

April 9, 2025

Subject: Nomination of Dr. Nenghan Wan for AASC's 2025 New Scientist Award in Applied Climatology

Dear Dr. Daly and Members of AASC Awards Committee,

It is my great pleasure to nominate Dr. Nenghan Wan for the 2025 AASC New Scientist Award in Applied Climatology. Dr. Wan completed her Ph.D. degree at Kansas State University in August 2024 and is currently a Postdoctoral Fellow with the Office of the Kansas State Climatologist. During her doctoral training, Dr. Wan published five high-quality peer-reviewed articles, each demonstrating scholarly excellence and relevance to applied climatology.

In support of this nomination, I would like to highlight and submit her recent publication:

Wan, N., X. Lin, R. A. Pielke Sr, X. Zeng, and A. M. Nelson, 2024: Global total precipitable water variations and trends over the period 1958–2021. *Hydrology and Earth System Sciences*, **28**, 2123–2137, <https://doi.org/10.5194/hess-28-2123-2024>.

This study represents an outstanding contribution to applied climatology. Dr. Wan developed a robust methodology to assess global total precipitable water (TPW) trends over six decades by integrating multi-source observational and reanalysis datasets. Her work offers significant applied value: TPW is a key variable influencing hydrological extremes, drought and flood risk assessments, and operational climate forecasting systems. Through advanced statistical diagnostics and trend attribution, this research provides actionable insights for water resource management, disaster preparedness, and climate adaptation planning across regions.

Dr. Wan's leadership in this project was evident throughout—from designing the analytical framework to executing the data synthesis and interpretation. Importantly, the manuscript underwent a rigorous peer-review process involving internationally recognized climate scientists, including Dr. Ben Santer, Dr. Richard Allan, and Dr. Kevin Trenberth, underscoring the scientific merit and credibility of the work.

As her doctoral advisor, I have had the opportunity to observe Dr. Wan's analytical acumen, scientific rigor, and research independence. She exemplifies the interdisciplinary spirit of applied climatology by linking climate science with hydrology and policy-relevant outcomes. Her work is clear, well-organized, visually compelling, methodologically innovative, and directly applicable to operational climatological challenges—meeting all criteria of this prestigious award.

I strongly endorse Dr. Nenghan Wan for the AASC New Scientist Award in Applied Climatology. Please feel free to contact me if additional materials or clarification are needed.

Sincerely,

*Xiaomao Lin*

Xiaomao Lin

Professor and State Climatologist for Kansas