

Updated October 2025

Cong Gao

Postdoctoral Research Associate

Princeton University

Department of Civil & Environmental Engineering

cong.gao@princeton.edu

<https://cong.scholar.princeton.edu>

Education:

Ph.D. in Physical Oceanography, Shanghai Jiao Tong University	2024
M.S. in Physical Oceanography, Shanghai Jiao Tong University	2021
B.S. in Oceanography, Tongji University	2018

Professional Positions:

2025–Present	Postdoctoral Research Associate, CEE, Princeton University
--------------	--

Research Interests:

Tropical Cyclone Risk to Coastal Cities

Compound Hazards of Tropical Cyclones and Heatwaves

Research Outputs:

Journal Articles:

1. **Gao, Cong**, Lei Zhou, I-I. Lin, Chunzai Wang, Shoude Guan, Fei-Fei Jin, and Raghu Murtugudde. "Crucial role of subsurface ocean variability in tropical cyclone genesis." *Nature Communications* 16, no. 1 (2025): 1050.

2. **Gao, Cong**, Lei Zhou, Chunzai Wang, I-I. Lin, and Raghu Murtugudde. "Unexpected limitation of tropical cyclone genesis by subsurface tropical central-north Pacific during El Niño." *Nature Communications* 13, no. 1 (2022): 7746.
3. **Gao, Cong**, and Lei Zhou. "Tropical cyclone genesis over the western North Pacific simulated by Coupled Model Intercomparison Project Phase 6 models." *Acta Oceanologica Sinica* 41, no. 5 (2022): 64–77.
4. Li, Baosheng, Lei Zhou, Chunzai Wang, **Cong Gao**, Jianhuang Qin, and Ze Meng. "Modulation of tropical cyclone genesis in the Bay of Bengal by the central Indian Ocean mode." *Journal of Geophysical Research: Atmospheres* 125, no. 12 (2020): e2020JD032641.

Selected Presentations:

1. AGU 2025 Annual Meeting, San Francisco, USA: "PepC-Global: A Basin-Tuned, Environment-Dependent Probabilistic Tropical Cyclone Model". Oral presentation, December 2025.
2. The AMS 24th Conference on Air-Sea Interaction at the 105th AMS Annual Meeting, New Orleans, USA: "Crucial role of subsurface ocean variability in tropical cyclone genesis". Oral presentation, January 2025.
3. 2024 Symposium on Hurricane Risk in a Changing Climate, Honolulu, USA: "Ocean subsurface variability has significant impacts on tropical cyclone genesis". Poster, June 2024.
4. Asia Oceania Geosciences Society (AOGS) 21st Annual Meeting, Pyeongchang, South Korea: "Significant impacts of ocean subsurface variability on tropical cyclone genesis". Oral presentation, June 2024.
5. AGU 2023 Annual Meeting, San Francisco, USA: "Unexpected limitation of tropical cyclone genesis by subsurface tropical central-north Pacific during El Niño". Poster, December 2023.
6. Asia Oceania Geosciences Society (AOGS) 20th Annual Meeting, Singapore: "Unexpected limitation of tropical cyclone genesis by subsurface tropical central-north Pacific during El Niño". Oral presentation, July to August 2023.
7. Asia Oceania Geosciences Society (AOGS) 19th Annual Meeting, Online: "Suppression of tropical cyclone genesis by subsurface environment in the tropical central North Pacific during El Niño". Oral presentation, August 2022.
8. AGU 2019 Fall Meeting, San Francisco, USA: "Projections of tropical cyclones in western North Pacific under climate change: Using a new genesis potential index". Poster, December 2019.

Professional Services:

Review Activities:

Journals: *Journal of Climate*, *Journal of Geophysical Research: Oceans*, *Climate Dynamics*, *Environmental Research Letters*, *Environmental Research Communications*, *Machine Learning: Science and Technology*, *Acta Oceanologica Sinica*, *npj Climate and Atmospheric Science*

Professional Affiliations:

American Geophysical Union (AGU)

American Meteorological Society (AMS)

Asia Oceania Geosciences Society (AOGS)

Institute of Electrical and Electronics Engineers (IEEE)