Jiawei Bao

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EMPLOYMENT

2023 - now	IST-bridge Marie Curie postdoctoral fellow, Institute of Science and Technology Austria, Austria
2019 - 2023	Postdoctoral Researcher, Max Planck Institute for Meteorology, Germany

EDUCATION

2015 - 2019	Ph.D. in Climate Science, University of New South Wales, Australia *Advisor: Prof. Steven Sherwood*
2012 - 2015	M.Sc. in Climate Science, Beijing Normal University, China *Advisor: Prof. Jinming Feng*
2008 - 2012	B.Sc in Atmospheric Science, Nanjing University of Information Science and Technology, China

AWARDS

2023-2025	IST-bridge Marie Curie postdoctoral fellowship
2022	Award for outstanding early career presentation in GEWEX 3rd Pan-Gass meeting Understanding and Modeling Atmospheric Processes
2020	Uwe Radok Award for Best PhD thesis from Australian Meteorological & Oceangraphic Society (AMOS)
2019	Chinese government award for outstanding students abroad (300 globally across all the disciplines)
2018	Award for best published paper by a student from ARC centre of excellence for climate extremes
2017	*Journal of Advances in Modeling Earth Systems* editor's highlight of the paper: The robust relationship between extreme precipitation and convective organization in idealized numerical modeling simulations.
2015	TFS PhD scholarship , University of New South Wales
2015	Laureate Fellowship top-up PhD scholarship, University of New South Wales

PUBLICATIONS

In preparation

Bao, J., Bony, S. & Takasuka, D. Tropical wide oscillations

Risi, C. & co-authors including **Bao J.** Temperature lapse rate in the tropical and subtropical troposphere and along mountain slopes: present, past, future

Gnanaraj A., **Bao, J.** & Schmidt H. Impacts of rotation rates on earth's radiation and climate

2024

Schmidt, H. & co-authors including **Bao, J**. (2024) Effects of vertical grid spacing on the climate simulated in a global storm-resolving model. *Geoscientific Model Development. In press*

Bao, J., Stevens B., Kluft, L., & Muller, C. (2024) Intensification of tropical precipitation extremes from more organized convection. *Science Advances. In press*

2023

Hu, Y., Lin Y., Deng Y., & **Bao, J.** (2023) Summer Extreme Rainfall over the Middle and Lower Reaches of Yangtze River: Role of Synoptic Patterns in Historical Changes and Future Projection. *Journal of Geophysical Research: Atmospheres.* 128, e2023JD039608. https://doi.org/10.1029/2023JD039608

Hohenegger, C. et al. (including **Bao J.**) (2023) ICON-Sapphire: simulating the components of the Earth System and their interactions at kilometer and subkilometer scales. *Geoscientific Model Development.* https://doi.org/10.5194/gmd-16-779-2023

Windmiller, J., **Bao, J.**, Sherwood, S. C., & Schanzer, T. (2023) Predicting convective downdrafts from updrafts and environmental conditions in a global storm resolving simulation. *Journal of Advances in Modeling Earth Systems.* https://doi.org/10.1029/2022MS003048

2022

Bao, J., Dixit, V., Sherwood, S. C. (2022) Zonal temperature gradients in the tropical free troposphere. *Journal of Climate.* https://doi.org/10.1175/JCLI-D-22-0145.1

2021

Bao, J., Stevens, B. Kluft, L. & Jimenez-de-la-Cuesta, D. (2021) Changes in the tropical lapse rate due to entrainment and their impact on climate sensitivity. *Geophysical Research Letters.* https://doi.org/10.1029/2021GL094969

Keil, P., Schmidt, H, Stevens, B. & **Bao, J**. (2021) Variations of tropical lapse rates in climate models and their implications for the upper tropospheric warming. *Journal of Climate*. https://doi.org/10.1175/JCLI-D-21-0196.1

Bao, J. & Stevens, B. (2021) The elements of the thermodynamic structure of the tropical atmosphere. *Journal of the meteorological society of Japan* . https://doi.org/10.2151/jmsj.2021-072

Bao, J. & Windmiller, J. M. (2021) Impact of microphysics on tropical precipitation extremes in a global storm-resolving model. *Geophysical Research Letters*. https://doi.org/10.1029/2021GL094206

Before 2020

Bao, J. & Sherwood, S. C. (2019). The role of convective self-aggregation in extreme instantaneous vs. daily precipitation. *Journal of Advances in Modeling Earth Systems*. https://doi.org/10.1029/2018MS001503

Bao, J., Sherwood, S. C., Alexander, L. V., & Evans, J. P. (2018). Comments on 'Temperature-extreme precipitation scaling: a two-way causality?' *International Journal of Climatology.* https://doi.org/10.1002/joc.5665

Bao, J., Sherwood, S. C., Colin, M., & Dixit, V. (2017). The robust relationship between extreme precipitation and convective organization in idealized numerical modeling simulations. *Journal of Advances in Modeling Earth Systems*, 9, 2291–2303. https://doi.org/ 10.1002/2017MS001125 (chosen to be editor's highlight)

Bao, J., Sherwood, S. C., Alexander, L. V., & Evans, J. P. (2017). Future increases in extreme precipitation exceed observed scaling rates. *Nature Climate Change*, *7*, 128-132. https://doi.org/10.1038/nclimate3201.

Bao, J., & Feng, J. (2016). Intercomparison of CMIP5 simulations of summer precipitation, evaporation, and water vapor transport over Yellow and Yangtze River basins. *Theoretical and applied climatology*, *123*(3-4), 437-452.

Bao, J., Feng, J., & Wang, Y. (2015). Dynamical downscaling simulation and future projection of precipitation over China. *Journal of Geophysical Research: Atmospheres*, *120*(16), 8227-8243.

PROFESSIONAL ACTIVITIES

Current	Reviewer for *Nature Geosciences, Science Advances, Journal of Advances in Modeling Earth Systems, Journal of Climate, Geophysical Research Letters, Weather and Climate Extremes, International Journal of Climatology*
Current	Primary supervisor: Abisha Ganaraj (PhD in University of Hamburg/IMPRS, starting from 2021.10) *Topic: Impact of earth's rotation on radiation, circulation and climate sensitivity*

2023	Guest lecturer for a graduate course in University of Hamburg: Tropical clouds and convection
2021	Co-supervisor: Laura Hasbini (six-month Intern program) *Topic: Relative humidity distribution in CMIP6 simulations*
2020-2021	Teaching assistant for a graduate course in University of Hamburg: The trade winds
2019-2020	MPI atmospheric department internal seminar coordinator

CONFERENCES SEMINARS AND WORKSHOPS

2023

3rd workshop on spatial organization of convection, clouds and precipitation. Talk
Intensification of tropical precipitation extremes from more organized convection.

CFMIP-GASS Poster
Tropical-wide oscillations: RCE or MJO?

Tropical lapse rate workshop Invited Talk
The thermal structure of tropical troposphere

2022

UCLA (virtual) Invited seminar

3rd GEWEX Pan-Gass meeting Talk
Intensification of tropical precipitation extremes from more organized convection

CFMIP Talk
Zonal temperature gradients in the tropical free-troposphere

EGU Invited talk
Zonal temperature gradients in the tropical free-troposphere

2021

UT Austin Climate Physics (virtual) Invited seminar

MPI-Meteorology seminar

CFMIP Poster

1st Workshop on spatial organization of convection, clouds and precipitation. Poster

2020

Climate Change Summer Institute, University of Washington (virtual) Invited talk

2019

2nd ICTP Summer School on Theory, Mechanisms and Hierarchical Modelling of Climate Dynamics

2018

Monash University Invited seminar
CFMIP Poster
The 2nd GEWEX Pan-Gass meeting Poster

2016
Convection permitting modeling workshop Poster