List of HFIP Publication 2018

Publications in Journals and Periodicals

2018

Annane, B., B. McNoldy, S.M. Leidner, R. Hoffman, R. Atlas, and S.J. Majumdar (2018): A study of the HWRF analysis and forecast impact of realistically simulated CYGNSS observations assimilated as scalar wind speeds and as VAM wind vectors. Monthly Weather Review, 146(7):2221-2236. https://doi.org/10.1175/MWR-D-17-0240.1.

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Ming, J., and J.A. Zhang (2018): Direct measurements of momentum flux and dissipative heating in the surface layer of tropical cyclones during landfalls. Journal of Geophysical Research-Atmospheres, 123(10):4926-4938. https://doi.org/10.1029/2017JD028076.

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Peevey, T.R., J.M. English, L. Cucurull, H. Wang, and A.C. Kren (2018): Improving winter storm forecasts with Observing System Simulation Experiment (OSSEs), Part 1: An idealized case study of three US storms. Monthly Weather Review, 146(5):1341-1366. https://doi.org/10.1175/MWR-D-17-0160.1.

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Steward, J.L., J.E. Roman, A. Lamas Davina, and A. Aksoy (2018): Parallel direct solution of the covariance-localized ensemble square root Kalman filter equations with matrix functions. Monthly Weather Review, 146(9):2819-2836, https://doi.org/10.1175/MWR-D-18-0022.1.

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Wang, W., J.A. Sippel, S. Abarca, L. Zhu, B. Liu, Z. Zhang, A. Mehra, and V. Tallapragada (2018): Improving NCEP HWRF simulations of surface wind and inflow angle in the eye area. Weather and Forecasting, 33(3):887-898. https://doi.org/10.1175/WAF-D-17-0115.1.

Wick, G. A., T. F. Hock, P. H. Nieman, H. Vömel, M. L. Black, and J. R. Spackman (2018): The NCAR/NOAA Global Hawk Dropsonde System. Journal of Atmospheric and Oceanic Technology, 35(8):1585-1604. https://doi.org/10.1175/JTECH-D-17-0225.1.

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Zhang, J.A., F.D. Marks, J.A. Sippel, R.F. Rogers, X. Zhang, S.G. Gopalakrishnan, Z. Zhang, and V. Tallapragada (2018): Evaluating the Impact of Improvement in the Horizontal Diffusion Parameterization on Hurricane Prediction in the Operational Hurricane Weather Research and Forecast (HWRF) Model. Weather and Forecasting, 33, 317–329. https://doi.org/10.1175/WAF-D-17-0097.1.

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Lim, A.H., J.A. Jung, S.E. Nebuda, J.M. Daniels, W. Bresky, M. Tong, and V. Tallapragada (2019): Tropical Cyclone Forecasts Impact Assessment from the Assimilation of Hourly Visible, Shortwave, and Clear-Air Water Vapor Atmospheric Motion Vectors in HWRF. Wea. Forecasting, 34, 177–198. https://doi.org/10.1175/WAF-D-18-0072.1.

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Dunion, J. P., C. D. Thorncroft, and D. S. Nolan: Tropical cyclone diurnal cycle signals in a hurricane nature run. Monthly Weather Review, *Accepted.*

Jin, S., X. Li, X. Yang, J. A. Zhang, and D. Shen: Identification of tropical cyclone centers in SAR imagery based on template matching and particle swarm optimization algorithm. IEEE Trans. Geosci. Remote Sensing, *Accepted.*

Klotz, B. W., and D. S. Nolan: SFMR surface wind undersampling over the tropical cyclone lifecycle. Monthly Weather Review, *Accepted.*

Lu, X. and X. Wang: Improving Hurricane Analyses and Predictions with TCI, IFEX Field Campaign Observations and CIMSS AMVs Using the Advanced Hybrid Data Assimilation system for HWRF. Part I: What is missing to capture the rapid intensification of Hurricane Patricia (2015) when HWRF is already initialized with a more realistic analysis? Monthly Weather Review, *Accepted.*

Publications in Review

Ahern, K., M. A. Bourassa, R. E. Hart, J. A. Zhang, and R. F. Rogers: Observed kinematic and thermodynamic structure in the hurricane boundary layer during intensity change. Monthly Weather Review, *in review*.

Alaka G. J., X. Zhang, S. G. Gopalakrishnan, Z. Zhang, F. D. Marks, R. Atlas: Evaluating Track Uncertainty in Ensemble Forecasts of Hurricane Joaquin. Journal of Advances in Modeling Earth Systems, *in review*.

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Boothe, M., B. Rutherford, X. Zhang, and M. T. Montgomery: Basin-scale HWRF performance of tropical cyclogenesis as examined within the marsupial framework during two months of the 2014 Atlantic hurricane season. Quart. Journ. Roy. Met. Soc., *in review.*

Bourassa, M. A., T. Meissner, I. Cerovecki, P. Chang, D. Xiaolong, G. De Chiara, C. Donlon, D. S. Dukhovskoy, J. Elya, A. Fore, M. R. Fewings, R. C. Foster, S. T. Gille, B. Haus, S. Histova-Veleva, H. M. Holbach, Z. Jelenak, J. Knaff, S.A. Kranz, A. Manaster, M. Mazloff, C. Mears, S. Mecklenburg, A. Mouche, M. Portabella, N. Reul, L. Ricciardulli, E. Rodriguez, C. Sampson, D. Solis, A. Stoffelen, M. Stukel, B. Styles, D. Weissman, F. Wentz: Remotely Sensed Winds and Wind Stresses for Marine Forecasting and Ocean Modeling. Front. Mar. Sci., *in review.*

Domingues, R., A. Kuwano-Yoshida, P. Chardon-Maldonado, R. E. Todd, George R. Halliwell, H.-S. Kim, I-I Lin, K. Sato, T. Narazaki, L. K. Shay, T. Miles, S. Glenn, J. A. Zhang, S. R. Jayne , L. R. Centurioni, M. Le Hénaff, G. Foltz, F. Bringas, M. M. Ali, S. DiMarco, S. Hosoda, T. Fukuoka, B. LaCour, A. Mehra , E. R. Sanabia, J. R. Gyakum, J. Dong, J. Knaff, and G. J. Goni: Ocean observations in support of studies and forecasts of tropical and extratropical cyclones. Front. Mar. Sci., *in review.*

Klotz, B. W., and H. Jiang. Examination of surface wind asymmetries in tropical cyclones: Part II: Intensity change: Adv. Meteor., *in review.*

Kren, A. C., L. Cucurull, and H. Wang: An investigation of targeting strategies for the Global Hawk UAS to improve short-term weather forecasts using an OSSE framework. Mon. Wea. Rev., *in review.*

Marks, F. D., J. A. Zhang, P. Dodge, and Carl Sandin: The atmospheric boundary layer structure at the landfall of Hurricane Fran (1996) from WSR-88D radar observations. Mon. Wea. Rev., *in review.*

Martinez, J., M.M. Bell, R.F. Rogers, and J.D. Doyle: Axisymmetric potential vorticity evolution of Hurricane Patricia (2015). J. Atmos. Sci., *in review.*

Molinari, J., J. A. Zhang, R. F. Rogers, and D. Vollaro: Repeated eyewall replacement cycles in Hurricane Frances (2004). Mon. Wea. Rev., *in review.*

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Nguyen, L. T., R. F. Rogers, J. Zawislak, and J. A. Zhang: Assessing the influence of convective downdrafts and surface enthalpy fluxes on tropical cyclone intensity change in moderate vertical wind shear. Mon. Wea. Rev., *in review.*

K. K. Osuri, A. Kumar, N. K. R. Busireddy, R. Nadimpalli, M. Mohapatra, U. C. Mohanty, F. D. Marks, D. Niyogi: Insights into the rainfall structures of Tropical Cyclones over North Indian Ocean. Geophys. Res. Letters, *in review.*

Lu, X. and X. Wang: Improving Hurricane Analyses and Predictions with IFEX, TCI Field Campaign Observations and CIMSS AMVs Using the Advanced Hybrid Data Assimilation system for HWRF. Part II: Observation Impacts on the Analysis and Prediction of Patricia (2015). Mon. Wea. Rev., *in review.*

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Subramanian, S., G. S. Gopalakrishnan, R. Tuleya, and D. Niyogi: Impact of antecedent land state on post landfall tropical cyclone sustenance. Nat. Sci. Rep., *in review.*

Wadler, J. B., J. A. Zhang, D. S. Nolan, L. K. Shay, and J. B. Olson: A characteristic of turbulent kinetic energy and its generation as revealed in idealized tropical cyclone simulations. J. Atmos. Sci., *in review.*

Zawislak, J.: Global survey of precipitation properties observed during tropical cyclogenesis and their differences compared to nondeveloping disturbances. Mon. Wea. Rev., *in review.*

Zhu, P., B. Tyner, J. A. Zhang, E. Aligo, S. Gopalakrishnan, F. D. Marks, A. Mehra, and V. Tallapragada: Role of eyewall and rainband eddy forcing in tropical cyclone intensification. Atmospheric Chemistry and Physics, *in review.*

To Be Submitted for Review

Rogers, R.F., J. Zawislak, P.D. Reasor, and L. Nguyen: Tropical cyclone vortex development in moderate vertical shear. *Manuscript in preparation.*

Technical Reports

Vigh, J. L., H. Jiang, Y.-H. Huang, Y. Miyamoto, R. Oyama, Q. Li, E.Hendricks, K. Menelaou, C. J. Slocum, K. L. Corbosiero, M. Bell, Y. Wang, J. Xu, O. Bousquet, R. Smith, R. Coronel, and J. D. Kepert (2019): Topic 3.1 Intensity change: Internal influences. IWTC-IX, Honolulu, HI. [Available at https://www.researchgate.net/publication/330669206_Tropical_Cyclone_Intensity_Change_Internal_Influences_-_Rapporteur_Report_Topic_31].