

Cong Yin

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Bio

I am an early-career climate scientist pushing the boundaries of understanding wildfires and climate extremes using hydroclimatic, data-driven, and geostatistical approaches. My work has led to step-changes in understanding the synchronicity and persistence of extreme fire weather—factors that strongly influence extreme fire activity. Benefiting from world-class supervision and collaboration, I focus my recent work on extreme wildfires, one of the most societally and environmentally destructive consequences of climate change. I increasingly concentrate on predicting extreme wildfires and developing a mechanistic understanding of their causes, contributing to advances in fire science and fire management, with the potential to save lives and property.

Education

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| Ph.D. in Geographic Information Science
University of Chinese Academy of Sciences, Beijing, China
Advisor: Dr. Juanle Wang
Dissertation: Detection, Changes, and Impacts of Global Compound Events | <i>Sep. 2018 – Jun. 2024</i> |
| Visiting Ph.D. Student at Columbia University, New York, NY, USA
Department: Lamont-Doherty Earth Observatory
Advisor: Dr. Mingfang Ting | <i>Apr. 2023 – Jun. 2024</i> |
| B.S. in Land Resources Management
Chang'an University, Xi'an, China | <i>Sep. 2014 – Jun. 2018</i> |

Appointments

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| Postdoctoral Scientist at University of California, Merced, CA, USA
Department: Sierra Nevada Research Institute
Advisor: Dr. John Abatzoglou | <i>Aug. 2024 – Present</i> |
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Publications

Published

- [1] **C. Yin**, M. Ting, K. Kornhuber, R. M. Horton, Y. Yang, Y. Jiang, CETD, a global compound events detection and visualisation toolbox and dataset. *Sci. Data* 12, 356 (2025).
- [2] Y. Liu, Y. Xin, **C. Yin**, A Transformer-based method to simulate multi-scale soil moisture. *J. Hydrol.* 655, 132900 (2025).
- [3] **C. Yin**, Y. Yang, X. Chen, X. Yue, Y. Liu, Y. Xin, Global near real-time daily apparent temperature and heat wave dataset. *Geosci. Data J.* 10, 231–245 (2023).
- [4] **C. Yin**, Y. Yang, X. Chen, X. Yue, Y. Liu, Y. Xin, Changes in global heat waves and its socioeconomic exposure in a warmer future. *Clim. Risk Manag.* 38, 100459 (2022).
- [5] **C. Yin**, Y. Yang, F. Yang, X. Chen, Y. Xin, P. Luo, Diagnose the dominant climate factors and periods of spring phenology in Qinling Mountains, China. *Ecol. Indic.* 131, 108211 (2021).
- [6] X. Chen, Y. Yang, **C. Yin**, Contribution of Changes in Snow Cover Extent to Shortwave Radiation Perturbations at the Top of the Atmosphere over the Northern Hemisphere during 2000–2019. *Remote Sens.* 13, 4938 (2021).

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- [7] **C. Yin**, F. Yang, J. Wang, Y. Ye, Spatiotemporal distribution and risk assessment of heat waves based on apparent temperature in the one belt and one road region. *Remote Sens.* 12, 1174 (2020).
 - [8] **C. Yin**, F. Yang, J. Wang, Analogs of Future Climate in Chinese Cities Identified in Present Observations. *IEEE Access* 8, 219151–219159 (2020).

Under Review

- [1] **C. Yin**, J. T. Abatzoglou, M. W. Jones, A. C. Cullen, M. Sadegh, J. Wang, Y. Liu, Increasing synchronicity of global extreme fire weather. *Sci. Adv.* (2025).

In Preparation

- [1] **C. Yin**, J. T. Abatzoglou, M. W. Jones, A. C. Cullen, M. Sadegh, Increasing fire weather waves as a critical driver of extreme fire activity.
- [2] **C. Yin**, M. Ting, K. Kornhuber, R. M. Horton, Understanding the record-breaking concurrent heatwaves of summer 2023.

Funding

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- [1] Changes and Drivers of Global Extreme Fire Weather, China State Key Laboratory of Geographic Information Science and Technology *PI (2024–, \$5, 000)*
 - [2] Detection, Changes, and Impacts of Global Compound Events, University of Chinese Academy of Sciences *PI (2023–2024, \$24, 000)*

Presentations

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- [1] Increasing synchronicity of global extreme fire weather, SNRI Early Career Researcher Lightning Talks *Oral, Mar. 2025, Merced, USA*
 - [2] Increasing Global Intra-Regional and Inter-Regional Synchronous Fire Danger, 2025 AMS Denver Summit *Poster, May 2025, Denver, USA*
 - [3] CETD, a global compound events detection and visualization toolbox and dataset, AGU Fall Meeting *Poster, Dec. 2023, San Francisco, USA*

Honors & Awards

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- [1] First Class Academic Scholarship, University of Chinese Academy of Sciences *Oct. 2022 & 2023*
 - [2] First Class Director Scholarship, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences *Oct. 2021 & 2022*
 - [3] Scholarship for the International PhD Joint Training Program, University of Chinese Academy of Sciences *Nov. 2022*
 - [4] Merit Student Scholarship, University of Chinese Academy of Sciences *May 2020, 2021 & 2023*

Media & Outreach

Science Communication

- [1] Founder of the WeChat public account [Extreme Science](#), established in Feb. 2025, 799 followers
- [2] [CETD, a global compound events detection and visualisation toolbox and dataset](#), Bluesky, Mar. 2025

Industry & Fieldwork

- [1] A nine-day fieldwork investigating the ecological benefits of restoring grazing land to grassland in Tibet, Jul. 2019, Tibet, China
- [2] A fourteen-day fieldwork monitoring factory pollution using drones in northern China, Nov. 2020, Hebei, China