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EDUCATION

2009	Ph.D. Ecology	Auburn University
2003	M.S. Meteorology	Nanjing Institute of Meteorology, Nanjing, China
2000	B.S. Agricultural Meteorology	Nanjing Institute of Meteorology, Nanjing, China

PROFESSIONAL EXPERIENCE

2015 - present	Assistant Professor, Department of Plant & Soil Sciences, College of Agriculture, Food, and Environment, University of Kentucky
2010 - 2015	Research Fellow, International Center for Climate and Global Change Research, School of Forestry and Wildlife Sciences, Auburn University
2009 - 2010	Postdoctoral Fellow, Ecosystem Dynamics and Global Ecology Laboratory, School of Forestry and Wildlife Sciences, Auburn University
2006 - 2009	Research Assistant, School of Forestry and Wildlife Sciences, Auburn University

COURSES TAUGHT

Ecosystem Ecology

Climate Change and Agriculture

Integrated Ecosystem Modeling and Analysis

EXTENSION REPORT

- Coyne, Mark S. and **W. Ren**, (2017) "Managing Nitrous Oxide Emissions in Agricultural Fields", Plant and Soil Sciences Research Report. 9.
http://uknowledge.uky.edu/pss_reports/9

PUBLICATIONS

1. Zhu, X., Qiu, X., Zeng, Y., **Ren, W.**, Tao, B., Pan, H., Gao, T. and Gao, J (2018), High-resolution precipitation downscaling in mountainous areas over China: development and application of a statistical mapping approach. *International Journal of Climatology*, 38(1), 77-93, doi: 10.1002/joc.5162 (IF = 3.760)
2. Dangal, Shree R.S., H. Tian, C. Lu, **W. Ren**, S. Pan, J. Yang, N. Di Cosmo, A. Hessel (2017), Integrating Herbivore Population Dynamics into a Global Land Biosphere Model: Plugging Animals into the Earth System. *Journal of Advances in Modeling Earth Systems*. 9, 2920–2945, DOI: 10.1002/2016MS000904 (IF = 4.189)
3. Zhang, C., and **W. Ren** (2017), Complex climatic and CO₂ controls on net primary productivity of temperate dryland ecosystems over central Asia during 1980-2014, *Journal of Geophysical Research:Biogeosciences.*, 122, doi:10.1002/ 2017JG003781. (IF =3.395)

4. Zhu, X., Qiu, X., Zeng, Y., **Ren, W.**, Tao, B., Gao, J, Liu, H., Tan, Y. (2017), Effects of complex terrain on net surface longwave radiation in China. *Theoretical and Applied Climatology*. 1-14, DOI: 10.1007/s007040017-2272-9 (IF = 2.640)
5. Pan, S., G. Chen, **W. Ren**, SRS Dangal, K. Banger, J. Yang, B. Tao, and H. Tian (2017), Responses of global terrestrial water use efficiency to climate change and rising atmospheric CO₂ concentration in the twenty-first century, *International Journal of Digital Earth*, 1-25, DOI: 10.1080/17538947.2017.1337818 (IF =2.292)
6. Zhang, J., P. An, J. Yang, **W. Ren**, Z. Pan, Z. Dong, G. Han, S. Pan, Y. Pan, H. Tian (2017), Enhancing soil drought induced by climate change and agricultural practices: Observational and experimental evidence from the semiarid area of northern China, *Agricultural and Forest Meteorology*, 243: 74–83 (IF = 3.887)
7. **Ren, W.**, H.Q. Tian, W. Cai, S.E. Lohrenz, C.S. Hopkinson, W. Huang, J. Yang, B. Tao, S.F. Pan, and R. He (2016), Century-long increasing trend and variability of dissolved organic carbon export from the Mississippi River basin driven by natural and anthropogenic forcing, *Global Biogeochemical Cycle*, 30(9):1288-1299, DOI: 10.1002/2016GB005395. (IF = 4.655)
8. Chen, S., B. Tao, and **W. Ren** (2016), Disaster prevention and reduction in Anthropocene, *Frontiers of Environmental Science & Engineering*, 10 (5): 19, DOI: 10.1007/s11783-016-0882-6. (IF = 1.716)
9. Tian, H.Q., **W. Ren**, B. Tao, G. Sun, A. Chappelka, X. Wang, S. Pan, J. Yang, J. Liu, B. S. Felzer, J. M. Melillo, and J. Reilly (2016), Climate extremes and ozone pollution: a growing threat to China's food security, *Ecosystem Health and Sustainability*, 2(1), DOI:10.1002/ehs2.1203.
10. An, P., **W. Ren**, X. Liu, M. Song, and X. Li (2016), Adjustment and Optimization of the Cropping Systems under Water Constraint, *Sustainability*, 8 (12): 1207, DOI: 10.3390/su8121207. (IF = 1.789)
11. Zhang, B., H.Q. Tian, **W. Ren**, B. Tao, C. Lu, J. Yang, K. Banger, and S. Pan (2016), Methane Emissions from global rice fields: Magnitude, spatiotemporal patterns and environmental controls, *Global Biogeochemical Cycle*,30(9):1246-1263, DOI: 10.1002/2016GB005381. (IF = 4.655)
12. Jin, N., B. Tao, **W. Ren**, M. Feng, R. Sun, L. He, W. Zhuang, and Q. Yu (2016), Mapping Irrigated and Rainfed Wheat Areas Using Multi-Temporal Satellite Data, *Remote Sensing*, 8(3):207, DOI: 10.3390/rs8030207. (IF = 3.244)
13. Xue, Z., R. He, K. Fennel, W. Cai, S. Lohrenz, W. Huang, H.Q. Tian, **W. Ren**, and Z. Zang (2016), Modeling pCO₂ variability in the Gulf of Mexico, *Biogeosciences*, 11(8): 12673-12695, DOI:10.5194/bgd-11-12673-2014. (IF = 3.851)
14. Yang, Q., H.Q. Tian, X. Li, **W. Ren**, B. Zhang, X. Zhang, and J. Wolf (2016), Spatiotemporal patterns of livestock manure nutrient production in the conterminous United States from 1930 to 2012, *Science of the Total Environment*, 541: 1592-1602, DOI: 10.1016/j.scitotenv. 2015.10.044. (IF = 4.900)
15. **Ren, W.**, H. Q. Tian, B. Tao, J. Yang, S. F. Pan, W. J. Cai, S. E. Lohrenz, R. Y. He, and C. S. Hopkinson (2015), Large increase in dissolved inorganic carbon flux from the Mississippi River to Gulf of Mexico due to climatic and anthropogenic changes over the

- 21st century, *Journal of Geophysical Research:Biogeosciences*, 120(4), 724-736, doi:10.1002/2014jg002761. (IF = 3.395)
16. Yang, J., H.Q. Tian, B. Tao, **W. Ren**, S. F. Pan, Y.Q. Liu, and Y. H. Wang (2015), A growing importance of large fires in conterminous United States during 1984-2012, *Journal of Geophysical Research: Biogeosciences*, 120(12): 2625-2640, DOI:10.1002/2015jg002965. (IF = 3.395)
 17. Banger, K., H. Q. Tian, B. W. Zhang, C. Q. Lu, **W. Ren**, and B. Tao (2015), Biosphere atmosphere exchange of methane in India as influenced by multiple environmental changes during 1901-2010, *Atmospheric Environment*, 119:192-200, DOI: 10.1016/j.atmosenv.2015.06.008. (IF = 3.629)
 18. Yang, J., H.Q. Tian, B. Tao, **W. Ren**, Lu. C, Pan. S, Wang. Y, and Liu. Y (2015), Century-scale patterns and trends of global pyrogenic carbon emissions and fire influences on terrestrial carbon balance, *Global Biogeochemical Cycles*, 29(9): 1549-1566, DOI: 10.1002/2015GB005160. (IF = 4.655)
 19. Zhang, J., **W. Ren**, P. An, Z. Pan, L. Wang, Z. Dong, D. He, J. Yang, S. Pan, and H.Q. Tian (2015), Responses of Crop Water Use Efficiency to Climate Change and Agronomic Measures in the Semiarid Area of Northern China, *PLOS ONE*, 10(9): e0137409, DOI:10.1371/journal.pone.0137409. (IF = 2.806)
 20. Tian, H.Q., G. Chen, C. Lu, X. Xu, **W. Ren**, B. Zhang, K. Banger, B. Tao, S. Pan, M. Liu, C. Zhang, L. Bruhwiler, and S. Wofsy (2015), Global methane and nitrous oxide emissions from terrestrial ecosystems due to multiple environmental changes, *Ecosystem Health and Sustainability*, 1(1):1-20, DOI:10.1890/EHS14-0015.1.
 21. Tian, H.Q., **W. Ren**, J. Yang, B. Tao, W.J. Cai, S.E. Lohrenz, C.S. Hopkinson, M.L. Liu, Q.C. Yang, C.Q. Lu, B.W. Zhang, K. Banger, S.F. Pan, R.Y. He, and Z. Xue (2015), Climate extremes dominating seasonal and interannual variations in carbon export from the Mississippi River Basin, *Global Biogeochemical Cycles*, 29(9):1333-1347, DOI: 10.1002/2014GB005068. (IF = 4.655)
 22. Tian, H.Q., Q.C. Yang, R.G. Najjar, **W. Ren**, M.A.M. Friedrichs, C.S. Hopkinson, and S.F. Pan (2015), Anthropogenic and climatic influences on carbon fluxes from eastern North America to the Atlantic Ocean: A process-based modeling study, *Journal of Geophysical Research: Biogeosciences*, 120(4): 752-772, DOI: 10.1002/2014jg002760. (IF = 3.395)
 23. Pan, S.F., H.Q. Tian, S.R.S. Dangal, Z.Y. Ouyang, C.Q. Lu, J. Yang, B. Tao, **W. Ren**, K. Banger, Q.C. Yang, and B.W. Zhang (2015), Impacts of climate variability and extremes on global net primary production in the first decade of the 21st century, *Journal of Geographical Sciences*, 25(9):1027-1044, DOI:10.1007/s11442-015-1217-4. (IF = 2.364)
 24. Banger, K., H.Q. Tian, B. Tao, **W. Ren**, S.F. Pan, S. Dangal, and J. Yang (2015), Terrestrial net primary productivity in India during 1901-2010: contributions from multiple environmental changes, *Climatic Change*, 132(4):575-588, DOI:10.1007/s10584-015-1448-5. (IF = 3.496)
 25. Tian, H.Q., C.Q. Lu, J. Yang, K. Banger, D.N. Huntzinger, C.R. Schwalm, A.M. Michalak, R. Cook, P. Ciais, D. Hayes, M.Y. Huang, A. Ito, A.K. Jain, H.M. Lei, J.F. Mao, S.F. Pan, W.M. Post, S.S. Peng, B. Poulter, **W. Ren**, D. Ricciuto, K. Schaefer, X.Y. Shi, B. Tao, W. L. Wang, Y.X. Wei, Q.C. Yang, B.W. Zhang, and N. Zeng (2015), Global patterns and

- controls of soil organic carbon dynamics as simulated by multiple terrestrial biosphere models: Current status and future directions, *Global Biogeochemical Cycles*, 29(6): 775-792, DOI:10.1002/2014gb005021. (IF = 4.655)
26. Pan, S. F., H.Q. Tian, S.R.S. Dangal, Q.C. Yang, J. Yang, C.Q. Lu, B. Tao, **W. Ren**, and Z.Y. Ouyang (2015), Responses of global terrestrial evapotranspiration to climate change and increasing atmospheric CO₂ in the 21st century, *Earths Future*, 3(1):15-35, DOI:10.1002/2014ef000263. (IF = 4.938)
 27. Banger, K., H.Q. Tian, B. Tao, C.Q. Lu, **W. Ren**, and J. Yang (2015), Magnitude, Spatiotemporal Patterns, and Controls for Soil Organic Carbon Stocks in India during 1901-2010, *Soil Science Society of America Journal*, 79(3):864-875, DOI:10.2136/sssaj2014.11.0456. (IF = 1.844)
 28. Yang, Q., H.Q. Tian, X. Li, B. Tao, **W. Ren**, G. Chen, C. Lu, J. Yang, S. Pan, K. Banger, and B. Zhang (2015), Spatiotemporal patterns of evapotranspiration along the North American east coast as influenced by multiple environmental changes, *Ecohydrology*, 8(4): 714-725, DOI:10.1002/eco.1538. (IF = 2.852)
 29. Dang, Y., **W. Ren**, B. Tao, G. Chen, C. Lu, J. Yang, S. Pan, G. Wang, S. Li, and H.Q. Tian (2014), Climate and Land Use Controls on Soil Organic Carbon in the Loess Plateau Region of China, *PLOS ONE*, 9(5): e95548, DOI:10.1371/journal.pone.0095548. (IF = 2.806)
 30. Tao, B., H.Q. Tian, **W. Ren**, J. Yang, Q. Yang, R. He, W. Cai, and S. Lohrenz (2014), Increasing Mississippi river discharge throughout the 21st century influenced by changes in climate, land use, and atmospheric CO₂, *Geophysical Research Letters*, 41(14): 4978-4986, DOI:10.1002/2014gl060361. (IF = 4.253)
 31. Pan, S.F., H.Q. Tian, S.R.S. Dangal, C. Zhang, J. Yang, B. Tao, Z.Y. Ouyang, X.K. Wang, C.Q. Lu, **W. Ren**, K. Banger, Q.C. Yang, B.W. Zhang, and X. Li (2014), Complex Spatiotemporal Responses of Global Terrestrial Primary Production to Climate Change and Increasing Atmospheric CO₂ in the 21st Century, *PLOS ONE*, 9(11): e112810, DOI: 10.1371/journal.pone.0112810. (IF = 2.806)
 32. Pan, S., H.Q. Tian, S.R.S. Dangal, Z. Ouyang, B. Tao, **W. Ren**, C. Lu, and S. Running (2014), Modeling and Monitoring Terrestrial Primary Production in a Changing Global Environment: Toward a Multiscale Synthesis of Observation and Simulation, *Advances in Meteorology*, 17, DOI:10.1155/2014/965936. (IF =1.277)
 33. Yang, J., H.Q. Tian, B. Tao, **W. Ren**, J. Kush, Y.Q. Liu, and Y.H. Wang (2014), Spatial and temporal patterns of global burned area in response to anthropogenic and environmental factors: Reconstructing global fire history for the 20th and early 21st centuries, *Journal of Geophysical Research: Biogeosciences*, 119(3):249-263, DOI:10.1002/2013jg002532. (IF =3.395)
 34. Tian, H.Q., G. Chen, C. Lu, X. Xu, D.J. Hayes, **W. Ren**, S. Pan, D.N. Huntzinger, and S.C. Wofsy (2014), North American terrestrial CO₂ uptake largely offset by CH₄ and N₂O emissions: toward a full accounting of the greenhouse gas budget, *Climatic Change*, 129(3): 413-426, DOI:10.1007/s10584-014-1072-9. (IF = 3.496)
 35. Tian, H.Q., G. Chen, C. Lu, X. Xu, **W. Ren**, K. Banger, B. Zhang, B. Tao, S. Pan, M. Liu, and C. Zhang (2013), Global land-atmosphere exchange of methane and nitrous oxide:

- magnitude and spatiotemporal patterns, *Biogeosciences*, 10:19811-19865, DOI:10.5194/bgd-10-19811-2013. (IF = 3.851)
36. Tao, B., H. Tian, G. Chen, W. Ren, C. Lu, K.D. Alley, X. Xu, M. Liu, S. Pan, and H. Virji (2013) Terrestrial carbon balance in tropical Asia: Contribution from cropland expansion and land management, *Global Planet Change*, 100, 85-98, doi: 10.1016/j.gloplacha.2012.09.006. (IF = 3.915)
 37. **Ren, W.**, H.Q. Tian, B. Tao, Y. Huang, and S.F. Pan (2012), China's crop productivity and soil carbon storage as influenced by multifactor global change, *Global Change Biology*, 18(9):2945-2957, DOI:10.1111/j.1365-2486.2012.02741.x. (IF = 8.502)
 38. Tian, H.Q., C.Q. Lu, J. Melillo, **W. Ren**, Y. Huang, X.F. Xu, M.L. Liu, C. Zhang, G.S. Chen, S.F. Pan, J.Y. Liu, and J. Reilly (2012), Food benefit and climate warming potential of nitrogen fertilizer uses in China, *Environmental Research Letters*, 7(4): 044020, DOI: 10.1088/1748-9326/7/4/044020. (IF = 4.404)
 39. Xu, X.F., H.Q. Tian, G.S. Chen, M.L. Liu, **W. Ren**, C.Q. Lu, and C. Zhang (2012), Multifactor controls on terrestrial N₂O flux over North America from 1979 through 2010, *Biogeosciences*, 9(4):1351-1366, DOI: 10.5194/bg-9-1351-2012. (IF = 3.851)
 40. Tian, H.Q., G.S. Chen, C. Zhang, M.L. Liu, G. Sun, A. Chappelka, **W. Ren**, X.F. Xu, C.Q. Lu, S.F. Pan, H. Chen, D.F. Hui, S. McNulty, G. Lockaby, and E. Vance (2012), Century-Scale Responses of Ecosystem Carbon Storage and Flux to Multiple Environmental Changes in the Southern United States, *Ecosystems*, 15(4):674-694, DOI:10.1007/s10021-012-9539-x. (IF = 4.198)
 41. Lu, C.Q., H.Q. Tian, M.L. Liu, **W. Ren**, X.F. Xu, G.S. Chen, and C. Zhang (2012), Effect of nitrogen deposition on China's terrestrial carbon uptake in the context of multifactor environmental changes, *Ecological Applications*, 22(1):53-75, DOI: 10.1890/10-1685.1. (IF = 4.314)
 42. Liu, M.L., H.Q. Tian, C.Q. Lu, X.F. Xu, G.S. Chen, and **W. Ren** (2012), Effects of multiple environment stresses on evapotranspiration and runoff over eastern China, *Journal of Hydrology*, 426:39-54, DOI: 10.1016/j.jhydrol.2012.01.009. (IF = 3.483)
 43. Chen, G.S., H.Q. Tian, C. Zhang, M.L. Liu, **W. Ren**, W.Q. Zhu, A.H. Chappelka, S.A. Prior, and G.B. Lockaby (2012), Drought in the Southern United States over the 20th century: variability and its impacts on terrestrial ecosystem productivity and carbon storage, *Climatic Change*, 114(2):379-397, DOI: 10.1007/s10584-012-0410-z. (IF = 3.496)
 44. Wang, L.L., H.Q. Tian, C.C. Song, X.F. Xu, G.S. Chen, **W. Ren**, and C.Q. Lu (2012), Net exchanges of CO₂, CH₄ and N₂O between marshland and the atmosphere in Northeast China as influenced by multiple global environmental changes, *Atmospheric Environment*, 63:77-85, DOI: 10.1016/j.atmosenv.2012.08.069. (IF = 3.629)
 45. Zhang, C., H.Q. Tian, G.S. Chen, A. Chappelka, X.F. Xu, **W. Ren**, D.F. Hui, M.L. Liu, C.Q. Lu, S.F. Pan, and G. Lockaby (2012), Impacts of urbanization on carbon balance in terrestrial ecosystems of the Southern United States, *Environmental Pollution*. 164:89-101, DOI: 10.1016/j.envpol.2012.01.020. (IF = 5.099)
 46. **Ren, W.**, H.Q. Tian, B. Tao, A. Chappelka, G. Sun, C.Q. Lu, M.L. Liu, G.S. Chen, and X.F. Xu (2011), Impacts of tropospheric ozone and climate change on net primary productivity and net carbon exchange of China's forest ecosystems, *Global Ecology and Biogeography*,

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47. **Ren, W.**, H.Q. Tian, X.F. Xu, M.L. Liu, C.Q. Lu, G.S. Chen, J. Melillo, J. Reilly, and J.Y. Liu (2011), Spatial and temporal patterns of CO₂ and CH₄ fluxes in China's croplands in response to multifactor environmental changes, *Tellus*, 63(2):222-240, DOI: 10.1111/j.1600-0889.2010.00522.x. (IF = 2.854)
 48. Tian, H.Q., X.F. Xu, C.Q. Lu, M.L. Liu, **W. Ren**, G.S. Chen, J. Melillo, and J.Y. Liu (2011), Net exchanges of CO₂, CH₄, and N₂O between China's terrestrial ecosystems and the atmosphere and their contributions to global climate warming, *Journal of Geophysical Research: Biogeosciences*, 116(G2), DOI: 10.1029/2010jg001393. (IF = 3.395)
 49. Tian, H.Q., J. Melillo, C.Q. Lu, D. Kicklighter, M.L. Liu, **W. Ren**, X.F. Xu, G.S. Chen, C. Zhang, S.F. Pan, J.Y. Liu, and S. Running (2011), China's terrestrial carbon balance: Contributions from multiple global change factors, *Global Biogeochemical Cycle*, 25(1), DOI: 10.1029/2010gb003838. (IF = 4.655)
 50. Tian, H.Q., C. Lu, G. Chen, X. Xu, M. Liu, **W. Ren**, B. Tao, G. Sun, S. Pan, and J. Liu (2011), Climate and land use controls over terrestrial water use efficiency in monsoon Asia, *Ecohydrology*, 4(2): 322-340, DOI:10.1002/eco.216. (IF = 2.852)
 51. Tao, B., H.Q. Tian, G. Chen, **W. Ren**, C. Lu, K. D. Alley, X. Xu, M. Liu, S. Pan, and H. Virji (2011), Changes in carbon fluxes and pools induced by cropland expansion in South and Southeast Asia in the 20th century, *Biogeosciences*, 8(6):11979-12012, DOI:10.5194/bgd-8-11979-2011. (IF =3.851)
 52. Xu, X. F., H.Q. Tian, C. Zhang, M.L. Liu, **W. Ren**, G.S. Chen, C.Q. Lu, and L. Bruhwiler (2010), Attribution of spatial and temporal variations in terrestrial methane flux over North America, *Biogeosciences*, 7(11):3637-3655, DOI: 10.5194/bg-7-3637-2010. (IF =3.851)
 53. Tian, H.Q., X. Xu, M. Liu, **W. Ren**, C. Zhang, G. Chen, and C. Lu (2010), Spatial and temporal patterns of CH₄ and N₂O fluxes in terrestrial ecosystems of North America during 1979-2008: application of a global biogeochemistry model, *Biogeosciences*, 7(9): 2673-2694, DOI:10.5194/bg-7-2673-2010. (IF =3.851)
 54. Tian, H.Q., G.S. Chen, M.L. Liu, C. Zhang, G. Sun, C.Q. Lu, X.F. Xu, **W. Ren**, S.F. Pan, and A. Chappelka (2010), Model estimates of net primary productivity, evapotranspiration, and water use efficiency in the terrestrial ecosystems of the southern United States during 1895-2007, *Forest Ecology and Management*, 259(7): 1311-1327, DOI: 10.1016/j.foreco.2009.10.009. (IF = 3.064)
 55. Tian, H.Q., M.L. Liu, C. Zhang, **W. Ren**, X.F. Xu, G.S. Chen, C.Q. Lu, and B. Tao (2010), The dynamic land ecosystem model (DLEM) for simulating terrestrial processes and interactions in the context of multifactor global change, *Acta Geographica Sinica*, 65(9): 1027-1047.
 56. Liu, M.L., H.Q. Tian, G.S. Chen, **W. Ren**, C. Zhang, and J.Y. Liu (2008), Effects of Land-Use and Land-Cover Change on Evapotranspiration and Water Yield in China during 1900-2000, *Journal of the American Water Resources Association*, 44(5): 1193-1207, DOI: 10.1111/j.1752-1688.2008.00243.x. (IF =1.717)
 57. **Ren, W.**, H.Q. Tian, G. Chen, M. Liu, C. Zhang, A.H. Chappelka, and S. Pan (2007), Influence of ozone pollution and climate variability on net primary productivity and carbon storage in China's grassland ecosystems from 1961 to 2000, *Environmental Pollution*,

- 149(3): 327-335, DOI: 10.1016/j.envpol.2007.05.029. (IF = 5.099)
58. **Ren, W.**, H.Q. Tian, M.L. Liu, C. Zhang, G.S. Chen, S.F. Pan, B. Felzer, and X.F. Xu (2007), Effects of tropospheric ozone pollution on net primary productivity and carbon storage in terrestrial ecosystems of China, *Journal of Geophysical Research: Atmospheres*, 112(D22), DOI: 10.1029/2007jd008521. (IF =3.454)
59. **Ren, W.**, and H.Q. Tian (2007), Ozone pollution and terrestrial ecosystem productivity, *Journal of Plant Ecology*, 31(2): 219-230. (In Chinese with English Abstract) (IF =1.754)
60. Zhang, C., H.Q. Tian, A.H. Chappelka, **W. Ren**, H. Chen, S.F. Pan, M.L. Liu, D.M. Styers, G.S. Chen, and Y.H. Wang (2007), Impacts of climatic and atmospheric changes on carbon dynamics in the Great Smoky Mountains National Park, *Environmental Pollution*, 149(3):336-347, DOI: 10.1016/j.envpol.2007.05.028. (IF =5.099)
61. **Ren, W.**, K.M. Yao, and Q. Yu (2003), Effect of water control in combination of depth and amount on dry matter partition and water use efficiency of winter wheat, *Chinese Journal of Eco-Agriculture*, 11(4): 92-94.
62. **Ren, W.**, and K.M. Yao (2002), Dry matter distribution model: a view, *Meteorology Education and Science Technology*, 24(3): 18-22.

Book Chapters and Conference Proceedings

- **Ren W.** (2018) Towards an Integrated Agroecosystem Modeling Approach for Climate-Smart Agricultural Management. In the book: *Bridging Among Disciplines by Synthesizing Soil and Plant Processes*. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America Books (In press).
- Tian H., Xu X., Zhang C., **Ren, W.**, Chen G., Liu M., Lu D., Pan S. (2008). Forecasting and assessing the large scale and long-term impacts of global environmental change on terrestrial ecosystems in the United States and China. In: *Real World Ecology: large scale and long-term case studies and methods*. (Miao S., Carstenn S., and Nungesser M. eds), Springer, New York.
- Liu, M., Tian H., Zhang C., Chen G., **Ren, W.**, Xu X., Pan S., Wang X., and Nagy C.. (2007). Effects of urbanization and land use change on water yield – A case study of Haihe Basin in China. Laband, D. (eds.) *Emerging Issues Along Urban/Rural Interfaces 2: Linking Land Use Science and Society*. Conference Proceedings, Atlanta, Georgia, April 9 12, 2007.
- Chen, G., Tian, H., Liu, M., **Ren, W.**, Zhang, C., Pan, S., 2006. Climate Impacts on China's Terrestrial Carbon Cycle: An Assessment with the Dynamic Land Ecosystem Model. In: Tian, H.Q. (Eds.), *Environmental Modelling and Simulation*, ACTA Press, Anaheim/ Calgary/ Zurich, p56 70.

SELECT PRESENTATIONS AND ABSTRACTS

- **Ren, W.**, Agroecosystem Responses to Multiple Global Changes: Challenges at the Agriculture-Water-Climate Nexus in the Mississippi River Basin, 101st ESA Annual Meeting, Fort Lauderdale, Florida, Aug.7-12,2016 (Invited Talk)
- **Ren, W.**, A Systems Modeling Approach for the Sustainable Development of the Food-Energy-Water Nexus across Space and Time, Seminar in the Department of Biosystems & Agriculture Engineering, UKY, Feb.05,2016 (Invited Talk)

- **Ren, W.**, China's wheat production crisis due to multiple environmental stresses: A water-food Nexus Perspective, Workshops "The Food-Energy-Water Nexus in Asia and Its Global Importance" in the 16th National Conference and Global Forum on Science, Policy and the Environment, Jan 19-21,2016,Washington DC, USA (Invited Talk)
- **Ren, W.**, H.Q. Tian, B. Tao, J. Yang and S. Lohrenz, Future Challenges at the Agriculture-Water Nexus in the Mississippi River Basin.2016, the 16th National Conference and Global Forum on Science, Policy and the Environment, Jan 19-21,2016,Washington DC, USA (Poster)
- **Ren, W.**, Climate change impacts on soil carbon storage in global croplands: 1901-2010. American Geophysical Union (AGU), Fall Meeting 2015,San Francisco, CA, USA (Talk)
- **Ren, W.**, Applying integrated systems approach for sustainable agricultural and natural resources management, Seminar in the Department of Forestry, UKY, Sep.,2015 (Invited Talk)
- **Ren, W.**, Integrated agro-system modeling for achieving food security in the face of climate change and air pollution: A case study in China, Symposium: Air pollution, climate change and food security, 47th Air Pollution Workshop, May 17 - 21, 2015 in Auburn, AL (Talk)
- Tian, H., Q. Yang, **W. Ren**, C. Lu, B. Zhang, S. Pan, B. Tao, S. Lohrenz, W. Cai, R. He, M. Friedrichs, R. Najjar, Contemporary and projected lateral carbon fluxes from North America to Oceans: A process-based modeling study, The North American Carbon Program (NACP), Jan. 26 – 29 noon, 2015 ,Omni Shoreham Hotel, Washington D.C.(Poster)
- **Ren, W.**, Integrated Ag-Systems Modeling to Support Climate-Smart Agricultural Practices, Seminar in the Department of Plant & Soil Sciences, University of Kentucky, Dec. 18, 2015, (Invited Talk)
- **Ren,W.**, Increase in dissolved inorganic carbon flux from the Mississippi River to Gulf of Mexico due to climatic and anthropogenic changes over the 21st century, Coastal CARbon Synthesis (CCARS) Community Workshop, August 19-21, 2014 at the Woods Hole Oceanographic Institution in Woods Hole, MA. (Poster)
- **Ren, W.**, et al., Potential Impacts of Droughts on Crop Productivity in the United States over 21st Century, American Geophysical Union (AGU), Fall Meeting 2014,San Francisco, CA, USA (Poster)
- **Ren, W.**, et al., Evaluating natural and human impacts on carbon balance of global agro-ecosystems during 1901-2010 based on multiple terrestrial models and data American Geophysical Union (AGU), Fall Meeting 2013,San Francisco, CA, USA (Talk)
- **Ren, W.** and H. Tian, 2013. Climate change impacts on US crop productivity in the context of multiple global changes during 1951-2099. ASA, CSSA and SSSA International Annual Meetings, Tampa, Florida (Talk)
- **Ren, W.**, H. Tian, J. Yang, B. Tao, Q. Yang, C. Lu, B. Zhang, S. Pan, W. Cai, C. Hopkinson. 2013. The dynamics of agricultural production and riverine carbon and nitrogen fluxes in the Mississippi River Basin as influenced by climate change and land use: 1901- 2010. 98th ESA Annual Meeting, Minneapolis, MN, USA. (Poster).
- **Ren, W.**, H. Tian, 2012. Climate change, air pollution and food security in East Asia,

South Asia and Southeast Asia, 97th Ecological Society of America (ESA) Annual Meeting, Portland, Oregon, USA. (Invited talk)

- **Ren, W.**, H. Tian, M. Liu, B. Tao, C. Lu, X. Xu, G. Chen, J. Melillo, K. Vadrevu. 2010. Impacts of climate extreme disturbances on Monsoon Asian crop production and yield in the second half of the 20th century. 95th ESA Annual Meeting. Pittsburgh, PA (Poster)
- **Ren, W.**, H. Tian, M. Liu, G. Chen, C. Lu, X. Xu, C. Zhang, S. Pan, B. Felzer, D. Kicklighter, J. Melillo, Q. Mu, S. Running, M. Zhao. Comparative study of modeling the impacts of air pollution on carbon and water cycles in terrestrial ecosystems of China during 1980-2005. 2008 AGU fall meeting. San Francisco, CA, USA. (Poster)
- **Ren, W.**, H. Tian, M. Liu, G. Chen, G. Sun and A. Chappelka, Interactive effects of ozone pollution and drought on carbon and water fluxes in China's forest ecosystems from 1961 to 2000, Air Pollution Workshop in 2008, Raleigh, NC, US (Student oral presentation and poster)
- **Ren, W.**, H. Tian, M. Liu, C. Zhang, G. Chen, X. Xu. Urbanization and Its Effects on Air Quality and Plant Growth: A Case Study of the Yangtze Delta of China. Urbanization and land use change conference in 2007, Atlanta, GA, US. (Talk).
- **Ren, W.**, H. Tian, M. Liu, A. Chappelka, C. Zhang, G. Chen, Regional O₃ pollution effects on Forest NPP and ET in Southeastern USA. 2006 91st Ecological Society of America (ESA) Annual Meeting. Memphis, Tennessee, USA. (Poster).
- Tao, B., Tian, H., **Ren, W.**, Yang, J., He, R., Cai, W., Lohrenz, S. 2014. Increasing Mississippi river discharge throughout the 21st century influenced by changes in climate, land use, and atmospheric CO₂. 2014 AGU Fall Meeting, San Francisco, CA, Dec. 15–19, 2014. (Poster).
- Tian, H., C Lu, **W. Ren**, B. Tao, J. Yang, K. Banger, S. Pan, B. Zhang, Q. Yang, G. Chen, X. Xu, 2013. The balance of greenhouse gases in the terrestrial biosphere: can we predict large-scale and long-term patterns from short-term plot level observations? . 98th ESA Annual Meeting, Minneapolis, MN, USA. (Poster).
- Tian, H., G. Chen, C. Lu, X. Xu, D. Hayes, **W. Ren**, B. Tao, S. Pan, J. Yang, Y. Wei, D. N. Huntzinger. 2012. Greenhouse gases balances in the terrestrial ecosystems of North America: patterns and contributions of individual gases to net global warming potential. AGU Fall Meeting, San Francisco, December 1-7, 2012. (Talk).

PROFESSIONAL MEMBERSHIPS

- Member of Agricultural Model Intercomparison and Improvement Project (2014 to 2016)
- Member of American Society of Agronomy (ASA) (2013 to present)
- Member of Asian Ecology Section of the Ecological Society of America (2009 to present)
- Member of Sino Ecologists Association Overseas (Sino-Eco) (2008 to present)
- Member of North American Carbon Program (NACP) (2009 to present)
- Member of Ecological Society of America (ESA) (2006 to present)
- Member of American Geophysical Union (AGU) (2006 to present)

HONORS AND AWARDS

- The Ecological Society of America Asian Ecology Section: Early Career Ecologist Award, 2012

- Appreciation Award for Outstanding Service to Sino-Eco, 2008-2012
- Distinguished Dissertation Award, Auburn University, 2011
- Drummond Fellowship Awards in School of Forest and Wildlife Sciences, 2007-2008
- Outstanding International Graduate Student Awards in Auburn University, 2007- 2008
- NCAR Advanced Study Program (ASP) Colloquium Fellowship, funded by National Science Foundation (NSF), 2007
- National College Table Tennis (NCTT) Tournament, Rock Prize, 2007
- Georgia Division Table Tennis Tournament, Champion, 2007
- Second-class Scholarship for undergraduate at Nanjing Institute of Meteorology, 1996-1999

SERVICE

Departmental:

- IPSS Mini-symposium judge, 2017 April
- Departmental Seminar Committee, 2016-Present
- Water/Environment Commodity/Resource group member, 2015 - present
- Departmental Project/Proposal Review team member, 2015 - present

University:

Member of Water Group, 2016 - Present

Scientific Community:

- **Society Service**

Conference/session Chair

Convener for the oral session “Agroecosystem Responses to Multiple Global Change Drivers in the Anthropocene”, contributing to the annual Ecological Society of America (ESA) 2016 theme: Novel Ecosystems in the Anthropocene,

- **Editorial Service**

Associate Editor of *Journal of Advances in Modeling Earth Systems*, 2016-present

Editorial board member for *Agricultural and Forestry Meteorology*, 2016 - present

- **Reviewer for Journals**

Acta Ecologica Sinica; Agric. For. Meteorol.; Basic. Appl. Ecol.; Biogeosciences; Carbon Manag.; CATENA; Chemosphere; Clim. Change.; Ecohydrology; Ecol. Indic.; Ecol. Eng.; Ecol. Model.; Environ. Eng. Manag. J.; Environ. Management; Environ. Model. Softw.; Environ. Res. Lett.; Environ. Sci. Pollut. R.; Glob. Planet. Chang; Glob. Change Biol.; J. Earth. Syst. Sci.; J. Environ. Quality; J Geophys Res Atmos; J Geophys Res Biogeosci; J Environ. Res. Public. Health.; Land Use Policy; PLOS ONE; Sci. Rep.; Soil Till. Res.; Sustainability Sciences; Theor. Appl. Climatol.; Urban. Water. J.; Wat. Sci. Tech.

- **Scientific Report for Popular Science**

Invited article “Drought and the Southeast U.S.” for the theme *the future of food and climate*, on Earth Day, June, 2016