List of 2021 HFIP Publication

2021 Publications in Journals and Periodicals

Bachmann, K. A. and R. D. Torn 2021: Validation of HWRF-based Probabilistic TC Wind and Precipitation Forecasts. Wea. Forecasting, 36, 2057-2070. https://doi.org/10.1175/WAF-D-21-0070.1

Bucci, L.R., S.J. Majumdar, R. Atlas, G.D. Emmitt, and S. Greco, 2021: Understanding the response of tropical cyclone structure to the assimilation of synthetic wind profiles. Monthly Weather Review, 149(6):2031-2047. https://doi.org/10.1175/MWR-D-20-0153.1

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

Chen, X., and G.H. Bryan, 2021: Role of advection of parameterized turbulence kinetic energy in tropical cyclone simulations. Journal of the Atmospheric Sciences, 78(11):3593-3611. https://doi.org/10.1175/JAS-D-21-0088.1

Chen, X., G.H. Bryan, J.A. Zhang, J.J. Cione, and F.D. Marks, 2021: A framework for simulating the tropical-cyclone boundary layer using large-eddy simulation and its use in evaluating PBL parameterizations. Journal of the Atmospheric Sciences, 78(11):3559-3574. https://doi.org/10.1175/JAS-D-20-0227.1

Chen, X., R. G. Nystrom, C.A. Davis,& C.M. Zarzycki, 2021: Dynamical Structures of Cross-Domain Forecast Error Covariance of a Simulated Tropical Cyclone in a Convection-Permitting Coupled Atmosphere–Ocean Model, Monthly Weather Review, 149(1), 41-63. https://doi.org/10.1175/MWR-D-20-0116.1.

Chen, X., J.-F. Gu, J.A. Zhang, F.D. Marks, R.F. Rogers, and J.J. Cione, 2021: Boundary layer recovery and precipitation symmetrization preceding rapid intensification of tropical cyclones under shear. Journal of the Atmospheric Sciences, 78(5):1523-1544. https://doi.org/10.1175/JAS-D-20-0252.1

Chen, X., M. Xue, B. Zhou, J. Feng, J.A. Zhang, and F.D. Marks, 2021: Effect of scale-aware planetary boundary layer schemes on tropical cyclone intensification and structural changes in the gray zone. Monthly Weather Review, 149(7):2079-2095. https://doi.org/10.1175/MWR-D-20-0297.1

Christophersen, H.W., B.A. Dahl, J.P. Dunion, R.F. Rogers, F.D. Marks, R. Atlas, and W.J. Blackwell, 2021: Impact of TROPICS radiances on tropical cyclone prediction in an OSSE. Monthly Weather Review, 149(7):2279-2298. https://doi.org/10.1175/MWR-D-20-0339.1

Davis, B., X. Wang, and X. Lu, 2021: A Comparison of HWRF Six-Hourly 4DEnVar and Hourly 3DEnVar Assimilation of Inner Core Tail Doppler Radar Observations for the Prediction of Hurricane Edouard (2014). Atmosphere, 12(8), p.942. https://doi.org/10.3390/atmos12080942

DeMaria, M., J. Franklin, M. Onderlinde, and J. Kaplan, 2021: Operational Forecasting of Tropical Cyclone Rapid Intensification at the National Hurricane Center, Atmosphere, 12(6), 683. https://doi.org/10.3390/atmos12060683

Domingues, R., M. Le Henaff, G. Halliwell, J.A. Zhang, F. Bringas, P. Chardon, H.-S. Kim, J. Morell, and G. Goni, 2021: Ocean conditions and the intensification of three major Atlantic hurricanes of 2017. Monthly Weather Review, 149(5):1265-1286. https://doi.org/10.1175/MWR-D-20-0100.1

Feng, J., and X. Wang, 2021: Impact of increasing horizontal and vertical resolution during the HWRF hybrid EnVar data assimilation on the analysis and prediction of Hurricane Patricia (2015). Mon. Wea. Rev., 149(2),419–441. https://doi.org/10.1175/MWR-D-20-0144.1

Gao, K., L. Harris, L. Zhou, M. A. Bender, and M. J. Morin, 2021: On the sensitivity of hurricane intensity and structure to horizontal tracer advection schemes in FV3. Journal of the Atmospheric Sciences, 78(9), 3007–3021. https://doi.org/10.1175/JAS-D-20-0331.1

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Green, A., S.G. Gopalakrishnan, G.J. Alaka, and S. Chiao, 2021: Understanding the role of mean and eddy momentum transport in the rapid intensification of Hurricane Irma (2017) and Hurricane Michael (2018). Atmosphere, 12(4):492. https://doi.org/10.3390/atmos12040492

Hartman, C. M., X. Chen, E. E. Clothiaux, and M. Chan, 2021: Improving the Analysis and Forecast of Hurricane Dorian (2019) with Simultaneous Assimilation of GOES-16 All-Sky Infrared Brightness Temperatures and Tail Doppler Radar Radial Velocities, Monthly Weather Review, 149(7), 2193-2212. https://doi.org/10.1175/MWR-D-20-0338.1

Hazelton, A., G. Alaka, L. Cowan, M. Fischer, and 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(1):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 (HAFS): Composite Statistics and Key Events. Wea. Forecasting, 36, 519-538. https://doi.org/10.1175/WAF-D-20-0044.1

Hendricks, E. A., Vigh, J. L., C. M. Rozoff, 2021: Forced, balanced, axisymmetric shallow water model for understanding short-term tropical cyclone intensity and wind structure changes. Atmosphere, 12, 1308. https://doi.org/10.3390/atmos12101308.

Homeyer, C.R., A.O. Fierro, B.A. Schenkel, A.C. Didlake, 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

Jaimes de la Cruz, B., L.K. Skay, J.B. Wadler, and J.E. Rudzin, 2021: On the hyperbolicity of the bulk air-sea heat flux functions: Insights into the efficiency of air-sea moisture disequilibrium for tropical cyclone intensification. Monthly Weather Review, 149(5):1517-1534. https://doi.org/10.1175/MWR-D-20-0324.1

Kalina, E. A., M. K. Biswas, J. A. Zhang, and K. M. Newman, 2021: Sensitivity of an idealized tropical cyclone to the configuration of the Global Forecast System-Eddy Diffusivity Mass Flux Planetary Boundary Layer Scheme. Atmosphere 12(2):284. https://doi.org/10.3390/atmos12020284

Le Hénaff, M., R. Domingues, G. Halliwell, J.A. Zhang, J.A.,H.S. Kim, M. Aristizabal, T. Miles, S. Glenn, and G. Goni, 2021: The Role of the Gulf of Mexico Ocean Conditions in the Intensification of Hurricane Michael (2018). Journal of Geophysical Research–Oceans, 126(5):e2020JC016969. https://doi.org/10.1029/2020JC016969

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Lu, X. and X. Wang, 2021: Improving the Four-Dimensional Incremental Analysis Update (4DIAU) with the HWRF 4DEnVar Data Assimilation System for Rapidly Evolving Hurricane Prediction. Mon. Wea. Rev., 149(12),4027–4043. https://doi.org/10.1175/MWR-D-21-0068.1

Marchok, T., 2021: Important factors in the tracking of tropical cyclones in operational models. Journal of Applied Meteorology and Climatology, 60(9), 1265-1284. https://doi.org/10.1175/JAMC-D-20-0175.1

Miles, T.N., D. Zhang, G.R. Foltz, J.A. Zhang, C. Meinig, F. Bringas, J. Trinanes, M. Le Henaff, M.F. Aristizabal Vargas, S. Coakley, C.R. Edwards, D. Gong, R.E. Todd, M.J. Oliver, W.D. Wilson, K. Whilden, B. Kirkpatrick, P. Chardon-Maldonado, J.M. Morell, D. Hernandez, G. Kuska, C.D. Stienbarger, K. Bailey, C. Zhang, S.M. Glenn, and G.J. Goni, 2021: Uncrewed ocean gliders and saildrones support hurricane forecasting and research. Oceanography 34(4):78-81. https://doi.org/10.5670/oceanog.2021.supplement.02

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Rogers, R.F., 2021: Recent advances in our understanding of tropical cyclone intensity change processes from airborne observations. Atmosphere, 12(5):650. https://doi.org/10.3390/atmos12050650

Ryglicki, D.R., C.S. Velden, P.D. Reasor, D. Hodyss, and J.D. Doyle, 2021: Observations of atypical rapid intensification characteristics in Hurricane Dorian (2019). Monthly Weather Review, 149(7):2131-2150. https://doi.org/10.1175/MWR-D-20-0413.1

Tang, J., J.A. Zhang, P. Chan, K. Hon, X. Lei, and Y. Wang, 2021: A direct aircraft observation of helical rolls in the tropical cyclone boundary layer. Scientific Reports, 11:18771. https://doi.org/10.1038/s41598-021-97766-7

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Wadler, J.B., D.S. Nolan, J.A. Zhang, and L.K. Shay, 2021: Thermodynamic characteristics of downdrafts in tropical cyclones as seen in idealized simulations of different intensities. Journal of the Atmospheric Sciences, 78(11):3503-3524. https://doi.org/10.1175/JAS-D-21-0006.1

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

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Wang, X., H. Jiang, X. Li, and J.A. Zhang, 2021: Observed shear-relative rainfall asymmetries associated with landfalling tropical cyclones. Advances in Meteorology, 2021:4676713. https://doi.org/10.1155/2021/4676713

Wang, C., G. Zheng, X. Li, Q. Xu, B. Liu, and J.A. Zhang, 2021: Tropical cyclone intensity estimation from geostationary satellite imagery using deep convolutional neural networks. IEEE Transactions on Geoscience and Remote Sensing. https://doi.org/10.1109/TGRS.2021.3066299

Wu, D., F. Zhang, X. Chen, A. Ryzhkov, K. Zao, M.R. Kumjian, X. Chen, and P-W. Chan, 2021: Evaluation of microphysics schemes in tropical cyclones using polarimetric radar observations: Convective precipitation in an outer rainband. Monthly Weather Review, 149(4):1055-1068. https://doi.org/10.1175/MWR-D-19-0378.1

Zhang, B., Z. Zhu, W. Perrie, J. Tang, and J.A. Zhang, 2021: Estimating tropical cyclone wind structure and intensity from spaceborne radiometer and synthetic aperture radar. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 14:4043-4050. https://doi.org/10.1109/JSTARS.2021.3065866

Zhang, G., X. Li, W. Perrie, and J.A. Zhang, 2021: Tropical cyclone winds and inflow angle asymmetry from SAR imagery. Geophysical Research Letters, 48(20):e2021GL095699. https://doi.org/10.1029/2021GL095699

Zhang, Y., S.B. Sieron, Y. Lu, X. Chen, R.G. Nystrom, M. Minamide, M-Y Chan, C. M. Hartman, Z. Yao, J. H. Ruppert Jr., A. Okazaki, S. J. Greybush, E. E. Clothiaux, and F. Zhang, 2021: Ensemble-based assimilation of satellite all-sky microwave radiances improves intensity and rainfall predictions for Hurricane Harvey (2017). Geophysical Research Letters, 48, e2021GL096410. https://doi.org/10.1029/2021GL096410

Zhang, Y., X. Chen, and Y. Lu, 2021: Structure and Dynamics of Ensemble Correlations for Satellite All-Sky Observations in an FV3-Based Global-to-Regional Nested Convection-Permitting Ensemble Forecast of Hurricane Harvey, Monthly Weather Review, 149(7), 2409-2430. https://doi.org/10.1175/MWR-D-20-0369.1

Zhang, Z., J. A. Zhang, G. J. Alaka, K. Wu, A. Mehra, and V. Tallapragada: 2021: A Statistical Analysis of High Frequency Track and Intensity Forecasts from NOAA's Operational Hurricane Weather Research and Forecasting Model (HWRF), Monthly Weather Review, 149(10), 3325-3339. https://doi.org/10.1175/MWR-D-21-0021.1

Zhu, P., A. Hazelton, Z. Zhan, F. D. Marks, V. Tallapragada, 2021: The Role of Eyewall Turbulent Transport in the Pathway to Intensification of Tropical Cyclones. J. Geophy. Res. – Atmospheres, 126(17), e2021JD034983. https://doi.org/10.1029/2021JD034983 (Selected for editor's highlights https://eos.org/editor-highlights/hurricane-forecast-improvement-with-better-turbulent-processes)

Early 2022 Publications

Aksoy, A., J.J. Cione, B.A. Dahl, and P.D. Reasor, 2022: Tropical cyclone data assimilation with Coyote uncrewed aircraft system observations, very frequent cycling, and a new online quality control technique. Monthly Weather Review, Early Online Release. https://doi.org/10.1175/MWR-D-21-0124.1

Alaka, G.J. Jr., X. Zhang, and S.G. Gopalakrishnan, 2022: High-definition hurricanes: Improving forecasts with storm-following nests. Bulletin of the American Meteorological Society, 103(3), E680–E703. https://doi.org/10.1175/BAMS-D-20-0134.1

Alvey, G.R., M. Fischer, P. Reasor, J. Zawislak, and R. Rogers, 2022: Observed processes underlying the favorable vortex repositioning early in the development of Dorian (2019). Monthly Weather Review, 150(1):253-273. https://doi.org/10.1175/MWR-D-21-0069.1

Cheng, K-Y, L. Harris, and Y. Sun, 2022: Enhancing the accessibility of unified modeling systems: GFDL System for High-resolution prediction on Earth-to-Local Domains (SHiELD) v2021b in a container. Geoscientific Model Development, 15(3), 1097-1105. https://doi.org/10.5194/gmd-15-1097-2022

Hazelton, A., K. Gao, M. Bender, L. Cowan, G.J. Alaka Jr., A. Kaltenbaugh, L. Gramer, X. Zhang, L. Harris, T. Marchok, M. Morin, A. Mehra, Z. Zhang, B. Liu, and F. Marks, 2022: Performance of 2020 real-time

Atlantic hurricane forecasts from high-resolution global-nested hurricane models: HAFS-globalnest and GFDL T-SHiELD. Weather and Forecasting, 37(1):143-161. https://doi.org/10.1175/WAF-D-21-0102.1

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Scott, S.R., J.P. Dunion, M.L. Olson, and D.A. Gay, 2022: Lead isotopes in North American precipitation record the presence of Saharan dust. Bulletin of the American Meteorological Society, 103(2), E281–E292. https://doi.org/10.1175/BAMS-D-20-0212.1

Wadler, J.B., J.J. Cione, J.A. Zhang, E.A. Kalina, and J. Kaplan, 2022: The effects of environmental wind shear direction on tropical cyclone boundary layer thermodynamics and intensity change from multiple observational datasets. Monthly Weather Review, 150(1):115-134. https://doi.org/10.1175/MWR-D-21-0022.1

Zawislak, J., R. F. Rogers, S. D. Aberson, G. J. Alaka, Jr., G. Alvey, A. Aksoy, L. Bucci, J. Cione, N. Dorst, J. Dunion, M. Fischer, J. Gamache, S. Gopalakrishnan, A. Hazelton, H. M. Holbach, J. Kaplan, H. Leighton, F. Marks, S. T. Murillo, P. Reasor, K. Ryan, K. Sellwood, J. A. Sippel, and J. A. Zhang, 2022: Accomplishments of NOAA's Airborne Hurricane Field Program and a Broader Future Approach to Forecast Improvement, Bull. Amer. Meteor. Soc., 103(2), E311–E338. https://doi.org/10.1175/BAMS-D-20-0174.1

Technical Reports, Books, Chapters, Manuals, and Proceedings

Wang, W., H. Kim, L. Zhu, B. Liu, Z. Zhang, A. Mehra, and V. Tallapragada, 2021: Impact of Nest Domain Size on the Track Forecast of TC Sarai (2019) by HWRF Model. 2021 WGNE Blue Book, Section 3, p3. http://bluebook.meteoinfo.ru/uploads/2021/docs/03_Wang_Weiguo_HWRFnestDomainSize.pdf

Publications in print

Christophersen, H., J. A. Sippel, A. Aksoy, and N. L. Baker. Tropical Cyclone Data Assimilation. Earth's Climate and Weather, accepted.

Hazelton, A., S. Gopalakrishnan, and J. Zhang. Comparison of the performance of the observation-based hybrid EDMF and EDMF-TKE PBL schemes in 2020 tropical cyclone forecasts from the global-nested Hurricane Analysis and Forecast System. Weather and Forecasting, accepted.

Publications accepted with revision

Kim, H.-S., J. Meixner, B. Thomas, B. Reichl, B. Liu, A. Mehra and A. Wallcraf. Skill Assessment of NCEP Three-way Coupled HWRF-HYCOM-WW3 Modeling System: Hurricane Laura Case Study. Wea. Forecasting.

Barron, N., A. Didlake, and P. Reasor. Statistical analysis of convective updrafts in tropical 2 cyclone rainbands observed by airborne Doppler radar. Journal of Geophysical Research.

Dobosy, R., Zhang, J., X. Chen, J. Wadler, G. de Boer, G. Bryan, D. Lenschow, A. Farber, and J. Cione. New perspectives on tropical-cyclone momentum fluxes from remotely piloted aircraft systems. Journal of Atmospheric and Oceanic Technology.

Fischer, M. S., P. D. Reasor, R. F. Rogers, and J. F. Gamache. An analysis of tropical cyclone vortex and convective characteristics in relation to storm intensity using a novel airborne Doppler radar database. Monthly Weather Review.

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.

Publications under review

Gramer, L. J., J. A. Zhang, G. J. Alaka, Jr., and S. G. Gopalakrishnan. Coastal downwelling and landfalling hurricane intensification. Geophys. Res. Lett., in review.

Zhao, X., and R. D. Torn. Evaluation of Independent Stochastically Perturbed Parameterization Tendency (iSPPT) Scheme on HWRF-based Ensemble Tropical Cyclone Intensity Forecasts. Mon. Wea. Rev.

Busireddy, N. K. R., K. Ankur, P. Patel, S. Jamshidi, A. Tiwari, K. K. Osuri, F. Marks, and D. Niyogi. How much did it rain during Hurricane Florence (2018)? – Examining across in-situ, reanalysis, and satellite data products. Geophysical Research Letters.

Chen, S., F. Qiao, J. A. Zhang, Y. Xue, H. Ma, and S. Chen. Observed drag coefficient asymmetry in tropical cyclones. Geophysical Research Letters.

Chen, X., G. H. Bryan, A. Hazelton, Frank D. Marks, and P. Fitzpatrick. Evaluation and improvement of TKE-based eddy-diffusivity mass-flux (EDMF) planetary boundary layer scheme in hurricane conditions. Weather and Forecasting.

Fischer, M. S., P. D. Reasor, B. H. Tang, K. L. Corbosiero, R. D. Torn. A tale of two vortex evolutions: Using a high-resolution ensemble to assess the impacts of ventilation on a tropical cyclone rapid intensification event. Monthly Weather Review.

Ko, M.-C., X. Chen, M. Kubat, and S. Gopalakrishnan. The development of a consensus machine learning model for hurricane rapid intensification with Hurricane Weather Research and Forecasting (HWRF) data. Artificial Intelligence and Earth Systems.

Li, M. J. A. Zhang, and M. Momen. The impacts of momentum roughness length on strong and weak hurricanes forecasts: a comprehensive analysis of different surface flux models using weather simulations and observations. Geophysical Research Letters.

Li, X., Z. Pu, J. A. Zhang and Z. Zhang. A modified vertical eddy diffusivity parameterization in the HWRF model based on large eddy simulations and its impact on prediction of landfalling hurricanes. Oceanography.

Mohanty, S., G. Halliwell, S. Gopalakrishnan, J. Dong, H. S. Kim, F. Marks, U.C. Mohanty, and S. Sil. Impact of different Bay of Bengal ocean conditions on tropical cyclone intensity and the foreced ocean response using coupled HWRF-HYCOM prediction system. Journal of Atmospheric Research.

Romdhani, O., J. A. Zhang, and M. Momen. Characterizing the impact of turbulence closures on real hurricane forecasts: a comprehensive joint assessment of grid resolution, turbulence models, and horizontal mixing length. Journal of Advances in Modeling the Earth System.

Shimada, U., P. D. Reasor, R. F. Rogers, M. S. Fischer, F. D. Marks, J. A. Zawislak, and J. A Zhang. Preference for Strong Upshear-Left Ascent at Upper Levels for Intensifying Hurricane-Strength Storms. Monthly Weather Review.

Sippel, J., X. Wu, S. D. Ditchek, V. Tallapragada, and D. Kleist. Impacts of assimilating additional reconnaissance data on operational GFS tropical cyclone forecasts. Weather and Forecasting.

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Yang, M.-J., Y.-C. Wu, and R. F. Rogers. Examining terrain effects on the evolution of precipitation and vorticity of the landfalling tropical cyclone Fanapi (2010) near Taiwan. Monthly Weather Review.

Zhang, J. A., and R. F. Rogers. The kinematic structure of the tropical cyclone boundary layer and its relationship to intensity change. Monthly Weather Review.

Zhao, Z., R. Gao, J. A. Zhang, Y. Zhu, C. Liu, P. W. Chan, and Q. Wan. Observations of boundary layer wind and turbulence of a landfalling tropical cyclone. Scientific Reports.

To Be Submitted for Review

Lim A., S. Nebuda, J. A. Jung, J. Daniels, W. Bresky, L. Bi and A. Mehra. Optimizing the assimilation of GOES-16 and 17 Atmospheric Motion Vectors in the Hurricane Weather Forecasting (HWRF) model, to be submitted to Weather and Forecasting.

Hazelton, A., G. J. Alaka, Jr., M. Fischer, R. Torn, and S. Gopalakrishnan. Factors Influencing the Track of Hurricane Dorian (2019) in the West Atlantic: Analysis of a HAFS Ensemble. Mon. Wea. Rev., in preparation.

Conference/Meeting Presentations

Bi, L., Y. Weng, B. Liu, Z. Zhang, A. Mehra, and V. Tallapragada, 2021: 2021 HFIP Real-Time Demo Project: HAFSv0.2D Regional Data Assimilation Real-Time Experiment. 2021 HFIP Annual Meeting, 15-18 November, 2021, Virtual Meeting.

Brammer, A., D. Grogan, A. Schumacher and J. Dunion, 2021: Extending the Tropical Cyclone Genesis Index to Global Ensemble Forecasts. 2021 HFIP Annual Meeting, Virtual, HFIP, https://hfip.org/sites/default/files/events/269/210-brammer-enstcgi.pdf

Brammer, A., A. Schumacher, K. Musgrave, and M. Demaria, 2021: Development of a Multi-model Global Ensemble Based Tropical Cyclone Wind Speed Probability Model. 2021 HFIP Annual Meeting, Virtual, HFIP, https://hfip.org/sites/default/files/events/269/1200-brammer-ensemblewsp.pdf

Brennan, M., 2021: NHC's analysis and forecasting challenges. 2021 HFIP Annual Meeting, Virtual, HFIP, https://hfip.org/sites/default/files/events/269/200-brennan-2021-nhc-challenges.pdf

Cangialosi, J., 2021: Current forecast capabilities – NHC verification. 2021 HFIP Annual Meeting, Virtual, HFIP, https://hfip.org/sites/default/files/events/269/140-cangialosi-nhcverificationpptx.pdf

DeMaria, M., 2021: Understanding and Communicating Probabilistic Forecasts. WMO Tropical Cyclone-Probabilistic Forecast Products Workshop, 17 June, 2021.

DeMaria, M., J. Franklin, and J. Kaplan, 2021: Operational Forecasting of Tropical Cyclone Rapid Intensification at the National Hurricane Center (NHC). Virtual Monthly HFIP Science Meeting, June, 2021.

DeMaria, M. and M. Onderlinde, 2021: A New Framework for Statistical-Dynamical Tropical Cyclone Intensity Forecast Models. 34th Conference on Hurricanes and Tropical Meteorology, Virtual, Amer. Met. Soc., 8C.4, https://ams.confex.com/ams/34HURR/meetingapp.cgi/Paper/373073

Franklin, J. L. and M. Onderlinde, 2021: Verification of RI Forecasts in 2021. 2021 HFIP Annual Meeting, Virtual, HFIP, https://hfip.org/sites/default/files/events/269/330-franklin-verification-ripptx.pdf

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