Biographical Sketch

Chenchen Zhang

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Google Scholar: https://scholar.google.com/citations?user=btas8y0AAAAJ&hl=en

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Education

2021-	Ph.D. in Ecology & Evolutionary Biology (interdisciplinary field of Remote Sensing and Ecology)
	University of Oklahoma, Norman, OK, USA
	Proposed dissertation title: Water-related Land Cover Dynamics in Northeast Asia Under Climate Change and Anthropogenic Activities
	Expected graduation: May 2025
2017-2020	M.Sc. in Cartography and Geographic Information System
	Institute of Geographic Sciences and Natural Resource Research, Chinese Academy of Sciences, Beijing, China
	Thesis: Spatial Distribution and Change Detection of Rubber Plantation in Northeast Thailand Using Time Series Remote Sensing Images
2013-2017	B. Ag. in Soil and Water Conservation and Combating Desertification
	Beijing Forestry University, Beijing, China
	Thesis: Spatial Variability and Distribution Characteristics of Soil Organic Matter in the Yellow River Delta

Professional Experience

06/2020-07/2021	Institute of Geographic Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences
	Research Assistant

Research Interests

- Land use and land cover mapping under multi-source remote sensing
- Impacts of climate change and extreme events on land surface dynamics
- GeoAI

Honors and Awards

2024	Best Student Poster Presentation, International Association for Landscape Ecology–North America (IALE-NA) annual meeting 2024

2024, 2023	Robberson Conference Presentation and Creative Exhibition Travel Grant, University of Oklahoma (OU)
2024	Graduate Student Senate (GSS) Conference Grant, OU
2024, 2023, 2022	Kenneth & Joye Harwell Endowed Scholarship, OU
2020	Outstanding Master Graduate Award, IGSNRR, Chinese Academy of Sciences
2017	Outstanding Undergraduate Thesis Award, Beijing Forestry University

Peer-Reviewed Journal Articles ([1]Equal contribution) (Google Scholar)

First Author and Co-first Author

Under review	**Zhang, C.**, Xiao, X., Wang, X., Qin, Y., Doughty, R., Yang, X., ... & Dong, J. Mapping paddy rice in Northeast China with a knowledge-based algorithm and time series 2 optical, microwave, and thermal imagery. (Under review after revision)
In Preparation	**Zhang, C.**, Xiao, X., Wang, X., Yi, S., Meng, C., Qin, Y., ... & Dong, J. Widespread decline in surface and terrestrial water resources in Northeast Asia. (In preparation)
2024	**Zhang, C.**, Xiao, X., Wang, X., Qin, Y., Doughty, R., Yang, X., ... & Dong, J. (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. https://doi.org/10.1016/j.jenvman.2023.119618
2023	**Zhang, C.**, Xiao, X., Zhao, L., Qin, Y., Doughty, R., Wang, X., ... & Yang, X. (2023). Mapping Eucalyptus plantation in Guangxi, China by using knowledge-based algorithms and PALSAR-2, Sentinel-2, and Landsat images in 2020. *International Journal of Applied Earth Observation and Geoinformation*, *120*, 103348. https://doi.org/10.1016/j.jag.2023.103348
2023	Huang, C., **Zhang, C.**[1] (2023). Time-series remote sensing of rice paddy expansion in the Yellow River Delta: Towards sustainable ecological conservation in the context of water scarcity. *Remote Sensing in Ecology and Conservation*, *9*(4), 454-468. https://doi.org/10.1002/rse2.320
2022	Huang, C., **Zhang, C.**[1] (2022). Characterizing urban growth in Vientiane from 2000 to 2019 using time-series optical and SAR-based estimates of urban land. *International Journal of Applied Earth Observation and Geoinformation*, *109*, 102798. https://doi.org/10.1016/j.jag.2022.102798
2022	Huang, C., **Zhang, C.**[1], Li, H. (2022). Assessment of the impact of rubber plantation expansion on regional carbon storage based on time series remote sensing and the invest model. *Remote Sensing*, *14*(24), 6234. https://doi.org/10.3390/rs14246234
2020	**Zhang, C.**, Huang, C., Li, H., Liu, Q., Li, J., Bridhikitti, A., & Liu, G. (2020). Effect of textural features in remote sensed data on rubber plantation extraction at different levels of spatial resolution. *Forests*, *11*(4), 399. https://doi.org/10.3390/f11040399
2020	**Zhang, C.**, Huang, C., He, Y., Liu, Q., Li, H., Wu, C., &Liu, G. (2020). An analysis of the space-time patterns of precipitation-shallow groundwater depth interactions in the Yellow River Delta. *Hydrogeology & Engineering Geology*, 47(5), 21-30. DOI: 10.16030/j.cnki.issn.1000-3665.202002033

Co-author

2024 Pan, L., Xiao, X., Pan, B., Meng, C., Staebler, R. M., **Zhang, C.**, & Qin, Y. (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. https://doi.org/10.1016/j.rse.2024.114042

2024 Yang, X., Xiao, X., **Zhang, C.**, & Celis, J. (2024). Changes in Water and Carbon Fluxes in the USA Southern Great Plains Grassland Due to Evergreen Forest Encroachment. *Canadian Journal of Remote Sensing*, *50*(1), 2333976. https://doi.org/10.1080/07038992.2024.2333976

2024 Pan, L., Xiao, X., Yao, Y., Pan, B., Yin, C., Meng, C., ... & **Zhang, C**. (2024). Site-specific apparent optimum air temperature for vegetation photosynthesis across the globe. *Scientific Data*, *11*(1), 758. https://doi.org/10.1038/s41597-024-03603-7

2023 Wang, X., Xiao, X., **Zhang, C.**, Dong, J., & Li, B. (2023). Effects of the 2022 extreme droughts on avian influenza transmission risk in Poyang Lake. *The Innovation Life*, *1*(3), 100044. https://doi.org/10.59717/j.xinn-life.2023.100044

2023 Yang, X., Xiao, X., & Zhang, C. (2023). Spatiotemporal variability and key factors of evergreen forest encroachment in the southern Great Plains. *Journal of Environmental Management*, *329*, 117012.https://doi.org/10.1016/j.jenvman.2022.117012

2021 Li, H., He, Z., Huang, C., Liu, Q., Liu, G., & **Zhang, C.** (2021). Spatiotemporal evolution of rubber forests in southern Myanmar during 2000-2019. *Resources Science*, 43(12), 2403-2415. DOI: 10.18402/resci.2021.12.04

2021 Huang, C., **Zhang, C.**, Liu, Q., Li, H., Yang, X., & Liu, G. (2021). Multi-Feature Classification of Optical and SAR Remote Sensing Images for Typical Tropical Plantation Tree Species Classification, *Scientia Silvae Sinicae*, 57(7), 80-91. DOI:10. 11707 / j.1001-7488.20210709

2020 Huang, C., **Zhang, C.**, He, Y., Liu, Q., Li, H., Su, F., ... & Bridhikitti, A. (2020). Land cover mapping in cloud-prone tropical areas using Sentinel-2 data: Integrating spectral features with Ndvi temporal dynamics. *Remote Sensing*, *12*(7), 1163. https://doi.org/10.3390/rs12071163

2020 Huang, C., **Zhang, C.**, Liu, Q., Wang, Z., Li, H., & Liu, G. (2020). Land reclamation and risk assessment in the coastal zone of China from 2000 to 2010. *Regional Studies in Marine Science*, *39*, 101422. https://doi.org/10.1016/j.rsma.2020.101422

2020 Huang, C., Xu, Z., **Zhang, C.**, Li, H., Liu, Q., Yang, Z., & Liu, G. (2020). Extraction of rice planting structure in tropical region based on Sentinel-1 temporal features integration. *Transactions of the Chinese Society of Agricultural Engineering*, *36*(9), 177-184. DOI: 10.11975/j.issn.1002-6819.2020.09.020

2020 Li, H., Huang, C., **Zhang, C.**, Liu, Q., & Liu, G. (2020). Coastal Erosion and Sediment Dynamics of the Yellow River Delta and its Response to the Runoff-sediment Flux Since 1976. *Resources Science*, 42(3), 486-493. DOI: 10.18402/resci.2020.03.07

2019 He, Y., Huang, C., Li, H., Liu, Q., Liu, G., Zhou, Z., & **Zhang, C.** (2019). Land-cover Classification of Random Forest Based on Sentinel- 2A Image Feature Optimization. *Resources Science*, 41(5), 992-1001. DOI: 10.18402/resci.2019.05.15

Conference Presentations

2024 **Zhang, C.**, Xiao, X., Wang, X., & Qin, Y. (2024, August). Mapping paddy rice with a knowledge-based algorithm and time series optical, microwave, and thermal imagery, ESA annual meeting 2024. (PS 36-005). Long Beach, CA, USA (Poster)

2024 **Zhang, C.**, Xiao, X., Wang, X., & Qin, Y. (2024, April). Mapping paddy rice with an enhanced knowledge-based algorithm and time series optical (Sentinel-2 and Landsat), microwave (Sentinel-1), and thermal (MODIS) imagery. IALE-North America Annual Meeting 2024 (P-46). Oklahoma City, OK, USA (Poster) (***Best Student Poster***)

2023 **Zhang, C.**, Xiao, X., Wang, X., Qin, Y., Meng, C., Yin, S., & Yao, Y. (2023, December). Surface Water Body Dynamics in Northeast Asia During 2015-2022 Using Time Series Landsat and Sentinel-2 Images. AGU Fall Meeting 2023 (GC31J-1163). San Francisco, CA, USA (Poster)

2022 **Zhang, C.**, Xiao, X., Qin, Y., & Yang, X. (2022, December). Annual Maps of Surface Water Body, Paddy Rice, and Wetlands in Northeast China Using PALSAR, Sentinel-1, Sentinel-2, Landsat, and MODIS Imagery in 2020. *AGU Fall Meeting 2022* (B42J-1749). Chicago, IL, USA (Poster)

2022 **Zhang, C.**, Xiao, X., Qin, Y., & Yang, X. (2022, December). Mapping Eucalyptus Plantation in Guangxi, China Using PALSAR-2, Sentinel-2, and Landsat Images in 2020. *AGU Fall Meeting 2022* (C32F-0678). Chicago, IL, USA (Poster)

2022 **Zhang, C**. (2022, September). Annual maps of surface water, paddy rice, and wetlands in Northeast China using multiple remote sensing data in 2020 *Microbiology and Plant Biology Seminar.* Norman, OK, USA (Oral presentation)

2018 **Zhang, C**., Huang C. (2018, July). Groundwater Variation Characteristics and Influencing Factors in the Yellow River Delta. *19th Cross-strait Symposium on Environment, Resources and Ecological Conservation.* Guizhou, China (Oral presentation)

Teaching

Spring 2024 GIS/PBIO 4733/5733 Environmental Remote Sensing, I served as an instructor for *Hyperspectral and Multispectral Remote Sensing*, including in-class lectures and field measurement of Spectroradiometer PSR 3500+, FieldSpec®3 ASD, and LAI 2200. I also assisted with *Google Earth Engine (GEE) Module* for data processing and land cover classification lectures. I was responsible for grading weekly textbook or article reading reports (15 weeks), grading student project reports, and designing and grading exams.

Spring 2023 GIS/PBIO 4733/5733 Environmental Remote Sensing, 15 weeks.

Services and Outreach

Scientific workshops

2022-2024 I serve as the contact person and moderator for the International Forum on Ecology and Evolution of Avian Influenza (IFEEAI) and have held 61 webinars by July 2024. (https://www.ceom.ou.edu/outreach/workshops/content/10)

Scientific conferences

2024 I served as a Student/Early Career Convener for the American Geophysical Union (AGU) 2024 Fall Meeting session "Forest cover dynamics, drivers, and impacts under diverse human activities and climate change".

2023 I served as a Student/Early Career Convener and Outstanding Student Presentation Awards (OSPA) Liaisons for the AGU 2023 Fall Meeting session "Advances in land cover and land use changes: data products, driving factors, and impacts".

Journal referee

ISPRS Journal of Photogrammetry and Remote Sensing

IEEE Transactions on Geoscience and Remote Sensing

Journal of Environmental Management

Scientific Data

Science of Remote Sensing

Remote Sensing

Journal of Plant Ecology

Ecosystem Health and Sustainability

Journal of Environmental Engineering and Landscape Management

Environmental Research Communications

Atmosphere

Land

All Earth

Professional Affiliations

2024-present	Ecological Society of America (ESA)
2024-present	International Association for Landscape Ecology–North America (IALE-NA)
2022-present	American Geophysical Union (AGU)