Yongkun Xie 谢永坤

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Employment

Lanzhou University, Collaborative Innovation Center for Western Ecological Safety
Research Scientist 9/2020-Present

Chinese Academy of Sciences, Institute of Atmospheric Physics
Postdoctoral Researcher 7/2017-9/2020

Education

Ph.D. in Climatology, Lanzhou University 9/2012-6/2017
Visiting Student, Princeton University 9/2015-8/2016
B.E. in Atmospheric Science, Lanzhou University 8/2008-6/2012

Honors

Springer Nature Trusted Reviewer 3/2025
IOP Trusted Reviewer 3/2024
Outstanding Dissertation in Gansu Province 7/2017

Professional Experience

Journal Reviewer for Nature Communications, Nature Water, Journal of Climate, Communications Earth & Environment, Environmental Research Letters, Journal of Geophysical Research: Atmosphere, Atmospheric Research, International Journal of Climatology, Advances in Climate Change Research, Science China Earth Sciences, Environmental Research Communications, Meteorology, Discover Applied Sciences

Teaching Experience

Lanzhou University
Meteorology of the Tibetan Plateau 4/2022
3/2024
2/2025
Climate and Climate System 10/2024
Introduction to Earth System Science 12/2024

Current Students Supervised

Master's candidate:
Jiaqin Mi (LZU, advisor)
Zhongrui Bao (LZU, advisor)
Min Zhao (LZU, advisor)

Zifan Su (LZU, advisor)

Undergraduate student:
Wenze Shi (LZU, advisor)
Liangcai Xing (LZU, advisor)

Past Students Supervised

Master's graduate:

Nan Lei (LZU, graduated in 2024, Doctoral candidate in LZU)

Hanbin Nie (LZU, graduated in 2024, Commercial Aircraft Corporation of China, Ltd.)

Publications

1. Zhang B, He Y, Wang Z, Huang B, **Xie Y**, et al. (2025) Disagreement in detected heatwave trends resulting from diagnostic methods. *Geophysical Research Letters*, 52, e2024GL114398.
2. Su Z, **Xie Y***, Huang J, et al. (2024) Impact of the Tibetan Plateau on Global High-Frequency Temperature Variability. *Journal of Climate*, 37, 4347–4365.
3. Lei N, **Xie Y***, Bao Z, et al. (2024) Decadal heatwave fluctuations in China caused by the Indian and Atlantic Oceans. *Environmental Research Letters*, 19, 074063.
4. Nie H, **Xie Y***, Zhao M, et al. (2024) Future trends in the vertical structure of Arctic warming and moistening in different emission scenarios. *Atmospheric Research*, 301: 107271.
5. 吴国雄, 刘屹岷, 毛江玉, 何编, 包庆, **谢永坤**, 等. (2024) 位涡源汇和位涡环流及其天气气候意义. *大气科学*, 48(1): 8−25.
6. Zhou C, Yang X, Liu Y, Zhu Q, **Xie Y**, et al. (2024) Terrain effects of the Tibetan Plateau on dust aerosol distribution over the Tarim Basin, China. *Atmospheric Research*, 298: 107143.
7. Liu Y, Huang J, Tan Z, Zhou C, Li D, **Xie Y**. (2024) Compound events of heatwave and dust storm in the Taklamakan Desert. *Science China Earth Sciences*, 67, 2073–2083.
8. Li C, Huang J, Liu X, Ding L, He Y, **Xie Y**. (2024) The ocean losing its breath under the heatwaves. *Nature Communications*, 15, 6840.
9. Ge J, Li W, Huang J, Mu Q, Li Q, Zhao Q, Su J, **Xie Y**, et al. (2024) Dust accelerates the life cycle of high clouds unveiled through strongly-Constrained meteorology. *Geophysical Research Letters*, 51, e2024GL109998.
10. 景治坤, 黄建平, 刘玉芝, **谢永坤**. (2024). 沙尘气溶胶加热对深积云对流系统的影响. *兰州大学学报（自然科学版）*, 60(3), 296−303.
11. **Xie Y**, Huang J, Wu G, et al. (2023) Oceanic repeaters boost the global climatic impact of the Tibetan Plateau. *Science Bulletin*, 68(19), 2225–2235.
12. **Xie Y**, Wu G, Liu Y, et al. (2023) A potential vorticity budget view of the atmospheric circulation climatology over the Tibetan Plateau. *International Journal of Climatology*, 43, 2031–2049.
13. **Xie Y**, Huang J, Wu G, et al. (2023) Potential vorticity dynamics explain how extratropical oceans and the Arctic modulate wintertime land-temperature variations. *Earth's Future*, 11, e2022EF003275.
14. **Xie Y**, Huang J, Wu G, et al. (2023) Enhanced Asian warming increases Arctic amplification. *Environmental Research Letters*, 18, 034041.
15. Huang J, Zhou X, Wu G, Xu X, Zhao Q, Liu Y, Duan A, **Xie Y**, et al. (2023) Global climate impacts of land-surface and atmospheric processes over the Tibetan Plateau. *Reviews of Geophysics*, 61, e2022RG000771.
16. 黄建平, **谢永坤**. (2023) 次季节尺度上的“暖北极-冷欧亚”模态. *科学通报*, 68(14),

1721–1722.
17. Tan Z, Liu Y, Shao T, Luo R, Luo M, **Xie Y**. (2023) Association between Tibetan heat sources and heat waves in China. *Journal of Climate*, 36, 7905–7924.
18. Gao Z, Guan X, He B, Zhao L, **Xie Y**, et al. (2023) Impacts of the Tibetan Plateau on aridity change over the Northern Hemisphere. *Atmospheric Research*, 281, 106470.
19. Wang G, He Y, Zhang B, Wang X, Cheng S, **Xie Y**, et al. (2023) Historical evaluation and projection of precipitation phase changes in the cold season over the Tibetan Plateau based on CMIP6 multimodels. *Atmospheric Research*, 281, 106494.
20. Yang Y, Liu Y, Hu Z, Yu H, Li J, **Xie Y**, et al. (2023) Impact of the leading atmospheric wave train over Eurasia on the climate variability over the Tibetan Plateau during early spring. *Climate Dynamics*, 60, 3885–3900.
21. **Xie Y**, Nie H, He Y. (2022) Extratropical climate change during periods before and after an Arctic ice-free summer. *Earth's Future*, 10, e2022EF002881.
22. **Xie Y,** Wu G, Liu Y, et al. (2022) A dynamic and thermodynamic coupling view of the linkages between Eurasian cooling and Arctic warming. *Climate Dynamics*, 58, 2725–2744.
23. Wang G, He Y, Huang J, Guan X, Wang X, Hu H, Wang S, **Xie Y.** (2022) The influence of precipitation phase changes on the recharge process of terrestrial water storage in the cold season over the Tibetan Plateau. *Journal of Geophysical Research: Atmospheres*, 127, e2021JD035824.
24. Sheng C, Wu G, Tang Y, He B, **Xie Y**, et al. (2021) Characteristics of the potential vorticity and its budget in the surface layer over the Tibetan Plateau. *International Journal of Climatology*, 41, 439–455.
25. **Xie Y**, Wu G, Liu Y, et al. (2020) Eurasian cooling linked with Arctic warming: Insights from PV dynamics. *Journal of Climate*, 33, 2627–2644.
26. Huang M, Li J, Zeng G, **Xie Y**. (2020) Regional characteristics of cloud radiative effects before and after the South China sea summer monsoon onset. *Journal of Meteorological Research*, 34, 1167–1182.
27. **Xie Y**, Huang J, Ming Y. (2019) Robust regional warming amplifications directly following the anthropogenic emission. *Earth's Future*, 7, 363–369.
28. Luo W, Guan X, **Xie Y**, et al. (2019) The key role of decadal modulated oscillation in recent cold phase. *International Journal of Climatology*, 39, 5761–5770.
29. He Y, Huang J, Li D, **Xie Y**, et al. (2018) Comparison of the effect of land-sea thermal contrast on interdecadal variations in winter and summer blockings. *Climate Dynamics*, 51, 1275–1294.
30. **Xie Y**, Huang J, Liu Y. (2017) From accelerated warming to warming hiatus in China. *International Journal of Climatology*, 37, 1758–1773.
31. Huang J, **Xie Y**, Guan X, et al. (2017) The dynamics of the warming hiatus over the Northern Hemisphere. *Climate Dynamics*, 48, 429–446.
32. Huang J, Li Y, Fu C, Chen F, Fu Q, Dai A, Shinoda M, Ma Z, Guo W, Li Z, Zhang L, Liu Y, Yu H, He Y, **Xie Y**, et al. (2017) Dryland climate change: Recent progress and challenges. *Reviews of Geophysics*, 55, 719–778.
33. Ma J, Guan X, Guo R, Gan Z, **Xie Y**. (2017) Mechanism of non-appearance of hiatus in Tibetan Plateau. *Scientific Reports*, 7, 4421.
34. Zhang Y, Guan X, Yu H, **Xie Y**, et al. (2017) Contributions of radiative factors to enhanced dryland warming over East Asia. *Journal of Geophysical Research: Atmospheres*, 122, 7723–7736.
35. **Xie Y**, Liu Y, Huang J. (2016) Overestimated Arctic warming and underestimated Eurasia mid-latitude warming in CMIP5 simulations. *International Journal of Climatology*, 36, 4475–4487.
36. Guan X, Huang J, Zhang Y, **Xie Y**, et al. (2016) The relationship between anthropogenic dust and population over global semi-arid regions. *Atmospheric Chemistry and Physics*,

16, 5159–5169.
37. Huang J, Ji M, **Xie Y**, et al. (2016) Global semi-arid climate change over last 60 years. *Climate Dynamics*, 46, 1131–1150.
38. Ji M, Huang J, **Xie Y**, et al. (2015) Comparison of dryland climate change in observations and CMIP5 simulations. *Advances in Atmospheric Sciences*, 32, 1565–1574.
39. Liu Y, Sato Y, Jia R, **Xie Y**, et al. (2015) Modeling study on the transport of summer dust and anthropogenic aerosols over the Tibetan Plateau. *Atmospheric Chemistry and Physics*, 15, 12581–12594.
40. **谢永坤**, 刘玉芝,黄建平. (2014) 秋季北极海冰对中国冬季气温的影响. *气象学报*, 72, 703–710.
41. Bi J, Shi J, **Xie Y**, et al. (2014) Dust aerosol characteristics and shortwave radiative impact at a Gobi Desert of Northwest China during the spring of 2012. *Journal of the Meteorological Society of Japan. Ser. II*, 92, 33–56.
42. Liu Y, Jia R, Dai T, **Xie Y**, et al. (2014) A review of aerosol optical properties and radiative effects. *Journal of Meteorological Research*, 28, 1003–1028.
43. **谢永坤**, 刘玉芝, 黄建平, 等. (2013) 雪冰反馈对北半球经向温度梯度的影响. *地球科学进展*, 28, 1276–1282.
44. Liu Y, Shi G, **Xie Y**. (2013) Impact of dust aerosol on glacial-interglacial climate. *Advances in Atmospheric Sciences*, 30, 1725–1731.

Presentations

1. A Potential Vorticity Budget View of the Atmospheric Circulation Climatology over the Tibetan Plateau, *The 4th Asian Conference on Meteorology (ACM) 2024*, Tsukuba, 2024-11-19.
2. Oceanic Repeaters Boost the Global Climatic Impact of the Tibetan Plateau, *The 4th Asian Conference on Meteorology (ACM) 2024*, Tsukuba, 2024-11-18.
3. 青藏高原热源的全球气候效应, *"青藏高原遥相关气候效应"研讨会*, 拉萨, 2024-7-7.
4. Multi-layered Interactions Underlying Arctic Amplification and Its Impact, *AOGS 2024*, Pyeongchang, 2024-6-27.
5. Oceanic Repeaters Boost the Global Climatic Impact of the Tibetan Plateau, *AOGS 2024*, Pyeongchang, 2024-6-27.
6. Enhanced Asian Warming Increases Arctic Amplification, *AGU 2023*, San Francisco, 2023-12-15.
7. Oceanic Repeaters Boost the Global Climatic Impact of the Tibetan Plateau, *AGU 2023*, San Francisco, 2023-12-12.
8. Oceanic Repeaters Boost the Global Climatic Impact of the Tibetan Plateau, *TEWEX-CLIMA 2023*, Diqing, 2023-8-10.
9. 海-气相互作用促进了青藏高原热源的全球气候效应, *第一届气候变化科学大会*, 合肥, 2023-10-19.
10. 亚洲强化增温加剧了北极放大, *第一届气候变化科学大会*, 合肥, 2023-10-20.
11. 海-气相互作用促进了青藏高原热源的全球气候效应, *中国气象学会气象青年科技交流会暨 2023 年青年科学家论坛*, 珠海, 2023-8-24.
12. 海-气相互作用促进了青藏高原热源的全球气候效应, *第二次青藏科考重大成果报告会暨中国青藏高原研究会学术年会*, 北京, 2023-6-16.
13. 亚洲强化增温加剧了北极放大效应, *第五届"中国大地测量和地球物理学学术大会"*, 武汉, 2023-4-22.
14. 海洋中继器促进了青藏高原热源的全球气候效应, *第五届"中国大地测量和地球物理学学术大会"*, 武汉, 2023-4-22.

15. 海洋和北极调控冬季陆地气温变化的位涡动力学观点, *第五届"中国大地测量和地球物理学学术大会"*, 武汉, 2023-4-23.
16. Eurasian cooling linked with Arctic warming, *27th IUGG General Assembly*, Montreal, 2019-7-13.

Projects

1. 国家自然科学基金委员会, 面上项目, 41975109, 中国东南部春季云辐射效应及其对区域环流季节内演变的影响, 2020-01-01 至 2023-12-31, 63 万元, 参与.
2. 国家自然科学基金委员会, 重点项目, 42030602, 地球三极气候变化耦合联动的途径和过程, 2021-01-01 至 2025-12-31, 300 万元, 参与.
3. 科学技术部, 国家重点研发计划青年科学家项目, 2023YFF0806700, 热带海气系统和青藏高原对东亚夏季极端降水事件的协同影响及机理, 2024-01 至 2028-12, 300 万元, 参与.