

# Guanjie Jiao (焦冠杰)

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## Education

**PhD Student** in Atmospheric Science (Atmospheric Environment and Atmospheric Chemistry), School of Atmospheric Sciences, Nanjing University (NJU), Nanjing, China 2025-  
**B.S.** in Atmospheric Science (Direction of Atmospheric Environment), School of Environmental Science and Engineering, Nanjing University of Information Science & Technology (NUIST), Nanjing, China 2021-2025  
**H.S.**, Anyang No.1 Middle School in Henan Province, Anyang, China 2018-2021

## Awards and Honors

National Scholarship 2023  
President Scholarship of the NUIST (**Highest Scholarship in the NUIST**) 2023, 2024  
Second Prize in the China Undergraduate Life Sciences Contest 2023  
Merit Student in Jiangsu Province 2023  
Excellent Award in “Sharing Cup” Innovation Competition of Science and Technology  
Resources Sharing Service 2023  
National Students’ Platform for Innovation and Entrepreneurship Training Program 2023  
Second Prize in the University Student Science and Technology Innovation  
Contest on Low-carbon & Recirculation 2022  
Third Prize in Jiangsu Province Higher Mathematics Competition 2022  
Merit Student in NUIST 2022, 2023  
Outstanding Students Leader in NUIST 2022  
First Class Scholarship in NUIST 2022

## Research Interests

- Development of numerical model: Feedback process (Aerosol radiation feedback, ARF) and chemical mechanisms (Heterogeneous Chemistry of HONO, Cloud Water Chemistry of Sulfur)
- The interaction between air quality and land surface ecology
- The application of Artificial Intelligence (AI) in meteorology

## Publications

### *Manuscript in preparation:*

**Jiao, G.**, Chen, L., Li, K., Zhu, J., Dong, X., Yang, Y., Yue, X., & Liao, H. (*in submission*). Worsened ozone pollution exacerbates the loss of agricultural production in China. *Journal of Geophysical Research: Atmospheres*.

**Jiao, G.**, Zhu, X., Li, X., Dong, X., Li, D., He, K., & Qiu, R. (*in submission*). The uneven change of global expanding summer over the past 50 years. *Geophysical Research Letters*.

Zhu, X., **Jiao, G.**, Li, Q., & Qiu, R. (*in submission*). Benefits for inversion of long-term satellite daily air temperature based on multi-machine learning algorithms. *Atmospheric Research*.

Wang, X., Zhu, J., Chen, L., **Jiao, G.** et al. (*in submission*). Meteorological Influence on Long-term Trends of Surface Ozone in China: Uncertainty Analysis. *Atmospheric Chemistry and Physics*.

### *Published:*

**Jiao, G.**, Shentu, X., Zhu, X., Song, W., Song, Y., & Yang, K. (2022). Utility of deep learning algorithms in initial flowering period prediction models. *Agriculture*, 12(12), 2161.

Zhu, X., Li, Q., Zeng, Y., **Jiao, G.**, Gu, W., Qiu, X., & Wumaer, A. (2023). Refined Spatialization of 10-Day Precipitation

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in China Based on GPM IMERG Data and Terrain Decomposition Using the BEMD Algorithm. *Journal of Meteorological Research*, 37(5), 690-709.

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## **Presentations**

**Jiao, G.,** Chen, L., and Zhu, J.: Assessment of ozone-induced crop yield loss and its uncertainty in China over 2013-2100, *poster presentation*, The second National Doctoral Conference on Atmospheric Environmental Chemistry, Nanjing, China, August 2023.

**Jiao, G.,** Chen, L., Zhu, J., Li, K., Yang, Y., Yue, X., and Liao, H.: Food crisis in China caused by ozone exposure: historical and future assessment, uncertainty, and trends based on multi-metrics, *poster presentation*, 2024 CUHK EASC Summer Workshop, Hong Kong, China, August 2024.

**Jiao, G.,** Chen, L., Zhu, J., Li, K., Yang, Y., Yue, X., and Liao, H.: Worsened ozone pollution exacerbates the loss of agricultural production in China, *oral presentation*, The 6<sup>th</sup> Young Talents Forum on Atmospheric and Environmental Science, Nanjing, China, August 2024.

**Jiao, G.,** Zhu, X., Li, Q., and Qiu, R.: Benefits for inversion of long-term daily air temperature based on STA machine learning algorithm and AVHRR, *poster presentation*, The 2<sup>nd</sup> National Defense Highland Forum, Changsha, China, October, 2024.

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## **Hosted project**

Research on prediction model for initial flowering period based on artificial intelligence algorithms, National Students' Platform for Innovation and Entrepreneurship Training Program, 2022-2023

