

# 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>.

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>

**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>

## 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>

Boukabara, S., **Krasnopolsky, V.**, Penny, S. G., Stewart, J. Q., McGovern, A., Hall, D., Ten Hoeve, J. E., Hickey, J., Allen Huang, H., Williams, J. K., Ide, K., Tissot, P., Haupt, S. E., Casey, K. S., Oza, N., Geer, A. J., Maddy, E. S., and Hoffman, R. N., 2021: Outlook for Exploiting Artificial Intelligence in the Earth and Environmental Sciences, *Bull. Amer. Meteor. Soc.*, **102**, E1016-E1032. <https://doi.org/10.1175/BAMS-D-20-0031.1>

Brus, S. R., Wolfram, P.J., Van Roekel, L.P., and **Meixner, J.D.**, 2021: Unstructured global to coastal wave modeling for the Energy Exascale Earth System Model using WAVEWATCH III version 6.07. *Geosci. Model Dev.*, **14**, 2917-2938. <https://doi.org/10.5194/gmd-14-2917-2021>

**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. <https://doi.org/10.1175/WAF-D-20-0044.1>

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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**Zhang, Z.**, J. A. Zhang, G. J. Alaka, Jr., **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 Forecast (HWRF) Modeling System, *Monthly Weather Review*, **149**, 3325-3339. <https://doi.org/10.1175/MWR-D-21-0021.1>

Zheng, M., L. D. Monache, B. D. Cornuelle, F. M. Ralph, **V. S. Tallapragada**, A. Subramanian, J.S. Haase, Z. Zhang, **X. Wu**, M. J. Murphy, T. B. Higgins, and L. DeHaan, 2021: Improved Forecast Skill Through the Assimilation of Dropsonde Observations From the Atmospheric River Reconnaissance Program. *JGR Atmospheres*, **126(21)**, <https://doi.org/10.1029/2021JD034967>

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## 2020

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**Dong, J., B. Liu, Z. Zhang, W. Wang, A. Mehra**, A.T. Hazelton, **H.R. Winterbottom, L. Zhu, K. Wu, C. Zhang, V. Tallapragada**, X. Zhang, S. Gopalakrishnan, F. Marks, 2020: The Evaluation of Real-Time Hurricane Analysis and Forecast System (HAFS) Stand-Alone Regional (SAR) Model Performance for the 2019 Atlantic Hurricane Season. *Atmosphere* 2020, **11**, 617. <https://doi.org/10.3390/atmos11060617>

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