

## Bosong Zhang

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### Education

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2018–2021	Ph.D. in Atmospheric Science	University of Miami
2016–2018	M.S. in Meteorology and Physical Oceanography	University of Miami
2010–2014	B.S. in Atmospheric Science	Nanjing University

### Research Interests

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- Convective Aggregation: Tropical cyclones, the Madden-Julian Oscillation (MJO)
  - Radiative Feedbacks
  - Precipitation Extremes
  - Precipitation Change
  - Global Climate Models

### Publications

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1. **Zhang, B.**, Soden, B. J., Vecchi, G. A., & Wenchang Yang (2020). The Role of Radiative Interactions in Tropical Cyclone Development under Realistic Boundary Conditions, under review at *Journal of Climate*.
  2. **Zhang, B.**, Soden, B. J., & Vecchi, G. A. (2020). The Impact of Radiative Interactions on Convective Organization under Realistic Boundary Conditions, in preparation.
  3. Medeiros, B., Clement, A. C., Benedict, J. J., & **Zhang, B.** (2020). Investigating the Impact of Cloud Radiative Feedbacks on Tropical Precipitation Extremes, in preparation.
  4. **Zhang, B.**, Kramer, R. J., & Soden, B. J. (2019). Radiative Feedbacks Associated with the Madden–Julian Oscillation. *Journal of Climate*, 32(20), 7055-7065.
  5. **Zhang, B.**, & Soden, B. J. (2019). Constraining climate model projections of regional precipitation change. *Geophysical Research Letters*, 46(17-18), 10522-10531.
  6. Zhang, C., & **Zhang, B.** (2018). QBO-MJO Connection. *Journal of Geophysical Research: Atmospheres*, 123(6), 2957-2967.

### Research Experience

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- Current: using “observed” radiative cooling rates (CloudSat, MERRA2, ERA5) to nudge a global climate model (HiRAM) and investigate what determines the spatial pattern of precipitation change.

- Investigated the impact of radiative interactions on tropical cyclones using HiRAM, 2019-2020.
- Examined the response of convective organization and extreme precipitation to suppressed radiative interactions, 2019-2020.
- Used radiative kernels to quantify radiative feedbacks associated with the MJO, 2018-2019.
- Analyzed global precipitation patterns from CMIP5 before and after bias correction and proposed a simple approach to reduce uncertainty in future projections of climate change, 2018-2019.
- Analyzed the relationship between the Madden-Julian Oscillation (MJO) and Quasi-biennial Oscillation (QBO) based on observations, 2016-2017.

## Teaching Experience

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- Teaching assistant, ATM 307: Introduction to the Physics of Climate, Prof. Amy Clement
- Teaching assistant, ATM 265-D1: Atmospheric Chemistry, Prof. Anthony J. Hynes
- Teaching assistant, ATM 102: Introduction to Weather and Climate, Prof. Anthony J. Hynes

## Conferences and workshops

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- CFMIP Virtual Meeting on Clouds, Precipitation, Circulation, and Climate Sensitivity, September 14-17, 2020
- American Geophysical Union Fall Meeting, December 7-11, 2020
- 101st American Meteorological Society Annual Meeting (Fourth Special Symposium on Tropical Meteorology and Tropical Cyclones), January 10-14, 2021
- Gordon Research Seminar and Conference on Radiation and Climate, Bates College, Lewiston, ME, July 21-26, 2019
- NASA PMM (Precipitation Measurement Missions) Science Team Meeting, Phoenix, AZ, October 8-12, 2018