

## CURRICULUM VITAE

### Dr. Jingfeng Xiao

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#### Education

- PhD, 2006, Department of Geography, University of North Carolina at Chapel Hill
- M.S., 2000, Institute of Remote Sensing & GIS, Beijing University
- B.S., 1997, Department of Geography, Lanzhou University

#### Professional experience

- 06/2015-present: Research Associate Professor, Earth Systems Research Center, University of New Hampshire
- 1/2013-present: Adjunct Professor, School of Applied Meteorology, University of Information Science & Technology
- 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
- 09/2000-08/2003: Research/Teaching Assistant, Department of Geography, University of North Carolina at Chapel Hill

#### Research interests

Global Ecology; Terrestrial Carbon Cycling; Upscaling; Remote Sensing; Ecosystem Modeling; Ecological Forecasting; Model-Data Fusion (Data Assimilation); Ecosystem dynamics; Land cover/land use change

#### Professional service activities:

- 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
- NASA SUSMAP Carbon Review Panel, 2016
- DOE Environmental System Science Review Panel, 2015
- NASA OCO-2 Review Panel, 2015
- NASA NESSF Carbon Cycle and Ecosystems Panel, 2014
- Co-Chair, International Symposium on Global Change Research 2013: Coupled Natural & Human Systems (Nanjing, Jiangsu, China, June 18-20, 2013)

- NASA Interdisciplinary Research in Earth Science (IDS) Review Panel, 2013
- Science Definition Team member of NASA's Carbon Monitoring System, 2011-2012

#### **Awards & funding (External funding: a total of \$5.4 million with \$2.6 million as PI)**

- “MSB-FRA: The influence of biological diversity on land-atmosphere exchange in forests: confronting theory with data”, National Science Foundation (NSF), MacroSystems Biology, \$1,244,070, 11/2016-10/2021 (**Co-PI**, PI Scott V. Ollinger, with Co-PIs Michael Palace and Bobby Braswell)
- “Ecosystem carbon indicators for the U.S. National Climate Assessment”, National Aeronautics and Space Administration (NASA), Climate Indicators and Data Products for Future National Climate Assessments, \$543,884, 2016-2019 (**PI**, Co-I Alexander Prusevich)
- “Incorporating a new urban dataset from SeaWinds into a multi-sensor analysis of global daytime and nighttime urban heat islands”, National Aeronautics and Space Administration (NASA), The Science of Terra and Aqua, \$725,312, 2014-2017 (PI Steve Frolking, Co-Is **Jingfeng Xiao**, Annemarie Schneider, Mark Friedl)
- “Exploring the interactions between carbon cycling, land use and climate change within mixed agricultural, forested, suburban, and urban landscapes”, \$1,144,441, 2014-2017, National Aeronautics and Space Administration (NASA), Carbon Cycle Science, (**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)
- “Exploring relationships among water use efficiency, canopy nitrogen and carbon cycling across North American ecosystems to improve land surface models”, National Aeronautics and Space Administration (NASA), Terrestrial Ecology program, \$780,205, 2012-2015 (**Co-I**, PI Scott Ollinger)
- Iola Hubbard Climate Change Endowment, \$41,988, 2012-2013 (**PI**)
- "Using NASA Remote Sensing and Models to Advance Integrated Assessments of Coupled Human-Forest Dynamics for North America", National Aeronautics and Space Administration (NASA), Terrestrial Ecology program, subcontract from University of Maryland (PI George Hurtt), \$85,000, 09/2010-08/2013 (**Institutional PI**, Co-I Steve Frolking)
- “Assessing Ecosystem Carbon Dynamics over North America by Integrating Eddy Covariance, MODIS, and New Ecological Data through Upscaling and Model-data Synthesis”, National Science Foundation (NSF), \$517,685, 06/2011-05/2014 (**PI**, Co-PI: Scott Ollinger)
- “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”, National Aeronautics and Space Administration (NASA), \$74,999, 07/2011-01/2013 (**PI**)
- “Coupling carbon, water and nutrient cycles with data assimilation and multiple constraints”, National Institute for Climatic Change Research (NICCR), Department of Energy (DOE), \$249,397, 2009-2011 (**PI**, Co-Is: Scott V. Ollinger, Andrew Richardson)
- NASA Earth System Science Fellowship, \$72,000, 09/2003-08/2006 (**PI**)
- UNC-Chapel Hill Future Faculty Fellowship, \$500, 2005
- Scientific Data Purchase Grant, UNC-Chapel Hill, \$1,225, 2005 (**PI**)

#### **Teaching experience**

- Guest lecturer for *Environmental Modeling* (Dept. of Nature Resources, UNH).

- *Quantitative Methods in Geography*, a required course for undergraduate students, Dept. of Geography, UNC-Chapel Hill, Spring 2006
- Guest lecturer for *Advanced Remote Sensing* (Dept. of Geography, UNC-Chapel Hill)
- Guest lecturer for *Introduction to Remote Sensing and Digital Image Processing* (Dept. of Geography, UNC-Chapel Hill)
- Teaching Assistant for *Introduction to Watershed Systems* (Dept. of Geography, UNC-Chapel Hill)
- Teaching Assistant for *Introduction to Remote Sensing and Digital Image Processing* (Dept. of Geography, UNC-Chapel Hill)

### Peer-reviewed book chapters

5. Chen, J., John, R., Sun, G., McNulty, S., Noormets, A., **Xiao, J.**, Turner, M.G., Franklin, J.F. (2014) Carbon fluxes and storage in forests and landscapes. *Forest Landscapes and Global Change*, Azevedo, J.C., Perera, A.H., Pinto, M.A. (eds.), Springer New York, pp. 139-166.
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.

### Journal articles (\* indicates postdoctoral researchers and visiting scholars advised)

55. Xue, B.-L., Guo, Q., Hu, T., **Xiao, J.**, Yang, Y., Wang, G., Tao, S., Su, Y., Liu, J., Zhao, X. (2017) Global patterns of woody residence time and its influence on model simulation of aboveground biomass. *Global Biogeochemical Cycles*, accepted.
54. Tang, J., Di, L., **Xiao, J.**, Lu, D., Zhou, Y. (2017) Impacts of land use and socioeconomic patterns on urban heat island. *International Journal of Remote Sensing*, 38:11, 3445-3465, DOI: 10.1080/01431161.2017.1295485.
53. Lu, W., **Xiao, J.**, Liu, F., Zhang, Y., Liu, C., Lin, G. (2017) Contrasting ecosystem CO<sub>2</sub> fluxes of inland and coastal wetlands: A meta-analysis of eddy covariance data. *Global Change Biology*, 23, 1180-1198, doi:10.1111/gcb.13424.
52. Zhang, L., **Xiao, J.**, Zhou, Y., Zheng, Y., Li, J., Xiao, H. (2016) Drought events and their effects on vegetation productivity in China. *Ecosphere*, 7(12):e01591. 10.1002/ecs2.1591.

51. Guerrieri, R., Lepine, L., Asbjornsen, H., **Xiao, J.**, Ollinger, S.V. (2016) Evapotranspiration and water use efficiency in relation to climate and canopy nitrogen in U.S. forests. *Journal of Geophysical Research: Biogeosciences*, 121, 2610-2629, doi:10.1002/2016JG003415.
50. Liu, Y.\*, **Xiao, J.**, Ju, W., Xu, K., Zhou, Y., Zhao, Y. (2016) Recent trends in vegetation greenness in China significantly altered annual evapotranspiration and water yield. *Environmental Research Letters*, 11, 094010, doi:10.1088/1748-9326/11/9/094010.
49. **Xiao, J.**, Liu, S., and Stoy, P. C. (2016) Preface: Impacts of extreme climate events and disturbances on carbon dynamics, *Biogeosciences*, 13, 3665-3675, doi:10.5194/bg-13-3665-2016. (*Preface to special issue*)
48. Fang, Y., Sun, G., Caldwell, P., McNulty, S., Noormets, A., Domec, J.-C., King, J., Zhang, Z., Zhang, X., Lin, G., **Xiao, J.**, Chen, J. (2016) Monthly land cover-specific evapotranspiration models derived from global eddy flux measurements and remote sensing data. *Ecohydrology*, 9, 248–266.
47. John, R., Chen, J., Kim, Y., Ou-yang, Z., **Xiao, J.**, Park, H., Shao, C., Zhang, Y., Amarjargal, A., Batkhshig, O., Qi, J. (2016) Differentiating anthropogenic modification and precipitation-driven change on vegetation productivity on the Mongolian Plateau. *Landscape Ecology*, 31 (3), 547-566.
46. **Xiao, J.**, Y. Zhou, Y., Zhang, L. (2015) Contributions of natural and human factors to increases in vegetation productivity in China. *Ecosphere* 6(11):233. <http://dx.doi.org/10.1890/ES14-00394.1>.
45. Xue, B., Guo, Q., Otto, A., **Xiao, J.**, Tao, S., Li, L. (2015) Global patterns, trends, and drivers of water use efficiency from 2000 to 2013. *Ecosphere* 6(10):174. <http://dx.doi.org/10.1890/ES14-00416.1>.
44. 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. *Scientific Reports*, 5, 13799, doi:10.1038/srep13799.
43. Sun, S., Sun, G., Caldwell, P., McNulty, S., Cohen, E., **Xiao, J.**, Zhang, Y. (2015) Drought impacts on ecosystem functions of the U.S. National Forests and Grasslands: Part II assessment results and management implications. *Forest Ecology and Management*, 353, 269-279.
42. Sun, S., Sun, G., Caldwell, P., McNulty, S., Cohen, E., **Xiao, J.**, Zhang, Y. (2015) Drought impacts on ecosystem functions of the U.S. National Forests and Grasslands: Part I evaluation of a water and carbon balance model. *Forest Ecology and Management*, 353, 260-268.
41. Wang, Y., Shao, M., Zhang, C., Liu, Z., Zou, J., **Xiao, J.** (2015) Soil organic carbon in deep profiles under Chinese continental monsoon climate and its relations with land uses. *Ecological Engineering*, 82, 361-367.
40. Thorn, A.M.\*, **Xiao, J.**, Ollinger, S.V. (2015) Generalization and evaluation of the process-based forest ecosystem model PnET-CN for other biomes. *Ecosphere* 6(3):43. <http://dx.doi.org/10.1890/ES14-00542.1>.
39. **Xiao, J.** (2014) Satellite evidence for significant biophysical consequences of the “Grain for Green” Program on the Loess Plateau in China. *Journal of Geophysical Research: Biogeosciences*, 119, 2261–2275, doi:10.1002/2014JG002820. (**Paper featured on the cover of the journal**)
38. Wang, W.\*, **Xiao, J.**, Ollinger, S. V., Desai, A. R., Chen, J., and Noormets, A. (2014) Quantifying the effects of harvesting on carbon fluxes and stocks in northern temperate forests. *Biogeosciences*, 11, 6667-6682, doi:10.5194/bg-11-6667-2014.
37. Liu, D., Chen, Y., Cai, W.W., Dong, W.J., **Xiao, J.F.**, Chen, J.Q., Zhang, H.C., Xia, J.Z., Yuan, W.P. (2014) The contribution of China's Grain to Green Program to carbon sequestration. *Landscape Ecology*, 29, 1675-1688, DOI 10.1007/s10980-014-0081-4.

36. **Xiao, J.F.**, Ollinger, S.V., Frolking, S., Hurtt, G.C., Hollinger, D.Y., Davis, K.J., Pan, Y., Zhang, X., Deng, F., Chen, J., Baldocchi, D.D., Law, B.E., Arain, M.A. Desai, A.R., Richardson, A.D., Sun, G., Amiro, B., Margolis, H., Gu, L., Scott, R.L., Blanken, P.D., Suyker, A.E. (2014) Data-driven diagnostics of terrestrial carbon dynamics over North America. *Agricultural and Forest Meteorology*, 197, 142-157.
35. Zhang, L., **Xiao, J.F.**, Li, L., Lei, L.P., Li, J. (2014) China's sizeable and uncertain carbon sink: A perspective from GOSAT. *Chinese Science Bulletin*, 59 (14), 1547-1555.
34. **Xiao, J.F.**, Davis, K.J., Urban, N.M., Keller, K. (2014) Uncertainty in model parameters and regional carbon fluxes: A model-data fusion approach. *Agricultural and Forest Meteorology*, 189-190, 175-186.
33. Levy, O., Ball, B.A., Bond-Lamberty, B., Cheruvilil, K.S., Finley, A.O., Lottig, N., Punyasena, S.W., **Xiao, J.**, Zhou, J., Buckley, L.B., Filstrup, C.T., Keitt, T., Kellner, J.R., Knapp, A.K., Richardson, A.D., Stow, C., Tchong, D., Toomey, M., Vargas, R., Voordeckers, J.W., Wagner, T., Williams, J.W. (2014) Approaches for advancing scientific understanding of macrosystems. *Frontiers in Ecology and the Environment*, 12, 15-23.
32. Heffernan, J.B., Soranno, P.A., Angilletta, M.J., Buckley, L.B., Gruner, D.S., Keitt, T.H., Kellner, J.R., Kominoski, J.S., Rocha, A.V., **Xiao, J.**, Harms, T.K., Goring, S.J., Koenig, L.E., McDowell, W.H., Powell, H., Richardson, A.D., Stow, C.A., Vargas, R., Weathers, K.C. (2014) Macrosystems ecology: Understanding ecological patterns and processes at continental scales. *Frontiers in Ecology and the Environment*, 12, 5-14.
31. Zhou, Y., Zhang, L., **Xiao, J.**, Chen, S., Kato, T., Zhou, G. (2014) A comparison of satellite-derived vegetation indices for approximating gross primary productivity of grasslands. *Rangeland Ecology & Management*, 67, 9-18.
30. Zhang, L., Guo, H., Jia, G., Wylie, B., Gilmanov, T., Howard, D., Ji, L., **Xiao, J.F.**, Li, J., Yuan, W., Zhao, T., Chen, S., Zhou, G., Kato, T. (2014) Net ecosystem productivity of temperate grasslands in northern China: an upscaling study. *Agricultural and Forest Meteorology*, 184, 71-81.
29. Raczka, B., Davis, K., Huntzinger, D., Neilson, R., Poulter, B., Richardson, A., **Xiao, J.**, Baker, I., Ciais, P., Keenan, T., Law, B., Post, W., Ricciuto, D., Schaefer, K., Tian, H., Tomelleri, E., Verbeeck, H., Viovy, N. (2013) Evaluation of continental carbon cycle simulations with North American flux tower observations. *Ecological Monographs*, 83, 531-556.
28. **Xiao, J.F.**, Sun, G., Chen, J.Q., Chen, H., Chen, S.P., Dong, G., Gao, S.H., Guo, H.Q., Guo, J.X., Han, S.J., Kato, T., Li, Y.L., Lin, G.H., Lu, W.Z., Ma, M.G., McNulty, S., Shao, C.L., Wang, X.F., Xie, X., Zhang, X.D., Zhang, Z.Q., Zhao, B., Zhou, G.S., Zhou, J. (2013) Carbon fluxes, evapotranspiration, and water use efficiency of terrestrial ecosystems in China. *Agricultural and Forest Meteorology*, 182-183, 76-90.
27. John, R., Chen, J.Q., Ou-Yang, Z.-T., **Xiao, J.F.**, Becker, R., Samanta, A., Ganguly, S., Yuan, W.P., Batkishig, O. (2013) Vegetation response to extreme climate events on the Mongolian Plateau from 2000 to 2010. *Environmental Research Letters*, 8, 035033, doi:10.1088/1748-9326/8/3/035033.
26. Deng, F., Chen, J.M., Pan, Y., Peters, W., Birdsey, R., McCullough, K., **Xiao, J.** (2013) The use of forest stand age information in an atmospheric CO<sub>2</sub> inversion applied to North America. *Biogeosciences*, 10, 5335-5348.
25. Zhang, L., **Xiao, J.F.**, Li, J., Wang, K., Lei, L.P., Guo, H.D. (2012) The 2010 spring drought reduced primary productivity in southwestern China. *Environmental Research Letters*, 7, 045706, doi:10.1088/1748-9326/7/4/045706. (*ERL 2012 monthly highlights*)
24. Huntzinger, D.N., Post, W.M., Wei, Y., Michalak, A.M., West, T.O., Jacobson, A.R., Baker, I.T., Chen, J.M., Davis, K.J., Hayes, D.J., Hoffman, F.M., Jain, A.K., Liu, S., McGuire, A.D., Neilson,

- R.P., Potter, C., Poulter, B., Price, D., Raczka, B.M., Tian, H.Q., Thornton, P., Tomelleri, E., Viovy, N., **Xiao, J.**, Yuan, W., Zeng, N., Zhao, M., Cook, R. (2012) North American Carbon Program (NACP) regional interim synthesis: Terrestrial biosphere model intercomparison. *Ecological Modelling*, 232, 144-157.
23. **Xiao, J.F.**, Chen, J.Q., Davis, K.J., Reichstein, M. (2012) Advances in upscaling of eddy covariance measurements of carbon and water fluxes. *Journal of Geophysical Research – Biogeosciences*, 117, G00J01, doi:10.1029/2011JG001889. (Introduction to special issue)
  22. Richardson, A.D., Anderson, R.S., Arain, M.A., Barr, A.G., Bohrer, G., Chen, G.S., Chen, J.M., Ciais, P., Davis, K.J., Desai, A.R., Dietze, M.C., Dragoni, D., Garrity, S.R., Gouch, C.M., Grant, R., Hollinger, D.Y., Margolis, H.A., Mccaughey, H., Migliavacca, M., Monson, R.K., Munger, J.W., Poulter, B., Raczka, B.M., Ricciuto, D.M., Sahoo, A.K., Schaefer, K., Tian, H.Q., Vargas, R., Verbeeck, H., **Xiao, J.F.**, Xue, Y.K. (2012) Terrestrial biosphere models need better representation of vegetation phenology: Results from the North American Carbon Program Site Synthesis. *Global Change Biology*, 18, 566-584.
  21. Liu, S.G., Bond-Lamberty, B., Hicke, J.A., Vargas, R., Zhao, S.Q., Chen, J., Edburg, S.L., Hu, Y.M., Liu, J.X., McGuire, A.D., **Xiao, J.F.**, Keane, R., Yuan, W.P., Tang, J.W., Luo, Y.Q., Potter, C., Oeding, J. (2011) Simulating the impacts of disturbances on forest carbon cycling in North America: Processes, data, models, and challenges. *Journal of Geophysical Research – Biogeosciences*, 116, G00K08, doi:10.1029/2010JG001585.
  20. Dang, X.R., Lai, C.T., Hollinger, D., Schauer, A., **Xiao, J.F.**, Munger, W., Owensby, C., Ehleringer, J.R. (2011) Combining tower mixing ratio and community model data to estimate regional-scale net ecosystem carbon exchange by boundary layer inversion over 4 flux towers in the U.S.A., *Journal of Geophysical Research - Biogeosciences*, 116, G03036, doi:10.1029/2010JG001554.
  19. **Xiao, J.F.**, Davis, K.J., Urban, N.M., Keller, K., Saliendra, N.Z. (2011) Upscaling carbon fluxes from towers to the regional scale: Influence of parameter variability and land cover representation on regional flux estimates. *Journal of Geophysical Research – Biogeosciences*, 116, G00J06, doi:10.1029/2010JG001568.
  18. Sun, G., P. Caldwell, A. Noormets, S. G. McNulty, E. Cohen, J. Moore Myers, J.-C. Domec, E. Treasure, Q.Z. Mu, **J.F. Xiao**, R. John, J.Q. Chen (2011) Upscaling key ecosystem functions across the conterminous United States by a water-centric ecosystem model, *Journal of Geophysical Research – Biogeosciences*, 116, G00J05, doi:10.1029/2010JG001573.
  17. **Xiao, J.F.**, Zhuang, Q., Law, B.E., Baldocchi, D.D., Chen, J., Richardson, A.D., Melillo, J.M., Davis, K.J., Hollinger, D.Y., Wharton, S., Oren, R., Noormets, A., Fischer, M.L., Verma, S.B., Cook, D.R., Sun, G., McNulty, S., Wofsy, S.C., Bolstad, P.V., Burns, S.P., Curtis, P.S., Drake, B.G., Falk, M., Foster, D.R., Gu, L., Hadley, J.L., Katul, G.G., Litvak, M., Ma, S., Martin, T.A., Matamala, R., Meyers, T.P., Monson, R.K., Munger, J.W., Oechel, W.C., Paw U, K.T., Schmid, H.P., Scott, R.L., Starr, G., Suyker, A.E., and Torn, M.S. (2011) Assessing net ecosystem carbon exchange of U.S. terrestrial ecosystems by integrating eddy covariance flux measurements and satellite observations. *Agricultural and Forest Meteorology*, 151, 60-69.
  16. Amiro, B.D., Barr, A.G., Barr, J.G., 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., **Xiao, J.** (2010) Ecosystem carbon dioxide fluxes after disturbance in forests of North America. *Journal of Geophysical Research – Biogeosciences*, 115, G00K02, doi:10.1029/2010JG001390.
  15. Zhuang, Q., He, J., Lu, Y., Ji, L., **Xiao, J.**, Luo, T. (2010) Carbon dynamics of terrestrial ecosystems on the Tibetan Plateau during the 20th century: An analysis with a process-based biogeochemical model. *Global Ecology and Biogeography*, 19, 649-662.

14. **Xiao, J.F.**, Zhuang, Q.L., Law, B.E., Chen, J.Q., Baldocchi, D.D., Cook, D.R., Oren, R., Richardson, A.D., Wharton, S., Ma, S.Y., Martin, T.A., Verma, S.B., Suyker, A.E., Scott, R.L., Monson, R.K., Litvak, M., Hollinger, D.Y., Sun, G., Davis, K.J., Bolstad, P.V., Burns, S.P., Curtis, P.S., Drake, B.G., Falk, M., Fischer, M.L., Foster, D.R., Gu, L.H., Hadley, J.L., Katul, G.G., Matamala, R., McNulty, S., Meyers, T.P., Munger, J.W., Noormets, A., Oechel, W.C., Paw U, K.T., Schmid, H.P., Starr, G., Torn, M.S., Wofsy, S.C. (2010) A continuous measure of gross primary production for the conterminous United States derived from MODIS and AmeriFlux data. *Remote Sensing of Environment*, 114 (3), 576-591.
13. **Xiao, J.F.**, Zhuang, Q.L., Liang, E.Y., McGuire, A.D., Moody, A., Kicklighter, D.W., Shao, X.M., Melillo, J.M. (2009) Twentieth-century droughts and their impacts on terrestrial carbon cycling in China. *Earth Interactions*, 13, 10, DOI: 10.1175/2009EI275.1.
12. Zhuang, Q.L., Zhang, T.L., **Xiao, J.F.**, Luo, T.X. (2009) Quantification of net primary production of Chinese forest ecosystems with spatial statistical approaches. *Mitigation and Adaption Strategies for Global Change*, 14 (1), 85-99.
11. **Xiao, J.F.**, Zhuang, Q.L., Baldocchi, D.D., Law, B.E., Richardson, A.D., Chen, J.Q., Oren, R., Starr, G., Noormets, A., Ma, S.Y., Verma, S.B., Wharton, S., Wofsy, S.C., Bolstad, P.V., Burns, S.P., Cook, D.R., Curtis, P.S., Drake, B.G., Falk, M., Fischer, M.L., Foster, D.R., Gu, L.H., Hadley, J.L., Hollinger, D.Y., Katul, G.G., Litvak, M., Martin, T.A., Matamala, R., McNulty, S., Meyers, T.P., Monson, R.K., Munger, J.W., Oechel, W.C., Paw U, K.T., Schmid, H.P., Scott, R.L., Sun, G., Suyker, A.E., Torn, M.S. (2008) Estimation of net ecosystem carbon exchange for the conterminous United States by combining MODIS and AmeriFlux data. *Agricultural and Forest Meteorology*, 148 (11), 1827-1847.
10. Song, C.H., Lord, J. W., Zhou, L.M., **Xiao, J.F.** (2008) Empirical evidence for impacts of internal migration on vegetation dynamics in China from 1982 to 2000. *Sensors*, 8, 5069-5080.
9. **Xiao, J.F.**, Zhuang, Q.L. (2007) Drought effects on large fire activity in Canadian and Alaskan forests. *Environmental Research Letters*, 2, 044003, doi:10.1088/1748-9326/2/4/044003.
8. **Xiao, J.F.**, Moody, A. (2005) A comparison of methods for estimating fractional green vegetation cover within a desert-to-upland transition zone in central New Mexico, USA. *Remote Sensing of Environment*, 98 (2-3), 237-250.
7. **Xiao, J.**, Moody, A. (2005) Geographical distribution of global greening trends and their climatic correlates: 1982-1998. *International Journal of Remote Sensing*, 26 (11), 2371-2390.
6. **Xiao, J.F.**, Moody, A. (2004) Trends in vegetation activity and their climatic correlates: China 1982 to 1998. *International Journal of Remote Sensing*, 25 (24), 5669-5689.
5. **Xiao, J.F.**, Moody, A. (2004) Photosynthetic activity of US biomes: responses to the spatial variability and seasonality of precipitation and temperature. *Global Change Biology*, 10 (4), 437-451.
4. **Xiao, J.F.**, Li, J., Moody, A. (2003) A detail-preserving and flexible adaptive filter for speckle suppression in SAR imagery. *International Journal of Remote Sensing*, 24 (12), 2451-2465.
3. **Xiao, J.**, Yang, J., Gong, H., Li, J. (2001) A study on the platform of model base system. *Journal of Remote Sensing*, 5 (2), 135-141. (in Chinese)
2. Gong, H., Li, J., Chen, X., **Xiao, J.** (2000) A model base of geographic information systems. *Earth Science Frontiers*, 7 (S2), 17-22. (in Chinese)
1. **Xiao, J.**, Gong, H., Li, J., Yang, J., Chen, W. (2000) A model base system for sustainable development of marine fishery. *Journal of Fisheries of China*, 24 (3), 235-239. (in Chinese)

## 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

13. Translating flux observations from towers to regions, continents, and the globe: What have we learned? Beijing Normal University, Beijing, China, July 13, 2016.
12. Applications of remote sensing and in-situ measurements in ecohydrology. Nanjing University of Information Science and Technology, Nanjing, China, July 6, 2016.
11. Assessing land-atmosphere carbon and water exchange using flux measurements, satellite data, and modeling approaches. Research Center for Eco-Environmental Sciences (RCES), Chinese Academy of Sciences, July 31, 2014.
10. Eddy covariance technique is revolutionizing biogeochemical studies. Center for Earth System Science, Tsinghua University, June 27, 2014.
9. Eddy covariance flux observations and global ecology. Institute of Botany, Chinese Academy of Sciences, November 22, 2013.
8. Extreme climate events and carbon cycle. International Institute for Earth System Science, Nanjing University, November 21, 2013.
7. Assessing ecosystem carbon and water dynamics at regional to global scales using flux measurements, satellite data, and modeling approaches. Institute of Botany, Chinese Academy of Sciences, June 24, 2013.
6. Land-atmosphere carbon and water exchange derived from flux observations, satellite data, and modeling. Yale-NUIST Center on Atmospheric Environment, May 23, 2013.
5. Interannual variability of global land-atmosphere carbon fluxes: A perspective from FLUXNET observations and upscaling. Boston University, Biogeosciences Program, October 3, 2012.
4. Assessing terrestrial carbon dynamics over regions, continents, and the globe using flux observations, remote sensing, and modeling approaches. Center for Earth System Science, Tsinghua University, June 29, 2012.
3. Advances in upscaling of carbon and water fluxes from towers to regions, continents, and the globe. Institute of Geographical Sciences & Natural Resources, Chinese Academy of Sciences, Beijing (China), July 25, 2011.
2. Assessing ecosystem carbon dynamics over regions, continents, and the globe Using FLUXNET observations, Remote Sensing, and Modeling Approaches. College of Global Change and Earth System Science, Beijing Normal University, Beijing (China), July 22, 2011.
1. Net ecosystem carbon exchange of U.S. terrestrial ecosystems. Capital Normal University, Beijing (China), June 21, 2010.

### Presentations

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.
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.



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.
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.
66. **Xiao, J.**, Lu, W., Liu, F., Zhang, Y., Liu, G., Lin, G. (2016) Contrasting ecosystem CO<sub>2</sub> fluxes of inland and coastal wetlands: A meta-analysis of eddy covariance data. *2016 AmeriFlux PI Meeting*, Golden, CO, September 21-23, 2016.
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.
63. Guerrieri, R., Belmecheri, S., Asbjornsen, 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.
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.
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.
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. Frolking, 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.
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.
55. Frolking, 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.

54. Guerrieri, R., Lepine, L., Asbjornsen, 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.
53. Ollinger, S., **Xiao, J.**, Guerrieri, R., Lepine, L., Asbjornsen, 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.
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.
51. **Xiao, J.**, Ollinger, S.V., Davis, K.J., Thorn, A., Wang, W., Urban, N.M., Keller, K., Frohling, 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.
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 CO<sub>2</sub> 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., Frohling, 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) 98<sup>th</sup> 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. *9<sup>th</sup> USCC Annual Meeting*, Changsha, Hunan, China, June 16-18, 2012.
33. **Xiao, J.** (2012) Finding your niche in ecology. *3<sup>rd</sup> 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. *8<sup>th</sup> 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. *2<sup>nd</sup> 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. *2<sup>nd</sup> 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.

### Invited workshops

9. CCIGW/NACP Workshop on Development of Predictive Carbon Cycle Science, College Park, Maryland, March 7-9, 2016.
8. DOE Workshop: Strategies to Promote Integrated Experiment-Model Approaches to Terrestrial Ecosystem Study, Bethesda, Maryland, March 19-21, 2012.
7. The 8th USCCC Annual Meeting, Xiamen University, Xiamen, Fujian, China, July 29-31, 2011.
6. Dryland Ecosystems of East Asia (DEA): State, Changes, and Future, Kaifeng, Henan, China, July 18-20, 2011.
5. FLUXNET and Remote Sensing Open Workshop: Towards Upscaling Flux Information from Towers to the Globe, Berkeley, CA, June 7-9, 2011.
4. The 7th USCCC Annual Meeting, Huangshan, Anhui (China), June 22-25, 2010.

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.
2. FLUXNET Asilomar Modeling Workshop, Feb 10-13, 2009, Asilomar State Park, Asilomar, CA.
1. North American Carbon Program Joint Workshop – Site-level Interim Synthesis & Regional and Global Interim Synthesis, ORNL Conference Center, January 7-9, 2009.

### **Training for students and post-docs**

- Scale effect and scale transformation in carbon cycle studies. A 1.5-hour training session at the USCCC 11<sup>th</sup> Annual Meeting, July 8-11, 2014, Lanzhou, China.
- Cross-site synthesis studies of eddy covariance flux data. A 2-hour training session at the USCCC 10<sup>th</sup> Annual Meeting, June 14-17, 2013, Haikou, China.

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

#### *Reviewer for proposals*

- National Science Foundation (NSF)
- Natural Environment Research Council (NERC), UK

#### *Guest-editor of special issues:*

- 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 (over 20 journals)*

- Agricultural and Forest Meteorology
- Biogeosciences
- Biotropica
- Ecological Modelling
- Ecosphere
- Environmental Research Letters
- Forest Science
- Global Biogeochemical Cycles
- Global Change Biology
- IEEE Journal of Selected Topics in Earth Observations and Remote Sensing
- International Journal of Remote Sensing
- Journal of Applied Remote Sensing
- Journal of Geophysical Research
- Journal of Plant Ecology
- Landscape Ecology
- Nature Communications
- New Phytologist
- Plant Ecology
- PLOS ONE
- Remote Sensing
- Remote Sensing of Environment
- Science of the Total Environment

- Scientific Reports

*Reviewer for book chapters*

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

*Organizer & Chair of Meetings*

- 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*

- Convened and chaired session *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)
- Convened and chaired session *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)
- Convened and chaired session *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**

- Jia Deng (Post-doc/Research Scientist, 2014-present)
- Xufeng Wang (visiting scholar, Cold and Arid Region Environment and Engineering Research Institute, Chinese Academy of Sciences, 11/2015-10/2016)
- Haibo Wang (visiting scholar, Cold and Arid Region Environment and Engineering Research Institute, Chinese Academy of Sciences, 10/2015-1/2016)
- Yibo Liu (Nanjing University of Information Science and Technology, visiting scholar, 03/2015-03/2016)
- Hongchun Peng (Huaihai Institute of Technology, visiting scholar, 09/2013-09/2014)
- Alexandra Thorn (Post-doc, 2012-2013)
- Weifeng Wang (Post-doc, 2012-2013)

**Graduate Students Advised**

- Xing Li, PhD student (Co-advisor, 2/2016-present, degree institution: University of Electronic Science and Technology of China)
- Ming Yan, Master student (09/2013-06/2016)
- Feng Li (visiting PhD student, Sichuan University, 11/2013-04/2014)

**Membership**

- US-China Carbon Consortium (USCC) (2010-present)

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