

HFIP Publications 2017

Journals and Periodicals

- Aksoy, A., S. Lorsolo, T. Vukicevic, K. J. Sellwood, S. D. Aberson, and F. Zhang, 2012: The HWRF hurricane ensemble data assimilation system (HEDAS) for high-resolution data: The impact of airborne Doppler radar observations in an OSSE. *Mon. Wea. Rev.*, **140**(6):1843–1862, doi:10.1175/MWR-D-11-00212.1.
- Alaka, G. J., X. Zhang, S. G. Gopalakrishnan, S. B. Goldenberg, and F. D. Marks, 2017: Performance of basin-scale HWRF tropical cyclone track forecasts. *Wea. Forecast.*, **32**(3):1253-1271, doi:10.1175/WAF-D-16-0150.1.
- Alaka, G. J., and E. D. Maloney, 2017: Internal intraseasonal variability of the West African monsoon in WRF. *J. Climate*, **30**(15):5805-5813, doi:10.1175/JCLI-D-16-0750.1
- Aksoy, A., J. A. Zhang, B. W. Klotz, E. W. Uhlhorn, and J. J. Cione, 2017: Axisymmetric initialization of the atmosphere and ocean for idealized coupled hurricane simulations. *J. Adv. Model. Earth Syst.*, **9**(7):2672-2695, doi:10.1002/2017MS000977
- Aberson, S. D., K. J. Sellwood, and P. A. Leighton, 2017: Calculating dropwindsonde location and time from TEMP-DROP messages for accurate assimilation and analysis. *J. Atmos. Ocean. Tec.*, **34**(8):1673-1678, doi:10.1175/JTECH-D-17-0023.1
- Bu, Y. P., R. G. Fovell, and K. L. Corbosiero, 2017: The influences of boundary layer mixing and cloud-radiative forcing on tropical cyclone size. *J. Atmos. Sci.*, **74**, 1273-1292.
- Chen, S., R. L. Elsberry, and P. A. Harr, 2017: Modeling interaction of a tropical cyclone with its cold wake, *J. Atmos. Sci.*, **74**, 3982-4001, doi:10.1175/JAS-D-16-0246.1 [Available at <https://doi.org/10.1175/JAS-D-16-0246.1>].
- Chen, S., J. A. Cummings, J. M. Schmidt, E. R. Sanabia, and S. R. Jayne, 2017: Targeted ocean sampling guidance for tropical cyclones, *J. Geo. Res. Ocean*, **122**, 3505-3518, doi: 10.1002/2017JC012727.
- Doyle, J. D., J. Moskaitis, J. Feldmeier, R. Ferek, M. Beaubien, M. Bell, D. Cecil, R. Creasey, P. Duran, R. Elsberry, W. Komaromi, J. Molinari, D. Ryglicki, D. Stern, C. Velden, X. Wang, T. Allen, B. Barrett, P. Black, J. Dunion, K. Emanuel, P. Harr, L. Harrison, E. Hendricks, D. Herndon, W. Jeffries, S. J. Majumdar, J. Moore, Z. Pu, R. Rogers, E. Sanabia, G. Tripoli, and D. Zhang, 2017: A view of tropical cyclones from above: The tropical cyclone intensity experiment. *Bull. Amer. Meteor. Soc.*, **98**, 2113–2134. [Available at <https://doi.org/10.1175/BAMS-D-16-0055.1>].
- Fowler, J. P., and T. J. Galarneau, Jr., 2017: Influence of storm–storm and storm–environment interactions on tropical cyclone formation and evolution. *Bull. Amer. Meteor. Soc.*, **98**, 4855-4875, doi:10.1175/MWR-D-17-0131.1
- Goldenberg, S., S. Gopalakrishnan, V. Tallapragada, T. Quirino, F. Marks, S. Trahan, X. Zhang, and R. Atlas, 2015: The 2012 triply-nested, high-resolution operational version of the hurricane weather research and forecasting system (HWRF): Track and intensity forecast verifications. *Wea. Forecast.*, doi: 10.1175/WAF-D-14-00098.1.
- Houtekamer, P. L., and H. L. Mitchell, 1998: Data assimilation using an ensemble Kalman filter technique. *Mon. Wea. Rev.*, **126**(3):796–811, doi: 10.1175/1520-0493(1998)126<0796:DAUAEK>2.0.CO;2.
- Keppenne, C.L., 2000: Data assimilation into a primitive-equation model with a parallel ensemble Kalman filter. *Mon. Wea. Rev.*, **128**(6):1971-1981, doi: 10.1175/1520-0493(2000)128<1971:DAIAPE>2.0.CO;2.
- Komaromi, W. A., and J. D. Doyle, 2017: Tropical cyclone outflow and warm core structure as revealed by HS3 dropsonde data. *Mon. Wea. Rev.*, **145**, 1339–1359. [Available at <https://doi.org/10.1175/MWR-D-16-0172.1>].

- Lu, X., X. Wang, M. Tong, and V. Tallapragada, 2017: GSI-based, continuously cycled, dual resolution hybrid ensemble-variational data assimilation system for HWRF: System description and experiments with Edouard (2014). *Mon. Wea. Rev.*, **145**, 4877–4898.
- Melhauser, C, F. Zhang, Y. Weng, Y. Jin, H. Jin, and Q. Zhao, 2017: A multiple-model convective-permitting ensemble examination of probabilistic predication of Hurricane Sandy (2012) and Hurricane Edouard (2014). *Wea. Forecast.*, **12**, 665-688.
- Otkin, J. A., W. E. Lewis, A. Lenzen, B. McNoldy, and S. Majumdar, 2017: Assessing the accuracy of the cloud and water vapor fields in the Hurricane WRF (HWRF) model using satellite infrared brightness temperatures. *Mon. Wea. Rev.*, **145**, 2027-2046.
- Stern, D. P., J. L. Vigh, D. S. Nolan, and F. Zhang, 2017: Reply to “Comments on ‘Revisiting the relationship between eyewall contraction and intensification.’” *J. Atmos. Sci.*, **74**, 4275-4286.
- Wu, W., R. J. Purser, and D. F. Parrish, 2002: Three-Dimensional variational analysis with spatially inhomogeneous covariances. *Mon. Wea. Rev.*, 130, 2905–2916, doi:[http://dx.doi.org/10.1175/1520-0493\(2002\)130<2905:TDVAWS>2.0.CO;2](http://dx.doi.org/10.1175/1520-0493(2002)130<2905:TDVAWS>2.0.CO;2).
- Zhang, J. A., R. F. Rogers, and V. Tallapragada, 2017: Impact of parameterized boundary layer structure on tropical cyclone rapid intensification forecasts in HWRF. *Mon. Wea. Rev.*, **145**, 1413–1426, doi: 10.1175/MWR-D-16-0129.1.

Publications in Print

- Aijaz, S., M. Ghantous, A. Babanin, I. Ginis, B. Thomas, and G. Wake 2017: Nonbreaking wave-induced mixing in upper ocean during tropical cyclones using coupled hurricane-ocean-wave modeling. *J. Geophys. Res. Oceans.*, doi:10.1002/2016JC012219, in press.
- Halperin, D., and R. D. Torn, 2017: Diagnosing conditions associated with large intensity forecast errors in the hurricane weather research and forecasting (HWRF) model. *Wea. Forecast.*, in press.
- Ma, Z., E. Maddy, B. Zhang, T. Zhu, and S. Boukabara, 2017: Impact assessment of Himawari-8 AHI data assimilation in NCEP GDAS/GFS with GSI. *J. Atmos. Oceanic Technol.*, doi:10.1175/JTECH-D-16-0136.1, in press.
- Nolan, D. S., and J. A. Zhang, 2017: Spiral gravity waves radiating from tropical cyclones. *Geophys. Res. Lett.*, doi:10.1002/2017GL073572, in press.
- Otkin, J. A., W. E. Lewis, A. Lenzen, B. McNoldy, and S. Majumdar, 2017: Assessing the accuracy of the cloud and water vapor fields in the Hurricane WRF (HWRF) model using satellite infrared brightness temperatures. *Mon. Wea. Rev.*, in press.
- Rogers, R. F., S. Aberson, M. M. Bell, D. Cecil, J. Doyle, T. Kimberlain, J. Morgerman, L. K. Shay, and C. Velden, 2017: Re-writing the tropical record books: The extraordinary intensity changes of Hurricane Patricia (2015). *Bull. Amer. Meteor. Soc.*, doi: 10.1175/BAMS-D-16-0039.1, in press.
- Rogers, R. F., P. D. Reasor, and J. A. Zhang, 2017: Reply to comments on “Multiscale structure and evolution of Hurricane Earl (2010) during rapid intensification”. *Mon. Wea. Rev.*, in press.
- Zhang, F., Z. Pu, and C. Wang, 2017: Effects of boundary layer vertical mixing on the evolution of hurricanes over land. *Mon. Wea. Rev.*, in press.
- Zhang, J. A., J. J. Cione, E. A. Kalina, E. W. Uhlhorn, T. Hock and J. A. Smith, 2017: Observations of infrared sea surface temperature and air-sea interaction in Hurricane Edouard (2014) using GPS dropsondes. *J. Atmos. Ocean. Technol.*, in press.

Zhang, J. A., R. F. Rogers, and V. Tallapragada, 2017: Impact of parameterized boundary layer structure on tropical cyclone rapid intensification forecasts in HWRF. *Mon. Wea. Rev.*, in press.

Publications in Review

Alessandrini, S., L. D. Monache, C. M. Rozoff, and W. E. Lewis, 2017: Probabilistic prediction of tropical cyclone intensity with an analog ensemble. *Mon. Wea. Rev.*, in review.

Blair A., I. Ginis, T. Hara, and E. Ulhorn, 2017: Impact of Langmuir turbulence on upper ocean response to Hurricane Edouard: model and observations. *J. Geophys. Res. Oceans.*, in review.

Chen, H., S. Gopalakrishnan, J. A. Zhang, R. F. Rogers, Z. Zhang, and V. Tallapragada, 2017: Use of HWRF ensembles for providing improved understanding of hurricane RI problem: Case study of Hurricane Edouard (2014). *J. Atmos. Sci.*, in review.

Doyle, J. D., J. Moskaitis, J. Feldmeier, R. Ferek, M. Beaubien, M. Bell, D. Cecil, R. Creasey, P. Duran, R. Elsberry, W. Komaromi, J. Molinari, D. Ryglicki, D. Stern, X. Wang, C. Velden, B. Barrett, T. Allen, P. Black, K. Emanuel, J. Dunion, E. Hendricks, P. Harr, L. Harrison, D. Herndon, W. Jeffries, S. Majumdar, J. Moore, Z. Pu, R. F. Rogers, E. Sanabia, G. Tripoli, D.-L. Zhang, 2017: A view of tropical cyclones from above: The TCI experiment. *Bull. Amer. Meteor. Soc.*, in review.

Hazelton, A. T., R. F. Rogers, and R. E. Hart, 2017: Analyzing simulated convective bursts in two Atlantic hurricanes. Part I: Convective burst formation and development. *Mon. Wea. Rev.*, in review.

Hazelton, A. T., R. E. Hart, and R. F. Rogers, 2017: Analyzing simulated convective bursts in two Atlantic hurricanes. Part II: Intensity change due to convective bursts. *Mon. Wea. Rev.*, in review.

Komaromi, W. A., and J. D. Doyle, 2018: On the dynamics of tropical cyclone and trough interactions. *J. Atmos. Sci.*, under revision.

Martinez, J., M. M. Bell, J. L. Vigh, and R. F. Rogers, 2017: Examination of tropical cyclone structure and intensification with the Extended Flight Level Dataset (FLIGHT⁺) from 1999 to 2012. *Mon. Wea. Rev.*, manuscript, in review.

Nguyen, L. T., R. F. Rogers, and P. D. Reasor, 2017: Thermodynamic and kinematic influences on precipitation symmetry in sheared tropical cyclones: Bertha and Cristobal (2014). *Mon. Wea. Rev.*, in review.

Ryglicki, D. R., J. Cossuth, D. Hodyss, and J. D. Doyle, 2018: The kinematics of the rapid intensification of tropical cyclones in moderate vertical wind shear. Part I: Observations. *Mon. Wea. Rev.*, in review.

Ryglicki, D. R., J. D. Doyle, Y. Jin, and D. Hodyss, 2018: The kinematics of the rapid intensification of tropical cyclones in moderate vertical wind shear. Part II: Vortex tilt. *Mon. Wea. Rev.*, in review.

Stern, D. P., and G. H. Bryan, 2018: Using simulated dropsondes to understand extreme updrafts and wind speeds in tropical cyclones. *Mon. Wea. Rev.*, submitted.

Tyner, B., P. Zhu, J. A. Zhang, S. Gopalakrishnan, F. Marks, and V. Tallapragada, 2017: Sensitivity of tropical cyclone secondary eyewall formation in the HWRF system to snow fall speed. *J. Geophys. Res.*, submitted.

Wadler, J. B., R. F. Rogers, and P. D. Reasor, 2017: The relationship between spatial variations in the structure of convective bursts and tropical cyclone intensification using airborne Doppler radar. *Mon. Wea. Rev.*, submitted.

Wadler, J., R. F. Rogers, and P. D. Reasor, 2017: Radial and azimuthal variations in convective burst structure in tropical cyclones from airborne Doppler observations. *Mon. Wea. Rev.*, in internal review.

Zhang, J. A., F. D. Marks, J. A. Sippel, X. Zhang, R. F. Rogers, S. G. Gopalakrishnan, Z. Zhang, and V. Tallapragada: 2017: Evaluating the impact of improvement in the horizontal diffusion parameterization on hurricane prediction in the operational hurricane weather research and forecasting (HWRF) model. *Wea. Forecast.*, in review.

Zhang, J. A., F. D. Marks, Jr., J. A. Sippel, X. Zhang, S. G. Gopalakrishnan, R. F. Rogers, and Z. Zhang, 2017: Improving hurricane model physics using aircraft observations: Horizontal diffusion parameterization in HWRF. *Wea. Forecast.*, in review.

Zhang, W., L. Xie, B. Liu, and C. Guan, 2017: An integrated approach for assessing tropical cyclone track and intensity forecasts, *Wea. Forecast.*, accepted.

Zou, Z., D. Zhao, B. Liu, J. Zhang, and J. Huang, 2017: Observation-based parameterization of air-sea fluxes in terms of the wind speed and atmospheric stability in low-to-moderate wind conditions. *J. Geophys. Res.*, in review.

To Be Submitted for Review and Publication

Doyle, J. D., and J. Moskaitis, 2018: Collaborative NRL-NOAA Tropical Cyclone Research. *NRL Progress Report to NOAA*, unpublished manuscript, to be submitted.

Wang, W., J. Sippel, S. Abarca, L. Zhu, B. Liu, Z. Zhang, A. Mehra, and V. Tallapragada, 2017: Improving HWRF simulations of surface wind and inflow angle in the eyewall area. *Wea. Forecast.*, to be submitted.

Books, Chapters, Manuals, and Proceedings

None.

Technical Reports:

S. Gopalakrishnan, F. Toepfer, S. Forsythe-Newell, R. Gall, F. Marks, E. N. Rappaport, V. Tallapragada, J. Franklin, G. Alaka, S. Abarca, A. Aksoy, G. Alaka Jr., J. W. Bao, M. Bender, L. Bernardet, S. Chen, J. Cione, M. Biswas, M. Brennan, J. Cangialosi, M. DeMaria, M. Morin, J. Doyle, J. L. Franklin, S. Goldenberg, G. Halliwell, R. Hodur, C. Holt, S. Jason, H. Jin, Y. Jin, H.-S. Kim, W. Komaromi, P. Kucera, N. Kurkowski, B. Kuo, N. Lett, P. McCaslin, A. Mehra, J. Moskaitis, L. Nance, K. Newman, M. Onderlinde, A. Penny, A. Reinecke, A. Simon, J. Sippel, S. Trahan, H. Tolman, R. Torn, S. Wang, X. Wang, J. Whitaker, D. A. Zelinsky, F. Zhang, X. Zhang, Z. Zhang, Lin Zhu, and J. S. Hilderbrand, 2018: 2017 NOAA Hurricane forecast improvement project (HFIP) research and development activities summary: Recent results and operational implementation. HFIP Technical Report HFIP: 2017-1, 54. [Available at http://www.hfip.org/documents/HFIP_Publications_FY2017.pdf]

Presentations

Alaka, G. J., X. Zhang, S. G. Gopalakrishnan, F. D. Marks, M.-C. Ko, and R. St. Fleur, 2017: Basin-scale HWRF: Evaluation of 2017 real-time forecasts. *The 9th HFIP Annual Rev. Conf.*, 10, presentation, 08 November 2017, NHC, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].

Alaka, G. J., S. G. Gopalakrishnan, X. Zhang, L. Ko, and R. St. Fleur, 2017: Preliminary evaluation of Hurricanes Harvey and Irma in the 2017 Basin-Scale HWRF. *HFIP Biweekly Meeting*, 30, presentation, 20 September 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_09_20_HFIP_Brief1_GusAlaka-Gopal-XuejinZhang.pdf].

Bender, M., A. Hazelton, M. Morin, S.-J. Lin, and the GFDL FV³ Team, 2017: Evaluation of fvGFS on hurricane prediction. *The 9th HFIP Annual Rev. Conf.*, 14, presentation, 08 November 2017, NHC, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].

- Bender, M., A. Hazelton, M. Morin, S.-J. Lin, and the GFDL FV³ Team, 2017: Evaluation of fvGFS on hurricane prediction. *HFIP Biweekly Meeting*, 16, presentation, 20 September 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_09_20_HFIP-Brief2_EvalOfGfsFV3-HurricanePrediction-Bender-Hazelton-S-J-Lin.pdf].
- Brennan, M., and M. DeMaria, 2017: Performance Measures. *The 9th HFIP Annual Rev. Conf.*, 5, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Brennan, M. J., M. DeMaria, E. S. Blake, R. J. Pasch, and A. Penny, 2017: Forecast challenges of the 2017 hurricane season and NHC priorities for 2018. *The 9th HFIP Annual Rev. Conf.*, 29, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Cangialosi, J., C. Landsee, 2017: National hurricane center 2017 forecast verification (preliminary). *The 9th HFIP Annual Rev. Conf.*, 28, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Chen, H., S. Gopalakrishnan, J. A. Zhang, R. F. Rogers, Z. Zhang, and V. Tallapragada, 2017: Azimuthal distribution of deep convection, environmental factors and tropical cyclone rapid intensification: A perspective from HWRF ensemble forecasts of Hurricane Edouard. *HFIP Biweekly Meeting*, 17, presentation, 28 June 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_06_28_HFIP-Brief2_RT_RI-NI-HuaChen.pdf].
- DeMaria, M., 2017: Regional ensembles for wind, surge, rain and severe weather tropical cyclone hazard products. *The 9th HFIP Annual Rev. Conf.*, 6, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- DeMaria, M., C. A. Mattocks, C. Mello, M. Brennan, and M. Bozeman, 2017: NWS and Navy plans for the ATCF and AWIPS2. *The 9th HFIP Annual Rev. Conf.*, 33, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Doyle, J. D., J. Moskaitis, R. Hodur, S. Chen, H. Jin, Y. Jin, W. Komaromi, A. Reinecke, D. Ryglicki, D. Stern, and S. Wang, 2017: Recent COAMPS-TC development and future plans. *The 9th HFIP Annual Rev. Conf.*, 17, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Doyle, J. D., J. Moskaitis, R. Hodur, S. Chen, H. Jin, Y. Jin, W. Komaromi, A. Reinecke, D. Ryglicki, D. Stern, and S. Wang, 2017: Recent COAMPS-TC development and future plans. *HFIP Biweekly Meeting*, 28, presentation, 31 May 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_05_31_HFIP-Brief_COAMPS-TC_Doyle.pdf].
- Doyle, J. D., 2017: Recent COAMPS-TC development and future plans. *2017 Tropical Cyclone Research Forum (TCRF)/71st IHC*. 14-16 March 2017, Miami, FL.
- Doyle, J. D., 2017: Overview of COAMPS-TC. *TCC Workshop*, February 2017, Pearl Harbor, HI.
- Doyle, J. D., 2017: An overview of recent COAMPS-TC performance and advancements. *28th Conference on Weather Analysis and Forecasting / 24th Conference on Numerical Weather Prediction, 97th American Meteorological Society Annual Meeting*, 22–26 January 2017, WA.
- Doyle, J. D., 2017: Overview of the tropical cyclone intensity experiment. *28th Conference on Weather Analysis and Forecasting / 24th Conference on Numerical Weather Prediction, 97th American Meteorological Society Annual Meeting*, Seattle, 22–26 January 2017, WA.

- Doyle, J. D., D. Holdaway, and C. Amerault, 2017: Multi-scale sensitivity and predictability of Hurricane Joaquin (2015) illuminated through adjoint studies. *Amer. Geophys. Union Fall Meeting*, 11-15 December 2017, New Orleans, LA.
- Fritz, C., 2017: National hurricane center storm surge products and current state of operations. *The 9th HFIP Annual Rev. Conf.*, 45, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Ghosh, T., and T. N. Krishnamurti, 2017: Improvement in hurricane intensity forecast using neural networks [2016]. *The 8th HFIP Annual Rev. Conf.*, 12 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day2/1345%20PM-Ghosh_HFIP_Meeting2017_FSU.pdf]
- Gopalakrishnan, S., X. Zhang, L. Bernardet, T. Quirino, J. Frimel, V. Tallapragada, F. Marks, F. Toepfer, and B. Kuo, 2016: A multi-scale modeling system for improved hurricane prediction. *The 6th Conference on Transition of Research to Operations*, New Orleans, LA, 10-14 January 2017. [Available online at <https://ams.confex.com/ams/96Annual/webprogram/Paper288732.html>]
- Harris, L., et al, 2017: Nested [2016] fvGFS development at GFDL. *The 8th HFIP Annual Conf.*, 12 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day2/0940%20AM-Harris%20HFIP%20Nesting%202017.pdf]
- Brown, T., and F. Hobbs, 2017: HFIP 2017 Real-time reservations. *HFIP Biweekly Meeting*, 6, presentation, 28 June 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_06_28_HFIP-Brief1-RT-Applications_TimBrown-ForrestHobbs.pdf].
- Holt, C., M. K. Biswas, Z. Zhang, S. Trahan, L. R. Bernardet, G. Thompson, and K. M. Newman, 2016: An evaluation of alternative species-advecting microphysics schemes in hurricane WRF. *The 17th Annual WRF Users' Workshop*, June 27 - July 1, 2017, Boulder, CO. [Available at http://www2.mmm.ucar.edu/wrf/users/workshops/WS2016/short_abstracts/7B.1.pdf]
- Jin, H. Y. Jin, and J. Doyle, 2017: High-resolution simulation of Super Typhoon Nepartak (2016). *JPGU-AGU meeting*, May 2017, Chiba, Japan.
- Jin, H. Y. Jin, and J. Doyle, 2017: High-resolution simulation of Super Typhoon Nepartak (2016). *The 24th AMS Conf. on Numerical Weather Prediction*, Jan. 2017, Seattle, WA.
- Kaplan, J., and M. DeMaria, 2017: Rapid intensification: Implication on operational forecast errors. *The 9th HFIP Annual Rev. Conf.*, 5, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Kaplan, J., C. Rozoff, and M. DeMaria, 2017: Statistical rapid intensity prediction: Implications of recent model results. *HFIP Biweekly Meeting*, 29, presentation, 12 July 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_07_12_HFIP-Brief_Stat-RI-Prediction-Revised_JKaplan.pdf].
- Kieu, C., V. Tallapragada, S. Gopalakrishnan, S. Trahan, K. Keshavamurthy, and A. Downs, 2017: Predictability limit of the HWRF model on forecasting hurricane intensity at the 4-5 day lead times [2016]. *The 8th HFIP Annual Conf.*, 12 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day2/1305%20PM-Kieu_HFRF-Fcst%20Hurricane%20Intensity.pdf]

- Kim, H.-S., G. Halliwell, P. Black, S. Chen, J. Cione, J. Dong, P. Fitzpatrick, G. Goni, B. Jaimes, S. Jayne, B. Liu, E. Sanabia, L. Shay, B. Thomas, J. Zhang, L. Zhu, A. Mehra, and V. Tallapragada, 2017: Ocean model impact tiger team (OMITT). *The 9th HFIP Annual Rev. Conf.*, 14, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Komaromi, W. A., and J. D. Doyle, 2017: On the dynamics of tropical cyclone and trough interactions. *The 18th Cyclone Workshop*, 4 October 2017, Sainte Adele, Canada.
- Komaromi, W. A., and J. D. Doyle, 2017: Tropical cyclone outflow and warm core structure as revealed by HS3 and TCI dropsondes. *The 97th AMS Annual Meeting*, 22-26 January 2017, Seattle, WA.
- Kurkowski, N. P., and M. Bilder, 2017: Role of storm surge in [the] Coastal Act; Storm surge model development at NOS. *The 9th HFIP Annual Rev. Conf.*, 39, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Kurkowski, N. P., 2017: Advancing storm surge modeling: Draft long-term vision for NOAA tropical storm surge. *The 9th HFIP Annual Rev. Conf.*, 9, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Kurkowski, N. P., 2017: Advancing storm surge modeling: Draft short-term plan. *The 9th HFIP Annual Rev. Conf.*, 15, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Liu, B., A. Mehra, Z. Zhang, S. Abarca, J. Dong, D. Iredell, H.-S. Kim, Q. Liu, Z. Ma., D. Sheinin, J. Sippel, B. Thomas, M. Tong, W. Wang, H. Winterbottom, K. Wu, B. Zhang, L. Zhu, and V. Tallapragada, 2017: NCEP operational hurricane systems: Verification of 2017 HWRF and HMON performances. *The 9th HFIP Annual Rev. Conf.*, 31, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Liu, B., J. Meixner, A. Mehra, A. Chawla, I. Ginis, B. Thomas, B. Reichl, T. Hara, H.-S. Kim, D. Sheinin, Z. Zhang, and V. Tallapragada, 2017: Impacts of ocean initialization and three-way atmosphere-wave-ocean coupling on hurricane forecasting. *The 97th AMS Annual Meeting*, 22-26 January 2017, Seattle, WA.
- Lu, X. and X. Wang, 2016: Development and research of the GSI-based, cycled, dual resolution hybrid ensemble-variational data assimilation system for HWRF. *The 96th AMS Annual Meeting*, 11-15 January 2017, New Orleans, LA.
- Marchok, T., 2017: Forecasts for weak [TC] systems & invests. *The 9th HFIP Annual Rev. Conf.*, 6, presentation, 09 November 2017, NHC, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Marks, F. D., M. DeMaria, G. S. Gopalakrishnan, V. Tallapragada, F. D. marks, M. Bender, N. Lett, E. Mifflin, M. Brennan, R. Rogers, A. Mehra, T. Marchok, N. Kurkowski, J. Rhome, J. Sippel, J. Sprague, and A. Gerard, 2017: What, why, who and when? *The 9th HFIP Annual Rev. Conf.*, 10, presentation, 08 November 2017, NHC, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Marks, F., 2017: Recap of 2016 HFIP annual workshop. *The 8th HFIP Annual Conf.*, 12 January 2017, National Hurricane Center, Miami, FL. [Available online at <https://drive.google.com/drive/folders/OB5dsMKloxTYJaHlmc3ZDME5RVE0>]
- Mehra, A., and the EMC Hurricane Team, 2017: Plans for Operational Hurricane Modeling in FY18. *The 9th HFIP Annual Rev. Conf.*, 18, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].

- Mehra, A., EMC Hurricane and Mesoscale Teams, 2017: HMON (HNMMB): Development of a new Hurricane model for NWS/NCEP operations. *HFIP Biweekly Meeting*, 24, presentation, 22 February 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes_presentations.php].
- Mehra, A., J. Meixner, B. Liu, H.-S. Kim, A. Chawla, B. Reichl, I. Ginis, and T. Hara, 2017: Replacing hurricane ocean wave model in NCEP [2016] operations. *The 8th HFIP Annual Conference*, 12 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day2/0845%20AM-Mehra-Replacing-Operational-Hurricane-Wave_Model.pdf]
- Mehra, A., 2017: [2016] Plans for operational hurricane modeling in FY17. *The 8th HFIP Annual Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1010AM_Mehra_HFIP_17_HWRF_am5.pdf]
- Moskaitis, J. R., W.A. Komaromi, A. Reinecke, and J. D. Doyle, 2017: 2017 Real-time COAMPS-TC EPS. *The 9th HFIP Annual Rev. Conf.*, 10, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Moskaitis, J., 2017: Validation of rapid intensification forecasts from deterministic regional dynamical models. *HFIP Biweekly Meeting*, 25, presentation, 08 March 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes_presentations.php].
- Moskaitis, J. R., P. A. Reinecke, W. A. Komaromi, and J. D. Doyle, 2016 Real-time COAMPS-TC Ensemble. *The 8th HFIP Annual Meeting*, January 2017, Miami, FL.
- Moskaitis, J., A. Reinecke, W. Komaromi, and J. Doyle, 2017: 2016 Real-time COAMPS-TC ensemble, *The 8th HFIP Annual Rev. Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1120AM-Moskaitis-COAMPS-TC-Ensemble.pdf]
- Newman, K. M., E. Kalina, L. Nance, and Y. H. Kuo, 2017: Developmental testbed center: Core activities for HFIP. *2017 The 9th HFIP Annual Rev. Conf.*, 15, presentation, 08 November 2017, Miami, FL.
- Newman, K. M., M. K. Biswas, L. Bernardet, G. Thompson, and J. Frimel: An evaluation of physics enhancements within Hurricane WRF. *28th Conference on Weather Analysis and Forecasting /24th Conference on Numerical Weather Prediction*, 22-26 January 2017, Seattle, WA.
- Newman, K., Y. H. Kuo, and L. Nance, 2017: Developmental Testbed Center: Core activities for HFIP. *The 8th HFIP Annual Rev. Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1530PM-Newman_DTC_HFIP2016.pdf]
- Paulik, L., and G. L. Alaka, 2017: NOAA Storm surge modeling gaps and priorities. *The 9th HFIP Annual Rev. Conf.*, 15, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Rogers, R. F., 2017: Observations and observing strategies. *The 9th HFIP Annual Rev. Conf.*, 5, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].

- Rogers, R. F., J. Zawislak, and L. Nguyen, 2017: Precipitation structure upshear and its role in tropical cyclone intensification. *Tropical Cyclone Operations and Research Forum/71st Interdepartmental Hurricane Conference*, March 2017, Miami, FL.
- Rozoff, C., L. D. Monache, S. Alessandrini, W. Lewis, and M. DeMaria, 2017: Probabilistic prediction of tropical cyclone track, intensity, and structure with an analog ensemble [2016]. *The 8th HFIP Annual Rev. Conf.*, 12 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day2/1425%20PM-Rozoff_project_rozoff.pdf]
- Ryglicki, D. R., J. Doyle, Y. Jin, D. Hodyss, and K. C. Viner, 2017: The upshear environment-outflow interface of a sheared, rapidly intensifying tropical cyclone. *Amer. Geophys. Union Fall Meeting*, 11-15 December 2017, New Orleans, LA.
- Ryglicki, D. R., J. Cossuth, J. D. Doyle, D. H. Hodyss, Y. Jin, and K. C. Viner, 2017: The kinematics of rapidly intensifying hurricanes in moderate vertical wind shear. *HFIP Biweekly Meeting*, 58, 29 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/minutes/2017_11_29_HFIP-Biweekly_TC-RI_Ryglicki.pdf].
- Sampson, B., A. Schrader, M. Frost, M. DeMaria, M. Brennan, M. Bozeman, and C. Mattocks, 2017: ATCF [2016] update. *The 8th HFIP Annual Rev. Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1450PM-DeMaria%20ATCF%20Update%20NRL-NHCv3.pdf].
- Schauer, J., 2017: Status of [the] NWS tropical program: Storm surge. *The 9th HFIP Annual Rev. Conf.*, 19, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Sippel, J., 2017: HFIP DA priorities (HWRP big ticket). *The 9th HFIP Annual Rev. Conf.*, 5, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Sippel, J., H. Winterbottom, Z. Zhang, B. Zhang, and A. Mehra, 2017: 2017-2018 HWRP DA testing and plans. *The 9th HFIP Annual Rev. Conf.*, 15, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Sprague, J., 2017: Hurricane impacts. *The 9th HFIP Annual Rev. Conf.*, 8, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Sprague, J., 2017: HFIP Socio-economic working group update. *The 9th HFIP Annual Rev. Conf.*, 43, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Sprague, J., 2017: HFIP Social science research update. *HFIP Biweekly Meeting*, 44, presentation, 04 October 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_10_04_HFIP-Brief_Social%20Science_Sprague.pdf].
- Stern, D. P., J. D. Kepert, J. D. Doyle, and G. H. Bryan, 2017: Understanding atypical mid-level wind speed maxima in hurricane eyewalls. *AGU Meeting*, 11 December 2017, New Orleans, LA.

- Stern, D. P., G. H. Bryan, and C.-Y. Lee, 2017: Using large eddy simulations to estimate the vulnerability of offshore wind farms to tropical cyclones. *The 6th International Summit on Hurricanes and Climate Change*, 06 June 2017, Heraklion, Greece.
- Strahl, B., 2017: 2017 Year in review: JTWC TC activity, forecast challenges, and developmental priorities. *The 9th HFIP Annual Rev. Conf.*, 23, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Tallapragada, V., 2017: NOAA's FV3 based unified modeling system development strategies. *The 9th HFIP Annual Rev. Conf.*, 20, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Tallapragada, V., 2017: NCEP unified forecast system: High-resolution global, regional and hurricane modeling capabilities using FV3 dynamic core. *The 9th HFIP Annual Rev. Conf.*, 22, presentation, 08 November 2017, NHC, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Tallapragada, V., 2017: [2016] Priorities for HFIP in 2017. *The 8th HFIP Annual Conf.*, 12 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day2/1040%20AM-Tallapragada_Day2_Priorities_for_HFIP.pdf].
- Tallapragada, V., 2017: Long range plans for numerical guidance from NCEP: [2016] NCGPS/FV3 based unified coupling modeling system development at NCEP. *The 8th HFIP Annual Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1140AM_Tallapragada_HFIP_Longrange_Plans_011117.pdf].
- Toepfer, F., 2017: HFIP: After 10 years ... What's next? *The 9th HFIP Annual Rev. Conf.*, 21, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Toepfer, F., 2017: HFIP Computing *The 9th HFIP Annual Rev. Conf.*, 4, presentation, 09 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Toepfer, F., 2017: NWS [2016] Funding. *The 8th HFIP Annual Rev. Conf.*, 12 January 2017, National Hurricane Center, Miami, FL.
- Torn, R. D., and M. DeMaria, 2017: Real-time, ensemble-based probabilities of tropical cyclone rapid intensification, *Tropical Cyclone Operations & Research Symposium*, 16, presentation, 15 March 2017, Miami, FL. [Available online at https://www.ofcm.gov/meetings/TCORF/ihc17/Session_06/6-1-torn_tcorf_2017web.pdf].
- Torn, R. D., M. DeMaria, E. Blake, M. Brennan, P. Kucera, W. Lewis, J. Moskaitis, K. Musgrave, M. Onderlinde, and C. Williams, 2017: 2017 Ensemble Tiger Team highlights. *The 9th HFIP Annual Rev. Conf.*, 14, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Torn, R. D., 2017: Verification of ensemble-based probabilistic intensity change forecasts. *HFIP Biweekly Meeting*, 29, presentation, 22 February 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes_presentations.php].

- Torn, R. D., M. DeMaria, P. Kucera, et al, 2017: Ensemble products tiger team [2016] update. *The 8th HFIP Annual Rev. Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1555PM-Torn-hfip-ensemble-products.pdf]
- Torn, R. D., 2017: Evaluating methods of parameterizing model error in the [2016] HWRF ensemble prediction system. *The 8th HFIP Annual Rev. Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1615PM-torn-ffo-awards.pdf]
- Wang, X., 2017: DA/Initialization team milestones and priorities. *The 9th HFIP Annual Rev. Conf.*, 26, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Wang, Z., 2017: Exploring the key features of tropical cyclogenesis using satellite data. *HFIP Biweekly Meeting*, 30, presentation, 06 September 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_09_06_HFIP-Brief_TCGandRemoteSensing-Wang.pdf].
- Zelinski, D., and M. DeMaria, 2017: 2017 HFIP annual review PPAV team report. *The 9th HFIP Annual Rev. Conf.*, 48, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Zhang, J., 2017: A developmental framework for improving hurricane model physics using aircraft observations. *HFIP Biweekly Meeting*, 48, presentation, 15 November 2017, NOAA National Weather Service Headquarters, OSTI Modeling Division, Silver Spring, MD. [Available online at http://www.hfip.org/documents/minutes/2017_11_15_HFIP-Biweekly_JunZhang_HurricaneModelPhysics-AcftObs.pdf].
- Zhang, X. and Z. Zhang, 2017: Model developments and priorities. *The 9th HFIP Annual Rev. Conf.*, 13, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Zhang, X., and G. Alaka, Jr., 2017: Development of the basin-scale HWRF modeling system [2016]. *The 8th HFIP Annual Rev. Conf.*, 11 January 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day1/1310PM-Xuejin%20Zhang-2017%20HFIP%20Annual%20Meeting-final.pdf]
- Zhang, X., G. Alaka, Jr., B. Thomas, D. Sheinin, Z. Zhang, B. Liu, R. St. Fleur, S. Gopalakrishnan, and I. Ginis, 2017: Development on the ocean and atmosphere coupled basin-scale HWRF modeling system: Targeting research to operation transition, *97th AMS Annual Meeting*, 22-24, January 2017.
- Zhang, Z., W. Wang, and the EMC Hurricane Team, 2017: Performance and verification of HWRF.HMON ensemble system in 2017 real time parallel experiment. *The 9th HFIP Annual Rev. Conf.*, 14, presentation, 08 November 2017, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Zhu, L., S. Abarca, EMC hurricane team, R. Fovell, J. Zhan, P. Zhu, S. Bao, L. Bernadet, K. Newman, E. Kalina, M. Biswas, A. Mehra, and V. Tallapragada, 2017: High-Res physics tiger team report. *The 9th HFIP Annual Rev. Conf.*, 08 November 2017, 1-15, presentation, National Hurricane Center, Miami, FL. [Available online at http://www.hfip.org/documents/presentations_publications.php].
- Zhu, P., B. Tyner, C. Gao, S. Gopalakrishnan, R. Black, F. Marks, V. Tallapragada, J. Zhang, and X. Zhang, 2017: Improving HWRF's ability to predict rapid change in tropical cyclone intensity governed by internal physical processes [2016]. *The 8th HFIP Annual Rev. Conf.*, 12 January 2017, National Hurricane Center, Miami, FL.

[Available online at http://www.hfip.org/events/annual_meeting_jan_2017/presentations/Day2/1405%20PM-Zhu_HFIP_annual_meeting_Jan_17_FIU.pdf]

Posters

Nguyen, L., R. F. Rogers, and P. D. Reasor, 2017: Thermodynamic and kinematic influences on precipitation symmetry in sheared tropical cyclones: Bertha and Cristobal (2014), (Poster). *97th Annual American Meteorological Society Meeting* poster presentation, Seattle, WA, January 2017.

Rogers, R. F., and J. Zawislak, 2017: Precipitation structure upshear and its role in tropical cyclone intensification (Poster). *97th Annual American Meteorological Society Meeting*, January 2017, Seattle, WA.