



04/09/2025

Re: Yi-Jie Zhu; for consideration of the AASC New Scientist Award in Applied Climatology for 2025

I am very glad to write this letter of nomination for Yi-Jie Zhu for consideration of the AASC New Scientist Award in Applied Climatology. Yi-Jie earned his Ph.D. from the University of South Florida in August 2022. He is currently a tenure-track Assistant Professor at Florida Atlantic University, following a postdoctoral appointment at the Cooperative Institute for Research in the Atmosphere at Colorado State University. I cannot more strongly endorse any former student. I have been lucky to have had good students throughout the years, but Yi-Jie is by far the best – he already has considerable achievements and he thinks at a high level to thoroughly consider his research questions.

During his PhD, Yi-Jie worked very independently and solely conceived his research topic and main ideas although he was responsive and receptive to my minor suggestions. I can attest to the originality of his work, his innovative methods, the quality, structure and writing of his research. Yi-Jie's nominated manuscript, "*Recent Rebounding of the Post-Landfall Hurricane Wind Decay Period Over the Continental United States*" (Geophysical Research Letters, 2021), offers a novel and operationally meaningful contribution to applied climatology. This paper introduces the concept of the wind decay period, which is a metric that quantifies the inland longevity of hurricane-force winds. His analysis of over a century of hurricane data reveals a statistically significant rebound in post-landfall wind duration since 1980 and correlates to the Atlantic Multidecadal Oscillation, with implications for inland hazard assessment and emergency response planning. The work is methodologically innovative, policy-relevant, and has drawn attention from both scientific and operational communities. His research is already being cited by internationally-renowned researchers in top journals such as *Nature* and *npj Climate and Atmospheric Science*. His topic on inland tropical cyclones is an important area of research that has been ignored for years and has only recently been getting the appropriate interest since this manuscript was published in 2021.

Yi-Jie is at the forefront of this emerging area and has also published the following already on topics related to applied climatology and has other articles under review and more under preparation.

- Paul, D., J. Panda, A. Sarkar, S. Kumar, **Y. Zhu**, J.M Collins, Comparing the atmospheric and ocean characteristics associated with two distinctly intensified pre-monsoon tropical cyclones over Bay of Bengal. 2024, *Quarterly Journal of the Royal Meteorological Society*, 1-27, <http://doi.org/10.1002/qj.4682>
- Polen, A, J.M. Collins, E. Dunn, S. Murphy, I. Jernigan, K. McSweeney, **Y. Zhu**, 2023. How Post-Immunization COVID-19 Context Affected Residents' Evacuation Behavior During Hurricane Ida. *Weather, Climate, and Society*. <https://doi.org/10.1175/WCAS-D-22-0114.1>
- **Zhu, Y.**, J. M. Collins, J. Muller, P. Klotzbach, 2023. Accumulated Cyclone Energy-Based Tropical Cyclone Return Periods in Florida. *Annals of the American Association of Geographers*. 113 (9), 2013-2030. <https://doi.org/10.1080/24694452.2023.2230288>

- Collins, J.M., A. Polen, E. Dunn, I. Jernigan, K. McSweeney, M. Welford, M. Lackovic, D. Colón-Burgos, and Y. Zhu. 2022. Hurricanes Laura and Sally: A Case Study of Evacuation Decision-Making in the Age of COVID-19. *Weather, Climate, and Society*, 14 (4) 1231–1245 <https://doi.org/10.1175/WCAS-D-21-0160.1>
- Zhu, Y., J. M. Collins, P. J. Klotzbach, C. J. Schreck III, Hurricane Ida (2021). 2022. Rapid Intensification Followed by Slow Inland Decay. *Bulletin of the American Meteorological Society*. 103 (10), E2354–E2369 <https://doi.org/10.1175/BAMS-D-21-0240.1>
- Zhu, Y., & Collins J. M. (2022). The response of hurricane inland penetration to the nearshore translation speed. In *Hurricane Risk in a Changing Climate*. In Vol. 2. J.M. Collins. and J. Done, Eds., Springer, (2) 43–56.
- Zhu, Y., Collins J. M., & Klotzbach, P. J. (2021). Nearshore hurricane intensity change and post-landfall dissipation along the United States Gulf and East Coasts. *Geophysical Research Letters*, 48(17), e2021GL094680.
- Zhu, Y., Collins, J. M., & Klotzbach, P. J. (2021). Spatial variations of North Atlantic landfalling tropical cyclone wind speed decay over the continental United States. *Journal of Applied Meteorology and Climatology*, 60(6), 749–762.
- Zhu, Y., & Collins, J. M. (2021). Recent rebounding of the post-landfall hurricane wind decay period over the continental United States. *Geophysical Research Letters*, 48(6), e2020GL092072.
- Zhu, Y., Hu, Y., & Collins, J. M. (2020). Estimating road network accessibility during a hurricane evacuation: A case study of hurricane Irma in Florida. *Transportation Research Part D: Transport and Environment*, 102334.
- Zhu, Y., & Evans, S. G. (2019). Mapping tropical cyclone energy as an approach to hazard assessment. In *Hurricane Risk* (pp. 71– 87). Springer.

In addition to his achievements in applied climatology research, his advanced skills in GIS also allowed him to actively collaborate with peers from other disciplines. He led a study investigating Florida road network accessibility during Hurricane Irma’s evacuation. The paper received interest from both the research and operational community, having 55 citations in less than three years.

His motivation and productivity have been undeniable. In fact, not only was he recognized with the University of South Florida’s Outstanding Thesis and Dissertation Award, he received the West Central Florida Dewey Stowers Merit Award for his dedication to the field of Meteorology and for his service to the Chapter and Community (three years in a row – this achievement in multiple years had never been seen before for this Award). He also received the Gilbert F. White Thesis/Dissertation Award from the *hazards, risks, and disasters* specialty group of the American Association of Geographers and the MS Amlin award, which was sponsored by the Re-Insurance Industry and awarded for high-impact hurricane research.

Yi-Jie’s impact has also been seen through his leadership bringing scientists, engineers, social scientists, and re-insurance together from all over the world for the 2022, 2024, and 2025 symposiums on hurricane risk in a changing climate. His logistical support for this was key to the success of both symposiums. He served on the organizing committee and played a leading role. He also served as co-editor for the peer-reviewed book published by Springer in August 2024 titled, “Hurricane Risk in a Changing Climate”.

To conclude, selecting Yi-Jie for the New Scientist Award in Applied Climatology would be choosing someone who has already proven himself with his paper and other research areas and will continue to make strong contributions to applied climatology. I am quite certain of the impact this bright individual will continue to have.

Sincerely,



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