



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL WEATHER SERVICE



NATIONAL CENTERS FOR ENVIRONMENTAL PREDICTION

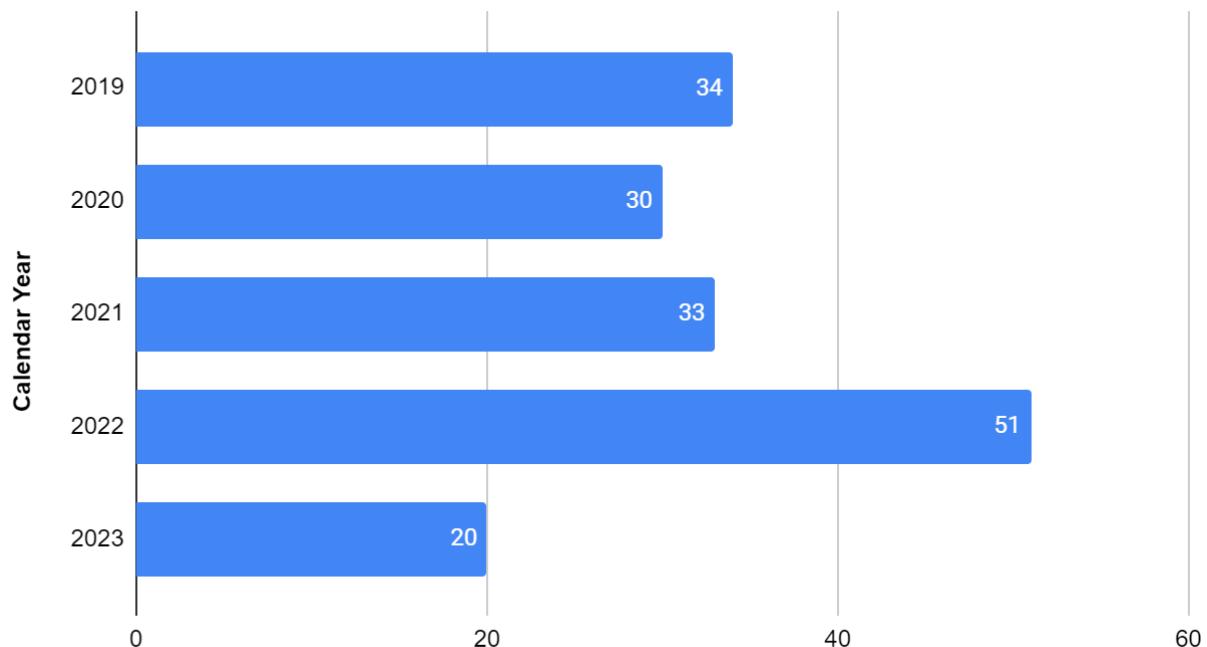
ENVIRONMENTAL MODELING CENTER

External Review

June 6-8, 2023

Peer-Reviewed Publication List

2019–2023

Number of peer-reviewed publications authored by EMC Federal and contract employees since 2019

2019

1. Xian, Peng, Jeffrey S. Reid, Edward J. Hyer, Charles R. Sampson, Juli I. Rubin, Melanie Ades, Nicole Asencio et al. "Current state of the global operational aerosol multi-model ensemble: An update from the International Cooperative for Aerosol Prediction (ICAP)." *Quarterly Journal of the Royal Meteorological Society* 145 (2019): 176-209.
2. Zhu, Y., Li, W., Zhou, X., Hou, D. (2019). Stochastic Representation of NCEP GEFS to Improve Sub-seasonal Forecast. In: Randall, D., Srinivasan, J., Nanjundiah, R., Mukhopadhyay (eds) *Current Trends in the Representation of Physical Processes in Weather and Climate Models*. Springer Atmospheric Sciences. Springer, Singapore.
3. Chuang, Hui-Ya, Yali Mao, and Binbin Zhou. "R2O transition of NCAR's icing and turbulence algorithms into NCEP's operations." *Pure and Applied Geophysics* 176, no. 5 (2019): 2057-2079.
4. Li, W., Zhu, Y., Zhou, X. et al. Evaluating the MJO prediction skill from different configurations of NCEP GEFS extended forecast. *Clim Dyn* 52, 4923–4936 (2019).
5. Cui, Z., Pu, Z., Tallapragada, V., Atlas, R., & Ruf, C. S. (2019). A preliminary impact study of CYGNSS ocean surface wind speeds on numerical simulations of hurricanes. *Geophysical Research Letters*, 46, 2984– 2992.
6. Bender, Morris A., Timothy Marchok, Robert E. Tuleya, Isaac Ginis, Vijay Tallapragada, and Stephen J. Lord. "Hurricane Model Development at GFDL: A Collaborative Success Story from a Historical Perspective", *Bulletin of the American Meteorological Society* 100, 9 (2019): 1725-1736
7. Pigion, Kathy, Ben P. Kirtman, Emily Becker, Dan C. Collins, Emerson LaJoie, Robert Burgman, Ray Bell, Timothy DelSole, Dughong Min, Yuejian Zhu, Wei Li, Eric Sinsky, Hong Guan, Jon Gottschalck, E. Joseph Metzger, Neil P Barton, Deepthi Achuthavarier, Jelena Marshak, Randal D. Koster, Hai Lin, Normand Gagnon, Michael Bell, Michael K. Tippett, Andrew W. Robertson, Shan Sun, Stanley G. Benjamin, Benjamin W. Green, Rainer Bleck, and Hyemi Kim. "The Subseasonal Experiment (SubX): A Multimodel Subseasonal Prediction Experiment", *Bulletin of the American Meteorological Society* 100, 10 (2019): 2043-2060
8. Boukabara, Sid-Ahmed, Vladimir Krasnopolksy, Jebb Q. Stewart, Eric S. Maddy, Narges Shahroudi, and Ross N. Hoffman. "Leveraging Modern Artificial Intelligence for Remote Sensing and NWP: Benefits and Challenges", *Bulletin of the American Meteorological Society* 100, 12 (2019): ES473-ES491
9. Leighton, Hua, Sundararaman Gopalakrishnan, Jun A. Zhang, Robert F. Rogers, Zhan Zhang, and Vijay Tallapragada. "Azimuthal Distribution of Deep Convection, Environmental Factors, and Tropical Cyclone Rapid Intensification: A Perspective from HWRF Ensemble Forecasts of Hurricane Edouard (2014)", *Journal of the Atmospheric Sciences* 75, 1 (2018): 275-295
10. Campos, Ricardo Martins, Vladimir Krasnopolksy, Jose-Henrique G. M. Alves, and Stephen G. Penny. "Nonlinear Wave Ensemble Averaging in the Gulf of Mexico Using Neural Networks", *Journal of Atmospheric and Oceanic Technology* 36, 1 (2019): 113-127

11. Pu, Zhaoxia, Chaulam Yu, Vijay Tallapragada, Jianjun Jin, and Will McCarty. "The Impact of Assimilation of GPM Microwave Imager Clear-Sky Radiance on Numerical Simulations of Hurricanes Joaquin (2015) and Matthew (2016) with the HWRF Model", *Monthly Weather Review* 147, 1 (2019): 175-198
12. Slivinski, Laura C., Gilbert P. Compo, Jeffrey S. Whitaker, Prashant D. Sardeshmukh, Jih-Wang A. Wang, Kate Friedman, and Chesley McColl. "What Is the Impact of Additional Tropical Observations on a Modern Data Assimilation System?", *Monthly Weather Review* 147, 7 (2019): 2433-2449
13. Sawada, Masahiro, Zaizhong Ma, Avichal Mehra, Vijay Tallapragada, Ryo Oyama, and Kazuki Shimoji. "Impacts of assimilating high-resolution atmospheric motion vectors derived from Himawari-8 on tropical cyclone forecast in HWRF." *Monthly Weather Review* 147, no. 10 (2019): 3721-3740.
14. Lippi, Donald E., Jacob R. Carley, and Daryl T. Kleist. "Improvements to the Assimilation of Doppler Radial Winds for Convection-Permitting Forecasts of a Heavy Rain Event", *Monthly Weather Review* 147, 10 (2019): 3609-3632
15. Bentley, Alicia M., Lance F. Bosart, and Daniel Keyser. "A Climatology of Extratropical Cyclones Leading to Extreme Weather Events over Central and Eastern North America", *Monthly Weather Review* 147, 5 (2019): 1471-1490
16. Lim, Agnes H. N., James A. Jung, Sharon E. Nebuda, Jaime M. Daniels, Wayne Bresky, Mingjing Tong, and Vijay Tallapragada. "Tropical Cyclone Forecasts Impact Assessment from the Assimilation of Hourly Visible, Shortwave, and Clear-Air Water Vapor Atmospheric Motion Vectors in HWRF", *Weather and Forecasting* 34, 1 (2019): 177-198
17. Guan, Hong, Yuejian Zhu, Eric Sinsky, Wei Li, Xiaqiong Zhou, Dingchen Hou, Christopher Melhauser, and Richard Wobus. "Systematic Error Analysis and Calibration of 2-m Temperature for the NCEP GEFS Reforecast of the Subseasonal Experiment (SubX) Project", *Weather and Forecasting* 34, 2 (2019): 361-376
18. Pyle, Matthew E., and Keith F. Brill. "A comparison of two methods for bias correcting precipitation skill scores." *Weather and Forecasting* 34, no. 1 (2019): 3-13.
19. Du, Jun, Binbin Zhou, and Jason Levit. "Measure of forecast challenge and predictability horizon diagram index for ensemble models." *Weather and Forecasting* 34, no. 3 (2019): 603-615.
20. Duda, J. D., X. G. Wang, Y. M. Wang, and J. R. Carley. "Comparing the Assimilation of Radar Reflectivity Using the Direct Gsi-Based Ensemble-Variational (Envar) and Indirect Cloud Analysis Methods in Convection-Allowing Forecasts over the Continental United States." *Monthly Weather Review* 147, no. 5 (May 2019): 1655-78.
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22. Zhang, Bo, Ge Liu, Yuejian Zhu, and Ning Shi. "Frequency of Persistent Blocking and Ridge Events Related to Precipitation over Eastern China during August and Its Preceding Atmospheric Signals", *Weather and Forecasting* 34, 6 (2019): 1705-1719
23. Potvin, Corey K., Jacob R. Carley, Adam J. Clark, Louis J. Wicker, Patrick S. Skinner, Anthony E. Reinhart, Burkely T. Gallo, John S. Kain, Glen S. Romine, Eric A. Aligo, Keith A. Brewster, David C. Dowell, Lucas M. Harris, Israel L. Jirak, Fanyou Kong, Timothy A. Supinie, Kevin W. Thomas, Xuguang Wang, Yongming Wang, and Ming Xue. "Systematic Comparison of Convection-Allowing Models during the 2017 NOAA HWT Spring Forecasting Experiment", *Weather and Forecasting* 34, 5 (2019): 1395-1416
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29. Han, J., and C. S. Bretherton. "TKE-Based Moist Eddy-Diffusivity Mass-Flux (EDMF) Parameterization for Vertical Turbulent Mixing." *Weather and Forecasting*, 34 (2019): 869-886
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31. Purser, R. J. "A formulation of the hexad algorithm using the geometry of the Fano projective plane." NOAA/NCEP Office Note 499, 2019.
32. Purser, R. J. "A formulation of the Decad algorithm using the symmetries of the Galois field, GF(16)." NOAA/NCEP Office Note 500, 2019.
33. Purser, R. J. "Solving the Laplace equation in a right-angled bicorn and constructing smooth blending functions for conformal overset grids." NOAA/NCEP Office Note 501, 2019.
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2. Dolly L. Hall, Daniel C. Anderson, Cory R. Martin, Xinrong Ren, Ross J. Salawitch, Hao He, Timothy P. Carty, Jennifer C. Hains, Russell R. Dickerson, "Using near-road observations of CO, NO_x, and CO₂ to investigate emissions from vehicles: Evidence for an impact of ambient temperature and specific humidity", *Atmospheric Environment*, Volume 232, 2020, 117558, ISSN 1352-2310
3. Tang, Youhua, Daniel Q. Tong, Kai Yang, Pius Lee, Barry Baker, Alice Crawford, Winston Luke et al. "Air quality impacts of the 2018 Mt. Kilauea volcano eruption in Hawaii: A regional chemical transport model study with satellite-constrained emissions." *Atmospheric environment* 237 (2020): 117648.
4. Chen, J., J. Z. Wang, J. Du. "Forecast bias correction through model integration: A dynamical wholesale approach". *Quart. J. Roy. Meteor. Soc.*, 146, 1149- 1168
5. Ali Abdolali, Aron Roland, Andre van der Westhuysen, Jessica Meixner, Arun Chawla, Tyler J. Hesser, Jane M. Smith, Mathieu Dutour Sikiric, "Large-scale hurricane modeling using domain decomposition parallelization and implicit scheme implemented in WAVEWATCH III wave model", *Coastal Engineering*, Volume 157, 2020, 103656, ISSN 0378-3839
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- Peevey, Kathryn Sellwood, Jason A. Sippel, Vijay Tallapragada, James Taylor, Hongli Wang, Robbie E. Hood, and Philip Hall. "NOAA's Sensing Hazards with Operational Unmanned Technology (SHOUT) Experiment Observations and Forecast Impacts", *Bulletin of the American Meteorological Society* 101, 7 (2020): E968-E987
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4. Qian, Weihong, Jun Du, and Y. Ai. "A Review: anomaly-based versus full-field based weather analysis and forecasting". *Bull. Amer. Meteor. Soc.*, 102, E849- E870.
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