

List of HFIP Publication 2020

Publications in Journals and Periodicals

2020

Aberson, S. D., and J. Kaplan, 2020: The Relationship between the Madden–Julian Oscillation and Tropical Cyclone Rapid Intensification, *Weather and Forecasting*, 35(5), 1865-1870.

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Alvey, G. R., III, E. Zipser, and J. Zawislak, 2020: How Does Hurricane Edouard (2014) Evolve toward Symmetry before Rapid Intensification? A High-Resolution Ensemble Study, *Journal of the Atmospheric Sciences*, 77(4), 1329-1351. <https://doi.org/10.1175/JAS-D-18-0355.1>.

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Cangialosi, J. P., E. Blake, M. DeMaria, A. Penny, A. Latta, E. Rappaport, and V. Tallapragada, 2020: Recent Progress in Tropical Cyclone Intensity Forecasting at the National Hurricane Center. *Wea. Forecasting*, 35, 1913–1922. <https://doi.org/10.1175/WAF-D-20-0059.1>.

Chen, X., O. M. Pauluis, L. R. Leung, and F. Zhang, 2020: Significant contribution of mesoscale overturning to tropical mass and energy transport revealed by the ERA5 reanalysis. *Geophysical Research Letters*, 47. <https://doi.org/10.1029/2019GL085333>.

Chan, M., J. L. Anderson, and X. Chen, 2020: An efficient bi-Gaussian ensemble Kalman filter for satellite infrared radiance data assimilation. *Monthly Weather Review*, 148(12), 5087-5104.

<https://doi.org/10.1175/MWR-D-20-0142.1>.

Chan, M., F. Zhang, X. Chen, X., and L. R. Leung, 2020: Potential Impacts of Assimilating All-Sky Satellite Infrared Radiances on Convection-Permitting Analysis and Prediction of Tropical Convection, *Monthly Weather Review*, 148(8), 3203-3224. <https://doi.org/10.1175/MWR-D-19-0343.1>.

Chen, S., F. Qiao, J. A. Zhang, H. Ma, Y. Xue, and S. Chen, 2020: Swell modulation on wind stress in the constant flux layer. *Geophysical Research Letters*, 47, e2020GL089883. <https://doi.org/10.1029/2020GL089883>.

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Cucurull, L., and M. J. Mueller, 2020: An Analysis of Alternatives for the COSMIC-2 Constellation in the Context of Global Observing System Simulation Experiments, *Weather and Forecasting*, 35(1), 51-66. <https://doi.org/10.1175/WAF-D-19-0185.1>.

Dong, J., B. Liu, Z. Zhang, W. Wang, A. Mehra, A. T. Hazelton, H. R. Winterbottom, L. Zhu, K. Wu, C. Zhang, V. Tallapragada, X. Zhang, S. Gopalakrishnan, F. Marks, 2020: The Evaluation of Real-Time Hurricane Analysis and Forecast System (HAFS) Stand-Alone Regional (SAR) Model Performance for the 2019 Atlantic Hurricane Season. *Atmosphere* 2020, 11, 617. <https://doi.org/10.3390/atmos11060617>.

Fan S., B. Zhang, A. A. Mouche, W. Perrie, J. A. Zhang and G. Zhang, 2020: Estimation of Wind Direction in Tropical Cyclones Using C-Band Dual-Polarization Synthetic Aperture Radar, *IEEE Transactions on Geoscience and Remote Sensing*, vol. 58, no. 2, pp. 1450-1462. <https://doi.org/10.1109/TGRS.2019.2946885>.

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Hazelton, A. T., X. Zhang, S. Gopalakrishnan, W. Ramstrom, F. Marks, and J. A. Zhang, 2020: High-Resolution Ensemble HFV3 Forecasts of Hurricane Michael (2018): Rapid Intensification in Shear, *Monthly Weather Review*, 148(5), 2009-2032. <https://doi.org/10.1175/MWR-D-19-0275.1>.

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Huang, F., J. L. Garrison, S. M. Leidner, B. Annane, R. N. Hoffman, G. Grieco, and A. Stoffelen, 2020: A Forward Model for Data Assimilation of GNSS Ocean Reflectometry Delay-Doppler Maps, *IEEE Transactions on Geoscience and Remote Sensing*, <https://doi.org/10.1109/TGRS.2020.3002801>.

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McFarquhar, G. M., E. Smith, E. A. Pillar-Little, K. Brewster, P.B. Chilson, T. R. Lee, S. Waugh, N. Yussouf, X. Wang, M. Xue, G. de Boer, J. A. Gibbs, C. Fiebrich, B. Baker, J. Brotzge, F. Carr, H. Christophersen, M. Fengler, P. Hall, T. Hock, A. Houston, R. Huck, J. Jacob, R. Palmer, P.K. Quinn, M. Wagner, Y. Zhang, and D. Hawk, 2020: Current and Future Uses of UAS for Improved Forecasts/Warnings and Scientific Studies, *Bulletin of the American Meteorological Society*, 101(8), E1322-E1328. <https://doi.org/10.1175/BAMS-D-20-0015.1>.

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Early 2021

Chen, N., J. Tang, J. A. Zhang, L-M. Ma, H. Yu, 2021: On the distribution of helicity in the tropical cyclone boundary layer from dropsonde composites, *Atmospheric Research*, Volume 249, 2021, 105298, ISSN 0169-8095. <https://doi.org/10.1016/j.atmosres.2020.105298>.

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Cucurull, L., and S. P. F. Casey, 2021: Improved Impacts in Observing System Simulation Experiments of Radio Occultation Observations as a Result of Model and Data Assimilation Changes, *Monthly Weather Review*, 149(1), 207-220. <https://doi.org/10.1175/MWR-D-20-0174.1>.

Hazelton, A.; G. J. Alaka Jr., L. Cowan, M. Fischer, S. Gopalakrishnan, 2021: Understanding the Processes Causing the Early Intensification of Hurricane Dorian through an Ensemble of the Hurricane Analysis and Forecast System (HAFS). *Atmosphere*, 12, 93. <https://doi.org/10.3390/atmos12010093>.

Hazelton, A., Z. Zhang, B. Liu, J. Dong, G. Alaka, W. Wang, T. Marchok, A. Mehra, S. Gopalakrishnan, X. Zhang, M. Bender, V. Tallapragada, and F. Marks, 2021: 2019 Atlantic Hurricane Forecasts from The Global-Nested Hurricane Analysis and Forecast System: Composite Statistics and Key Events, *Weather and Forecasting*, <https://doi.org/10.1175/WAF-D-20-0044.1>.

Homeyer, C. R., A. O. Fierro, B. A. Schenkel, A. C. Didlake Jr., G. M. McFarquhar, J. Hu, A. V. Ryzhkov, J. B. Basara, A. M. Murphy, and J. Zawislak, 2021: Polarimetric Signatures in Landfalling Tropical Cyclones, *Monthly Weather Review*, 149(1), 131-154. <https://doi.org/10.1175/MWR-D-20-0111.1>.

Kren, A. C., and R. A. Anthes, 2021: Estimating Error Variances of a Microwave Sensor and Dropsondes aboard the Global Hawk in Hurricanes Using the Three-Cornered Hat Method, *Journal of Atmospheric and Oceanic Technology*, 38(2), 197-208. <https://doi.org/10.1175/JTECH-D-20-0044.1>.

Wang, W., B. Liu, L. Zhu, Z. Zhang, A. Mehra, and V. Tallapragada, 2021: A new horizontal mixing-length formulation for the simulations of tropical cyclones, *Wea. Forecasting*, <https://doi.org/10.1175/WAF-D-20-0134.1>.

Wadler, J. B., J. A. Zhang, R. F. Rogers, B. Jaimes, and L. K. Shay, 2021: The Rapid Intensification of Hurricane Michael (2018): Storm Structure and the Relationship to Environmental and Air–Sea Interactions, *Monthly Weather Review*, 149(1), 245-267. <https://doi.org/10.1175/MWR-D-20-0145.1>.

Wu, D., F. Zhang, X. Chen, A. Ryzhkov, K. Zhao, M. R. Kumjian, X. Chen, and P. Chan, 2021: Evaluation of Microphysics Schemes in Tropical Cyclones using Polarimetric Radar Observations: Convective Precipitation in an Outer Rainband, *Monthly Weather Review*. <https://doi.org/10.1175/MWR-D-19-0378.1>.

Technical Reports, Books, Chapters, Manuals, and Proceedings

Dong, J., B. Liu, Z. Zhang, W. Wang, L. Zhu, C. Zhang, K. Wu, A. Hazelton, X. Zhang, A. Mehra, and V. Tallapragada: 2020: Hurricane Analysis and Forecast System (HAFS) Stand-alone Regional (SAR) Model: Real-time Experiments for 2019 North Atlantic Hurricane Season. WMO WGNE blue book 2020, Section 5, p4.

Wang W., B. Liu, Z. Zhang, L. Zhu, A. Mehra, V. Tallapragada, 2020: Ten-year Performance of HWRF Model in RI Forecasts -- A New Metric. WMO WGNE blue book 2020, Section 10, p9.

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Zhang Z., J. Zhang, K. Wu, G. Alaka, A. Mehra, V. Tallapragada, 2020: A Statistical Analysis of High Frequency Track and Intensity Forecasts from NOAA's Operational Hurricane Weather Research and Forecast (HWRF) Modeling System. WMO WGNE blue book 2020, Section 10, p10.

Publications in print

Hazelton, A., Z. Zhang, B. Liu, J. Dong, G. Alaka, W. Wang, T. Marchok, A. Mehra, S. Gopalakrishnan, X. Zhang, M. Bender, V. Tallapragada, and F. Marks, 2021: 2019 Atlantic Hurricane Forecasts from The Global-Nested Hurricane Analysis and Forecast System: Composite Statistics and Key Events. *Wea. Forecasting*, accepted.

Wu, D., Zhang, F., Chen, X., Ryzhkov, A., Zhao, K., Kumjian, M. R., Chen, X., & Chan, P. 2021: Evaluation of Microphysics Schemes in Tropical Cyclones using Polarimetric Radar Observations: Convective Precipitation in an Outer Rainband, *Monthly Weather Review*, accepted.

Wang, C., K. Zhao, A. Huang, X. Chen, X. Rao, 2021: The Crucial Role of Synoptic Pattern in Determining the Spatial Distribution and Diurnal Cycle of Heavy Rainfall over the South China Coast, *Journal of Climate*, accepted.

Publications accepted with revision

Aberson, S. D.: Serial correlation of tropical cyclone track and intensity forecasts. *Weather and Forecasting*.

Bucci, L., S. J. Majumdar, R. Atlas, G. D. Emmitt, and S. Greco: Understanding the response of tropical cyclone structure to the assimilation of synthetic wind profiles. *Monthly Weather Review*.

Chen, X., J.-F. Gu, J. Zhang, F. D. Marks, R. F. Rogers, and J. J. Cione: Precipitation symmetrization and rapid intensification of tropical cyclones in shear. *The Journal of the Atmospheric Sciences*.

Chen, X., G. H. Bryan, J. A. Zhang, J. J. Cione, and F. D. Marks: Evaluation and improvement of planetary boundary layer schemes in hurricane conditions using observations and large-eddy simulations. *The Journal of the Atmospheric Sciences*.

Domingues, R., M. Le Hénaff, G. Halliwell, J. A. Zhang, F. Bringas, P. Chardon, H.-S. Kim, J. Morell, and G. Goni. The impact of ocean conditions on the intensification and forecasts of three major Atlantic hurricanes of 2017. *Monthly Weather Review*.

Gopalakrishnan, S., A. Hazelton, and J. Zhang. A generalized framework for hurricane boundary layer parameterization scheme based on observations. *Earth and Space Science*.

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Patel, P., K Ankur, N. K. R. Busireddy, S. Jamshidi, A. Tiwari, S. Safaee, S. Karmakar, S. Ghosh, K. K. Osuri, V. Merwade, D. Aliaga, J. Smith, F. Marks, and D. Niyogi. Impact of urban parameterization on simulation of hurricane rainfall. *Geophysical Research Letters*.

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Zhang, B., Z. Zhu, W. Perrie, J. Tang, and J. A. Zhang. A review and evaluation of planetary boundary layer parameterizations in Hurricane Weather Research and Forecast model using idealized simulations and observations. *IEEE AEORS*.

Zhang, Z., J. A. Zhang, K. Wu, G. Alaka, A. Mehra, and V. Tallapragada. A statistical analysis of high frequency track and intensity forecasts from NOAA's operational Hurricane Weather Research and Forecast (HWRF) modeling system. *Monthly Weather Review*.

Publications under review

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