Michael S. Fischer

Curriculum Vitae

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EDUCATION:

Ph.D., Atmospheric Science 2018 University at Albany, Albany, NY
Thesis: *Tropical Cyclone Rapid Intensification in Environments of Upper- Tropospheric Troughs: Environmental Influences and Convective Characteristics*
Advisors: Drs. Brian Tang and Kristen Corbosiero

B.S., Geosciences (Atmospheric Science Track) – Magna Cum Laude 2013 Florida International University, Miami, FL

RESEARCH EXPERIENCE:

Assistant Scientist 2020–Present University of Miami/CIMAS, Miami, FL
National Research Council Postdoctoral Research Associate 2018–2020 NOAA AOML Hurricane Research Division, Miami, FL
Scientific Programmer 2018 Innovim/National Hurricane Center, Miami, FL
Research Assistant 2016–2018 University at Albany, Albany, NY
Research Assistant 2013 Florida International University, Miami, FL

HONORS AND AWARDS:

Quarterly Journal Prize Reviewer's Certificate 2020 University at Albany's Distinguished Dissertation Award 2019 Narayan R. Gokhale Distinguished Research Scholarship Award 2018
Outstanding Student Oral Presentation Award, *33rd Conference on Hurricanes and Tropical Meteorology* 2018

REFEREED PUBLICATIONS:

Alvey, G., **M. S. Fischer**, P. Reasor, J. Zawislak, and R. Rogers, 2022: Processes underlying the vortex repositioning during Dorian's (2019) Early Stages that increased its favorability for rapid intensification. *Mon. Wea. Rev*., **150**, 193–213.

Zawislak, J., R. Rogers, S. Aberson, G. Alaka, G. Alvey, A. Aksoy, L. Bucci, J. Cione, N. Dorst, J. Dunion, **M. S. Fischer**, J. Gamache, S. Gopalakrishnan, A. Hazelton, H. Holbach, J. Kaplan, H. Leighton, F. Marks, S. Murillo, P. Reasor, K. Ryan, K. Sellwood, J. Sippel, and J. Zhang, 2021: Accomplishments of NOAA's Airborne Hurricane Field Program and a broader future approach to forecast improvement. *Bull. Amer. Meteor. Soc*., **102**, 1–79.

Hazelton, A., G. J. Alaka, L. Cowan, **M. S. Fischer**, S. Gopalakrishnan, 2021: Understanding the processes causing the early intensification of Hurricane Dorian through an ensemble of the Hurricane Analysis and Forecast Systems (HAFS). *Atmos.*, **12**, 93.

Fischer, M. S., R. F. Rogers, and P. D. Reasor, 2020: The rapid intensification and eyewall replacement cycles of Hurricane Irma (2017). *Mon. Wea. Rev.*, **148**, 981–1004.

Fischer, M. S., B. H. Tang, and K. L. Corbosiero, 2019: A climatological analysis of tropical cyclone rapid intensification in environments of upper-tropospheric troughs. *Mon. Wea. Rev.*, **147**, 3693–3719.

Fischer, M. S., B. H. Tang, K. L. Corbosiero, and C. M. Rozoff, 2018: Normalized convective characteristics of tropical cyclone rapid intensification events in the North Atlantic and eastern North Pacific basins. *Mon. Wea. Rev.*, **146**, 1133–1155.

Fischer, M. S., B. H. Tang, and K. L. Corbosiero, 2017: Assessing the influence of upper-tropospheric troughs on tropical cyclone intensification rates after genesis. *Mon. Wea. Rev.*, **145**, 1295–1313.

PUBLICATIONS IN REVIEW/PREPARATION:

Fischer, M. S., P. D., Reasor, R. F. Rogers, and J. F. Gamache, 2022: An analysis of tropical cyclone vortex and convective characteristics in relation to storm intensity using a novel airborne Doppler radar database. *Mon. Wea. Rev.*, in review.

Fischer, M. S., P. D. Reasor, B. H. Tang, K. L. Corbosiero, and R. D. Torn, 2022: A tale of two vortex evolutions: Using a high-resolution ensemble to assess the impacts of ventilation on a tropical cyclone rapid intensification event. *Mon. Wea. Rev.*, in review.

Shimada, U., P. Reasor, R. Rogers, **Fischer, M. S.**, F. Marks, J. Zawislak, and J. Zhang, 2022: Preference for strong upshear-left ascent at upper levels for intensifying hurricane-strength storms. *Mon. Wea. Rev.*, in review.

Hazelton, A., G. J. Alaka, **M. S. Fischer**, R. D. Torn, and S. Gopalakrishnan, 2022: Factors influencing the track of Hurricane Dorian (2019) in the West Atlantic: Analysis of a HAFS ensemble. *Mon. Wea. Rev.*, in internal review.

ORAL PRESENTATIONS:

Fischer, M. S., R. F. Rogers, P. D. Reasor, and J. P. Dunion: Relationships between vortex tilt, convective structure, and intensity change in early-stage tropical cyclones. 34th Conference on Hurricanes and Tropical Meteorology, May 2021.

Fischer, M. S., R. F. Rogers, P. D. Reasor, and J. P. Dunion How is tropical cyclone vortex tilt related to precipitation structure and intensity change? 14th International Conference on Mesoscale Convective Systems and High-Impact Weather in East Asia, April 2021.

Fischer, M. S., R. F. Rogers, and P. D. Reasor: An examination of local shear, vortex tilt, and tropical cyclone intensity change using airborne radar observations. American Meteorological Society's 100th Annual Meeting, Boston, MA, January 2020.

Fischer, M. S., R. F. Rogers, and P. D. Reasor: The rapid intensification and eyewall replacement cycles of

Hurricane Irma (2017). 19th Cyclone Workshop, Seeon, Germany, October 2019.

Fischer, M. S., B. H. Tang, and K. L. Corbosiero: Characteristics of tropical cyclone rapid intensification in environments of upper-tropospheric troughs. 33rd Conference on Hurricanes and Tropical Meteorology, Ponte Vedre Beach, FL, April 2018.

Fischer, M. S., B. H. Tang, and K. L. Corbosiero: Convective characteristics of tropical cyclone rapid intensification in environments of upper-tropospheric troughs. 8th Northeast Tropical Meteorology Workshop, Rensselearville, NY, June 2017.

Fischer, M. S., B. H. Tang, and K. L. Corbosiero: The influence of an upper-tropospheric potential vorticity anomaly on rapid tropical cyclogenesis. 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, Puerto Rico, April 2016.

SYNERGISTIC ACTIVITIES:

TC-RADAR Developer 2019–Present • Developer of a novel airborne Doppler radar database, Tropical Cyclone Radar Archive of Doppler Analyses with Recentering (TC-RADAR), which contains over 900 radar analyses from storms sampled by NOAA's WP-3D aircraft.

Hurricane Research Division Field Program Science Team Member 2018–Present **Rapid Intensification in Tropical Cyclones (TCRI) Science Team Member** 2020–Present

PROFESSIONAL SERVICE:

- Associate Editor for *Monthly Weather Review* (2020–Present)
- Reviewer for *Journal of the Atmospheric Sciences, Journal of Applied Meteorology and Climate, Quarterly Journal of the Royal Meteorological Society, Atmosphere,* and *Dynamics of Atmospheres and Oceans*
- Session chair for *Tropical Cyclone Rapid Intensification* at the *35th Conference on Hurricanes and Tropical Meteorology*
- Session co-chair for *Rapid Intensification of Tropical Cyclones* at the 101st American Meteorological Society Annual Meeting
- Max Eaton Award Committee Member at the *34th Conference on Hurricanes and Tropical Meteorology*

TEACHING EXPERIENCE:

Teaching Assistant 2013–2016 University at Albany, Albany, NY

- Led guest lectures and exam review sessions, held office hours, and evaluated student work
- Courses: Tropical Meteorology, Natural Disasters, Dynamic Meteorology I, Dynamic Meteorology II, Understanding the Earth