

Yiping (Rocky) WU

PhD, Professor

Dean, School of Soil and Water Conservation

Central South University of Forestry and Technology

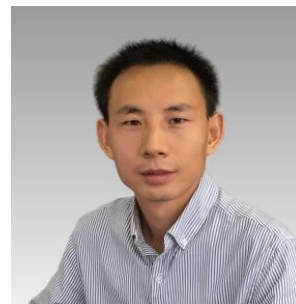
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RESEARCH FIELD AND INTEREST

Dr. Yiping Wu is a professor in Central South University of Forestry and Technology, Xi'an Jiaotong University, and the lead of Provincial Innovation Team. He earned his PhD from The University of Hong Kong in 2009. Subsequently, he secured a Scientist position at the ASRC Federal, USGS EROS Center, advancing to the role of Senior Scientist in 2014. He made substantial contributions to research and scientific initiatives during 6 years of research at USGS before moving back to China in 2015.

His major research interests are Ecohydrological Processes, Biogeochemical Modeling, Ecosystem Carbon Dynamics, Water-Carbon Coupling, Nonpoint Source Pollution, Model Development, and Data Assimilation. He has developed/integrated a few numerical models such as the hydro-biogeochemical coupling model (SWAT-DayCent) and a universal model inversion tool (Model-R Coupler), and he also developed the automatic model inversion system for a large-scale general ensemble biogeochemical modeling system (GEMS-EDCM-Auto). He has published over 100 articles in high-quality SCI journals (e.g., PNAS, Nature Communications, Global Change Biology, Engineering, Communications Earth and Environment, Agricultural and Forest Meteorology) with an H-Index of 40, ranking among the top 2% of scientists worldwide. He served as the Editor-in-Chief for *Carbon Balance and Management*, Section Editor for *Engineering*, Associate Editor for *Journal of Environmental Management*, and Editorial Board Member for *Geoscience Letters*.

He earned the AOGS Early Career Researcher Distinguished Lecture Award in 2017, acted as the Secretary of AOGS Hydrology Section 2017-2019, and also served for AOGS Journal (Geoscience Letters) since 2018. He is very active internationally and got Invited Talks in conferences including AGU, AOGS, CAE International Summit, and CYWater Conferences.

EDUCATION

- Ph.D. 2009 in Water & Environmental Engineering, The University of Hong Kong, HKSAR
- M.E. 2004 in Environmental Engineering, Xi'an University of Arch. & Tech., Xi'an, China
- B.E. 2001 in Environmental Engineering, Xi'an University of Arch. & Tech., Xi'an, China

RESEARCH/TEACHING/WORKING EXPERIENCE

- 2025 – Present **Full Professor**, School of Soil and Water Conservation, Central South University of Forestry and Technology, China
- 2015 – Present **Full Professor**, Institute of Global Environmental Change, Xi'an Jiaotong University, China
- 12/2014 – 08/2015 **Senior Scientist**, ASRC Federal, USGS EROS Center, Sioux Falls, SD, USA
- 11/2009 – 11/2014 **Scientist**, ASRC Federal, USGS EROS Center, Sioux Falls, SD, USA

PROFESSIONAL ACTIVITY/ ACADEMIC POSITION

- Member of Higher Education Teaching Committee of China's Ministry of Education
- AOGS Early Career Researcher Distinguished Lecture Award 2017
- Editor-in-Chief for *Carbon Balance and Management*, Associate Editor for *Journal of Environmental Management*, Section Editor for *Engineering*, and EBM for *Geoscience Letters*

SELECTED JOURNAL PUBLICATIONS

1. **Wu Y**, Yin X, Zhou G*, Bruijnzeel LA, Dai A, Wang F, et al., 2024. Rising rainfall intensity induces spatially divergent hydrological changes within a large river basin. *Nature Communications*, 15, 823.
2. Qiu L, Xue Q, **Wu Y***, Zhang X, Alexandrov G, et al., 2024. Responses of precipitation and water vapor budget on the Chinese Loess Plateau to global land cover change forcing. *Journal of Environmental Management*, 365, 121588.
3. Qiu L, Shi Z, **Wu Y***, Wang Y, Chen J, Liu S, et al., 2024. Vegetation restoration enhances the regional water vapor content by intensifying the inflow from the lower atmosphere on the Loess Plateau in China. *Climate Dynamics*, 62 (10), 9431–9445.
4. An S, **Wu Y***, Liang W, Zhang G, Chen J, Liu S, et al. 2024. Enhancing ecohydrological simulation with improved dynamic vegetation growth module in SWAT. *Journal of Hydrology*, 644, 132042
5. Zhao F, Wang X, **Wu Y***, Singh SK, 2023. Prefectures vulnerable to water scarcity are not evenly distributed across China. *Communications Earth & Environment*, 4, 145.
6. Li H, **Wu Y***, Liu S, Xiao J, Zhao W, Chen J, et al., 2022. Decipher soil organic carbon dynamics and driving forces across China using machine learning. *Global Change Biology*, 28, 3394–3410.
7. Yin X, **Wu Y***, Zhao W, Liu S*, Zhao F, Chen J, et al., 2023. Spatiotemporal responses of net primary productivity of alpine ecosystems to flash drought: the Qilian Mountains. *Journal of Hydrology*, 624, 129865.
8. Zhao F, Wang X, **Wu Y***, Bellie S, Liu S, 2023. Enhanced dependence of China's vegetation activity on soil moisture under drier climate conditions. *Journal of Geophysical Research: Biogeosciences*, 128(5), e2022JG007300.
9. Li H, **Wu Y***, Liu S*, Zhao W, Xiao J, Winowiecki L, et al., 2022. The Grain-for-Green project offsets warming-induced soil organic carbon loss and increases soil carbon stock in Chinese Loess Plateau. *Science of the Total Environment*, 837, 155469.
10. Zhao F, Ma S, **Wu Y***, Qiu L, Wang W, Lian Y, et al., 2022. The role of climate change and vegetation greening on evapotranspiration variation in the Yellow River Basin, China. *Agricultural and Forest Meteorology*, 316, 1-14.
11. Qiu L, Yu M, **Wu Y***, Yao Y, Wang Z, Shi Z, et al., 2021. Assessing and predicting soil carbon density in China using CMIP5 earth system models. *Science of the Total Environment*, 799, 149247.
12. Li H, **Wu Y***, Liu S, Xiao J, 2021. Regional contributions to interannual variability of net primary production and climatic attributions. *Agricultural and Forest Meteorology*, 303, 108384.

13. Li H, **Wu Y***, Chen J, Zhao F, Wang F, Sun Y, et al., 2021. Responses of soil organic carbon to climate change in the Qilian Mountains and its future projection. *Journal of Hydrology*, 596, 126110.
14. Zhao F, **Wu Y***, Yin X, Alexandrov G, Qiu L, 2022. Toward sustainable revegetation in the Loess Plateau using coupled water and carbon management. *Engineering*, 15, 143–153.
15. Zhao F, **Wu Y***, Wang L, Liu S, Wei X, Xiao J, Qiu L, Sun P, 2020. Multi-environmental impacts of biofuel production in the U.S. Corn Belt: A coupled hydro-biogeochemical modeling approach. *Journal of Cleaner Production*, 251, 119561.
16. Zhao F, **Wu Y***, Yao Y, Sun K, Zhang X, Winowiecki L, et al., 2020. Predicting the climate change impacts on water-carbon coupling cycles for a loess hilly-gully watershed. *Journal of Hydrology*, 581, 124388.
17. Sun P, **Wu Y***, Xiao J, Hui J, Hu J, Zhao F, et al., 2019. Remote sensing and modeling fusion for investigating the ecosystem water-carbon coupling processes. *Science of the Total Environment*, 697, 134064.
18. Zhao F, **Wu Y***, Bellie S, Long A*, Qiu L, Chen J, et al., 2019. Climatic and hydrologic controls on net primary production in a semiarid loess watershed. *Journal of Hydrology*, 568, 803–815.
19. Feng S, Liu S, Huang Z, Jing L, Zhao M, Peng Xi, Yan W, **Wu Y**, et al., 2019. Inland Water Bodies in China: New Features Discovered in the Long-term Satellite Data. *PNAS*, 116(51), 25491–25496.
20. Qiu L, Hao M, **Wu Y***, 2017. Potential impacts of climate change on carbon dynamics in a rain-fed agro-ecosystem on the Loess Plateau of China. *Science of the Total Environment*, 577: 267–278.
21. **Wu Y***, Liu S, Qiu L, and Sun Y, 2016. SWAT-DayCent coupler: An integration tool for simultaneous hydro-biogeochemical modeling using SWAT and DayCent. *Environmental Modelling & Software*, 86: 81–90.
22. Tan Z*, Liu S*, Sohl T, **Wu Y**, and Young C, 2015. Ecosystem carbon stocks and sequestration potential of federal lands across the conterminous United States. *PNAS*, 112(41): 12723–12728.
23. **Wu Y***, Liu S*, and Tan Z, 2015. Quantitative attribution of major driving forces on soil organic carbon dynamics. *Journal of Advances in Modeling Earth Systems*, 7(1): 21–34.
24. **Wu Y***, Liu S*, Huang Z, Yan W, 2014. Parameter optimization, sensitivity and uncertainty analysis of an ecosystem model at a forest flux tower site in the United States. *Journal of Advances in Modeling Earth Systems*, 6(2): 405–419.
25. **Wu Y***, Li T*, Sun L, and Chen J, 2013. Parallelization of a hydrological model using the message passing interface, *Environmental Modelling & Software*, 43: 124–132.
26. **Wu Y**, Liu S* and Li Z, 2012. Identifying potential areas for biofuel production and evaluating the environmental effects: a case study of the James River Basin in the Midwestern United States, *Global Change Biology Bioenergy*, 4(6): 875–888.
27. **Wu Y** and Liu S*, 2012. Automating calibration, sensitivity and uncertainty analysis of complex models using the R package Flexible Modeling Environment (FME): SWAT as an example, *Environmental Modelling & Software*, 31: 99–109.
28. **Wu Y**, Liu S*, and Abdul-Aziz OI, 2012. Hydrological effects of the increased CO₂ and climate change in the Upper Mississippi River Basin Using a modified SWAT, *Climatic Change*, 110(3–4): 977–1003.
29. Chen J* and **Wu Y**, 2012. Advancing representation of hydrologic processes in the Soil and Water Assessment Tool (SWAT) through integration of the TOPographic MODEL (TOPMODEL) features, *Journal of Hydrology*, 420–421: 319–328.
30. Zhou G*, Wei X, **Wu Y**, Liu S, Huang Y, Yan J, Zhang D, Zhang Q, Liu J, Meng Z, Wang C, Chu G, Liu SZ, Tang X, and Liu X, 2011. Quantifying the hydrological responses to climate change using an intact forested small watershed in Southern China, *Global Change Biology*, 17(12): 3736–3746.