

## Cheng Meng

School of Biological Sciences

The University of Oklahoma

101 David L. Boren Blvd, Norman, OK 73019

Email: [cheng.meng@ou.edu](mailto:cheng.meng@ou.edu)

Website: <https://chengmenglzu.github.io/>

### Education

---

Ph.D. in Ecology & Evolutionary Biology, University of Oklahoma, USA 2022 – 2026 (expected)

M.S. in Geography, Peking University, China 2017 – 2020

B.S. in Grassland Science, Lanzhou University, China 2013 – 2017

### Research Publications

---

(20 published, Total citations = 785, h-index = 10, i10-index = 10 on [Google Scholar](#))

First author:

7. **Cheng Meng**, Xiangming Xiao, Li Pan, Baihong Pan, Russell Scott, Pradeep Wagle, Chenchen Zhang, Yuan Yao, Yuanwei Qin. 2024. Interannual variability of gross primary production and transpiration in savannas and grasslands over 2000-2021. [Frontiers of Earth Science](#) (In press).

6. **Cheng Meng**, Xiangming Xiao, Pradeep Wagle, Chenchen Zhang, Li Pan, Baihong Pan, Yuanwei Qin, Gregory S. Newman. 2024. Exponential or unimodal relationships between nighttime ecosystem respiration and temperature at the eddy covariance flux tower sites. [Ecology Letters](#) 10(27): e14532.

5. **Cheng Meng**, Shuli Niu, Wenjing Chang, Quan Quan, Hui Zeng. 2020. Effects of warming and clipping on soil respiration and its components in an alpine meadow. [Acta Ecologica Sinica](#) 40(18): 6405-6415.

4. **Cheng Meng**, Dashuan Tian, Hui Zeng, Zhaolei Li, Han YH Chen, Shuli Niu. 2020. Global meta-analysis on the responses of soil extracellular enzyme activities to warming. [Science of the Total Environment](#) 705:135992.

3. **Cheng Meng**, Dashuan Tian, Hui Zeng, Zhaolei Li, Chuixiang Yi, Shuli Niu. 2019. Global soil acidification impacts on belowground processes. [Environmental Research Letters](#) 14(7): 074003. (IOP Top Cited Paper Award)

2. **Cheng Meng**, Yane Guo, Yingde Li, Tingyu Duan. 2018. Effects of three AM fungi on plant growth and nutrition uptake of alfalfa. [Grassland and Turf](#) 38(2): 66-72.

1. **Cheng Meng**, Ni Lu, Qi Chai. 2017. Effects of inoculation with arbuscular mycorrhizal fungi

and rhizobia on growth of *Medicago sativa* in acidic soil. [\*Pratacultural Science\*](#) 34(2):352-360.

Co-author:

13. Li Pan, Xiangming Xiao, Yuan Yao, Baihong Pan, Chenglong Yin, **Cheng Meng**, Yuanwei Qin, Chenchen Zhang. 2024. Site-specific apparent optimum air temperature for vegetation photosynthesis across the globe. [\*Scientific Data\*](#) 11: 758.

12. Li Pan, Xiangming Xiao, Baihong Pan, **Cheng Meng**, Ralf M Staebler, Chenchen Zhang, Yuanwei Qin. 2024. Interannual variations and trends of gross primary production and transpiration of four mature deciduous broadleaf forest sites during 2000–2020. [\*Remote Sensing of Environment\*](#) 304: 114042.

11. Chenchen Zhang, Xiangming Xiao, Xinxin Wang, Yuanwei Qin, Russell Doughty, Xuebin Yang, **Cheng Meng**, Yuan Yao, Jinwei Dong. 2024. Mapping wetlands in Northeast China by using knowledge-based algorithms and microwave (PALSAR-2, Sentinel-1), optical (Sentinel-2, Landsat), and thermal (MODIS) images. [\*Journal of Environmental Management\*](#) 349: 119618.

10. Nicolas Fanin, Maria Mooshammer, Marie Sauvadet, **Cheng Meng**, Gaël Alvarez, Laëtitia Bernard, Isabelle Bertrand, Evgenia Blagodatskaya, Lucie Bon, Sébastien Fontaine, Shuli Niu, Gwenaelle Lashermes, Tania L Maxwell, Michael N Weintraub, Lisa Wingate, Daryl Moorhead, Andrew T Nottingham. 2022. Soil enzymes in response to climate warming: Mechanisms and feedbacks. [\*Functional Ecology\*](#) 36: 1378-1395. **(ESI highly cited paper)**

9. Yingjie Yan, Shuli Niu, Yicheng He, Song Wang, Lei Song, Jinlong Peng, Xinli Chen, Quan Quan, **Cheng Meng**, Qingping Zhou, Jinsong Wang. 2022. Changing plant species composition and richness benefit soil carbon sequestration under climate warming. [\*Functional Ecology\*](#) 36(12): 2906-2916.

8. Yingjie Yan, Quan Quan, **Cheng Meng**, Jinsong Wang, Dashuan Tian, Bingxue Wang, Ruiyang Zhang, Shuli Niu. 2021. Varying soil respiration under long-term warming and clipping due to shifting carbon allocation toward below-ground. [\*Agricultural and Forest Meteorology\*](#) 304-305(2): 108408.

7. Jinsong Wang, Yiqi Luo, Quan Quan, Fangfang Ma, Dashuan Tian, Weinan Chen, Song Wang, Lu Yang, **Cheng Meng**, Shuli Niu. 2021. Effects of warming and clipping on CH<sub>4</sub> and N<sub>2</sub>O fluxes in an alpine meadow. [\*Agricultural and Forest Meteorology\*](#) 297: 108278.

6. Song Wang, Quan Quan, **Cheng Meng**, Weinan Chen, Yiqi Luo, Shuli Niu. 2021. Experimental warming shifts coupling of carbon and nitrogen cycles in an alpine meadow. [\*Journal of Plant Ecology\*](#) 14:541-554.

5. Zhaolei Li, Zhaoqi Zeng, Dashuan Tian, Jinsong Wang, Bingxue Wang, Han YH Chen, Quan Quan, Weinan Chen, Jilin Yang, **Cheng Meng**, Yi Wang, Shuli Niu. 2020. Global variations and

controlling factors of soil nitrogen turnover rate. [Earth-Science Review](#) 207:103250.

4. Quan Quan, Fangyue Zhang, **Cheng Meng**, Fangfang Ma, Qingping Zhou, Fubao Sun, Shuli Niu. 2020. Shifting biomass allocation determines community water use efficiency under climate warming. [Environmental Research Letters](#) 15:094041.

3. Dashuan Tian, Peter B Reich, Han YH Chen, Yangzhou Xiang, Yiqi Luo, Ying Shen, **Cheng Meng**, Wenxuan Han, Shuli Niu. 2019. Global changes alter plant multi-element stoichiometric coupling. [New Phytologist](#) 221(2): 807-817. **(ESI highly cited paper)**

2. JianJun Wang, WeiHu Lin, YanTing Zhao, **Cheng Meng**, AnWei Ma, LongHai Xue, Yu Kuang, Pei Tian. 2017. Physiological and biochemical responses of Festuca sinensis seedlings to temperature and soil moisture stress. [Functional Plant Biology](#) 44(10): 1007-1015.

1. Ping Gao, Feiyang Yan, **Cheng Meng**, Fang Li, Tingyu Duan. 2016. Diversity of arbuscular mycorrhizal fungi under different agricultural practices in Loess Plateau in Loess Plateau in China. [Pratacultural Science](#) 33(10): 1917-1923.

### **Presentations & Talks**

4. 2024 American Geophysical Union Fall Meeting. December 2024. Washington D. C. (Poster)

3. 2024 AmeriFlux annual meeting. September 2024. Berkeley, CA. (Poster)

2. 2023 American Geophysical Union Fall Meeting. December 2023. San Francisco, CA. (Poster)

1. ERL: 2022 top-cited paper Webinar Programme. June 2022. Online. (Talk)

### **Awards & Honors**

|  |            |
|--|------------|
| Robberson Travel Grants, University of Oklahoma (2 times)                | 2023, 2024 |
| L.G. Hill Biology Excellence Fund fellowships, University of Oklahoma    | 2024       |
| Top Cited Paper Award by IOP Publishing                                  | 2022       |
| National Scholarship, Peking University                                  | 2019       |
| Merit Student, Peking University   | 2019       |
| Excellent Thesis Award for Undergraduate, Lanzhou University             | 2017       |
| Excellent Graduate, Lanzhou University                                   | 2017       |
| Hui-Chun Chin and Tsung-Dao Lee Chinese Undergraduate Research Endowment | 2015       |

### **Teaching Experience**

Environmental of Remote Sensing (teaching assistant, undergraduate & graduate, Spring 2024 & 2025)

**Academic Service**

---

**Review:** Agriculture, Ecosystems & Environment (4), Environment Research Communication (1), Land Degradation & Development (3), Frontiers in Sustainable Food Systems (1), Peer J (1), Scientific Reports (1).

**Other Service:**

2024 AGU session B009. Advances in Satellite-based Modeling of Terrestrial Ecosystem Carbon and Water Fluxes. Oral and Poster. Co-chair.

2023 AGU session B009-I Advances in Satellite-based Modeling of Terrestrial Ecosystem Carbon and Water Fluxes I Poster session convener.

**Skills**

---

**Computer Languages / Software / Platform:** R, Python, Google Earth Engine.

**Field Work:** Ecosystem-level plant community structure, Plant functional traits include leaf area, leaf photosynthesis, and root growth and distribution. Eddy covariance technique measurement, chamber-based carbon fluxes measurement, soil sensors. Spectral measurement at leaf level.

**Laboratory:** Biogeochemical characteristics of soil and microbes.