

CURRICULUM VITAE

Dr. Jingfeng Xiao

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Education

- PhD, University of North Carolina at Chapel Hill
- M.S., Peking University
- B.S., Lanzhou University

Professional experience

- 08/2020-present: Research Professor, Earth Systems Research Center, University of New Hampshire
- 08/2020-present: Adjunct Graduate Faculty, Department of Sustainability & Environment, University of South Dakota
- 06/2015-08/2020: Research Associate Professor, Earth Systems Research Center, University of New Hampshire
- 11/2009-06/2015: Research Assistant Professor, Earth Systems Research Center (formerly Complex systems Research Center), University of New Hampshire
- 08/2008-11/2009: Research Associate, Department of Meteorology, Pennsylvania State University
- 06/2006-07/2008: Post-Doc, Department of Earth & Atmospheric Sciences, Purdue University
- 09/2003-08/2006: NASA Earth System Science Fellow, Department of Geography, University of North Carolina at Chapel Hill

Research interests

Global Ecology; Carbon Cycle; Climate Change Impacts, Feedback, and Mitigation; Remote Sensing; Upscaling; Machine Learning/AI; Earth System Modeling; Model-Data Fusion; Land cover/land use change; Coupled natural and human systems; Sustainability

Awards and Honors:

- UNH Excellence in Research Award, 2024 (sole recipient)
- Inaugural Research and Engagement Academy Fellow, UNH, 2011
- UNC-Chapel Hill Future Faculty Fellowship, 2005
- NASA Earth System Science Fellow, 2003-2006

Professional service activities:

- NCAR-NEON Community Partnership Committee, 2024-present
- NASA's GEDI Science Team member, 2024-2027
- NASA's ECOSTRSS Science Team member, 2019-2023
- Associate Editor, *Journal of Geophysical Research – Biogeosciences* (06/2022-present); *Ecological Processes* (01/2021-present)
- Guest Editor, *Agricultural and Forest Meteorology; Biogeosciences; Forests; Journal of Geophysical Research: Biogeosciences; Remote Sensing of Environment*
- Judges committee of the 2022 AAG RSSG Student Honors Paper Competition, 2022
- The 2nd State of Carbon Cycle Report (SOCCR-2) review committee, National Academy of Sciences, 2017-2018

- NASA NIIP20-TE (Terrestrial Ecology) Review Panel (2021); NASA MEaSURES Review Panel (2017); NASA SUSMAP Carbon Review Panel (2016); NASA OCO-2 Review Panel (2015); NASA NESSF Carbon Cycle and Ecosystems Panel (2014); NASA Interdisciplinary Research in Earth Science (IDS) Review Panel (2013); DOE Environmental System Science Review Panel (2015, 2018, 2021); DOE's ORNL Terrestrial Ecosystem Science SFA (Science Focus Area) Review Panel (2023); NSF proposal review (2009, 2013, 2019, 2021); UK Natural Environment Research Council (NERC) proposal review (2010); European Science Foundation (ESF) proposal review (2023)
- Organizing committee member, An International Symposium on the Coupling between the Carbon and Water Cycles across Scales (Changsha, China, November 4, 2023)
- Organizing committee member, 2016 AmeriFlux PI Meeting (Golden, CO, September 21-23, 2016)
- Co-Chair of the United States-China Carbon Consortium (USCCC), 2014-2016
- Co-Chair, International Symposium on Global Change Research 2013: Coupled Natural & Human Systems (Nanjing, Jiangsu, China, June 18-20, 2013)
- Science Definition Team member of NASA's Carbon Monitoring System, 2011-2012

Grants & funding (A total of ~\$8.9 million with ~\$6.0 million as PI)

- USDA Forest Service, "Impacts of forest management on carbon and water dynamics", \$78,802, 09/2025-08/2025 (PI: Co-Is: Ge Sun, Steve McNulty)
- National Aeronautics and Space Administration (NASA), "Using GEDI data to understand the effects of structural diversity on productivity and carbon uptake of U.S. forests", \$529,893 (4/2024-3/2027) (sole **PI**)
- Iola Hubbard Climate Change Endowment, \$20,000, 01/2024-01/2025 (**PI**)
- USDA Forest Service, "Advanced monitoring and predictive modeling tools for managing future eastern forests", \$183,496, 11/2023-10/2024 (**PI**; Co-Is Ge Sun, Steve McNulty)
- USDA Forest Service, "Advanced monitoring and predictive modeling tools for managing future eastern forests", \$145,827, 11/2022-10/2023 (**PI**; Co-Is Ge Sun, Steve McNulty)
- Iola Hubbard Climate Change Endowment, \$19,860, 08/2021-07/2022 (**PI**)
- USDA Forest Service, "Advanced Remote Sensing for Forest Restoration: Quantifying biodiversity, productivity, and resilience under a changing environment", \$211,362, 09/2021-09/2023 (**UNH and Science PI**; Forest Service PI: Qinfeng Guo, Forest Service Co-PIs: Jeff W. Atkins, Ge Sun, Steve McNulty, William Hargrove, Carlos A. Silva, Jennifer Costanaz, Carl Trettin, Andrew Oishi, John Willis, Dale Brockway)
- USDA Forest Service, "Eyes from the sky: synthesizing remote sensing products for quantifying key ecosystem functions of Southern Experimental Forests and Ranges (EFR) during 2000-2020", \$91,667, 07/2021-06/2023 (**PI**; Co-Is Ge Sun, William Hargrove, Carl Trettin, Andrew Oishi, Steve McNulty)
- National Science Foundation (NSF), Macrosystems Biology and NEON-Enabled Science, "Collaborative Research: MRA: Constraining the continental-scale terrestrial carbon cycle using NEON data", \$1,046,464, 9/2020-8/2024 (**PI**; Co-PI Yiqi Luo)
- National Aeronautics and Space Administration (NASA), ECOSTRESS Science and Applications Team, "Understanding diurnal cycles of plant water use and carbon uptake with existing and new products based on ECOSTRESS, MODIS, and FLUXNET", \$474,616, 11/2019-11/2023 (sole **PI**)
- Iola Hubbard Climate Change Endowment, \$20,000, 05/2017-04/2018 (**PI**)
- National Science Foundation (NSF), MacroSystems Biology, "MSB-FRA: The influence of biological diversity on land-atmosphere exchange in forests: confronting theory with data", \$1,244,070, 11/2016-10/2021 (**Co-PI**, PI Scott V. Ollinger, with Co-PIs Michael Palace and Bobby Braswell)

- National Aeronautics and Space Administration (NASA), Climate Indicators and Data Products for Future National Climate Assessments, “Ecosystem carbon indicators for the U.S. National Climate Assessment”, \$543,884, 2016-2019 (**PI**, Co-I Alexander Prusevich)
- National Aeronautics and Space Administration (NASA), The Science of Terra and Aqua, “Incorporating a new urban dataset from SeaWinds into a multi-sensor analysis of global daytime and nighttime urban heat islands”, \$725,312, 2014-2018 (PI Steve Frohking, Co-Is **Jingfeng Xiao**, Annemarie Schneider, Mark Friedl)
- National Aeronautics and Space Administration (NASA), Carbon Cycle Science, “Exploring the interactions between carbon cycling, land use and climate change within mixed agricultural, forested, suburban, and urban landscapes”, \$1,144,441, 2014-2019, (**PI**, Co-Is Changsheng Li, Alexandra R. Contosta, Ruth K. Varner, Junmei Tang)
- Iola Hubbard Climate Change Endowment, \$25,000, 2013-2014 (PI Erik Hobbie, Co-Is Michael Palace, Heidi Asbjornsen, **Jingfeng Xiao**, Joe Hartter)
- National Aeronautics and Space Administration (NASA), Terrestrial Ecology program, “Exploring relationships among water use efficiency, canopy nitrogen and carbon cycling across North American ecosystems to improve land surface models”, \$780,205, 2012-2015 (**Co-I**, PI Scott Ollinger)
- Iola Hubbard Climate Change Endowment, \$41,988, 2012-2013 (**PI**)
- National Aeronautics and Space Administration (NASA), Terrestrial Ecology program, "Using NASA Remote Sensing and Models to Advance Integrated Assessments of Coupled Human-Forest Dynamics for North America", subcontract from University of Maryland (PI George Hurtt), \$85,000, 09/2010-08/2013 (**Institutional PI**, Co-I Steve Frohking)
- National Science Foundation (NSF), “Assessing Ecosystem Carbon Dynamics over North America by Integrating Eddy Covariance, MODIS, and New Ecological Data through Upscaling and Model-data Synthesis”, \$517,685, 06/2011-05/2014 (**PI**, Co-PI: Scott Ollinger)
- National Aeronautics and Space Administration (NASA), “Providing Scientific and Technical Guidance to the Development and Evaluation of the Integrated Flux Pilot Product: Forcing Evaluation, Parameter Optimization, Uncertainty Assessment and Product Validation”, \$74,999, 07/2011-01/2013 (sole **PI**)
- Department of Energy (DOE), National Institute for Climatic Change Research (NICCR), “Coupling carbon, water and nutrient cycles with data assimilation and multiple constraints”, \$249,397, 2009-2011 (**PI**, Co-Is: Scott V. Ollinger, Andrew Richardson)
- NASA Earth System Science Fellowship, \$72,000, 09/2003-08/2006 (sole **PI**)
- UNC-Chapel Hill, Scientific Data Purchase Grant, \$1,225, 2005 (sole **PI**)

Teaching experience

- Instructor: *Quantitative Methods in Geography; Introduction to Remote Sensing and Digital Image processing*
- Guest lecturer: *Introduction to Watershed Systems; Geographical Information Systems; Advanced Remote Sensing; Environmental Modeling*
- Many training sessions to graduate students, postdocs, and undergraduate students from various areas (e.g., ecology, forestry, hydrology, atmospheric sciences) at *Lectures in Modern Ecology; International Symposium on Modern Ecology; International Young Ecologist Forum; the United States-China Carbon Consortium (USCCC) Annual Meetings.*

Journal articles (* indicates postdoctoral researchers, students, and scholars advised)

(including papers in high-profile journals: e.g., *Science* (2024, 2023), *Science Advances* (2024, 3 papers in 2023), *Nature Plants* (2021), *Nature Food* (2024), *Nature Communications* (2023, 2019), *Nature Reviews Earth & Environment* (2022), and *PNAS* (2019))

2024:

193. Duarte, H.F.*, Kim, J.B., Sun, G., McNulty, S., **Xiao, J.** (2024) Climate and Vegetation Change Impacts on Future Conterminous United States Water Yield. *Journal of Hydrology*, in press.
192. Liu, J., Baker, D., Basu, S., Bowman, K., Byrne, B., Chevallier, F., He, W., Jiang, F., Johnson, M.S., Kubar, T.L., Li, X., Liu, Z., Miller, S.M., Philip, S., **Xiao, J.**, Yun, J., Zeng, N. (2024) The reduced net carbon uptake over northern hemisphere land causes the close-to-normal CO₂ growth rate in 2021 La Niña. *Science Advances*, in press.
191. Ma, R., Zhang, Y., Ciais, P., **Xiao, J.**, Xu, Y., Goll, D., Liang, S. (2024) Stepwise calibration of age-dependent biomass in the Integrated Biosphere Simulator (IBIS) model. *Journal of Advances in Modeling Earth Systems*, in press.
190. Li, H., Cao, Y., **Xiao, J.**, Yuan, Z., Hao, Z., Bai, X., Wu, Y., Liu, Y. (2024) A daily gap-free normalized difference vegetation index dataset from 1981 to 2023 in China. *Scientific Data*, 11, 527 (2024). <https://doi.org/10.1038/s41597-024-03364-3>.
189. Huang, C., Huang, J., **Xiao, J.**, Li, X., He, H.S., Liang, Y., Chen, F., Tian, H. (2023) Global convergence in the response of terrestrial gross primary production to atmospheric vapour pressure deficit. *Science China Life Sciences*, <https://doi.org/10.1007/s11427-023-2475-9>.
188. Ao, Z., Hu, X., Tao, S., Hu, X., Wang, G., Li, M., Wang, F., Hu, L., Liang, X., **Xiao, J.**, Yusup, A., Qi, W., Ran, Q., Fang, J., Chang, J., Zeng, Z., Fu, Y., Xue, B., Wang, P., Zhao, K., Li, L., Li, W., Li, Y., Jiang, M., Yang, Y., Shen, H., Zhao, X., Shi, Y., Wu, B., Yan, Z., Wang, M., Su, Y., Hu, T., Ma, Q., Bai, H., Wang, L., Yang, Z., Feng, Y., Zhang, D., Huang, E., Pan, J., Ye, H., Yang, C., Qin, Y., He, C., Guo, Y., Cheng, K., Ren, Y., Yang, H., Zheng, C., Zhu, J., Wang, S., Ji, C., Zhu, B., Liu, H., Tang, Z., Wang, Z., Zhao, S., Tang, Y., Xing, H., Guo, Q., Liu, Y., Fang, J. (2024) A national-scale assessment of land subsidence in China's major cities. *Science*, 384, 301-306. DOI: 10.1126/science.adl4366.
187. Lu, W.*, **Xiao, J.**, Gao, H., Jia, Q., Li, Z., Liang, J., Xing, Q., Mao, D., Li, H., Chu, X., Chen, H., Guo, H., Han, G., Zhao, B., Chen, L., Lai, D.Y.F., Liu, S., Lin G. (2024) Carbon fluxes of China's coastal wetlands and impacts of reclamation and restoration. *Global Change Biology*, 30, e17280. <https://doi.org/10.1111/gcb.17280>.
186. Byrne, B., Liu, J., Bowman, K.W., Yin, Y., Yun, J., Ferreira, G.D., Olge, S.M., Baskaran, L., He, L., Li, X., **Xiao, J.**, Davis, K.J. (2024) Regional inversion shows promise in capturing extreme-event-driven CO₂ flux anomalies but is limited by atmospheric CO₂ observational coverage. *Journal of Geophysical Research: Atmospheres*, 129, e2023JD040006. <https://doi.org/10.1029/2023JD040006>.
185. Yu, L., Fan, L., Ciais, P., **Xiao, J.**, Frappart, F., Sitch, S., Chen, J., Xiao, X., Fensholt, R., Chang, Z., Fang, H., Li, X., Cui, T., Ma, M., Wigneron, J.-P. (2024) Forest degradation contributes more to carbon loss than forest cover loss in North American boreal forests. *International Journal of Applied Earth Observation and Geoinformation*, 128, 103729. <https://doi.org/10.1016/j.jag.2024.103729>.
184. Li, Y., Yan, S., Gong, Y., **Xiao, J.**, Asgarimehr, M., Wickert, J. (2024) Soil moisture retrieval by a novel hybrid model based on CYGNSS and sun-induced fluorescence data. *Journal of Hydrology*, 632, 130845. <https://doi.org/10.1016/j.jhydrol.2024.130845>.
183. Bu, J.*, Gan, G., Chen, J., Sun, Y., Yuan, M., Gao, Y., Domingo, F., Lopez-Ballesteros, A., Migliavacca, M., El-Madany, T.S., Gentile, P., **Xiao, J.**, Garcia, M. (2024) Dryland evapotranspiration from remote sensing solar-induced chlorophyll fluorescence: constraining an optimal stomatal model within a two-source energy balance model. *Remote Sensing of Environment*, 303, 113999. <https://doi.org/10.1016/j.rse.2024.113999>.
182. Qiu, R., Han, G., Li, X., **Xiao, J.**, Liu, J., Wang, S., Li, S., Gong, W. (2024) Contrasting responses of relationship between solar-induced fluorescence and gross primary production to drought across aridity gradients. *Remote Sensing of Environment*, 302, 113984. <https://doi.org/10.1016/j.rse.2023.113984>.
181. Wang, X., Chen, G., Awange, J., Song, Y., Wu, Q., Li, X., February, E., Saiz, G., Kiese, R., Li, X., **Xiao, J.**, Zhao, X., Wen, B. (2024) Establishing the global isoscape of leaf carbon in C₃

- plants through the integrations of remote sensing, carbon, geographic, and physiological information. *Remote Sensing of Environment*, 302, 113987. <https://doi.org/10.1016/j.rse.2023.113987>.
180. Zheng, C., Wang, S., Chen, J.M., **Xiao, J.**, Chen, J., Zhu, K., Sun, L. (2024) Modeling transpiration using solar-induced chlorophyll fluorescence and photochemical reflectance index synergistically in a closed-canopy winter wheat ecosystem. *Remote Sensing of Environment*, 302, 113981. <https://doi.org/10.1016/j.rse.2023.113981>.
179. Liu, X., Chu, B., Tang, R., Liu, Y., Qiu, B., Gao, M., Li, X., **Xiao, J.**, Sun, H.Z., Huang, X., Desai, A.R., Ding, A., Wang, H. (2023) Air quality improvements can strengthen China's food security. *Nature Food*. <https://doi.org/10.1038/s43016-023-00882-y>.
178. Qu, L., Chen, J., **Xiao, J.**, De Boeck, H.J., Dong, G., Jiang, S., Hu, Y., Wang, Y., Shao, C. (2024) The complexity of heatwaves impact on terrestrial ecosystem carbon fluxes: Factors, mechanisms and a multi-stage analytical approach. *Environmental Research*, 240, 117495. <https://doi.org/10.1016/j.envres.2023.117495>.
- 2023:**
177. Zhang, M., Berry, J.A., Shiga, Y.P., Doughty, R.B., Madani, N., Li, X., **Xiao, J.**, Wen, J., Sun, Y., Miller, S.M. (2023) Solar-induced fluorescence helps constrain global patterns in net biosphere exchange, as estimated using atmospheric CO₂ observations. *Journal of Geophysical Research: Biogeosciences*, 128, e2023JG007703. <https://doi.org/10.1029/2023JG007703>.
176. Miller, D.L., Wolf, S., Fisher, J.B., Zaitchik, B.F., **Xiao, J.**, Keenan, T.F. (2023) Increased photosynthesis during spring drought in energy-limited ecosystems. *Nature Communications*, 4, 7828. <https://doi.org/10.1038/s41467-023-43430-9>.
175. Zhang, Y., Desai, A.R., **Xiao, J.**, Hartemink, A.E. (2023) Deeper topsoils enhance ecosystem productivity and climate resilience in arid regions, but not in humid regions. *Global Change Biology*, 29, 6794-6811. <https://doi.org/10.1111/gcb.16944>.
174. Sun, S., Bi, Z., **Xiao, J.**, Liu, Y., Sun, G., Ju, W., Liu, C., Mu, M., Li, J., Zhou, Y., Li, X., Liu, Y., Chen, H. (2023) A global 5km monthly potential evapotranspiration dataset (1982–2015) estimated by the Shuttleworth-Wallace model. *Earth System Science Data*, 15, 4849–4876. <https://doi.org/10.5194/essd-15-4849-2023>.
173. Ji, Y., Zhan, W., Du, H., Wang, S., Li, L., **Xiao, J.**, Liu, Z., Huang, F., Jin, J. (2023) Urban-rural gradient in vegetation phenology changes of over 1500 cities across China jointly regulated by urbanization and climate change. *ISPRS Journal of Photogrammetry and Remote Sensing*, 205, 367-384. <https://doi.org/10.1016/j.isprsjprs.2023.10.015>.
172. Lv, Y., Zhang, L., Li, P., He, H., Ren, X., Xie, Z., Wang, Y., Wang, A., Shi, F., Chang, R., **Xiao, J.**, Wang, X. (2023) Improving phenology representation of deciduous forests in the Community Land Model: Evaluation and modification using long-term observations in China. *Journal of Advances in Modeling Earth Systems*, 15, e2023MS003655. <https://doi.org/10.1029/2023MS003655>.
171. Li, N., **Xiao, J.**, Bai, R., Wang, J., Wu, L., Gao, W., Li, W., Chen, M., Li, Q. (2023) Preseason sunshine duration determines the start of growing season of natural rubber forests. *International Journal of Applied Earth Observation and Geoinformation*, 124, 103513. <https://doi.org/10.1016/j.jag.2023.103513>.
170. He, L., Wang, J., Ciais, P., Ballantyne, A., Yu, K., Zhang, W., **Xiao, J.**, Ritter, F., Liu, Z., Wang, X., Li, X., Peng, S., Ma, C., Zhou, C., Li, Z., Xie, Y., Ye, J. (2023) Non-symmetric responses of leaf onset date to natural warming and cooling in northern ecosystems. *PNAS Nexus*, 2, pgad308. <https://doi.org/10.1093/pnasnexus/pgad308>.
169. Zhang, Q., Zhang, X., Lara, M.J., Li, Z., **Xiao, J.**, Zhao, K., Hu, T. (2023) Impacts of abiotic and biotic factors on tundra productivity near Utqiagvik, Alaska. *Environmental Research Letters*, 18, 094070. <https://doi.org/10.1088/1748-9326/acf7d6>.

168. Guo, X., **Xiao, J.**, Zha, T., Shang, G., Liu, P., Jin, C., Zhang, Y. (2023) Dynamics and biophysical controls of nocturnal water loss in a winter wheat-summer maize rotation cropland: a multi-temporal scale analysis. *Agricultural and Forest Meteorology*, 342, 109701. <https://doi.org/10.1016/j.agrformet.2023.109701>.
167. Li, F., **Xiao, J.**, Chen, J., Ballantyne, A., Jin, K., Li, B., Abraha, M., John, R. (2023) Global water use efficiency saturation due to increased vapor pressure deficit. *Science*, 381, 672-677. DOI: [10.1126/science.adf5041](https://doi.org/10.1126/science.adf5041).
166. Zhang, J., Gonsamo, A., Tong, X., **Xiao, J.**, Rogers, C.A., Qin, S., Liu, P., Yu, P., Ma, P. (2023) Solar-induced chlorophyll fluorescence captures photosynthetic phenology better than traditional vegetation indices. *ISPRS Journal of Photogrammetry and Remote Sensing*, 203, 183-198. <https://doi.org/10.1016/j.isprsjprs.2023.07.021>.
165. Li, X., Ryu, Y., **Xiao, J.**, Dechant, B., Liu, J., Li, B., Jeong, S., Gentine, P. (2023) New-generation geostationary satellite reveals widespread midday depression in dryland photosynthesis during the 2020 western U.S. heatwave. *Science Advances*, 9, eadi077. DOI: [10.1126/sciadv.adi0775](https://doi.org/10.1126/sciadv.adi0775).
164. Chang, Y.* , **Xiao, J.**, Li, X., Weng, Q. (2023) Monitoring diurnal dynamics of surface urban heat island for urban agglomerations using ECOSTRESS land surface temperature observations. *Sustainable Cities and Society*, 98, 104833. <https://doi.org/10.1016/j.scs.2023.104833>.
163. Chen, W., Liu, S., Zhao, S., Zhu, Y., Feng, S., Wang, Z., Wu, Y., **Xiao, J.**, Yuan, W., Yan, W., Ju, H., Wang, Q. (2023) Temporal dynamics of ecosystem, inherent, and underlying water use efficiencies of forests, grasslands, and croplands and their responses to climate change. *Carbon Balance and Management*, 18, 13. <https://doi.org/10.1186/s13021-023-00232-2>.
162. Wang, X., Blanken, P.D., Wood, J.D., Nouvellon, Y., Thaler, P., Gay, F., Kasemsap, P., Chidthaisong, A., Petchprayoon, P., Chayawat, C., **Xiao, J.**, Li, X. (2023) Solar-induced chlorophyll fluorescence detects photosynthesis variations and drought effects in tropical rubber plantation and natural deciduous forests. *Agricultural and Forest Meteorology*, 339, 109591. <https://doi.org/10.1016/j.agrformet.2023.109591>.
161. Crockett, E.T.H.* , Atkins, J.W., Guo, Q., Sun, G., Potter, K.M., Ollinger, S., Silva, C.A., Tang, H., Woodall, C.W., Holgerson, J., **Xiao, J.** (2023) Structural and species diversity explain aboveground carbon storage in forests across the United States: evidence from GEDI and forest inventory data. *Remote Sensing of Environment*, 295, 113703. <https://doi.org/10.1016/j.rse.2023.113703>.
160. Zhou, D., Zhang, L., Hao, L., Sun, G., **Xiao, J.**, Li, X. (2023) Large discrepancies among remote sensing indices for characterizing vegetation growth dynamics in Nepal. *Agricultural and Forest Meteorology*, 339, 109546. <https://doi.org/10.1016/j.agrformet.2023.109546>.
159. He, W., Jiang, F., Ju, W., Byrne, B., **Xiao, J.**, Nguyen, N.T., Wu, M., Wang, S., Wang, J., Rodenbeck, C., Li, X., Scholze, M., Monteil, G., Wang, H., Zhou, Y., He, Q., Chen, J.M. (2023) Do state-of-the-art atmospheric CO₂ inverse models capture drought impacts on the European land carbon uptake? *Journal of Advances in Modeling Earth Systems*, 15, e2022MS003150. <https://doi.org/10.1029/2022MS003150>.
158. Zhang, Z., Cescatti, A., Wang, Y.P., Gentine, P., **Xiao, J.**, Guanter, L., Huete, A.R., Wu, J., Chen, J.M., Ju, W., Peñuelas, J., Zhang, Y. (2023) Large diurnal compensatory effects mitigate the response of Amazonian forests to atmospheric warming and drying. *Science Advances*, 9, eabq497. DOI: [10.1126/sciadv.abq4974](https://doi.org/10.1126/sciadv.abq4974).
157. Fang, J., Li, X., **Xiao, J.**, Yan, X., Li, B., Liu, F. (2023) Vegetation photosynthetic phenology dataset in northern terrestrial ecosystems. *Scientific Data*, 10, 300. <https://doi.org/10.1038/s41597-023-02224-w>.
156. Wang, Y., **Xiao, J.**, Ma, Y., Ding, J., Chen, X., Ding, Z., Luo, Y. (2023) Persistent and enhanced carbon sequestration capacity of alpine grasslands on the Earth's Third Pole. *Science Advances*, 9, eade6875. DOI: [10.1126/sciadv.ade6875](https://doi.org/10.1126/sciadv.ade6875).

155. Tong, X., **Xiao, J.**, Liu, P., Zhang, J., Zhang, J., Meng, P., Li, J. (2023) Carbon exchange of forest plantations: global patterns and biophysical factors. *Agricultural and Forest Meteorology*, 336, 109379. <https://doi.org/10.1016/j.agrformet.2023.109379>.
154. Wei, X., He, W., Zhou, Y., Cheng, N., **Xiao, J.**, Bi, W., Liu, Y., Sun, S., Ju, W. (2023) Increased sensitivity of global vegetation productivity to drought over the recent three decades. *Journal of Geophysical Research: Atmospheres*, 128, e2022JD037504. <https://doi.org/10.1029/2022JD037504>.
153. Zhang, W., Jin, H., Jamali, S., Duan, Z., Wu, M., Ran, Y., Ardo, J., Eklundh, L., Jonsoon, A.M., Sun, H., Hu, G., Wu, X., Yun, H., Wu, Q., Fu, Z., Yu, K., Tian, F., Tagesson, T., Li, X., **Xiao, J.** (2023) Convergence and divergence emerging in climatic controls of polynomial trends for northern ecosystem productivity over 2000–2018. *Science of the Total Environment*, 874, 162425. <https://doi.org/10.1016/j.scitotenv.2023.162425>.
152. Gu, H., Yin, G., Yang, Y., Verger, A., Descals, A., Filella, I., Zeng, Y., Hao, D., Xie, Q., Li, X., **Xiao, J.**, Penuelas, J. (2023) Satellite-detected Contrasting Responses of Canopy Structure and Leaf Physiology to Drought. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 16, 2427–2436. DOI: 10.1109/JSTARS.2023.3247422.
151. Zhang, Z., Zhou, Y., Ju, W., Chen, J., **Xiao, J.** (2023) Accumulated soil moisture deficit better indicates the effect of soil water stress on light use efficiency of grasslands during drought years. *Agricultural and Forest Meteorology*, 329, 109276. <https://doi.org/10.1016/j.agrformet.2022.109276>.
- 2022:**
150. Li, S., Zhang, L., **Xiao, J.**, Ma, R., Tian, X., Yan, M. (2022) Simulating carbon and water fluxes using a coupled process-based terrestrial biosphere model and joint assimilation of leaf area index and surface soil moisture. *Hydrology and Earth System Sciences*, 26, 6311–6337. <https://doi.org/10.5194/hess-26-6311-2022>.
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Book chapters

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4. **Xiao, J.** (2014) Assessing Net Ecosystem Exchange of Carbon Dioxide Between the Terrestrial Biosphere and the Atmosphere Using Fluxnet Observations and Remote Sensing. *Biophysical Applications of Satellite Remote Sensing*, Hanes J. (Ed.). Springer Berlin Heidelberg, pp. 149-169.
3. Sun, G., Feng, X., **Xiao, J.**, Shiklomanov, A., Wang, S., Zhang, Z., Lu, N., Wang, S., Chen, L., Fu, B., Chen, Y., Chen, J. (2013) Impacts of global change on water resources in Dryland East Asia. In: *Dryland East Asia (DEA): Land Dynamics Amid Social And Climate Change*, Chen J, Wan S, Henebry G, Qi J, Gutman G, Sun G, Kappas M (eds.) HEP and De Gruyter, pages 153-181.
2. **Xiao, J.**, Zhang, L., Chen, J., John, R. (2013) Dynamics of vegetation productivity in Dryland East Asia from 1982 to 2010. In: *Dryland East Asia (DEA): Land Dynamics Amid Social And Climate Change*, Chen J, Wan S, Henebry G, Qi J, Gutman G, Sun G, Kappas M (eds.) HEP and De Gruyter, pages 125-147.
1. Baldocchi, D.D., Chen, Q., Chen, X., Ma, S., Miller, G., Ryu, Y., **Xiao, J.**, Wenk, R., Battles, J. (2010) The Dynamics of Energy, Water and Carbon Fluxes in a Blue Oak (*Quercus douglasii*) Savanna in California, USA, In: *Ecosystem Function in Global Savannas: Measurement and Modeling at Landscape to Global Scales* – edited by Michael J. Hill and Niall P. Hanan and published by CRC/Taylor and Francis. pp 135-151.

Meeting reports and Newsletters

2. **Xiao, J.**, Y. Luo, and G. Shrestha (2016), Improving carbon cycle projections for better carbon management, *Eos*, 97, doi:10.1029/2016EO062341. Published on 02 November 2016.

1. **Xiao, J.** (2010) Upscaling fluxes from towers to regions, continents and global scales using data-driven approaches. *FluxLetter*, The Newsletter of FLUXNET, vol. 3, No. 3, December, 2010.

Invited seminars and conference presentations

44. IALE-North America Annual Meeting, *Monitoring vegetation phenology with solar-induced chlorophyll fluorescence*, April 1-5, 2024, Oklahoma City.
43. AGU Fall Meeting, *Global water use efficiency saturation due to increased vapor pressure deficit*. San Francisco, CA, 11-15 December 2023.
42. Hunan Normal University, School of Geographical Sciences, *Understanding diurnal variations of photosynthesis and transpiration using emerging satellite observations*. November 5, 2023.
41. Beijing Normal University, Faculty of Geographical Science, *Estimating terrestrial gross primary production globally with solar-induced fluorescence*. November 22, 2022.
40. USCCC 18th Annual Meeting, *TROPOMI observations allow for robust exploration of the relationship between solar-induced fluorescence and gross primary production*. October 29-30, 2022.
39. UNH-DOE National Lab Day, *Towards benchmarking and improving Earth System Models*. October 27, 2022.
38. The ESA & USSEE 2019 Joint Meeting, *Solar-induced chlorophyll fluorescence and terrestrial photosynthesis for a wide variety of biomes: A global analysis based on OCO-2 and flux tower observations*. August 12-16, 2019.
37. Xi'an Jiaotong University, Department of Earth and Environmental Science, *Remote Sensing of diurnal variations in ecosystem processes*. August 4, 2022.
36. University of Connecticut, Department of Civil and Environmental Engineering, *Understanding photosynthesis from ecosystems to the globe with solar-induced fluorescence measured from space*. April 15, 2022.
35. OCO-2/OCO-3 Science Team Telecon, *Studying ecosystem processes with SIF measurements from the OCO missions*. September 28, 2021.
34. USDA Forest Service, Southern Research Station, *Remote sensing of ecosystem processes*. August 13, 2021.
33. Beijing Normal University, College of Water Sciences, *Remote sensing of terrestrial gross primary production: Advances and prospects*. May 21, 2021.
32. FLUXNET Seminar Series, *Assessing drought impacts on terrestrial photosynthesis with satellite data from OCO-2 and SMAP*. March 5, 2021.
31. South Dakota State University, Geospatial Sciences Center of Excellence (GSCE), *Understanding global land photosynthesis with solar-induced chlorophyll fluorescence measured from space*. September 2, 2020.
30. Central South University of Forestry and Technology, School of Life Sciences and Technology (Changsha, China), *A new era for measuring terrestrial photosynthesis from space*. August 20, 2018.
29. Institute of Subtropical Agriculture, Chinese Academy of Sciences, *A new era for measuring terrestrial photosynthesis from space*. August 11, 2018.
28. Xi'an Jiaotong University, Department of Earth & Environmental Science, *A new era for measuring terrestrial photosynthesis from space*. July 23, 2018.
27. Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, *A new era for measuring terrestrial photosynthesis from space*. July 13, 2018.
26. Institute of Remote Sensing & Digital Earth, Chinese Academy of Sciences, *A new era for measuring terrestrial photosynthesis from space*. July 12, 2018.

25. Institute of Remote Sensing & GIS, Peking University, *A new era for measuring terrestrial photosynthesis from space*. July 11, 2018.
24. Beijing Normal University, *Translating flux observations from towers to regions, continents, and the globe: What have we learned?* July 13, 2016.
23. Nanjing University of Information Science and Technology, *Applications of remote sensing and in-situ measurements in ecohydrology*. July 6, 2016.
22. AGU Fall Meeting, *Upscaling fluxes from towers to regions, continents, and the globe: what have we learned?* December 14-18, 2015.
21. FLUENT Synthesis Workshop, *Translating flux observations from towers to regions, continents, and the globe: what have we learned?* July 14-16, 2015.
20. Research Center for Eco-Environmental Sciences (RCES), Chinese Academy of Sciences, *Assessing land-atmosphere carbon and water exchange using flux measurements, satellite data, and modeling approaches*. July 31, 2014.
19. Center for Earth System Science, Tsinghua University, *Eddy covariance technique is revolutionizing biogeochemical studies*. June 27, 2014.
18. Institute of Botany, Chinese Academy of Sciences, *Eddy covariance flux observations and global ecology*. November 22, 2013.
17. Nanjing University, International Institute for Earth System Science, *Extreme climate events and carbon cycle*. November 21, 2013.
16. Institute of Botany, Chinese Academy of Sciences, *Assessing ecosystem carbon and water dynamics at regional to global scales using flux measurements, satellite data, and modeling approaches*. June 24, 2013.
15. The 7th International Symposium on Modern Ecology, *Responses of terrestrial ecosystems to drought*. June 10-12, 2013.
14. Yale-NUIST Center on Atmospheric Environment, *Land-atmosphere carbon and water exchange derived from flux observations, satellite data, and modeling*. May 23, 2013.
13. Boston University, Biogeosciences Program, *Interannual variability of global land-atmosphere carbon fluxes: A perspective from FLUXNET observations and upscaling*. October 3, 2012.
12. Tsinghua University, Center for Earth System Science, *Assessing terrestrial carbon dynamics over regions, continents, and the globe using flux observations, remote sensing, and modeling approaches*. June 29, 2012.
11. 3rd International Young Ecologist Forum, *Finding your niche in ecology*. June 12-14, 2012.
10. 17th Wildland Shrub Symposium, *Carbon fluxes in shrublands: A perspective from FLUXNET observations and upscaling*. May 22-24, 2012.
9. DOE Workshop: Strategies to Promote Integrated Experiment-Model Approaches to Terrestrial Ecosystem Study, *Gridded flux products derived from flux networks*. March 19-21, 2012.
8. 8th USCCC Workshop, *Upscaling fluxes from towers to regional, continental, and global scales: Progress, challenges, and opportunities*. July 28-31, 2011.
7. Institute of Geographical Sciences & Natural Resources, Chinese Academy of Sciences, *Advances in upscaling of carbon and water fluxes from towers to regions, continents, and the globe*. July 25, 2011.
6. College of Global Change and Earth System Science, Beijing Normal University, *Assessing ecosystem carbon dynamics over regions, continents, and the globe Using FLUXNET observations, Remote Sensing, and Modeling Approaches*. July 22, 2011.
5. Capital Normal University, *Net ecosystem carbon exchange of U.S. terrestrial ecosystems*. June 21, 2010.

4. FLUXNET and Remote Sensing Open Workshop: Towards Upscaling Flux Information from Towers to the Globe, *Success and failure of implementing data-driven upscaling using flux networks and remote sensing*. June 7-9, 2011.
3. AGU Fall Meeting, *Data-driven diagnostics of North American terrestrial carbon dynamics*. December 13-17, 2010.
2. International Symposium on Forest, Carbon and Water in response to climate change, *Net ecosystem carbon exchange of U.S. terrestrial ecosystems*. June 16-18, 2010.
1. AmeriFlux Annual Meeting, *Estimation of ecosystem carbon exchange for the conterminous United States by combining MODIS and AmeriFlux data*. October 15-17, 2008.

Conference Presentations

140. Huang, C., Huang, J., **Xiao, J.**, Li, X., and Chen, F. (2024) Global convergence in the response of terrestrial gross primary production to atmospheric vapour pressure deficit. *EGU General Assembly 2024*, Vienna, Austria, 14–19 Apr 2024. (Poster)
139. Liu, X., Chu, B., Tang, R., Liu, Y., Li, X., **Xiao, J.**, Desai, A., and Wang, H. (2024) Air quality improvements can strengthen China's food security. *EGU General Assembly 2024*, Vienna, Austria, 14–19 Apr 2024. (Oral)
138. Xiao, J. (2024) Monitoring vegetation phenology with solar-induced chlorophyll fluorescence. *IALE-North America Annual Meeting*, April 1-5, 2024, Oklahoma City. (**Invited**)
137. Huang, C., Huang, J., **Xiao, J.**, Li, X., and Chen, F. (2024) Global convergence in the response of terrestrial gross primary production to atmospheric vapour pressure deficit. *EGU General Assembly 2024*, Vienna, Austria, April 14-19, 2024.
136. Liu, X., Chu, B., Tang, R., Liu, Y., Li, X., **Xiao, J.**, Desai, A., and Wang, H. (2024) Air quality improvements can strengthen China's food security. *EGU General Assembly 2024*, Vienna, Austria, April 14-19, 2024.
135. **Xiao, J.**, Li, X., Bu, J., Fisher, J., Hashimoto, H., Ichii, K., Parazoo, N. (2024) Monitoring diurnal variations of ecosystem carbon uptake and water use at regional to global scales. *NSF Macrosystems Biology Community Virtual Meeting*, February 7-8, 2024. (Poster)
134. **Xiao, J.**, Li, F., Chen, J., Ballantyne, A., Jin, K., Li, B., Abraha, M., John, R. (2023) Global water use efficiency saturation due to increased vapor pressure deficit. *AGU Fall Meeting*, San Francisco, CA, 11-15 December 2023. (**Invited presentation**)
133. **Xiao, J.**, Crockett, E., Atkins, J., Guo, Q., Sun, G., Potter, K.M., Ollinger, S.V., Silva, C., Tang, H., Woodall, C., Holgerson, J. (2023) Structural and species diversity explain aboveground carbon storage in forests across the United States: evidence from GEDI and forest inventory data. *AGU Fall Meeting*, San Francisco, CA, 11-15 December 2023. (Poster)
132. Wu, Y., Li, H., Liu, S., **Xiao, J.**, Zhao, W., Chen, J., Alexandrov G. (2023) Soil organic carbon dynamics and driving forces at the national scale. *AGU Fall Meeting*, San Francisco, CA, 11-15 December 2023. (Poster)
131. John, R., Chen, J., Kolluru, V., Henebry, G.M., Saraf, S., Jain, K., **Xiao, J.**, Chandel, A. (2023) Interdependent dynamics of food, energy, water and grassland degradation estimates in Kazakhstan and Mongolia. *AGU Fall Meeting*, San Francisco, CA, 11-15 December 2023. (**Invited talk**)
130. Kolluru, V., John, R., Chen, J., Saraf, S., Henebry, G.M., **Xiao, J.**, Jain, K. (2023) Pixel-wise contribution and attribution of socioenvironmental system drivers to grassland degradation in Kazakhstan. *AGU Fall Meeting*, San Francisco, CA, 11-15 December 2023. (Poster)
129. Bu, J.*, **Xiao, J.** (2023) Developing a global, gridded hourly evapotranspiration dataset with ECOSTRESS snapshot. *AGU Fall Meeting*, San Francisco, CA, 11-15 December 2023. (Oral)
128. Kim, Y., Kimball, J.S., Parazoo, N., Xu, X., Colliander, A., Reichle, R., **Xiao, J.**, Li, X. (2023) Satellite observations of spring transition events across the North American Arctic-boreal region

- using SMAP, AMSR2, MODIS, and OCO-2. *AGU Fall Meeting*, San Francisco, CA, 11-15 December 2023. (Poster)
127. **Xiao, J.** (2023) Understanding diurnal variations of photosynthesis and transpiration using emerging satellite observations. *An International Symposium on the Coupling between the Carbon and Water Cycles across Scales*, Changsha, China, November 4, 2023. (Oral)
126. Kim, J.B., Duarte, H.*, Sun, G., **Xiao, J.**, McNulty, S. (2023) Simulating climate change impacts on basin scale water yield across the CONUS. *ESA Annual Meeting*, Portland, OR, August 6-11, 2023. (Oral)
125. Crockett, E.*, Guo, Q., Atkins, J., Sun, G., Potter, K., Woodall, C.W., Costanaz, J., Holgerson, J., McNulty, S., Ollinger, S., Trettin, C., **Xiao, J.** (2023) The Influence of Structural and Species Diversity on Resilience to Drought in US Temperate Forests. *ESA Annual Meeting*, Portland, OR, August 6-11, 2023. (Oral)
124. Kim, J., Duarte, H.*, Sun, G., **Xiao, J.**, McNulty, S. (2023) Simulating climate change impacts on basin scale water yield across the CONUS. *8th Interagency Conference on Research in the Watersheds (ICRW8)*, Corvallis, OR, June 5-8, 2023. (Oral)
123. Ma, R., Zhang, Y., Ciais, P., Xiao, J., Liang, S. (2023) Stepwise calibration of age-dependent biomass in the Integrated Biosphere Simulator (IBIS v2.6) model. *EGU General Assembly*, Vienna, Austria, April 23-28, 2023. (Oral)
122. **Xiao, J.**, Chang, Y., Li, X., Zhou, D., Wu, Y. (2022) Investigating diurnal variations of surface urban heat island at neighborhood and city scales with land surface temperature data from ECOSTRESS and GOES-R. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Poster)
121. Zhou, D., **Xiao, J.**, Frohling, S.E., Zhang, L., Zhou, G. (2022) Impacts of Urbanization on Local to Global Land Surface Warming According to High-resolution Satellite Observations. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Oral)
120. Li, X., Ryu, Y., **Xiao, J.**, Liu, J., Dechant, B., Li, B., Jeong, S., Xu, H. (2022) Geostationary satellite observations reveal the impact of heat waves on diurnal dynamics of ecosystem productivity. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Oral)
119. Ma, R., **Xiao, J.**, Liang, S., Ma, H., He, T., Guo, D., Liu, X., Lu, H. (2022) Spatial Parameter Optimization of a Terrestrial Biosphere Model for Improving Estimation of Carbon Fluxes by An Efficient Model-Data Fusion Method. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Oral)
118. **Xiao, J.** (2022) A long-overdue gap-filled and partitioned flux dataset for nearly 300 AmeriFlux and NEON sites. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Poster)
117. Li, X.* **Xiao, J.** (2022) TROPOMI observations allow for robust exploration of the relationship between solar-induced chlorophyll fluorescence and terrestrial gross primary production. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Poster)
116. Zhang, J., Gonsamo, A., Tong, X., **Xiao, J.** (2022) TROPOMI SIF captures photosynthetic and land surface phenology better than traditional vegetation indices over North America. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Online Poster Discussion)
115. Liu, J., Baker, D., Basu, S., Bertolacci, M., Bowman, K.W., Byrne, B.K., Chatterjee, A., Crowell, S., Chevallier, F., Cressie, N., Deng, F., He, W., Achari, R.J., Jiang, F., Johnson, M.C., Liu, Z., Maksyutov, S.S., Miller, S.M., Philip, S., Schuh, A.E., **Xiao, J.**, Zeng, N., Zammit-Mangion, A. (2022) The state of global carbon cycle in 2020 and 2021. *AGU Fall Meeting*, Chicago, IL, 12-16 December 2022. (Oral)
114. **Xiao, J.**, Li, X.* (2022) TROPOMI observations allow for robust exploration of the relationship between solar-induced fluorescence and gross primary production. *USCCC 18th Annual Meeting* (virtual), Wuhan, China, October 29-30, 2022. (**Invited talk**)
113. Crockett, E.*, Atkins, J., Guo, Q., Sun, G., Potter, K.M., Ollinger, S., Silva, C., Tang, H., Woodall, C.W., Holgerson, J., **Xiao, J.** (2022) Impacts of structural and biological diversity on aboveground carbon storage in temperate forests: evidence from GEDI and forest inventory data. *ESA and CSEE Joint Meeting*, Montreal, Canada, August 14-19, 2022. (Oral)

112. Krause, A., Papastefanou, P., Gregor, K., Layritz, L., Zang, C. S., Buras, A., Li, X., **Xiao, J.**, and Rammig, A. (2022) How land cover changes affect ecosystem productivity. EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-10157, <https://doi.org/10.5194/egusphere-egu22-10157>. (Oral)
111. **Xiao, J.**, Li, X. (2022) Towards mapping global photosynthesis solely from solar-induced chlorophyll fluorescence. OCO SIF Breakout Session, OCO Science Team Meeting, virtual, February 28, 2022. (Oral)
110. **Xiao, J.**, Fisher, J.B., Hashimoto, H., Ichii, K., Parazoo, N. (2021) Emerging satellite observations for diurnal cycling of ecosystem processes. AGU Fall Meeting, New Orleans, LA & Online Everywhere, 13-17 December 2021. (Oral)
109. Taguchi, T., Ichii, K., **Xiao, J.** (2021) Detecting vegetation changes induced by afforestation in mainland China using multiple satellite products. AGU Fall Meeting, New Orleans, LA & Online Everywhere, 13-17 December 2021. (Poster)
108. Li, X.*, **Xiao, J.**, Fisher, J.B., Baldocchi, D.D. (2021) ECOSTRESS estimates gross primary production with fine spatial resolution for different times of day from the International Space Station. AGU Fall Meeting, New Orleans, LA & Online Everywhere, 13-17 December 2021. (Oral)
107. Zhou, D., **Xiao, J.**, Frohling, S.E., Liu, S., Zhang, L., Cui, Y., Zhou, G. (2021) Strong land surface warming effects of global croplands according to high-resolution satellite observations. AGU Fall Meeting, New Orleans, LA & Online Everywhere, 13-17 December 2021. (Oral)
106. Chang, Y.*, **Xiao, J.**, Li, X., Middel, A., Zhang, Y., Gu, Z., Wu, Y., He, S. (2021) Exploring diurnal thermal variations in urban local climate zones with ECOSTRESS land surface temperature data. AGU Fall Meeting, New Orleans, LA & Online Everywhere, 13-17 December 2021. (Poster)
105. **Xiao, J.**, Chang, Y., Li, X., Frohling, S., Zhou, D., Schneider, A., Weng, Q., Yu, P., Wang, X., Li, X., Liu, S., Wu, Y. (2021) Exploring diurnal cycles of surface urban heat island intensity in Boston with land surface temperature data derived from GOES-R geostationary satellites. *Asia Oceania Geosciences Society (AOGS) 18th Annual Meeting*. Virtual Conference 01 to 06 August 2021. (Oral)
104. **Xiao, J.**, Fisher, J., Hashimoto, H., Ichii, K., Parazoo, N.C. (2021) Studying diurnal variations of ecosystem processes from space. *USCCC 17th Annual Meeting* (in-person or online), Chongqing, China, July 31 – August 1, 2021. (Oral)
103. **Xiao, J.**, Li, X.*, Kimball, J., Heichle, R.H., Scott, R.L., Litvak, M.E., Bohrer, G., Frankenberg, C. (2020) Synergistic use of SMAP and OCO-2 data in assessing the responses of ecosystem productivity to the 2018 U.S. drought. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Oral)
102. Li, X.*, **Xiao, J.** (2020) Understanding global land photosynthesis with the global, 0.05-degree solar-induced chlorophyll fluorescence derived from OCO-2 (GOSIF). *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Poster)
101. Wang, H., Li, X., **Xiao, J.**, Ma, M. (2020) Evapotranspiration Components and Water Use Efficiency from Desert to Alpine Ecosystems in Drylands. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Poster)
100. Lu, W.*, **Xiao, J.**, Lin, G. (2020) Insect Outbreaks Have Transient Effects on Carbon Fluxes and Vegetative Growth but Longer-term Impacts on Reproductive Growth in A Mangrove Forest. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Poster)
99. Wang, X.*, **Xiao, J.**, Li, X., Cheng, G., Ma, M., Arain, M.A., Black, T.A., Jassal, R. (2020) No trends in spring and autumn phenology during the global warming hiatus. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Poster)
98. Hu, X.*, Shu, Q., Qi, L., **Xiao, J.**, Xu, R., Guo, W., Shang, Z. (2020) Intermediate disturbance increases bacteria diversity and interaction in tropical lowland rainforest soils of Hainan, China. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Poster)

97. Fisher, J.B., Lee, C.M., Cawse-Nicholson, K.-A., Hulley, G.C., Allen, R.G., Anderson, M.B., Baldocchi D.D., DeFelice, N., Doughty C., Frankenberg, C., French, A.N., Hain, C., Hecker, C., Hu, C., Myint, S.W., Otis, D.B., Poulos, H., Wethey, D.S., Whelan, M., Wood, E.F., **Xiao, J.**, Hook, S.J. (2020) The ECOSTRESS Science and Applications Team: Synergies Across Land, Air, and Sea. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Oral)
96. Xu, H.*, **Xiao, J.**, Zhang, Z. (2020) Heatwave effects on gross primary production of northern mid-latitude ecosystems. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Poster)
95. Chang, Y.*, **Xiao, J.**, Li, X., Frohling, S.E., Zhou, D., Schneider, A., Weng, Q., Yu, P., Wang, X., Li, X., Liu, S., Wu, Y. (2020) Exploring diurnal cycles of surface urban heat island intensity in Boston with land surface temperature data derived from GOES-R geostationary satellites. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Poster)
94. He, X., Xu, T., Bateni, S.M., Ki, S., **Xiao, J.**, Liu, S. (2020) Estimation of Turbulent Heat Fluxes and Gross Primary Productivity by Assimilating Land Surface Temperature and Leaf Area Index. *AGU Fall Meeting*, Online Everywhere, December 1-17, 2020. (Oral)
93. **Xiao, J.**, Li, X. (2020) Understanding Diurnal Cycles of Plant Water Use and Carbon Uptake with Existing and New Products Based on ECOSTRESS, MODIS, and FLUXNET. *ECOSTRESS Science and Applications Team Meeting*, December 1, 2020 (Virtual meeting) (Oral)
92. **Xiao, J.**, Li, X. (2020) Mapping terrestrial photosynthesis globally with solar-induced chlorophyll fluorescence and FLUXNET observations. 2020 AmeriFlux Annual Meeting, October 6-8, 2020, Virtual Meeting. (**Plenary talk**)
91. **Xiao, J.** (2020) Understanding ecosystem functioning using flux tower data, synthesis, remote sensing, and modeling. 17th USCCC Annual Meeting, Virtual Meeting, July 23, 2020 (Oral)
90. **Xiao, J.**, Li, X., Fisher, J. (2020) Understanding diurnal cycles of plant water use and carbon uptake with existing and new products based on ECOSTRESS, MODIS, and FLUXNET. *ECOSTRESS Science and Applications Team Meeting*, Ventura, CA, February 11-14, 2020. (Oral)
89. **Xiao, J.**, Li, X., Ollinger, S.V. (2019) Solar-induced chlorophyll fluorescence and terrestrial photosynthesis for a wide variety of biomes: A global analysis based on OCO-2 and flux tower observations. *The ESA & USSEE 2019 Joint Meeting*, Louisville, KY, August 12-16, 2019. (**Invited talk**)
88. Zheng, Y., Zhang, L., **Xiao, J.**, Yuan, W. (2018) Sources of Uncertainty in Gross Primary Productivity Simulated by Light Use Efficiency Models: Model Structure, Parameters, Input Data, and Spatial Resolution. *AGU Fall Meeting*, Washington DC, December 10-14, 2018. (Oral)
87. Li, X.*, **Xiao, J.**, He, B., Arain, M.A., Beringer, J., Desai, A.R., Emmel, C., Hollinger, D.Y., Krasnova, A., Mammarella, I., Noe, S.M., Ortiz, P.S., Rey-Sanchez, C., Rocha, A.V., Varlagin, A. (2018) Solar-induced chlorophyll fluorescence exhibits a nearly universal relationship with terrestrial photosynthesis across a wide variety of biomes. *AGU Fall Meeting*, Washington DC, December 10-14, 2018. (Poster)
86. Ollinger, S.V., Ouimette, A., Sanders-DeMott, R., Braswell, B.H., **Xiao, J.**, Lepine, L.C. (2018) Does tree diversity in North American forests influence carbon and water fluxes between ecosystems and the atmosphere? *AGU Fall Meeting*, Washington DC, December 10-14, 2018. (Poster)
85. **Xiao, J.**, Liu, Y., Ju, W. (2018) Satellite-derived LAI products exhibit large discrepancies and can lead to substantial uncertainty in simulated carbon and water fluxes. *AGU Fall Meeting*, Washington DC, December 10-14, 2018. (Poster)
84. Wang, X.*, **Xiao, J.** (**Presenter**), Li, X., Cheng, G., Ma, M., Che, T., Dai, L. (2018) No Consistent Evidence for Advancing or Delaying Trends in Spring Phenology on the Tibetan Plateau. *AGU Fall Meeting*, Washington DC, December 10-14, 2018. (Poster)
83. **Xiao, J.**, Li, X. (2018) Solar-induced chlorophyll fluorescence is a strong predictor of terrestrial photosynthesis for a wide variety of biomes. *15th USCCC Annual Meeting and Water-Heat-Carbon Nexus Fluxes in Terrestrial Water Bodies*, Jiujiang, China, August 16-17, 2018. (Oral)

82. Ichii, K., Yanagi, Y., **Xiao, J.** (2018) Detecting Vegetation Changes Induced by Afforestation in China Using Multiple Satellite Products. *AOGS 15th Annual Meeting*, Honolulu, Hawaii, June 03-08, 2018. (Oral)
89. Contosta, A., Varner, R., **Xiao, J.** (2017) Patterns of Carbon Storage and Greenhouse Gas Losses in Urban Residential Lawns. *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017. (Oral)
80. Li, X.*, **Xiao, J.**, He, B. (2017) Evaluating the relationships between solar-induced chlorophyll fluorescence from Orbiting Carbon Observatory-2 and gross primary productivity from eddy covariance flux towers. *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017. (Poster)
79. Liu, Y.*, **Xiao, J.** (2017) Recent trends in vegetation greenness in China significantly altered annual evapotranspiration and water yield. *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017. (Oral)
78. Ollinger, S.V., Ouimette, A., Sullivan, F., Sanders-DeMott, R., Palace, M.W., **Xiao, J.**, Braswell, B.H., Lepine, L.C. (2017) Spatial and temporal variability in carbon cycling in a northeastern U.S. forest in relation to leaf traits, canopy diversity and climate variability. *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017.
77. Wang, H.*, Li, X., **Xiao, J.**, Ma, M. (2017) Optimized estimation and its uncertainties of gross primary production over oasis-desert ecosystems in an arid region of China. *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017. (Poster)
76. **Xiao, J.**, Frohling, S.E., Milliman, T.E., Schneider, A., Friedl, M.A. (2017) A global analysis of the urban heat island effect based on multisensor satellite data. *AGU Fall Meeting*, New Orleans, LA, December 11-15, 2017. (Oral)
75. Li, X.*, **Xiao, J.**, He, B. (2017) Joint controls of radiation and precipitation on the photosynthesis of Amazon forests during the 2015 drought. *11th Graduate Climate Conference*, Woods Hole, MA, November 10-12, 2017. (Poster)
74. **Xiao, J.**, Li, X. (2017) Constraining terrestrial gross primary productivity using solar-induced chlorophyll fluorescence from OCO-2. *5th iLEAPS Science Conference*, Oxford, UK, September 11-14, 2017. (Oral)
73. **Xiao, J.**, Li, X., He, B. (2017) Using solar-induced chlorophyll fluorescence to estimate gross primary productivity of temperate forests. *The 12th International Congress of Ecology*, Beijing, China, August 21-25, 2017. (Oral)
72. **Xiao, J.**, Li, X. (2017) Potential of integrating OCO-2 and flux tower data for predicting photosynthesis of terrestrial ecosystems. *International Conference on Ecosystem Function and Adaptive Management of Loess Plateau & USCCC 14th Annual Workshop*, Taiyuan, China, August 18-20, 2017. (Oral)
71. Tang, J., Di, L., **Xiao, J.** (2017) Spatial heterogeneity and socioeconomic patterns: identifying the impact of urban center on forest fragmentation. *2017 IEEE International Geoscience and Remote Sensing Symposium*, Fort Worth, Texas, July 23-28, 2017. (Oral)
70. John, R., Giannico, V., Park, H., Chen, J., **Xiao, J.**, Yang, Z., Shao, C., Shirkey, G., Laforteza, R., Qi, J. (2017) Spatio-temporal estimates of herbaceous aboveground biomass on the Mongolian Plateau: their climate controls and anthropogenic drivers. *AAG Annual Meeting*, Boston, MA, April 5-9, 2017. (Oral)
69. **Xiao, J.**, Wang, X., Ollinger, S.V. (2016) "Greening" and "browning" of the Earth's land surface: is there evidence from FLUXNET observations. *AGU Fall Meeting*, San Francisco, CA, December 12-16, 2016. (Oral)
68. Ichii, K., Yanagi, Y., **Xiao, J.** (2016) Detecting vegetation changes induced by government policy in China using multiple satellite products. *AGU Fall Meeting*, San Francisco, CA, December 12-16, 2016. (Poster)
67. Guerrieri, R., Belmecheri, S., Martin, M., Lepine, L.C., Jennings, K., Asbjornsen, H., **Xiao, J.**, and Ollinger, S.V. (2016) Spatial and temporal trends in water-use efficiency across U.S. forests: integrating tree ring stable C and O isotopes with eddy covariance data. *AGU Fall Meeting*, San Francisco, CA, December 12-16, 2016. (Poster)

66. **Xiao, J.**, Lu, W., Liu, F., Zhang, Y., Liu, G., Lin, G. (2016) Contrasting ecosystem CO₂ fluxes of inland and coastal wetlands: A meta-analysis of eddy covariance data. *2016 AmeriFlux PI Meeting*, Golden, CO, September 21-23, 2016. (Poster)
65. **Xiao, J.** (2016) Application of remote sensing and in-situ measurements in regional ecohydrology. *IceMe 3rd Ecohydrology Symposium*, Nanjing, Jiangsu, China, July 6, 2016. (**Invited talk**)
64. **Xiao, J.**, Wang, X. (2016) “Greening” and “browning” of the Earth’s land surface: Is there evidence from eddy covariance data? *13th USCCC Annual Meeting*, Beijing Forestry University, Beijing, June 24-26, 2016. (Oral)
63. Guerrieri, R., Belmecheri, S., Asbjorsen, H., Lepine, L., Xiao, J., Ollinger, S. (2016) Temporal trends in water-use efficiency across U.S. forests: integrating tree ring stable C and O isotopes with eddy covariance data. Third Ameridendro conference, Mendoza, Argentina 28 March-1 April 2016.
62. **Xiao, J.** (2015) Upscaling fluxes from towers to regions, continents, and the globe: what have we learned? *AGU Fall Meeting*, San Francisco, CA, December 14-18, 2015. (**Invited talk**)
61. Liu, Y.*, **Xiao, J.**, Ju, W., Zhou, Y., Wang, S., Wu, X. (2015) Water use efficiency of China’s terrestrial ecosystems and responses to drought. *AGU Fall Meeting*, San Francisco, CA, December 14-18, 2015. (Poster)
60. **Xiao, J.**, Contosta, A.R., Deng, J., Lepine, L., Li, C., Ollinger, S.V., Ouimette, A., Tang, J., Varner, R.K. (2015) Influences of land use on greenhouse gas fluxes within mixed landscapes. *AGU Fall Meeting*, San Francisco, CA, December 14-18, 2015. (Poster)
59. **Xiao, J.**, Ollinger, S.V., Li, C., Contosta, A.R., Varner, R.K., Lepine, L., Ouimette, A., Deng, J., Tang, J. (2015) Exploring the interactions between carbon cycling, land use and climate change within mixed agricultural, forested, suburban, and urban landscapes. *USCCC 12th Annual Meeting*, Shanghai, China, July 31-August 1, 2015. (Poster)
58. **Xiao, J.** (2015) Translating flux observations from towers to regions, continents, and the globe: what have we learned? *FLUENT Synthesis Workshop*, Beijing, China, July 14-16, 2015. (**Invited talk**)
57. Frohking, S., Schneider, A., **Xiao, J.**, Milliman, T., Cheek, L., Friedl, M. (2015) Multi-Sensor Analysis of Global Daytime and Nighttime Urban Heat Islands. NASA MODIS-VIIRS Science Team Meeting, Silver Spring, MD, June 2015. (Poster)
56. **Xiao, J.**, Contosta, A., Deng, J., Lepine, L., Li, C., Ollinger, S., Ouimette, A., Varner, R., Tang, J. (2015) Exploring the interactions between carbon cycling, land use and climate change within mixed agricultural, forested, suburban, and urban landscapes. *2015 NASA Carbon Cycle & Ecosystems Joint Science Workshop*, Hyattsville, MD, April 20-23, 2015. (Poster)
55. Frohking, S., **Xiao, J.**, Schneider, A., Milliman, T., Cheek, L., Friedl, M. (2015) Multi-sensor analysis of global daytime and nighttime urban heat islands. *2015 NASA Carbon Cycle & Ecosystems Joint Science Workshop*, Hyattsville, MD, April 20-23, 2015. (Poster)
54. Guerrieri, R., Lepine, L., Asbjorsen, H., **Xiao, J.**, Ollinger, S. (2015) Linking carbon and water cycling to nitrogen for forests across North America: From the leaf to the ecosystem. *2015 NASA Carbon Cycle & Ecosystems Joint Science Workshop*, Hyattsville, MD, April 20-23, 2015. (Poster)
53. Ollinger, S., **Xiao, J.**, Guerrieri, R., Lepine, L., Asbjorsen, H. (2015) Canopy diversity in relation to carbon fluxes, water use and ecosystem resilience in North American forests. *2015 NASA Carbon Cycle & Ecosystems Joint Science Workshop*, Hyattsville, MD, April 20-23, 2015. (Poster)
52. Chen, J., John, R., Brown, D., Shao, c., Alington, G., Zhuang, Q., **Xiao, J.**, Xie, Y., Sun, G., Fan, P., Qi, J. (2015) LCLUC Synthesis: Ecosystem-Society Interactions on a Changing Mongolian Plateau. *2015 NASA Carbon Cycle & Ecosystems Joint Science Workshop*, Hyattsville, MD, April 20-23, 2015. (Poster)

51. **Xiao, J.**, Ollinger, S.V., Davis, K.J., Thorn, A., Wang, W., Urban, N.M., Keller, K., Frolking, S., Hurtt, G.C. (2015) Assessing ecosystem carbon dynamics over North America by integrating eddy covariance, MODIS, and new ecological data through upscaling and model-data synthesis. *5th NACP Principal Investigators Meeting & AmeriFlux Principal Investigators Meeting*, Washington D. C., January 26-30, 2015. (Poster)
50. Naithani K.J., Kennedy, R., Davis, K.J., Keller, K., Bladwin, D., **Xiao, J.**, Smithwick, E. A.H. (2015) Understanding and quantifying uncertainties in upscaling CO₂ fluxes and its implications for carbon management. *5th NACP Principal Investigators Meeting & AmeriFlux Principal Investigators Meeting*, Washington D. C., January 26-30 (**Plenary talk**)
60. **Xiao, J.**, Ollinger, S., Li, F., Li, C., Frolking, S., Hurtt, G., Guerrieri, R., Lepine, L., Asbjornsen, H. (2014) Impacts of recent droughts on North American terrestrial ecosystems. *AGU Fall Meeting*, San Francisco, CA, December 15-19, 2014.
48. Ollinger S., Guerrieri, R., Lepine, L., **Xiao, J.**, Asbjornsen, H. (2014) Canopy diversity in relation to carbon fluxes, water use and spectral reflectance in North American forests. *AGU Fall Meeting*, San Francisco, CA, December 15-19, 2014. (**Invited talk**)
47. Guerrieri, R., Lepine, L., Asbjornsen, H., **Xiao, J.**, Ollinger, S. (2014) Controls On Water Use Efficiency For Different Forest Ecosystems Across North America: From The Leaf To Landscape. *AGU Fall Meeting*, San Francisco, CA, December 15-19, 2014.
46. John, R., Chen, J., Kim, Y., Yang, Z., **Xiao, J.**, Shao, C., Batkhishig, O. (2014) Differentiating between Land Use and Climate-driven Change using Long-term Vegetation Index Trends adjusted for Precipitation on the Mongolian Plateau. *AGU Fall Meeting*, San Francisco, CA, December 15-19, 2014.
45. Davis, K., Butler, M., Desai, A., Hilton, T., Lauvaux, T., Naithani, K., **Xiao, J.** (2014) Inference of GHG Emissions at Regional Scales: A Critical Review of Progress to Date. *AGU Fall Meeting*, San Francisco, CA, December 15-19, 2014. (**Invited talk**)
44. Yuan, W., Liu, D., **Xiao, J.**, Chen, J. (2014) Evaluating the effect of grain for green program on water cycle in China. *Global Change Research Symposium 2014*, Ostuni, Brindisi, Italy, September 16-18, 2014.
43. **Xiao, J.** (2014) Assessing the uncertainty of ecosystem models using AmeriFlux observations. *AmeriFlux Annual Principal Investigators Meeting*, Potomac, MD, May 4-5, 2014.
42. **Xiao, J.** (2013) Carbon fluxes, evapotranspiration, and water use efficiency of terrestrial ecosystems in China. *AGU Fall Meeting*, San Francisco, CA, December 9-13, 2013.
41. John, R., Chen, J., Kim, Y., Ouyang, Z., **Xiao, J.**, El Vilaly, M.A., Samanta, A., Ganguly, S., Batkhishig, O., Zhang, G. Long term trends in GPP and ET on the Mongolian Plateau in context of climate and land cover/land use change. *AGU Fall Meeting*, San Francisco, CA, December 9-13, 2013.
40. Thorn, A.M., **Xiao, J.**, Ollinger, S.V. (2013) Generalizing a forest ecosystem model: Using PnET-CN to simulate carbon and water fluxes in grasslands and shrublands. *Ecological Society of America (ESA) 98th Annual Meeting*, Minneapolis, MN, August 4-9, 2013.
39. **Xiao, J.**, Ollinger, S.V., Thorn, A., Wang, W. (2013) Assessing ecosystem carbon dynamics over North America by integrating eddy covariance, MODIS, and new ecological data through upscaling and model-data synthesis. *International Symposium on Global Change Research 2013: Coupled Natural & Human Systems*, Nanjing, Jiangsu, China, June 18-20, 2013.
38. **Xiao, J.** (2013) Carbon fluxes, evapotranspiration, and water use efficiency of terrestrial ecosystems in China. *USCCC 10th Annual Meeting*, Haikou, Hainan, China, June 14-17, 2013.
37. **Xiao, J.** (2013) Responses of terrestrial ecosystems to drought. *The 7th International Symposium on Modern Ecology*, Guangzhou, China, June 10-12, 2013. (**Invited talk**)
36. **Xiao, J.** (2012) A perspective on impacts of extreme climate events and disturbances on carbon dynamics from FLUXNET observations. *AGU Fall Meeting*, San Francisco, CA, December 3-7, 2012.

35. Zhang, L., **Xiao, J.**, Li, J., Wang, K. (2012) The 2010 spring drought reduced primary productivity in southwestern China. *AGU Fall Meeting*, San Francisco, CA, December 3-7, 2012.
34. **Xiao, J.** (2012) USCCC synthesis: Progress, challenges, and opportunities. *9th USCC Annual Meeting*, Changsha, Hunan, China, June 16-18, 2012.
1. **Xiao, J.** (2012) Finding your niche in ecology. *3rd International Young Ecologist Forum*, Kaifeng, Henan, China, June 12-14, 2012. **(Invited talk)**
32. **Xiao, J.** (2012) Carbon fluxes in shrublands: A perspective from FLUXNET observations and upscaling. *17th Wildland Shrub Symposium*, Las Cruces, NM, May 22-24, 2012. **(Invited talk)**
31. **Xiao, J.** (2012) Gridded flux products derived from flux networks. *DOE Workshop: Strategies to Promote Integrated Experiment-Model Approaches to Terrestrial Ecosystem Study*, Bethesda, MD, March 19-21, 2012. **(Invited talk)**
30. **Xiao, J.** (2011) A global, high-resolution gridded dataset of ecosystem carbon and water fluxes (EC-MOD) from 2000 to present: A benchmark dataset for model evaluation. *AGU Fall Meeting*, San Francisco, CA, December 5-9, 2011.
29. Zhang, L., Wylie, B.K., Yuan, W., Ji, L., **Xiao, J.**, Howard, D.M., and Gilmanov, T.G. (2011) Upscaling carbon fluxes over grasslands of the U.S. Great Plains and Northern China: A comparative study. *AGU Fall Meeting*, San Francisco, CA, December 5-9, 2011.
28. **Xiao, J.** (2011) Upscaling fluxes from towers to regional, continental, and global scales: Progress, challenges, and opportunities. *8th USCCC Workshop*, Xiamen University, Xiamen, China, July 28-31, 2011. **(Invited talk)**
27. **Xiao, J.** (2011) Success and failure of implementing data-driven upscaling using flux networks and remote sensing. *FLUXNET and Remote Sensing Open Workshop: Towards Upscaling Flux Information from Towers to the Globe*, Berkeley, CA, June 7-9, 2011. **(Invited talk)**
26. **Xiao, J.**, Davis, K.J., Chen, J., Reichstein, M., Baldocchi, D.D., Beer, c., Chasmer, L., Chen, J.M., Desai, A.R., Ichii, K., Ito, A., John, R., Jung, M., Kato, T., Knorr, W., Law, B.E., Liu, S., Luo, Y., Mirco, M., Mu, Q., Naithani, K., Papale, D., Running, S.W., Ryu, Y., Schaefer, K.M., Schwalm, C.R., Sun, G., Tian, H., Tomelleri, E., Williams, C.A., Wylie, B., Yuan, W., Zhang, L. (2011) Advances in upscaling of carbon and water fluxes from towers to regional, continental and global scales. *AmeriFlux Science Meeting & 3rd NACP All-Investigators Meeting*, New Orleans, LA, January 31-February 4, 2011.
25. Amiro, B.D., Barr, A.G., Barr, B.J., Black, T.A., Bracho, R., Brown, M., Chen, J., Clark, K.L., Davis, K.J., Desai, A.R., Dore, S., Engel, V., Fuentes, J.D., Goldstein, A.H., Goulden, M.L., Kolb, T.E., Lavigne, M.B., Law, B.E., Margolis, H.A., Martin, T., McCaughey, J.H., Misson, L., Montes-Helu, M., Noormets, A., Randerson, J.T., Starr, G., and **Xiao, J.** (2011) What have we learned from forest tower flux data following disturbance? *AmeriFlux Science Meeting & 3rd NACP All-Investigators Meeting*, New Orleans, LA, January 31-February 4, 2011.
24. Naithani, K.J., Davis, K.J., Urban, N.M., Keller, K., **Xiao, J.**, Bolstad, P., and Hua, D. (2011) Upscaling carbon fluxes and uncertainty across the northern forest ecoregions using a hierarchical Bayesian approach. *AmeriFlux Science Meeting & 3rd NACP All-Investigators Meeting*, New Orleans, LA, January 31-February 4, 2011.
23. Naithani K. J., Davis, K.J., Urban, N.M., Keller, K., **Xiao, J.**, Bolstad, P., Hua, D. (2010) Upscaling carbon flux using data-model integration: review and critical appraisal. *International conference on Cooling The Earth-Tactics for Restoring Climate Order and Saving the Living Planet*, November 15-17, 2010, Pantnagar, India. **(Invited talk)**
22. **Xiao, J.**, Ollinger, S.V., Chen, J., Davis, K.J., Fluxnet PIs (2010) Data-driven diagnostics of North American terrestrial carbon dynamics. *AGU Fall Meeting*, San Francisco, CA, December 13-17, 2010. **(Invited talk)**
21. **Xiao, J.** (2010) Net ecosystem carbon exchange of U.S. terrestrial ecosystems. *International Symposium on Forest, Carbon and Water in response to climate change*, Tengchong, Yunnan, China, June 16-18, 2010. **(Invited talk)**

20. **Xiao, J.**, Davis, K.J., Urban, N.M., and Keller, K. (2009) Regional upscaling of eddy flux measurements in the Upper Midwest, USA: Influence of land cover heterogeneity and model parameterization on regional carbon fluxes. *AGU Fall Meeting*, San Francisco, CA, December 14-18, 2009.
19. Davis, K.J., Butler, M.P., Diaz, L.I., Hilton, T.W., Keller, K., LAUVAUX, T., Miles, N., Raczka, B.M., Tonkonojenkov, R., Urban, N.M., and **Xiao, J.** (2009) Model-data fusion at scales from site to globe: Uncertainty assessment, network design and multiple data constraints. *AGU Fall Meeting*, San Francisco, CA, December 14-18, 2009.
18. Amiro, B.D., Barr, A.G., Black, T.A., Brown, M., Chen, J., Davis, K.J., Desai, A.R., Goulden, M.L., Law, B., Margolis, H.A., Martin, T., McCaughey, J.H., Randerson, J.T., and **Xiao, J.** (2009) Disturbances and carbon sequestration: Tower flux data from North American forests. *AGU Fall Meeting*, San Francisco, CA, December 14-18, 2009.
17. Deng, F., Chen, J.M., Mo, G., Pan, Y., Birdsey, R., McCullough, K., Peters, W., Krol, M., and **Xiao, J.** (2009) Nested inversion of the North America carbon flux with forest stand age constraint. *AGU Joint Assembly*, Toronto, Ontario, Canada, May 24-27, 2009.
16. **Xiao, J.**, Davis, K.J., Zhou, X., Luo, Y., Zhou, T., Reichstein, M., Jung, M., Tomelleri, E., Beer, C., Zhang, L., Wylie, B.K., Liu, L., Yuan, W., Desai, A., Zhao, M., Running, S., Bond-Lamberty, B., and Wofsy, S.C. (2009) Regional to continental upscaling of AmeriFlux data for carbon cycle studies: progress, challenges, and new directions. *2nd NACP All-Investigators Meeting*, San Diego, CA, February 17-20, 2009. (**Plenary talk**)
15. **Xiao, J.**, Zhuang, Q., and AmeriFlux collaborators (2009) Continuous measures of gross primary productivity and net ecosystem carbon exchange for the conterminous US derived from MODIS and AmeriFlux data. *2nd NACP All-Investigators Meeting*, San Diego, CA, February 17-20, 2009.
14. **Xiao, J.**, Davis, K., Cook, B., Bolstad, P., Desai, A., Saliendra, N., Cherry, K., Kolka, R., and Weishampel, P. (2008) Upscaling of eddy flux measurements in the Upper Great Lakes region using MODIS data and a modeling approach. *AGU Fall Meeting*, San Francisco, CA, December 15-19.
13. **Xiao, J.** (2008) Estimation of ecosystem carbon exchange for the conterminous United States by combining MODIS and AmeriFlux data. *AmeriFlux Annual Meeting*, Boulder, CO, October 15-17, 2008. (**Invited talk**)
12. **Xiao, J.**, Zhuang, Q., and AmeriFlux collaborators (2008) Estimation of continental-scale gross primary productivity by combining MODIS and AmeriFlux data. *Annual Meeting of the Association of American Geographers*, Boston, MA, April 15-19.
11. **Xiao, J.**, Zhuang, Q., and AmeriFlux collaborators (2007) Prediction of continental-scale net ecosystem carbon exchange by combining MODIS and AmeriFlux data. *AGU Fall Meeting*, San Francisco, CA, December 10-14, 2007.
10. **Xiao, J.**, and Zhuang, Q. (2006) The effects of severe droughts on net primary productivity and carbon sequestration of terrestrial ecosystems in China over the 20th century. *AGU Fall Meeting*, San Francisco, CA, December 11-15, 2006.
9. **Xiao, J.**, and Moody, A. (2005) The impact of woody plant proliferation on the regional carbon budget in central Oregon. *AGU Fall Meeting*, San Francisco, CA, December 5-9, 2005. (Oral)
8. **Xiao, J.**, and Moody, A. (2005) Approaches for quantifying fractional vegetation cover in a semi-arid region from Landsat ETM+ data. *Annual Meeting of the Association of American Geographers*, Denver, CO, April 5-9, 2005.
7. **Xiao, J.** (2005) Carbon Sink Due to Woody Encroachment in Non-Forest Areas in the Western U.S. and Impacts of Fire and Climate. *NASA Land-Cover and Land-Use Change Science Team Meeting*, Adelphi, MD, January 11-13, 2005.
6. **Xiao, J.** (2004) Using spectral mixture analysis and multitemporal satellite imagery to examine woody plant proliferation. *First Symposium for the Earth System Scholars Network*, Adelphi, MD, September 27-29, 2004.

5. Moody, A., **Xiao, J.**, and Band, L. (2004) Drought, deluge and net primary productivity in the Carolinas: What difference does a year make? *Ecological Society of America Annual Meeting*, Portland, OR, August 7-12, 2004.
4. **Xiao, J.**, and Moody, A. (2004) Using spectral mixture analysis to examine woody plant proliferation in central New Mexico. *Centennial Meeting of the Association of American Geographers*, Philadelphia, PA, March 14-19, 2004.
3. **Xiao, J.**, and Moody, A. (2003) Photosynthetic activity of U.S. biomes: responses to the spatial variability and seasonality of precipitation and temperature. *Annual Meeting of Southeastern Division of the Association of American Geographers*, Charlotte, NC, November 23-25, 2003.
2. Tenenbaum, D.E., Band, L.E., Moody, A., and **Xiao, J.** (2003) Using moderate resolution remotely-sensed imagery to characterize the spatial and temporal structure of drought properties. *EGS - AGU - EUG Joint Assembly*, Nice, France, April 9, 2003.
1. Band, L.E., Moody, A., Tenenbaum, D.E., and **Xiao, J.** (2003) MODIS observation of ecosystem drought. *99th American Association of Geographers Annual Meeting*, New Orleans, LA, March 6, 2003.

Workshops attended

9. NCAR-NEON Workshop, Virtual, November 9, 2021.
8. Preparing for a Northwest Passage: A workshop on the role of New England in Navigating the New Arctic. Durham, New Hampshire, March 25-27, 2018.
7. CCIGW/NACP Workshop on Development of Predictive Carbon Cycle Science, College Park, Maryland, March 7-9, 2016. (Invited)
6. DOE Workshop: Strategies to Promote Integrated Experiment-Model Approaches to Terrestrial Ecosystem Study, Bethesda, Maryland, March 19-21, 2012. (Invited)
5. Dryland Ecosystems of East Asia (DEA): State, Changes, and Future, Kaifeng, Henan, China, July 18-20, 2011. (Invited)
4. FLUXNET and Remote Sensing Open Workshop: Towards Upscaling Flux Information from Towers to the Globe, Berkeley, CA, June 7-9, 2011. (Invited)
3. North American Carbon Program Second Joint Workshop – Site, regional, and coastal Interim Synthesis, Oak Ridge Associated Universities, Oak Ridge, TN, November 9-11, 2009. (Invited)
2. FLUXNET Asilomar Modeling Workshop, Feb 10-13, 2009, Asilomar State Park, Asilomar, CA. (Invited)
1. North American Carbon Program Joint Workshop – Site-level Interim Synthesis & Regional and Global Interim Synthesis, ORNL Conference Center, January 7-9, 2009. (Invited)

Professional Service (reviewers, editors, organizers, and chairs)

Reviewer for proposals

- National Science Foundation (NSF)
- Department of Energy (DOE)
- National Aeronautics and Space Administration (NASA)
- Natural Environment Research Council (NERC), UK
- European Science Foundation (ESF)
- Belgian Science Policy Office

Guest editor of special issues

- Vegetation monitoring with geostationary satellite observations, *Remote Sensing of Environment*, 2022-, Benjamin Dechant, Paul Story, Kazuhito Ichii, **Jingfeng Xiao**, Weile Wang
- Carbon flux, water use and surface energy balance of forest plantations, *Agricultural and Forest Meteorology*, 2021-2023, Guest Editors: X. Tong, **J. Xiao**, M. A. Arain

- Remote Sensing of Carbon Fluxes and Stocks, *Remote Sensing*, Guest editors: Bassil El Masri, **J. Xiao**
- Afforestation and Reforestation: Drivers, Dynamics, and Impacts, *Forests*, Guest editors: **J. Xiao**, G. Sun, L. Hao, G. Dong, Z. Zhang
- Impacts of Extreme Climate Events and Disturbances on Carbon Dynamics, *Biogeosciences*, Guest editors: **J. Xiao**, S. Liu, P. Stoy
- Advances in Upscaling of Eddy Covariance Measurements of Carbon and Water Fluxes, *Journal of Geophysical Research - Biogeosciences*, Guest editors: **J. Xiao**, K.J. Davis, M. Reichstein, J.Chen

Reviewer for journals (33 journals)

- Agricultural and Forest Meteorology
- Biogeosciences
- Biotropica
- Ecological Engineering OA Mirror
- Ecological Indicators
- Ecological Modelling
- Ecosphere
- Engineering
- Environmental Research Letters
- Forest Science
- Geophysical Research Letters
- Global Biogeochemical Cycles
- Global Change Biology
- IEEE Journal of Selected Topics in Earth Observations and Remote Sensing
- International Journal of Remote Sensing
- ISPRS Journal of Photogrammetry and Remote Sensing
- Journal of Applied Remote Sensing
- Journal of Geophysical Research
- Journal of Hydrology
- Journal of Plant Ecology
- Landscape Ecology
- Nature Climate Change
- Nature Communications
- Nature Ecology & Evolution
- New Phytologist
- Plant Ecology
- PLOS ONE
- Proceedings of the National Academy of Sciences of the United States of America
- Remote Sensing
- Remote Sensing of Environment
- Science of the Total Environment
- Science Advances
- Scientific Reports

Reviewer for books and book proposals

- Book proposal in carbon cycle and Earth observations, Elsevier (07/2023)
- Book proposal in climate change, Elsevier (9/2022)
- Book series proposal in soils, Elsevier (2/2021)

- *Remote Sensing of Impervious Surfaces*, edited by Dr. Q. Weng, CRC Press/Taylor & Francis Group (11/2006)

Organizer & Chair of Meetings

- Organizing committee member, An International Symposium on the Coupling between the Carbon and Water Cycles across Scales (Changsha, China, November 4, 2023)
- Organizing committee member, 2016 AmeriFlux PI Meeting (Golden, CO, September 21-23, 2016)
- Organized and chaired the International Symposium on Global Change Research 2013: Coupled Natural & Human Systems (Nanjing, Jiangsu, China, June 18-20, 2013; Co-Chair: Jim Tang)

Organizer & Chair of Sessions

- Primary convener and co-chair, *Forest structural diversity: metrics, methods, and links to ecosystem functions*, AGU Fall Meeting (San Francisco, CA, Dec 11-15, 2023) (Co-convener and co-chairs: Erin Crockett, Scott J. Goetz, Jamis Bruening, Christopher Hiemstra, Benjamin Poulter)
- Primary convener and co-chair, *Advances in upscaling in situ observations to regions and the globe using machine learning/AI and modeling*, AGU Fall Meeting (San Francisco, CA, Dec 11-15, 2023) (Co-convener and co-chairs: Stefan Metzger, Yiqi Luo)
- Primary convener and co-chair, *Advances in upscaling networked observations to regions and the globe using machine learning and modeling*, AGU Fall Meeting (Chicago, IL, Dec 12-16, 2022) (Co-convener and co-chairs: Stefan Metzger, Yiqi Luo)
- Co-convener and co-chair, *Forest structural diversity: metrics, methods, and links to ecosystem functions*, AGU Fall Meeting (Chicago, IL, Dec 12-16, 2022) (Primary convener and co-chair: Erin Crockett; co-convener and co-chairs: Jeff W. Atkins, Qinfeng Guo)
- Chair, a 4-hour session on ecosystem carbon, water, and energy fluxes at the *USCCC 18th Annual Meeting* (virtual) (Wuhan, China, October 29-30, 2022)
- Co-convener and co-chair, *Soil Carbon Dynamics and Impacts of Land Use and Management*, AGU Fall Meeting (Washington DC, Dec 10-14, 2018) (Primary convener and co-chair: Xiujun Wang; co-convener: Xiaohong Tian)
- Primary convener and co-chair, *Advances in Uncertainty Assessment and Reduction for Terrestrial Carbon Cycle Diagnosis and Prediction*, AGU Fall Meeting (Washington DC, Dec 10-14, 2018) (Co-convener and co-chairs: Kenneth J. Davis, Forrest Hoffmann, Stephen Ogle)
- Primary convener and co-chair, *Advances in Uncertainty Assessment and Reduction for Terrestrial Carbon Cycle Diagnosis and Prediction*, AGU Fall Meeting (New Orleans, LA, Dec 11-15, 2017) (Co-convener and co-chairs: Kenneth J. Davis, Forrest Hoffmann, Stephen Ogle)
- Primary convener and co-chair, *Afforestation and Reforestation: Drivers, Dynamics, and Impacts*, AGU Fall Meeting (New Orleans, LA, Dec 11-15, 2017) (Co-convener and co-chair: Ge Sun)
- Chair, *Integrating remote sensing/modeling with field measurements*. A synthesis discussion session at the *International Conference on Ecosystem Function and Adaptive Management of Loess Plateau & USCCC 14th Annual Workshop* (Taiyuan, China, August 18-20, 2017)
- Chair, *Studies of ecosystem processes by integrating multiple methods*, USCCC 13th Annual Meeting (Beijing, June 24-26, 2016)
- Chair, *Ecological studies at regional scales*, USCCC 12th Annual Meeting (Shanghai, China, July 30-August 1, 2015)
- Convener and Chair, *Synthesis research*, USCCC 12th Annual Meeting (Shanghai, China, July 30-August 1, 2015)

- Chair, Session IV, International Symposium on regional carbon cycle and USCCC 11th Annual Meeting (Lanzhou, China, July 7-11, 2014)
- Primary convener and co-chair, *Impacts of Extreme Climate Events and Disturbances on Carbon Cycling* at the AGU Fall Meeting (San Francisco, CA, Dec 9-13, 2013) (Co-convener and co-chair: Shuguang Liu)
- Primary convener and co-chair, *Impacts of Extreme Climate Events and Disturbances on Carbon Cycling* at the AGU Fall Meeting (San Francisco, CA, Dec 3-7, 2012) (Co-convener and co-chair: Shuguang Liu)
- Primary convener and co-chair, *Impacts of Extreme Climate Events and Disturbances on Carbon Cycling* at the AGU Fall Meeting (San Francisco, CA, Dec 5-9, 2011) (Co-convener and co-chair: Shuguang Liu)
- Organized and chaired sessions *Remote Sensing of Terrestrial Carbon Fluxes and Vegetation Biophysical Properties I & II* on the Annual Meeting of American Geographers (AAG), April 14-19, 2008, Boston, MA.

Postdoctoral Research Associates and Visiting Scholars Advised

- Henrique Duarte (Post-doc, 11/2022-present)
- Jingyi Bu (Post-doc, 10/2022-present)
- Erin Crockett (Post-doc, 09/2021-09/2023)
- Xing Li (Post-doc, 2018-2021)
- Weizhi Lu (visiting scholar, 2017-2018)
- Xufeng Wang (visiting scholar, 2015-2016)
- Haibo Wang (visiting scholar, 2017-2018; 2015-2016)
- Yibo Liu (visiting scholar, 2015-2016)
- Jia Deng (Post-doc/Research Scientist, 2014-2019)
- Hongchun Peng (visiting scholar, 2013-2014)
- Alexandra Thorn (Post-doc, 2012-2013)
- Weifeng Wang (Post-doc, 2012-2013; Now full professor at Nanjing Forestry University)

Graduate Students Advised

- Xuan Hu, PhD student (Co-advisor, 2019-2020)
- Yue Chang, PhD student (Co-advisor, 2019-2022)
- Hang Xu, PhD student (Co-advisor, 2018-2021)
- Di Chen, PhD student (Co-advisor, 2018-2019)
- Xiaojuan Huang, PhD student (Co-advisor, 2017-2018)
- Xing Li, PhD student (Co-advisor, 2016-2018)
- Ming Yan, Master student (Advisor, 2013-2016)
- Feng Li (visiting PhD student, Sichuan University, 2013-2014)

PhD Student Committees Served

- Huiwen Li, PhD student (2023)
- Venkatesh Kolluru, PhD student (2022-present)
- Lei He, PhD student (2022)
- Mohammad Emran Hasan (2021)
- Jing Huang, PhD student (2020-present)
- Zhongxi Ge, PhD student (2020-present)

Membership

- American Geophysical Union (AGU) (2003-present)

- Ecological Society of America (ESA) (2019-2020)