1](https://doi.org/10.1175/JAS-D-14-0348.1).
- [186] G. Asrar, S. Bony, O. Boucher, A. Busalacchi, A. Cazenave, M. Dowell, G. Flato, G. Hegerl, E. Källén, T. Nakajima, A. Ratier, R. Saunders, J. Slingo, B. Sohn, J. Schmetz, Bjorn Stevens, P. Zhang, and F. Zwiers. Climate Symposium 2014: Findings and Recommendations. *Bulletin of the American Meteorological Society*, 96:ES145–ES147, 2015. doi:[10.1175/BAMS-D-15-00003.1](https://doi.org/10.1175/BAMS-D-15-00003.1).
- [185] Chao Li, Bjorn Stevens, and Jochem Marotzke. Eurasian winter cooling in the warming hiatus of 1998-2012. *Geophysical Research Letters*, 42:8131–8139, 2015. doi:[10.1002/2015GL065327](https://doi.org/10.1002/2015GL065327).
- [184] Traute Crueger and Bjorn Stevens. The effect of atmospheric radiative heating by clouds on the Madden-Julian Oscillation. *Journal of Advances in Modeling Earth Systems*, 7:854–864, 2015. doi:[10.1002/2015MS000434](https://doi.org/10.1002/2015MS000434).
- [183] Bart J. H. van Stratum and Bjorn Stevens. The influence of misrepresenting the nocturnal boundary layer on idealized daytime convection in large-eddy simulation. *Journal of Advances in Modeling Earth Systems*, 7:423–436, 2015. doi:[10.1002/2014MS000370](https://doi.org/10.1002/2014MS000370).
- [182] Bjorn Stevens. Rethinking the lower bound on aerosol radiative forcing. *Journal of Climate*, 28:4794–4819, 2015. doi:[10.1175/JCLI-D-14-00656.1](https://doi.org/10.1175/JCLI-D-14-00656.1).
- [181] Anurag Dipankar, Bjorn Stevens, Rieke Heinze, Christopher Moseley, Günther Zängl, Marco A. Giorgetta, and Slavko Brdar. Large eddy simulation using the general circulation model ICON. *Journal of Advances in Modeling Earth Systems*, 7:963 – 986, 2015. doi:[10.1002/2015MS000431](https://doi.org/10.1002/2015MS000431).
- [180] M.J. Webb, A.P. Lock, A. Bodas-Salcedo, S. Bony, J.N.S. Cole, T. Koshiro, H. Kawai, C. Lacagnina, F.M. Selten, R. Roehrig, and Bjorn Stevens. The diurnal cycle of marine cloud feedback in climate models. *Climate Dynamics*, 44:1419–1436, 2015. doi:[10.1007/s00382-014-2234-1](https://doi.org/10.1007/s00382-014-2234-1).

- [179] Bjorn Stevens, Ayako Abe-Ouchi, Sandrine Bony, Gabi Hegerl, Gavin Schmidt, Steven Sherwood, and Mark Webb. Ringberg15: Earth's climate sensitivity. 23-27 March, Schloss Ringberg, Germany. *WCRP Report 11/2015*, 2015.
- [178] Thorsten Mauritsen and Bjorn Stevens. Missing iris effect as a possible cause of muted hydrological change and high climate sensitivity in models. *Nature Geoscience*, 8:346–351, 2015. doi:10.1038/ngeo2414.
- [177] Katinka Bellomo, Amy C. Clement, Thorsten Mauritsen, Gaby Rädcl, and Bjorn Stevens. The influence of cloud feedbacks on equatorial Atlantic variability. *Journal of Climate*, 28:2725–2744, 2015. doi:10.1175/JCLI-D-14-00495.1.
- [176] Matthias Brueck, Louise Nuijens, and Bjorn Stevens. On the seasonal and synoptic time scale variability of the North Atlantic trades and its low-level clouds. *Journal of the Atmospheric Sciences*, 72:1428–1446, 2015. doi:10.1175/JAS-D-14-0054.1.
- [175] Jörg Burdanowitz, Louise Nuijens, Bjorn Stevens, and Christian Klepp. Evaluating light rain from satellite- and ground-based remote sensing data over the subtropical North Atlantic. *Journal of Applied Meteorology and Climatology*, 54:556–572, 2015. doi:10.1175/JAMC-D-14-0146.1.
- [174] Christian Klepp, Felix Ament, Stephan Bakan, Lutz Hirsch, and Bjorn Stevens. The NARVAL Campaign Report. *Berichte zur Erdsystemforschung*, Max-Planck-Institut für Meteorologie, 164, 2014. doi:10.17617/2.2129055.
- [173] Sandrine Bony, Bjorn Stevens, Dargan M. W. Frierson, Christian Jakob, Masa Kageyama, Robert Pincus, Theodore G. Shepherd, Steven C. Sherwood, A. Pier Siebesma, Adam H. Sobel, Masahiro Watanabe, and Mark J. Webb. Clouds, circulation and climate sensitivity. *Nature Geoscience*, 8:261–268, 2015. doi:10.1038/ngeo2398.
- [172] Tobias Becker and Bjorn Stevens. Climate and climate sensitivity to changing CO₂ on an idealized land planet. *Journal of Advances in Modeling Earth Systems*, 6:1205–1223, 2014. doi:10.1002/2014MS000369.
- [171] Katinka Bellomo, Amy Clement, Thorsten Mauritsen, Gaby Rädcl, and Bjorn Stevens. Simulating the role of subtropical stratocumulus clouds in driving Pacific climate variability. *Journal of Climate*, 27:5119–5131, 2014. doi:10.1175/JCLI-D-13-00548.1.
- [170] Angela Cheska Siongco, Cathy Hohenegger, and Bjorn Stevens. The Atlantic ITCZ bias in CMIP5 models. *Climate Dynamics*, 45:1169–1180, 2014. doi:10.1007/s00382-014-2366-3.
- [169] Stephen C. Sherwood, Sandrine Bony, Olivier Boucher, Christopher S. Bretherton, Piers Forster, Jonathan Gregory, and Bjorn Stevens. Adjustments in the forcing-feedback framework for understanding climate change. *Bulletin of the American Meteorological Society*, 96:217–228, 2014. doi:10.1175/BAMS-D-13-00167.1.

- [168] Eckhard Dietze, Heiko Schmidt, Bjorn Stevens, and Juan-Pedro Mellado. Controlling entrainment in the smoke cloud using level set-based front tracking. *Meteorologische Zeitschrift*, 23:661–674, 2014. doi:[10.1127/metz/2014/0595](https://doi.org/10.1127/metz/2014/0595).
- [167] Brian Medeiros, Bjorn Stevens, and Sandrine Bony. Using aquaplanets to understand the robust responses of comprehensive climate models to forcing. *Climate Dynamics*, 44:1957–1977, 2015. doi:[10.1007/s00382-014-2138-0](https://doi.org/10.1007/s00382-014-2138-0).
- [166] Aiko Voigt, Sandrine Bony, Jean-Louis Dufresne, and Bjorn Stevens. The radiative impact of clouds on the shift of the Intertropical Convergence Zone. *Geophysical Research Letters*, 41:4308–4315, 2014. doi:[10.1002/2014GL060354](https://doi.org/10.1002/2014GL060354).
- [165] Bjorn Stevens, Kerry Emanuel, and Dan Rothman. Understanding Atmospheric water and climate - Water and climate : The First Lorenz Center Workshop Boston, Massachusetts, 10–12 February 2014. *EOS, Transactions of the American Geophysical Union*, 95:162–162, 2014. doi:[10.1002/2014EO190007](https://doi.org/10.1002/2014EO190007).
- [164] Juan-Pedro Mellado, Bjorn Stevens, and Heiko Schmidt. Wind shear and buoyancy reversal at the stratocumulus top. *Journal of the Atmospheric Sciences*, 71:1040–1057, 2014. doi:[10.1175/JAS-D-13-0189.1](https://doi.org/10.1175/JAS-D-13-0189.1).
- [163] Gerald Meehl, Richard Moss, Karly Taylor, V. Eyring, S. Bony, R. Stouffer, and Bjorn Stevens. Climate Model Intercomparisons: Preparing for the Next Phase. *EOS, Transactions of the American Geophysical Union*, 95:77–78, 2014. doi:[10.1002/2014EO090001](https://doi.org/10.1002/2014EO090001).
- [162] Lorenzo Tomassini, Aiko Voigt, and Bjorn Stevens. On the connection between tropical circulation, convective mixing, and climate sensitivity. *Quarterly Journal of the Royal Meteorological Society*, 141:1404–1416, 2015. doi:[10.1002/qj.2450](https://doi.org/10.1002/qj.2450).
- [161] Mario Mech, E. Orlandi, S. Crewell, Felix Ament, Lutz Hirsch, M. Hagen, G. Peters, and Björn Stevens. HAMP - the microwave package on the High Altitude and LOng range research aircraft HALO. *Atmospheric Measurement Techniques*, 7:4539–4553, 2014. doi:[10.5194/amt-7-4539-2014](https://doi.org/10.5194/amt-7-4539-2014).
- [160] Louise Nuijens, Ilya Serikov, Lutz Hirsch, Katrin Lonitz, and Bjorn Stevens. The distribution and variability of low-level cloud in the North-Atlantic trades. *Quarterly Journal of the Royal Meteorological Society*, 140:2364–2374, 2014. doi:[10.1002/qj.2307](https://doi.org/10.1002/qj.2307).
- [159] Aiko Voigt, Bjorn Stevens, Jurgen Bader, and Thorsten Mauritsen. Compensation of hemispheric albedo asymmetries by shifts of the ITCZ and tropical clouds. *Journal of Climate*, 27:1029 – 1045, 2014. doi:[10.1175/JCLI-D-13-00205.1](https://doi.org/10.1175/JCLI-D-13-00205.1).
- [158] Alejandro Bodas-Salcedo, Keith D. Williams, Mark A. Ringer, Isabelle Beau, Jason N. S. Cole, Jean-Louis Dufresne, Tsuyoshi Koshiro, Bjorn Stevens, and Zaizhi Wan. Origins of the solar radiation biases over the Southern Ocean in CFMIP2 models. *Journal of Climate*, 27:41 – 56, 2014. doi:[10.1175/JCLI-D-13-00169.1](https://doi.org/10.1175/JCLI-D-13-00169.1).

- [157] Minghua Zhang, Christopher S. Bretherton, Peter N. Blossey, Phillip H. Austin, Julio T. Bacmeister, Sandrine Bony, Florent Brient, Suvarchal-Kumar Cheedela, Anning Cheng, Anthony D. Del Genio, Stephan R. De Roode, Satoshi Endo, Charmaine N. Franklin, Jean-Christophe Golaz, Cecile Hannay, Thijs Heus, Francesco Alessandro Isotta, Jean-Louis Dufresne, In-Sik Kang, Hideaki Kawai, Martin Köhler, Vincent E. Larson, Yangang Liu, Adrian P. Lock, Ulrike Lohmann, Marat F. Khairoutdinov, Andrea M. Molod, Roel A.J. Neggers, Philip Rasch, Irina Sandu, Ryan Senkbeil, A. Pier Siebesma, Colombe Siegenthaler-Le Drian, Bjorn Stevens, Max J. Suarez, Kuan-Man Xu, Knut von Salzen, Mark J. Webb, Audrey Wolf, and Ming Zhao. CGILS: Results from the first phase of an international project to understand the physical mechanisms of low cloud feedbacks in single column models. *Journal of Advances in Modeling Earth Systems*, 5:826 – 842, 2013. doi:10.1002/2013MS000246.
- [156] Cathy Hohenegger and Bjorn Stevens. Controls on and impacts of the diurnal cycle of deep convection. *Journal of Advances in Modeling Earth Systems*, 5:801 – 815, 2013. doi:10.1002/2012MS000216.
- [155] Bjorn Stevens. Uncertain then, irrelevant now. *Nature*, 503:47 – 48, 2013. doi:10.1038/503047a.
- [154] Thorsten Mauritsen, R. G. Gravensén, Daniel Klocke, P. L. Langen, Bjorn Stevens, and Lorenzo Tomassini. Climate feedback efficiency and synergy. *Climate Dynamics*, 41:2539 – 2554, 2013. doi:10.1007/s00382-013-1808-7.
- [153] Vera Schemann, Bjorn Stevens, Verena Gruetzun, and Johannes Quaas. Scale dependency of total water variance and its implication for cloud parameterizations. *Journal of the Atmospheric Sciences*, 70:3615 – 3630, 2013. doi:10.1175/JAS-D-13-09.1.
- [152] O. Boucher, D. Randall, P. Artaxo, C. Bretherton, G. Feingold, P. Forster, V.-M. Kerminen, Y. Kondo, H. Liao, U. Lohmann, P. Rasch, S.K. Satheesh, S. Sherwood, Bjorn Stevens, and X.Y. Zhang. Clouds and Aerosols. In T. F. Stocker and more, editors, *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, pages 571 – 657. Cambridge University Press, Cambridge, 2013.
- [151] H. Siebert, M. Beals, J. Bethke, E. Bierwirth, T. Conrath, K. Dieckmann, F. Ditas, A. Ehrlich, D. Farrell, S. Hartmann, M.A. Izaguirre, J. Katzwinkel, Louise Nuijens, G. Roberts, M. Schäfer, R.A. Shaw, T. Schmeissner, Ilya Serikov, Bjorn Stevens, F. Stratmann, B. Wehner, M. Wendisch, F. Werner, and H. Wex. The fine-scale structure of the trade wind cumuli over Barbados – An introduction to the CARRIBA project. *Atmospheric Chemistry and Physics*, 13:10061 – 10077, 2013. doi:10.5194/acp-13-10061-2013.
- [150] Stefan Kinne, Declan O’Donnell, Philip Stier, Silvia Kloster, Kai Zhang, Hauke Schmidt, Sebastian Rast, Marco A. Giorgetta, Tom Eck, and Bjorn Stevens. MAC-v1: A new global aerosol climatology for climate studies. *Journal of Advances in Modeling Earth Systems*, 5:704 – 740, 2013. doi:10.1002/jame.20035.

- [149] Daniel Klocke, Johannes Quaas, and Bjorn Stevens. Assessment of different metrics for physical climate feedbacks. *Climate Dynamics*, 41:1173 – 1185, 2013. doi:[10.1007_s00382-013-1757-1](https://doi.org/10.1007_s00382-013-1757-1).
- [148] Marco A. Giorgetta, Johann H. Jungclaus, Christian H. Reick, Stephanie Legutke, Victor Brovkin, Traute Crueger, Monika Esch, Kerstin Fieg, Ksenia Glushak, Veronika Gayler, Helmuth Haak, Heinz-Dieter Hollweg, Tatiana Ilyina, Stefan Kinne, Luis Kornblueh, Daniela Matei, Thorsten Mauritsen, Uwe Mikolajewicz, Wolfgang A. Mueller, Dirk Notz, Thomas Raddatz, Sebastian Rast, Rene Redler, Erich Roeckner, Hauke Schmidt, Reiner Schnur, Joachim Segschneider, Katharina Six, Martina Stockhause, Jörg Wegner, Heiner Widmann, Karl-H. Wieners, Martin Claussen, Jochem Marotzke, and Bjorn Stevens. Climate and carbon cycle changes from 1850 to 2100 in MPI-ESM simulations for the coupled model intercomparison project phase 5. *Journal of Advances in Modeling Earth Systems*, 5:572 – 597, 2013. doi:[10.1002/jame.20038](https://doi.org/10.1002/jame.20038).
- [147] Sandrine Bony, Bjorn Stevens, Isaac H. Held, John F. Mitchell, Jean-Louis Dufresne, Kerry A. Emanuel, Pierre Friedlingstein, Stephen Griffies, and Catherine Senior. Carbon Dioxide and climate: Perspectives on a scientific assessment. In G.R. Asrar and J.W. Hurrell, editors, *Climate Science for Serving Society*, pages 391 – 413. Springer-Verlag, Dordrecht, 2013. doi:[10.1007/978-94-007-6692-1_14](https://doi.org/10.1007/978-94-007-6692-1_14).
- [146] Marco A. Giorgetta, Erich Roeckner, Thorsten Mauritsen, Juergen Bader, Traute Crueger, Monika Esch, Sebastian Rast, Luis Kornblueh, Hauke Schmidt, Stefan Kinne, Cathy Hohenegger, Benjamin Möbis, Thomas Krismer, Karl-Hermann Wieners, and Bjorn Stevens. The atmospheric general circulation model ECHAM6 - Model description. *Berichte zur Erdsystemforschung, Max-Planck-Institut für Meteorologie*, 135, 2013. doi:[10.17617/2.1810480](https://doi.org/10.17617/2.1810480).
- [145] Bjorn Stevens and Sandrine Bony. Water in the atmosphere. *Physics Today*, 66:29 – 34, 2013. doi:[10.1063/PT.3.2009](https://doi.org/10.1063/PT.3.2009).
- [144] Robert Pincus and Bjorn Stevens. Paths to accuracy for radiation parameterizations in atmospheric models. *Journal of Advances in Modeling Earth Systems*, 5:225 – 233, 2013. doi:[10.1002/jame.20027](https://doi.org/10.1002/jame.20027).
- [143] E. Dietze, J. P. Mellado, B. Stevens, and H. Schmidt. Study of low-order numerical effects in the two-dimensional cloud-top mixing layer. *Theoretical and Computational Fluid Dynamics*, 27:239 – 251, 2013. doi:[10.1007/s00162-012-0263-0](https://doi.org/10.1007/s00162-012-0263-0).
- [142] Alexander Otto, Friederike E. L. Otto, Olivier Boucher, John Church, Gabi Hegerl, Piers M. Forster, Nathan P. Gillett, Jonathan Gregory, Gregory C. Johnson, Reto Knutti, Nicholas Lewis, Ulrike Lohmann, Jochem Marotzke, Gunnar Myhre, Drew Shindell, Bjorn Stevens, and Myles R. Allen. Energy budget constraints on climate response. *Nature Geoscience*, 6:415 – 416, 2013. doi:[10.1038/ngeo1836](https://doi.org/10.1038/ngeo1836).
- [141] Bjorn Stevens and Sandrine Bony. What are climate models missing. *Science*, 340:1053 – 1054, 2013. doi:[10.1126/science.1237554](https://doi.org/10.1126/science.1237554).

- [140] Nilton O. Rennó, Earle Williams, Daniel Rosenfeld, David G. Fischer, Jürgen Fischer, Tibor Kremling, Arun Agrawal, Meinrat O. Andreae, Rosina Bierbaum, Richard Blakeslee, Anko Boerner, Neil Bowles, Hugh Christian, Ann Cox, Jason Dunion, Ákos Horváth, Xianglei Huang, Alexander Khain, Stefan Kinne, Maria C. Lemos, Joyce E. Penner, Ulrich Pöschl, Johannes Quaas, Elena Seran, Bjorn Stevens, Thomas Walati, and Thomas Wagner. CHASER: An innovative satellite mission concept to measure the effects of aerosols on clouds and climate. *Bulletin of the American Meteorological Society*, 94:685 – 694, 2013. doi:[10.1175/BAMS-D-11-00239](https://doi.org/10.1175/BAMS-D-11-00239).
- [139] T. Crueger, B. Stevens, and R. Brokopf. The Madden-Julian like oscillation in ECHAM6 and the introduction of a objective MJO score. *Journal of Climate*, 26:3241 – 3257, 2013. doi:[10.1175/JCLI-D-12-00413.1](https://doi.org/10.1175/JCLI-D-12-00413.1).
- [138] Bjorn Stevens, Marco A. Giorgetta, Monika Esch, Thorsten Mauritsen, Traute Crueger, Sebastian Rast, Marc Salzmann, Hauke Schmidt, Juergen Bader, Karoline Block, Renate Brokopf, Irina Fast, Stefan Kinne, Luis Kornbluh, Ulrike Lohmann, Robert Pincus, Thomas Reichler, and E. Roeckner. Atmospheric component of the MPI-M Earth System Model: ECHAM6. *Journal of Advances in Modeling Earth Systems*, 5:146 – 172, 2013. doi:[10.1002/jame.20015](https://doi.org/10.1002/jame.20015).
- [137] G. Bellon and Bjorn Stevens. Time scales of the trade wind boundary layer adjustment. *Journal of the Atmospheric Sciences*, 70:1071 – 1083, 2013. doi:[10.1175/jas-d-12-0219.1](https://doi.org/10.1175/jas-d-12-0219.1).
- [136] D. Popke, Bjorn Stevens, and Aiko Voigt. Climate and climate change in a radiative convective equilibrium version of ECHAM6. *Journal of Advances in Modeling Earth Systems*, 5:1 – 14, 2013. doi:[10.1029/2012MS000191](https://doi.org/10.1029/2012MS000191).
- [135] Jonathan J. Schubert, Bjorn Stevens, and Traute Crueger. Madden-Julian Oscillation as simulated by the MPI earth system model: Over the last and into the next Millennium. *Journal of Advances in Modeling Earth Systems*, 5:71 – 84, 2013. doi:[10.1029/2012MS000180](https://doi.org/10.1029/2012MS000180).
- [134] Cathy Hohenegger and Bjorn Stevens. Preconditioning deep convection with cumulus congestus. *Journal of the Atmospheric Sciences*, 70:448 – 464, 2013. doi:[10.1175/JAS-D-12-089.1](https://doi.org/10.1175/JAS-D-12-089.1).
- [133] Aiko Voigt, Bjorn Stevens, Juergen Bader, and Thorsten Mauritsen. On the hemisphere symmetry of reflected shortwave radiation. *Journal of Climate*, 26:468 – 477, 2013. doi:[10.1175/JCLI-D-12-00132.1](https://doi.org/10.1175/JCLI-D-12-00132.1).
- [132] Bjorn Stevens and O. Boucher. Climate science: The aerosol effect. *Nature*, 490:40 – 41, 2012. doi:[10.1038/490040a](https://doi.org/10.1038/490040a).
- [131] Malte Rieck, Luise Nuijens, and Bjorn Stevens. Marine boundary layer cloud feedbacks in a constant relative humidity atmosphere. *Journal of the Atmospheric Sciences*, 69:2538 – 2550, 2012. doi:[10.1175/JAS-D-11-0203.1](https://doi.org/10.1175/JAS-D-11-0203.1).

- [130] Thorsten Mauritsen, Bjoern Stevens, Erich Roeckner, Traute Crueger, Monika Esch, Marco A. Giorgetta, Helmuth Haak, Johann H. Jungclaus, Daniel Klocke, Daniela Matei, Uwe Mikolajewicz, Dirk Notz, Robert Pincus, Hauke Schmidt, and Lorenzo Tomassini. Tuning the climate of a global model. *Journal of Advances in Modeling Earth Systems*, 4, 2012. doi:[10.1029/2012MS000154](https://doi.org/10.1029/2012MS000154).
- [129] Benjamin Möbis and Bjoern Stevens. Factors controlling the position of the intertropical convergence zone on an aquaplanet. *Journal of Advances in Modeling Earth Systems*, 4, 2012. doi:[10.1029/2012MS000199](https://doi.org/10.1029/2012MS000199).
- [128] G. Bellon and Bjorn Stevens. Using the sensitivity of large-eddy simulations to evaluate atmospheric boundary layer models. *Journal of the Atmospheric Sciences*, 69:1582 – 1601, 2012. doi:[10.1175/JCLI-D-11-00338.1](https://doi.org/10.1175/JCLI-D-11-00338.1).
- [127] L. Nuijens and B. Stevens. The influence of wind speed on shallow marine cumulus convection. *Journal of the Atmospheric Sciences*, 69:168 – 184, 2012. doi:[10.1175/JAS-D-11-02.1](https://doi.org/10.1175/JAS-D-11-02.1).
- [126] Bjorn Stevens and Stephen E. Schwartz. Observing and modeling earth’s energy flows. *Surveys in Geophysics*, 33:779 – 816, 2012. doi:[10.1007/s10712-012-9184-0](https://doi.org/10.1007/s10712-012-9184-0).
- [125] G. Matheou, D. Chung, L. Nuijens, B. Stevens, and J. Teixeira. On the fidelity of large-eddy simulation of shallow precipitating cumulus convection. *Monthly Weather Review*, 139:2918 – 2939, 2011. doi:[10.1175/2011MWR3599.1](https://doi.org/10.1175/2011MWR3599.1).
- [124] A. Z. Owinoh, B. Stevens, and R. Klein. Multiscale asymptotics analysis for the mesoscale dynamics of cloud-topped boundary layers. *Journal of the Atmospheric Sciences*, 68:379 – 402, 2011. doi:[10.1175/2010JAS3469.1](https://doi.org/10.1175/2010JAS3469.1).
- [123] M. vanZanten, B. Stevens, L. Nuijens, A. P. Siebesma, A. S. Ackerman, F. Burnet, A. Cheng, F. Couvreux, H. Jiang, M. Khairoutdinov, Y. Kogan, D. C. Lewellen, D. Mechem, K. Nakamura, A. Noda, B. J. Shipway, J. Slawinska, S. Wang, and A. Wyszogrodzki. Controls on precipitation and cloudiness in simulations of trade-wind cumulus as observed during RICO. *Journal of Advances in Modeling Earth Systems*, 3, 2011. doi:[10.1029/2011MS000056](https://doi.org/10.1029/2011MS000056).
- [122] I. Sandu and B. Stevens. On the factors modulating the stratocumulus to cumulus transitions. *Journal of the Atmospheric Sciences*, 68:1865 – 1881, 2011. doi:[10.1175/2011JAS3614.1](https://doi.org/10.1175/2011JAS3614.1).
- [121] B. Medeiros and B. Stevens. Revealing differences in GCM representations of low clouds. *Climate Dynamics*, 36:385 – 399, 2011. doi:[10.1007/s00382-009-0694-5](https://doi.org/10.1007/s00382-009-0694-5).
- [120] JP. Mellado, B. Stevens, H. Schmidt, and N. Peters. Two-fluid formulation of the cloud-top mixing layer for direct numerical simulation. *Theoretical and Computational Fluid Dynamics*, 24:511 – 536, 2010. doi:[10.1007/s00162-010-0182-x](https://doi.org/10.1007/s00162-010-0182-x).

- [119] B. Medeiros, Louise Nuijens, C. Antoniazzi, and Bjorn Stevens. Low-latitude boundary layer clouds as seen by CALIPSO. *Journal of Geophysical Research - Atmospheres*, 115, 2010. doi: [10.1029/2010JD014437](https://doi.org/10.1029/2010JD014437).
- [118] A. Seifert, L. Nuijens, and B. Stevens. Turbulence effects on warm-rain autoconversion in precipitating shallow convection. *Quarterly Journal of the Royal Meteorological Society*, 136:1753 – 1762, 2010. doi:[10.1002/qj.684](https://doi.org/10.1002/qj.684).
- [117] JP. Mellado, B. Stevens, H. Schmidt, and N. Peters. Probability density functions in the cloud-top mixing layer. *New Journal of Physics*, 12, 2010. URL: http://iopscience.iop.org/1367-2630/12/8/085010/pdf/1367-2630_12_8_085010.pdf, doi: [10.1088/1367-2630/12/8/085010](https://doi.org/10.1088/1367-2630/12/8/085010).
- [116] A. Seifert and B. Stevens. Microphysical scaling relations in a kinematic model of isolated shallow cumulus clouds. *Journal of the Atmospheric Sciences*, 67:1575 – 1590, 2010. doi: [10.1175/2009JAS3319.1](https://doi.org/10.1175/2009JAS3319.1).
- [115] P. Trivej and B. Stevens. The echo size distribution of precipitating shallow cumuli. *Journal of the Atmospheric Sciences*, 67:788 – 804, 2010. doi:[10.1175/2009JAS3178.1](https://doi.org/10.1175/2009JAS3178.1).
- [114] A. N. Cheng, K. M. Xu, and Bjorn Stevens. Effects of resolution on the simulation of boundary-layer clouds and the partition of kinetic energy to subgrid scales. *Journal of Advances in Modeling Earth Systems*, 2, 2010. doi:[10.3894/james.2010.2.3](https://doi.org/10.3894/james.2010.2.3).
- [113] S. N. Stechmann and B. Stevens. Multiscale models for cumulus cloud dynamics. *Journal of the Atmospheric Sciences*, 67:3269 – 3285, 2010. doi:[10.1175/2010JAS3380.1](https://doi.org/10.1175/2010JAS3380.1).
- [112] J. H. Jungclaus, S. J. Lorenz, C. Timmreck, C. H. Reick, V. Brovkin, K. Six, J. Segschneider, M. A. Giorgetta, T. J. Crowley, J. Pongratz, N. A. Krivova, L. E. Vieira, S. K. Solanki, D. Klocke, M. Botzet, M. Esch, V. Gayler, H. Haak, T. Raddatz, E. Roeckner, R. Schnur, H. Widmann, M. Claussen, B. Stevens, and J. Marotzke. Climate and carbon-cycle variability over the last millennium. *Climate of the Past*, 6:723 – 737, 2010. doi:[10.5194/cp-6-723-2010](https://doi.org/10.5194/cp-6-723-2010).
- [111] J. Quaas, B. Stevens, P. Stier, and U. Lohmann. Interpreting the cloud cover - aerosol optical depth relationship found in satellite data using the general circulation model. *Atmospheric Chemistry and Physics*, 10:6129 – 6135, 2010. URL: <http://www.atmos-chem-phys.net/10/6129/2010/acp-10-6129-2010.html>, doi:[10.5194/acp-10-6129-2010](https://doi.org/10.5194/acp-10-6129-2010).
- [110] I. Sandu, B. Stevens, and R. Pincus. On the transitions in marine boundary layer cloudiness. *Atmospheric Chemistry and Physics*, 10:2377 – 2391, 2010.
- [109] Juan-Pedro Mellado, Bjorn Stevens, Heiko Schmidt, and Norbert Peters. Investigation of latent heat effects at the stratocumulus top using direct numerical simulations. In *Oberwolfach Report, 34/2010*, volume 39/2006, pages 2061 – 2062. Mathematisches Forschungsinstitut Oberwolfach, 2010. doi:[10.4171/OWR/2010/34](https://doi.org/10.4171/OWR/2010/34).

- [108] B. Stevens. Cloud-top entrainment instability. *Journal of Fluid Mechanics*, 660:1 – 4, 2010. doi:[10.1017/S0022112010003575](https://doi.org/10.1017/S0022112010003575).
- [107] B. Stevens and G. Feingold. Untangling aerosol effects on clouds and precipitation in a buffered system. *Nature*, 461:607 – 613, 2009. doi:[10.1038/nature08281](https://doi.org/10.1038/nature08281).
- [106] Y. Y. Zhang, B. Stevens, B. Medeiros, and M. Ghil. Low-cloud fraction, lower-tropospheric stability, and large-scale divergence. *Journal of Climate*, 22:4827 – 4844, 2009.
- [105] L. Nuijens, Bjorn Stevens, and A. P. Siebesma. The environment of precipitating shallow cumulus convection. *Journal of the Atmospheric Sciences*, 66:1962 – 1979, 2009. doi:[10.1175/2008JAS2841.1](https://doi.org/10.1175/2008JAS2841.1).
- [104] JP. Mellado, B. Stevens, H. Schmidt, and N. Peters. Buoyancy reversal in cloud-top mixing layers. *Quarterly Journal of the Royal Meteorological Society*, 135:963 – 978, 2009. doi:[10.1002/qj.417](https://doi.org/10.1002/qj.417).
- [103] A. A. Ackerman, M. C. vanZanten, B. Stevens, V. Savic-Jovicic, C. S. Bretherton, A. Chlond, J.-C. Golaz, H. Jiang, M. Khairoutdinov, S. K. Krueger, D. C. Lewellen, A. Lock, C.-M. Moeng, K. Nakamura, M. D. Petters, J. R. Snider, S. Weinbrecht, and M. Zulauf. Large-eddy simulations of a drizzling, stratocumulus-topped marine boundary layer. *Monthly Weather Review*, 137:1083 – 1110, 2009. doi:[10.1175/2008MWR2582.1](https://doi.org/10.1175/2008MWR2582.1).
- [102] I. Sandu, J.-L. Brenguier, O. Thouron, and Bjorn Stevens. How important is the vertical structure for the representation of aerosol impacts on the diurnal cycle of marine stratocumulus? *Atmospheric Chemistry and Physics*, 9:4039 – 4052, 2009.
- [101] Robert Pincus and Bjorn Stevens. Monte Carlo spectral integration: a consistent approximation for radiative transfer in Large Eddy Simulations. *Journal of Advances in Modeling Earth Systems*, 2, 2009. doi:[10.3894/james.2009.1.1](https://doi.org/10.3894/james.2009.1.1).
- [100] C. M. Wu, B. Stevens, and A. Arakawa. What controls the transition from shallow to deep convection? *Journal of the Atmospheric Sciences*, 66:1793 – 1806, 2009. URL: [GoToISI://WOS:000267263300019](https://www.isi.edu/GoToISI//WOS:000267263300019), doi:[10.1175/2008jas2945.1](https://doi.org/10.1175/2008jas2945.1).
- [99] A. P. Siebesma, J.-L. Brenguier, C. S. Bretherton, W. W. Grabowski, J. Heintzenberg, B. Kärcher, K. Lehmann, J. C. Petch, P. Spichtinger, B. Stevens, and F. Stratmann. Cloud-controlling factors. In J. Heintzenberg and R.J. Charlson, editors, *Clouds in the perturbed climate system*. MIT Press, Cambridge, Mass., 2009.
- [98] Bjorn Stevens and Jean-Louis Brenguier. Cloud-controlling factors: low clouds. In J. Heintzenberg and R.J. Charlson, editors, *Clouds in the perturbed climate system*, Strüngmann Forum Reports, pages 173–196. MIT Press, Cambridge, Mass., 2009.
- [97] Bjorn Stevens and R. Seifert. Understanding macrophysical outcomes of microphysical choices in simulations of shallow cumulus convection. *Journal of the Meteorological Society of Japan*, 86A:143 – 162, 2008.

- [96] B. Medeiros, B. Stevens, I. M. Held, M. Zhao, D. L. Williamson, J. G. Olson, and C. S. Bretherton. Aquaplanets, climate sensitivity, and low clouds. *Journal of Climate*, 21:4974–4991, 2008. URL: [<GotoISI>://WOS:000259599900005, doi:10.1175/2008JCLI1995.1](https://doi.org/10.1175/2008JCLI1995.1).
- [95] V. Savic-Jovicic and B. Stevens. The structure and mesoscale organization of precipitating stratocumulus. *Journal of the Atmospheric Sciences*, 65:1587–1605, 2008. URL: [<GotoISI>://WOS:000255681300006, doi:10.1175/2007JAS2456.1](https://doi.org/10.1175/2007JAS2456.1).
- [94] D. K. Lilly and B. Stevens. Validation of a mixed-layer closure. I: Theoretical tests. *Quarterly Journal of the Royal Meteorological Society*, 134:47–55, 2008. URL: [<GotoISI>://WOS:000259292300004, doi:10.1002/qj.184](https://doi.org/10.1002/qj.184).
- [93] H. Y. Huang, B. Stevens, and S. A. Margulis. Application of dynamic subgrid-scale models for large-eddy simulation of the daytime convective boundary layer over heterogeneous surfaces. *Boundary-Layer Meteorology*, 126:327–348, 2008. URL: [<GotoISI>://WOS:000252670800001, doi:10.1007/s10546-007-9239-9](https://doi.org/10.1007/s10546-007-9239-9).
- [92] J. Teixeira, B. Stevens, C. S. Bretherton, R. Cederwall, J. D. Doyle, J. C. Golaz, A. A. M. Holtlag, S. A. Klein, J. K. Lundquist, D. A. Randall, A. R. Siebesma, and P. M. M. Soares. Parameterization of the atmospheric boundary layer: A View from just above the inversion. *Bulletin of the American Meteorological Society*, 89:453–458, 2008. URL: [<GotoISI>://WOS:000255792800011, doi:10.1175/BAMS-89-4-453](https://doi.org/10.1175/BAMS-89-4-453).
- [91] H. W. Xue, G. Feingold, and B. Stevens. Aerosol effects on clouds, precipitation, and the organization of shallow cumulus convection. *Journal of the Atmospheric Sciences*, 65:392–406, 2008. URL: [<GotoISI>://WOS:000253406600006, doi:10.1175/2007jas2428.1](https://doi.org/10.1175/2007jas2428.1).
- [90] M. Satoh and B. Stevens. Preface to Special Issue on The International Workshop on High-Resolution and Cloud Modeling, 2006. *Journal of the Meteorological Society of Japan*, 86:I-II, 2008.
- [89] R. A. J. Neggers, J. D. Neelin, and B. Stevens. Impact mechanisms of shallow cumulus convection on tropical climate dynamics. *Journal of Climate*, 20:2623–2642, 2007. URL: [<GotoISI>://WOS:000247159300018, doi:10.1175/JCLI4079.1](https://doi.org/10.1175/JCLI4079.1).
- [88] B. Stevens. On the growth of layers of nonprecipitating cumulus convection. *Journal of the Atmospheric Sciences*, 64:2916–2931, 2007. URL: [<GotoISI>://WOS:000248726900009, doi:10.1175/JAS3983.1](https://doi.org/10.1175/JAS3983.1).
- [87] B. Stevens, A. Beljaars, S. Bordoni, C. Holloway, M. Kohler, S. Krueger, V. Savic-Jovicic, and Y. Y. Zhang. On the structure of the lower troposphere in the summertime stratocumulus regime of the northeast Pacific. *Monthly Weather Review*, 135:985–1005, 2007. [doi:10.1175/mwr3427.1](https://doi.org/10.1175/mwr3427.1).
- [86] R. A. J. Neggers, B. Stevens, and J. D. Neelin. Variance scaling in shallow-cumulus-topped mixed layers. *Quarterly Journal of the Royal Meteorological Society*, 133:1629–1641, 2007. URL: [<GotoISI>://WOS:000251429400002, doi:10.1002/qj.105](https://doi.org/10.1002/qj.105).

- [85] R. M. Rauber, B. Stevens, H. T. Ochs, C. Knight, B. A. Albrecht, A. M. Blyth, C. W. Fairall, J. B. Jensen, S. G. Lasher-Trapp, O. L. Mayol-Bracero, G. Vali, J. R. Anderson, B. A. Baker, A. R. Bandy, E. Burnet, J. L. Brenguier, W. A. Brewer, P. R. A. Brown, P. Chuang, W. R. Cotton, L. D. Girolamo, B. Geerts, H. Gerber, S. Goke, L. Gomes, B. G. Heikes, J. G. Hudson, P. Kollias, R. P. Lawson, S. K. Krueger, D. H. Lenschow, L. Nuijens, D. W. O’Sullivan, R. A. Rilling, D. C. Rogers, A. P. Siebesma, E. Snodgrass, J. L. Stith, D. C. Thornton, S. Tucker, C. H. Twohy, and P. Zuidema. Rain in shallow cumulus over the ocean: the RICO Campaign. *Bulletin of the American Meteorological Society*, 88:1912 – 1928, 2007. URL: [GotoISI://WOS:000252334100014](https://doi.org/10.1175/BAMS-88-12-1912), doi:10.1175/BAMS-88-12-1912.
- [84] D. H. Lenschow, V. Savic-Jovicic, and B. Stevens. Divergence and vorticity from aircraft air motion measurements. *Journal of Atmospheric and Oceanic Technology*, 24:2062 – 2072, 2007. URL: [GotoISI://WOS:000252001300006](https://doi.org/10.1175/2007JTECHA940.1), doi:10.1175/2007JTECHA940.1.
- [83] R. M. Rauber, B. Stevens, J. Davison, S. Goke, O. L. Mayol-Bracero, D. Rogers, P. Zuidema, H. T. Ochs, C. Knight, J. Jensen, S. Bereznicki, S. Bordoni, H. Caro-Gautier, M. Colon-Robles, M. Deliz, S. Donaher, V. Ghate, E. Grzeszczak, C. Henry, A. M. Hertel, I. Jo, M. Kruk, J. Lowenstein, J. Malley, B. Medeiros, Y. Mendez-Lopez, S. Mishra, F. Morales-Garcia, L. A. Nuijens, D. O’Donnell, D. L. Ortiz-Montalvo, K. Rasmussen, E. Riepe, S. Scalia, E. Serpetzoglou, H. Shen, M. Siedsma, J. Small, E. Snodgrass, P. Trivej, and J. Zawislak. In the driver’s seat : Rico and education. *Bulletin of the American Meteorological Society*, 88:1929 – 1937, 2007. URL: [GotoISI://WOS:000252334100015](https://doi.org/10.1175/BAMS-88-12-1929), doi:10.1175/BAMS-88-12-1929.
- [82] R. A. J. Neggers, B. Stevens, and J. D. Neelin. A simple equilibrium model for shallow-cumulus-topped mixed layers. *Theoretical and Computational Fluid Dynamics*, 20:305 – 322, 2006. doi:10.1007/s00162-006-0030-1.
- [81] M. D. Petters, J. R. Snider, Bjoern Stevens, G. Vali, I. Faloon, and L. M. Russell. Accumulation mode aerosol, pockets of open cells, and particle nucleation in the remote subtropical Pacific marine boundary layer. *Journal of Geophysical Research-Atmospheres*, 111, 2006. URL: [GotoISI://WOS:000235026600001](https://doi.org/10.1029/2004JD005694), doi:10.1029/2004JD005694.
- [80] S. Bordoni and B. Stevens. Principal component analysis of the summertime winds over the Gulf of California: A gulf surge index. *Monthly Weather Review*, 134:3395 – 3414, 2006. URL: [GotoISI://WOS:000242291600021](https://doi.org/10.1175/mwr3253.1), doi:10.1175/mwr3253.1.
- [79] Bjorn Stevens. Bulk boundary-layer concepts for simplified models of tropical dynamics. *Theoretical and Computational Fluid Dynamics*, 20:279 – 304, 2006. doi:10.1007/s00162-006-0032-z.
- [78] P. Zhu, C. S. Bretherton, M. Kohler, A. N. Cheng, A. Chlond, Q. Z. Geng, P. Austin, J. C. Golaz, G. Lenderink, A. Lock, and B. Stevens. Intercomparison and interpretation of single-column model simulations of a nocturnal stratocumulus-topped marine boundary layer. *Monthly Weather Review*, 133:2741 – 2758, 2005.

- [77] B. Stevens, C. H. Moeng, A. S. Ackerman, C. S. Bretherton, A. Chlond, S. De Roode, J. Edwards, J. C. Golaz, H. L. Jiang, M. Khairoutdinov, M. P. Kirkpatrick, D. C. Lewellen, A. Lock, F. Mueller, D. E. Stevens, E. Whelan, and P. Zhu. Evaluation of large-Eddy simulations via observations of nocturnal marine stratocumulus. *Monthly Weather Review*, 133:1443 – 1462, 2005.
- [76] Bjorn Stevens. Atmospheric moist convection. *Annual Review of Earth and Planetary Sciences*, 33:605 – 643, 2005. doi:10.1146/annurev.earth.33.092203.122658.
- [75] C. H. Twohy, M. D. Petters, J. R. Snider, Bjorn Stevens, W. Tahnk, M. Wetzel, L. Russell, and F. Burnet. Evaluation of the aerosol indirect effect in marine stratocumulus clouds: Droplet number, size, liquid water path, and radiative impact. *Journal of Geophysical Research-Atmospheres*, 110, 2005. URL: <GotoISI>://WOS:000228852200004, doi:10.1029/2004JD005116.
- [74] L. M. Hinkelman, B. Stevens, and K. F. Evans. A large-eddy simulation study of anisotropy in fair-weather cumulus cloud fields. *Journal of the Atmospheric Sciences*, 62:2155 – 2171, 2005. URL: <GotoISI>://WOS:000230962800007, doi:10.1175/JAS3463.1.
- [73] C. H. Moeng, Bjorn Stevens, and P. P. Sullivan. Where is the interface of the stratocumulus-topped PBL? *Journal of the Atmospheric Sciences*, 62:2626 – 2631, 2005. URL: <GotoISI>://WOS:000230962900022, doi:10.1175/JAS3470.1.
- [72] I. Faloon, D. H. Lenschow, T. Campos, Bjorn Stevens, M. van Zanten, B. Blomquist, D. Thornton, A. Bandy, and H. Gerber. Observations of entrainment in eastern Pacific marine stratocumulus using three conserved scalars. *Journal of the Atmospheric Sciences*, 62:3268 – 3285, 2005. URL: <GotoISI>://WOS:000232275300015, doi:10.1175/JAS3541.1.
- [71] M. C. vanZanten and B. Stevens. Observations of the structure of heavily precipitating marine stratocumulus. *Journal of the Atmospheric Sciences*, 62:4327 – 4342, 2005. URL: <GotoISI>://WOS:000234419800012, doi:10.1175/JAS3611.1.
- [70] M. C. vanZanten, B. Stevens, G. Vali, and D. H. Lenschow. Observations of drizzle in nocturnal marine stratocumulus. *Journal of the Atmospheric Sciences*, 62:88 – 106, 2005. URL: <GotoISI>://WOS:000226838600005, doi:10.1175/JAS-3355.1.
- [69] Y. Y. Zhang, B. Stevens, and M. Ghil. On the diurnal cycle and susceptibility to aerosol concentration in a stratocumulus-topped mixed layer. *Quarterly Journal of the Royal Meteorological Society*, 131:1567 – 1583, 2005. URL: <GotoISI>://WOS:000230262500013, doi:10.1256/qj.04.103.
- [68] B. Stevens, G. Vali, K. Comstock, R. Wood, C. M. van Zanten, P. H. Austin, C. S. Bretherton, and D. H. Lenschow. Pockets of open cells and drizzle in marine stratocumulus. *Bulletin of the American Meteorological Society*, 86:51 – 57, 2005. URL: <GotoISI>://WOS:000226970100021, doi:10.1175/BAMS-86-1-51.

- [67] G. Bellon and B. Stevens. On bulk models of shallow cumulus convection. *Journal of the Atmospheric Sciences*, 62:3286 – 3302, 2005. URL: [GotoISI://WOS:000232275300016, doi:10.1175/JAS3427.1](https://doi.org/10.1175/JAS3427.1).
- [66] B. Medeiros, A. Hall, and B. Stevens. What controls the mean depth of the PBL? *Journal of Climate*, 18:3157 – 3172, 2005. URL: [GotoISI://WOS:000232051600005, doi:10.1175/JCLI3417.1](https://doi.org/10.1175/JCLI3417.1).
- [65] Bjorn Stevens, Y. Zhang, and M. Ghil. Stochastic effects in the representation of stratocumulus - topped mixed layers. In *Proc. ECMWF Workshop on Representation of Sub-grid Processes Using Stochastic-Dynamic Models, Shinfield Park, Reading, UK*, pages 79 – 90, 2005.
- [64] S. Bordoni, P. E. Ciesielski, R. H. Johnson, B. D. Menoldy, and B. Stevens. The low-level circulation of the North American Monsoon as revealed by QuikSCAT. *Geophysical Research Letters*, 31, 2004. [doi:10.1029/2004GL020009](https://doi.org/10.1029/2004GL020009).
- [63] Chin-Hoh Moeng, Peter P. Sullivan, and Bjorn Stevens. Large-eddy simulations of cloud-topped mixed layers. In Evgeni Fedorovich, editor, *Atmospheric turbulence and mesoscale meteorology*, pages 95 – 114. Cambridge Univ. Press, Cambridge, 2004.
- [62] R. S. De Roode, H. J. J. Jonker, P. G. Duynkerke, and B. Stevens. Countergradient fluxes of conserved variables in the clear convective and stratocumulus-topped boundary layer: The role of the entrainment flux. *Boundary-Layer Meteorology*, 112:179 – 196, 2004. URL: [GotoISI://WOS:000220299600008, doi:10.1023/B:BOUN.0000020167.25780.16](https://doi.org/10.1023/B:BOUN.0000020167.25780.16).
- [61] R. Neggers, Bjorn Stevens, and J. D. Neelin. An equilibrium model for marine shallow cumulus convection. In *16th Symposium on Boundary Layers and Turbulence, Portland, MN*. Amer. Meteor. Soc., 2004.
- [60] M. C. Van Zanten and Bjorn Stevens. Pockets of open cells and drizzle in marine stratocumulus. In *16th Symposium on Boundary Layers and Turbulence, Portland, MN*. Amer. Meteor. Soc., 2004.
- [59] Bjorn Stevens. Scaling laws for shallow moist convection. In *16th Symposium on Boundary Layers and Turbulence, Portland, MN*. Amer. Meteor. Soc., 2004.
- [58] Y. Zhang, Bjorn Stevens, and M. Ghil. On the diurnal cycle in a stratocumulus-topped mixed layer. In *16th Symposium on Boundary Layers and Turbulence, Portland, MN*. Amer. Meteor. Soc., 2004.
- [57] A. P. Siebesma, C. S. Bretherton, A. Brown, Andreas Chlond, J. Cuxart, P. G. Duynkerke, H. L. Jiang, M. Khairoutdinov, D. Lewellen, C. H. Moeng, E. Sanchez, B. Stevens, and D. E. Stevens. A large eddy simulation intercomparison study of shallow cumulus convection. *Journal of the Atmospheric Sciences*, 60:1201 – 1219, 2003. [doi:10.1175/1520-0469\(2003\)60<1201:ALESIS>2.0.CO;2](https://doi.org/10.1175/1520-0469(2003)60<1201:ALESIS>2.0.CO;2).

- [56] B. Stevens, D. H. Lenschow, G. Vali, H. Gerber, A. Bandy, B. Blomquist, J. L. Brenguier, C. S. Bretherton, F. Burnet, T. Campos, S. Chai, I. Faloona, D. Friesen, S. Haimov, K. Laursen, D. K. Lilly, S. M. Loehrer, S. P. Malinowski, B. Morley, M. D. Petters, D. C. Rogers, L. Russell, V. Savic-Jovac, J. R. Snider, D. Straub, M. J. Szumowski, H. Takagi, D. C. Thornton, M. Tschudi, C. Twohy, M. Wetzel, and C. M. van Zanten. Dynamics and chemistry of marine stratocumulus - DYCOMS II. *Bulletin of the American Meteorological Society*, 84:579 – 593, 2003. URL: [://WOS:000183223200017](https://doi.org/10.1175/BAMS-84-5-579), doi:10.1175/BAMS-84-5-579;10.1175/BAMS-84-5-Stevens.
- [55] B. Stevens, D. H. Lenschow, I. Faloona, C. H. Moeng, D. K. Lilly, B. Blomquist, G. Vali, A. Bandy, T. Campos, H. Gerber, S. Haimov, B. Morley, and D. Thornton. On entrainment rates in nocturnal marine stratocumulus. *Quarterly Journal of the Royal Meteorological Society*, 129:3469 – 3493, 2003. URL: [://WOS:000187554400017](https://doi.org/10.1256/qj.02.202), doi:10.1256/qj.02.202.
- [54] A. R. Brown, R. T. Cederwall, A. Chlond, P. G. Duynkerke, J. C. Golaz, M. Khairoutdinov, D. C. Lewellen, A. P. Lock, M. K. MacVean, C. H. Moeng, R. A. J. Neggers, A. P. Siebesma, and B. Stevens. Large-eddy simulation of the diurnal cycle of shallow cumulus convection overland. *Quarterly Journal of the Royal Meteorological Society*, 128:1075 – 1093, 2002. doi:10.1256/003590002320373210.
- [53] I. Faloona, D. Lenschow, and B. Stevens. Turbulent diffusion of scalars in stratocumulus topped boundary layers. In *15th Symposium on Boundary Layers and Turbulence*, pages 343 – 345, 2002. URL: [://WOS:000185937700100](https://doi.org/10.1175/BAMS-84-5-579).
- [52] V. Savic-Jovicic, B. Stevens, and D. H. Lenschow. Estimating divergence and vorticity from aircraft data in the stratocumulus topped boundary layer. In *15th Symposium on Boundary Layers and Turbulence*, pages 112 – 113, 2002. URL: [://WOS:000185937700032](https://doi.org/10.1175/BAMS-84-5-579).
- [51] M. vanZanten, B. Stevens, G. Vali, and D. Lenschow. The total water budget of nocturnal stratocumulus. In *15th Symposium on Boundary Layers and Turbulence*, pages 191 – 192, 2002. URL: [://WOS:000185937700054](https://doi.org/10.1175/BAMS-84-5-579).
- [50] B. Stevens, D. H. Lenschow, I. Faloona, V. Savic-Jovicic, and M. van Zanten. Entrainment in nocturnal stratocumulus. In *15th Symposium on Boundary Layers and Turbulence*, pages 197 – 198, 2002. URL: [://WOS:000185937700056](https://doi.org/10.1175/BAMS-84-5-579).
- [49] B. Stevens. Entrainment in stratocumulus-topped mixed layers. *Quarterly Journal of the Royal Meteorological Society*, 128:2663 – 2690, 2002. URL: [://WOS:000180102100006](https://doi.org/10.1256/qj.01.202), doi:10.1256/qj.01.202.
- [48] J. J. Duan and Bjorn Stevens. Self-similarity constraints for convective boundary layers. In *15th Symposium on Boundary Layers and Turbulence*, page P1.13, 2002. URL: [://WOS:000185937700027](https://doi.org/10.1175/BAMS-84-5-579).

- [47] Bjorn Stevens, J. J. Duan, J. C. McWilliams, M. Munnich, and J. D. Neelin. Entrainment, Rayleigh friction, and boundary layer winds over the tropical Pacific. *Journal of Climate*, 15:30 – 44, 2002. URL: [1520-0442\(2002\)015<0030:ERFABL>2.0.CO;2](https://doi.org/10.1175/1520-0442(2002)015<0030:ERFABL>2.0.CO;2).
- [46] Bjorn Stevens, A. S. Ackerman, B. A. Albrecht, A. R. Brown, Andreas Chlond, J. Cuxart, P. G. Duynkerke, D. C. Lewellen, M. K. Macvean, A. J. Neggers, E. Sanchez, A. P. Siebesma, and D. E. Stevens. Simulations of trade wind cumuli under a strong inversion. *Journal of the Atmospheric Sciences*, pages 1870 – 1891, 2001. doi:10.1175/1520-0469(2001)058<1870:SOTWCU>2.0.CO;2.
- [45] B. Stevens and D. H. Lenschow. Observations, experiments, and large eddy simulation. *Bulletin of the American Meteorological Society*, 82:283 – 294, 2001. URL: [1520-0477\(2001\)082<0283:OEALLES>2.3.CO;2](https://doi.org/10.1175/1520-0477(2001)082<0283:OEALLES>2.3.CO;2).
- [44] Bjorn Stevens. Cloud transitions and decoupling in shear-free stratocumulus-topped boundary layers. *Geophysical Research Letters*, 27:2557 – 2560, 2000. doi:10.1029/1999GL011257.
- [43] S. P. Wang and B. Stevens. Top-hat representation of turbulence statistics in cloud-topped boundary layers: A large eddy simulation study. *Journal of the Atmospheric Sciences*, 57:423 – 441, 2000. doi:10.1175/1520-0469(2000)057<0423:throts>2.0.co;2.
- [42] R. L. Walko, W. R. Cotton, G. Feingold, and B. Stevens. Efficient computation of vapor and heat diffusion between hydrometeors in a numerical model. *Atmospheric Research*, 53:171 – 183, 2000. URL: [10.1016/S0169-8095\(99\)00044-7](https://doi.org/10.1016/S0169-8095(99)00044-7).
- [41] B. Stevens. Quasi-steady analysis of a PBL model with an eddy-diffusivity profile and nonlocal fluxes. *Monthly Weather Review*, 128:824 – 836, 2000. doi:10.1175/1520-0493(2000)128<0824:qsaoap>2.0.co;2.
- [40] Bjorn Stevens. Cloud transitions and decoupling in the shear-free stratocumulus topped PBL. In *14th Symposium on Boundary Layers and Turbulence, Snowmass, CO, USA*. Amer. Meteor. Soc., 2000.
- [39] C.-H. Moeng and Bjorn Stevens. Representing the stratocumulus-topped boundary layer in GCMs. In D. Randall, editor, *General circulation model development: past, present, and future*, pages 577 – 603. Academic Press, San Diego, 2000.
- [38] Bjorn Stevens, C.-H. Moeng, and P.-P. Sullivan. Entrainment and subgrid lengthscales in large-eddy simulations of atmospheric boundary-layer flows. In R.-M. Kerr, editor, *IUTAM Symposium on Developments in Geophysical Turbulence : proceedings of the IUTAM symposium held at the National Center for Atmospheric Research, Boulder, Co. 16-19 June 1998*, pages 253 – 270. Kluwer, Dordrecht, 2000.

- [37] C. S. Bretherton, M. K. Macvean, P. Bechtold, Andreas Chlond, W. R. Cotton, J. Cuxart, H. Cuijpers, M. Mhairoutdinov, B. Kosovic, D. Lewellen, C.-H. Moeng, P. Siebesma, Bjorn Stevens, D. E. Stevens, I. Sykes, and M. C. Wyant. An intercomparison of radiatively driven entrainment and turbulence in a smoke cloud, as simulated by different numerical models. *Quarterly Journal of the Royal Meteorological Society*, 125:391 – 423, 1999. doi:10.1002/qj.49712555402.
- [36] C. H. Moeng, P. P. Sullivan, and Bjorn Stevens. Including radiative effects in an entrainment rate formula for buoyancy-driven PBLs. *Journal of the Atmospheric Sciences*, 56:1031 – 1049, 1999. URL: <GotoISI>://WOS:000079794200003, doi:10.1175/1520-0469(1999)056<1031:IREIAE>2.0.CO;2.
- [35] B. Stevens, C. H. Moeng, and P. P. Sullivan. Large-eddy simulations-of radiatively driven convection: Sensitivities to the representation of small scales. *Journal of the Atmospheric Sciences*, 56:3963 – 3984, 1999. URL: <GotoISI>://WOS:000083889000002, doi:10.1175/1520-0469(1999)056<3963:LESORD>2.0.CO;2.
- [34] C. S. Bretherton, S. K. Krueger, M. C. Wyant, P. Bechtold, E. Van Meijgaard, B. Stevens, and J. Teixeira. A GCSS boundary-layer cloud model intercomparison study of the first ASTEX Lagrangian experiment. *Boundary-Layer Meteorology*, 93:341 – 380, 1999. URL: <GotoISI>://WOS:000084891600001, doi:10.1023/A:1002005429969.
- [33] G. Feingold, A. S. Frisch, B. Stevens, and W. R. Cotton. On the relationship among cloud turbulence, droplet formation and drizzle as viewed by Doppler radar, microwave radiometer and lidar. *Journal of Geophysical Research-Atmospheres*, 104:22,195 – 22,203, 1999. URL: <GotoISI>://WOS:000082789200010, doi:10.1029/1999JD900482.
- [32] Bjorn Stevens. Cloud fraction in the trades, and LES intercomparison study. In *13th Symposium on Boundary Layers and Turbulence, Dallas, TX, USA*, pages 267 – 270. Amer. Meteor. Soc., 1999.
- [31] P. P. Sullivan, C. H. Moeng, B. Stevens, D. H. Lenschow, and S. D. Mayor. Structure of the entrainment zone capping the convective atmospheric boundary layer. *Journal of the Atmospheric Sciences*, 55:3042 – 3064, 1998. URL: <GotoISI>://WOS:000076113400003, doi:10.1175/1520-0469(1998)055<3042:SOTEZC>2.0.CO;2.
- [30] B. Stevens, W. R. Cotton, and G. Feingold. A critique of one- and two-dimensional models of boundary layer clouds with a binned representations of drop microphysics. *Atmospheric Research*, 47-48:529 – 553, 1998. URL: <GotoISI>://WOS:000074631000035, doi:10.1016/S0169-8095(98)00059-3.
- [29] G. Feingold, R. L. Walko, B. Stevens, and W. R. Cotton. Simulations of marine stratocumulus using a new microphysical parameterization scheme. *Atmospheric Research*, 47-48:505 – 528, 1998. doi:10.1016/S0169-8095(98)00058-1.

- [28] B. Stevens, W. R. Cotton, G. Feingold, and C. H. Moeng. Large-eddy simulations of strongly precipitating, shallow, stratocumulus-topped boundary layers. *Journal of the Atmospheric Sciences*, 55:3616 – 3638, 1998. URL: [10.1175/1520-0469\(1998\)055<3616:LESOSP>2.0.CO;2](https://doi.org/10.1175/1520-0469(1998)055<3616:LESOSP>2.0.CO;2).
- [27] B. Stevens, D. A. Randall, X. Lin, and M. T. Montgomery. Comments on ‘On large-scale circulations in convecting atmospheres’ by Kerry A. Emanuel, J. David Neelin and Christopher S. Bretherton (July B, 1994,120, 1111-1143). *Quarterly Journal of the Royal Meteorological Society*, 123:1771 – 1778, 1997. URL: [10.1002/qj.49712354216](https://doi.org/10.1002/qj.49712354216).
- [26] B. Stevens. Stratocumulus research prior to 1968. In *12th Symposium on Boundary Layers and Turbulence*, pages 86 – 87, 1997. URL: [10.1002/qj.49712354216](https://doi.org/10.1002/qj.49712354216).
- [25] C. H. Moeng, P. P. Sullivan, and B. Stevens. An entrainment-rate formula for buoyancy-driven cloud-topped PBL. In *12th Symposium on Boundary Layers and Turbulence*, pages 208 – 209, 1997.
- [24] B. Stevens, W. R. Cotton, G. Feingold, and C. H. Moeng. Drizzle, “decoupling” and aerosol indirect effects in marine stratocumulus. In *12th Symposium on Boundary Layers and Turbulence*, pages 58 – 59, 1997. URL: [10.1002/qj.49712354216](https://doi.org/10.1002/qj.49712354216).
- [23] G. Feingold, A. S. Frisch, B. Stevens, and W. R. Cotton. Drizzle in the stratocumulus-capped boundary layer as viewed by radar, radiometer and lidar. In *12th Symposium on Boundary Layers and Turbulence*, pages 62 – 63, 1997. URL: [10.1002/qj.49712354216](https://doi.org/10.1002/qj.49712354216).
- [22] G. Feingold, R. Boers, B. Stevens, and W. R. Cotton. A modeling study of the effect of drizzle on cloud optical depth and susceptibility. *Journal of Geophysical Research-Atmospheres*, 102:13527 – 13534, 1997. URL: [10.1029/97JD00963](https://doi.org/10.1029/97JD00963).
- [21] C-H. Moeng, W. R. Cotton, Bjorn Stevens, C. Bretherton, H. A. Rand, Andreas Chlond, M. Khairoutdinov, S. Krueger, W. S. Lewellen, M. K. MacVean, J. R. M. Pasquier, A. P. Siebesma, and R. I. Sykes. Simulation of a stratocumulus-topped planetary boundary layer: Intercomparison among different numerical codes. *Bulletin of the American Meteorological Society*, 77:261 – 278, 1996. doi:10.1002/qj.49712555402.
- [20] G. Feingold, Bjorn Stevens, W. R. Cotton, and A. S. Frisch. The relationship between drop in-cloud residence time and drizzle production in numerically simulated stratocumulus clouds. *Journal of the Atmospheric Sciences*, 53:1108 – 1122, 1996. URL: [10.1175/1520-0469\(1996\)053<1108:TRBDIC>2.0.CO;2](https://doi.org/10.1175/1520-0469(1996)053<1108:TRBDIC>2.0.CO;2).
- [19] D. P. Duda, G. L. Stephens, B. Stevens, and W. R. Cotton. Effects of aerosol and horizontal inhomogeneity on the broadband albedo of marine stratus: Numerical simulations. *Journal*

- of the Atmospheric Sciences*, 53:3757 – 3769, 1996. doi:10.1175/1520-0469(1996)053<3757:EOAAHI>2.0.CO;2.
- [18] B. Stevens, R. L. Walko, W. R. Cotton, and G. Feingold. Spurious production of cloud-edge supersaturations by Eulerian models. *Monthly Weather Review*, 124:1034 – 1041, 1996. URL: <GoToISI>://WOS:A1996UJ17800015, doi:10.1175/1520-0493(1996)124<1034:TSPOCE>2.0.CO;2.
- [17] G. Feingold, S. M. Kreidenweis, Bjorn Stevens, and W. R. Cotton. Numerical simulations of stratocumulus processing of cloud condensation nuclei through collision-coalescence. *Journal of Geophysical Research-Atmospheres*, 101:21391 – 21402, 1996. doi:10.1029/96JD01552.
- [16] B. Stevens, G. Feingold, W. R. Cotton, and R. L. Walko. Elements of the microphysical structure of numerically simulated nonprecipitating stratocumulus. *Journal of the Atmospheric Sciences*, 53:980 – 1006, 1996. URL: <GoToISI>://WOS:A1996UD08500005, doi:10.1175/1520-0469(1996)053<0980:EOTMSO>2.0.CO;2.
- [15] Bjorn Stevens. *On the dynamics of precipitating stratocumulus*. PhD thesis, Colorado State University, Fort Collins, CO 80523, USA, 1996.
- [14] W. R. Cotton, B. Stevens, and S. Nebuda. A question of balance - Simulating microphysics and dynamics. In *Conference on Cloud Physics, 75th Meeting of the American Meteorological Society*, pages 484 – 486, 1995. URL: <GoToISI>://WOS:A1995BD28V00110.
- [13] G. Feingold, A. S. Frisch, B. Stevens, and W. R. Cotton. A modeling and observational study of ASTEX marine stratocumulus clouds. In *Conference on Cloud Physics, 75th Meeting of the American Meteorological Society*, pages 70 – 71, 1995. URL: <GoToISI>://WOS:A1995BD28V00015.
- [12] B. Stevens, W. R. Cotton, and G. Feingold. The microphysical characteristics of convection in marine stratocumulus. In *Conference on Cloud Physics, 75th American Meteorological Society Meeting*, pages 162 – 164, 1995.
- [11] Bjorn Stevens and A. Sobel. An investigation of the structure and scaling of entrainment in nine large eddy simulations of the atmospheric boundary layer. In *The Planetary Boundary Layer and its Parameterization. NCAR 1995 Summer Colloquium*, 1995. author: Moeng, Chin-Hoh.
- [10] Bjorn Stevens. What does entrainment look like anyway? Some thoughts on entraining boundary layers. In *Proc. of the ETL/CSU Cloud-related Process Modeling and Measurement Workshop, Boulder CO*, 1995.
- [9] G. Feingold, A. S. Frisch, B. Stevens, and W. R. Cotton. Evaluation of remote sensing techniques for measuring cloud water and drizzle in marine stratocumulus clouds. In *Second International Conference on Air-Sea Interaction and on Meteorology and Oceanography of the Coastal Zone*, pages 54 – 55, 1994. URL: <GoToISI>://WOS:A1994BD28K00029.

- [8] G. Feingold, B. Stevens, W. R. Cotton, and R. L. Walko. An explicit cloud microphysics/LES model designed to simulate the Twomey effect. *Atmospheric Research*, 33:207 – 233, 1994. [doi:10.1016/0169-8095\(94\)90021-3](https://doi.org/10.1016/0169-8095(94)90021-3).
- [7] G. Feingold, A. S. Frisch, B. Stevens, and W. R. Cotton. Simulations of marine stratocumulus clouds during ASTEX: Comparisons with radar radiometer measurements. In *Second International Conference on Air-Sea Interaction and on Meteorology and Oceanography of the Coastal Zone*, pages 44 – 45, 1994. URL: GotoISI://WOS:A1994BD28K00024.
- [6] D. P. Duda, G. L. Stephens, Bjorn Stevens, and W. R. Cotton. Impact of enhanced CCN concentrations on the radiative properties of a three dimensional marine stratocumulus cloud. In *8th conference on Atmospheric Radiation, Nashville TN*. Amer. Meteor. Soc., 1994.
- [5] W. R. Cotton, Bjorn Stevens, D. Duda, and G. L. Stephens. Development of a CCN-albedostratocumulus parameterization schem. In *Proc. 4th Atmospheric Radiation Measurement Science Team Meeting, Charleston, SC*, 1994.
- [4] G. Feingold, A. S. Frisch, Bjorn Stevens, and W. R. Cotton. Radar/radiometer retrievals of cloud liquid water and drizzle: analysis using data from a 3-D LES simulation of marine stratocumulus clouds. In *Proc. 4th Atmospheric Radiation Measurement Science Team Meeting, Charleston, SC*, 1994.
- [3] Bjorn Stevens. A study of the theoretical behavior of ammonium sulfate aerosols in the vicinity of cloud base. Department of Atmospheric Science Paper, 534, 1993.
- [2] Bjorn Stevens. Astrophysical jets and implications for low frequency observations. Master's thesis, Dept. of Electrical Engineering, Iowa State University, 1990.
- [1] Bjorn Stevens. PCI-3000 data acquisition software modification. Electronics Division Internal Report, National Radio Astronomy Observatory, 1987.