

# Recent Publications

(Alphabetized by lead author; EMC Federal authors in black boldface, EMC Contractor authors in red boldface; full author affiliations listed in the articles)

2022

Deb, M., **Abdolali, A.**, Kirby, J. T., & Shi, F. (2022). Hydrodynamic modeling of a complex salt marsh system: Importance of channel shoreline and bathymetric resolution. *Coastal Engineering*, 104094, 173, <https://doi.org/10.1016/j.coastaleng.2022.104094>.

**Guan, H., Zhu, Y., Sinsky, E., Fu, B., Li, W., Zhou, X., Xue, X., Hou, D.**, Peng, J., Nageswararao, M. M., **Tallapragada, V.**, Hamill, T. M., Whitaker, J. S., Bates, G., Pegion, P., Frederick, S., Rosencrans, M., & Kumar, A., 2022: GEFSv12 reforecast dataset for supporting subseasonal and hydrometeorological applications, *Monthly Weather Review*. <https://doi.org/10.1175/MWR-D-21-0245.1>

Hamill, T., Whitaker, J. S., Shlyueva, A., Bates, G., Fredrick, S., Pegion, P., **Sinsky, E., Zhu, Y., Tallapragada, V., Guan, H., Zhou, X., and Woollen, J.** (2022). The Reanalysis for the Global Ensemble Forecast System, version 12. *Mon. Wea. Rev.*, **150(1)**, 59-79. <https://doi.org/10.1175/MWR-D-21-0023.1>

Kamenkovich, I., and **Z. Garraffo**, 2022: Importance of Mesoscale Currents in Amoc Pathways and Timescales. *Journal of Physical Oceanography*, <https://doi.org/10.1175/JPO-D-21-0244.1>

Nageswararao, M. M, **Yuejian Zhu**, and **V. Tallapragada**, 2022: Prediction Skill of GEFSv12 for Southwest Summer Monsoon Rainfall and Associated Extreme Rainfall Events on Extended Range scale over India. *Weather and Forecasting*. <https://doi.org/10.1175/WAF-D-21-0184.1>

**Purser, R. J., Rancic, M., & De Pondeca, M. S. F. V.**, 2022: The Multigrid Beta Function Approach for Modeling of Background Error Covariance in the Real-Time Mesoscale Analysis (RTMA). *Monthly Weather Review*. <https://doi.org/10.1175/MWR-D-20-0405.1>

Qian, W., and **J. Du**, 2022: Anomaly Format of Atmospheric Governing Equations with Climate as a Reference Atmosphere. *Meteorology* **1(2)**, 127-141. <https://doi.org/10.3390/meteorology1020008>

Qian, W., J. C.-H. Leung, J. Ren, **J. Du**, Y. Feng, and B. Zhang, 2022: Anomaly Based Synoptic Analysis and Model Prediction of Six Dust Storms Moving From Mongolia to Northern China in Spring 2021. *J. Geophysical Research: Atmosphere*. **127**(7). <https://doi.org/10.1029/2021JD036272>

Sims, J., T. Lee, D. Koch, **B. Gross**, **I. Stajner**, D. Considine, S. Pawson, **D. Kleist**, R. Gelaro, S. Flampouris, Y. Jung, and M. Gasbarro, 2022: Joint Collaboration on Coupled Data Assimilation and Modeling. *Bull. Amer. Meteor. Soc.*, <https://doi.org/10.1175/BAMS-D-21-0347.1>

Slivinski, L. C., **Lippi, D. E.**, Whitaker, J. S., Ge, G., **Carley, J. R.**, Alexander, C. R., and Compo, G. P. (2022). Overlapping Windows in a Global Hourly Data Assimilation System, *Monthly Weather Review*, <https://doi.org/10.1175/MWR-D-21-0214.1>

**Zhou, X.**, Yuejian Zhu, D. Hou, **B. Fu**, **W. Li**, **H. Guan**, **E. Sinsky**, **W. Kolczynski**, **X. Xue**, **Y. Luo**, **J. Peng**, **B. Yang**, **V. Tallapragada**, and P. Pegion, 2022: The Development of the NCEP Global Ensemble Forecast System Version 12. *Weather and Forecasting*, <https://doi.org/10.1175/WAF-D-21-0112.1>

## 2021

**Abdolali, A.**, **Van Der Westhuysen, A.**, **Ma, Z.**, **Mehra, A.**, Roland, A., and Moghimi, S., 2021: Evaluating the accuracy and uncertainty of atmospheric and wave model hindcasts during severe events using model ensembles. *Ocean Dynamics*, **71**, 19 pp. <https://doi.org/10.1007/s10236-020-01426-9> or <https://rdcu.be/cdfjB>

**Belochitski, A.**, and **V. Krasnopolsky**, 2021: Robustness of neural network emulations of radiative transfer parameterizations in a state-of-the-art general circulation model. *Geosci. Model Dev.*, **14**, 7425–7437, 2021. <https://doi.org/10.5194/gmd-14-7425-2021>

**Black, T. L.**, **J. A. Abeles**, **B. T. Blake**, **D. Jovic**, **E. Rogers**, **X. Zhang**, **E. A. Aligo**, **L. C. Dawson**, **Y. Lin**, **E. Strobach**, **P. C. Shafran**, and **J. R. Carley**, 2021: A Limited Area Modeling Capability for the Finite-Volume Cubed-Sphere (FV3) Dynamical Core and Comparison with a Global Two-Way Nest. *Journal of Advances in Modeling Earth Systems*, **13**(6), <https://doi.org/10.1029/2021MS002483>

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**Carley, J. R.**, M. Matthews, **M. T. Morris**, **M. S. F. V. De Pondaca**, J. Colavito, and **R. Yang**, 2021: Variational assimilation of web camera-derived estimates of visibility for Alaska aviation. *Experimental Results*, **2**, e14. <http://dx.doi.org/10.1017/exp.2020.66>

Deb, M., **Abdolali, A.**, Kirby, J.T., Shi, F., Guiteras, S., McDowell, C., 2021: Sensitivity of tidal hydrodynamics to varying bathymetric configurations in a multi-inlet rapidly eroding salt marsh system: A numerical study. *Earth Surf Process Landforms*. 2021.  
<https://doi.org/10.1002/esp.5308>

Fan, Y., **V. Krasnopolsky**, H. van den Dool, C.-Y. Wu, and J. Gottschalck, 2021: Using Artificial Neural Networks to Improve CFS Week 3-4 Precipitation and 2-Meter Air Temperature Forecasts. *Wea. Forecasting*, **36**, <https://doi.org/10.1175/WAF-D-20-0014.1>

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*, **36**, 519-538.  
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Huang, B., X. Wang, **D. T. Kleist**, and **T. Lei**, 2021: A simultaneous multiscale data assimilation using scale-dependent localization in GSI-based hybrid 4D-EnVar for NCEP FV3-based GFS, *Mon. Wea. Rev.*, **149**, 479-501, <https://doi.org/10.1175/MWR-D-20-0166.1>

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Li, J., **J. Du**, J. Xiong, and M. Wang, 2021: Perturbing Topography in a Convection-Allowing Ensemble Prediction System for Heavy Rain Forecasts. *JGR Atmospheres*, **126(14)**, 1-20, <https://doi.org/10.1029/2020JD033898>

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Qian, W.H., Y. Ai, J.-Y. Yu, and **J. Du**, 2021: Opposite anomalous synoptic patterns for potential California large wildfire spread and extinguishing in 2018 cases. *Atmospheric Research*, **262**, 1-16, <https://doi.org/10.1016/j.atmosres.2021.105804>

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**Wang, W.**, **B. Liu**, **L. Zhu**, **Z. Zhang**, **A. Mehra**, and **V. Tallapragada**, 2021: A New Horizontal Mixing-Length Formulation for Numerical Simulations of Tropical Cyclones. *Weather and Forecasting*, **36**, 679-695. <https://doi.org/10.1175/WAF-D-20-0134.1>

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Zheng, M., L. D. Monache, **X. Wu**, F. M. Ralph, B. Cornuelle, **V. Tallapragada**, J. S. Haase, A. M. Wilson, M. Mazloff, A. Subramanian, and F. Cannon, 2021: Data Gaps within Atmospheric Rivers over the Northeastern Pacific. *Bull. Amer. Meteor. Soc.*, **102(3)**, E492–E524. <https://doi.org/10.1175/BAMS-D-19-0287.1>

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## 2020

**Abdolali, A.**, Roland, A., **Van Der Westhuysen, A.**, **Meixner, J.**, **Chawla, A.**, Hesser, T., Smith, J.M. and M. Dutour Sikiric, 2020, Large-scale Hurricane Modeling Using Domain Decomposition Parallelization and Implicit Scheme Implemented in WAVEWATCH III Wave Model, *Coastal Engineering*, **157**, 103656, <https://doi.org/10.1016/j.coastaleng.2020.103656>

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