

CURRICULUM VITAE

Lee, Xuhui
(update January 2020)

CONTACT INFORMATION

Address School of Forestry and Environmental Studies, Yale University, 195 Prospect Street,
New Haven, CT 06511 USA
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Tel 203-432-6271
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EDUCATION

PhD Soil Science, University of British Columbia, Canada
M.Sc. Meteorology, Nanjing Institute of Meteorology, China
B.Sc. Meteorology, Nanjing Institute of Meteorology, China

POSITIONS

2012-present Sara Shallenberger Brown Professor, School of Forestry and Environmental Studies,
Yale University
2018-present Professor (secondary appointment), Department of Geology and Geophysics, Yale
University
2002-2012 Professor, School of Forestry and Environmental Studies, Yale University
1999-2002 Associate Professor, School of Forestry and Environmental Studies, Yale University
1994- 1999 Assistant Professor, School of Forestry and Environmental Studies, Yale University
1992-1994 Research Associate, University of British Columbia
1988-1992 Graduate Assistant, University of British Columbia
1986-1988 Research Scientist and Lecturer, Nanjing Institute of Meteorology

AWARDS AND HONORS

2018 Award for Excellence in Basic Research in Meteorology, Chinese Meteorological
Society
2017 Lifetime Achievement Award, ChinaFLUX
2015 Award for Outstanding Achievement in Biometeorology, American Meteorological
Society
2003 Outstanding Overseas Young Investigator Award, Natural Science Foundation of China
1999 Award for Excellence in Teaching, School of Forestry and Environmental Studies, Yale
University
1996 US National Science Foundation Career Award
1988-1992 University of British Columbia Graduate Fellowship, Full Support

PROFESSIONAL AFFILIATIONS

American Meteorological Society
American Geophysical Union
Ecological Society of China

PROFESSIONAL SERVICES

2019	Panelist, Center for Urban Resilience and Environmental Sustainability Connection Workshop, Discovery Partners Institute, Chicago
2018	Carbon Cycle Review Panel, NASA
2016	Member, Program Review Committee, School of Forestry and Resource Conservation, National University of Taiwan, Taiwan
2013-2015	Member, Scientific Steering Committee, Joint Center on Global Change Studies, Beijing Normal University, China
2009-2013	Board of Trustees, Great Mountain Forest Corporation, Connecticut
2009-2012	Member, Scientific Steering Committee on Earth Science Initiative, Tsinghua University, China
2008-2019	Editor-in-Chief, Agricultural and Forest Meteorology
2007-present	Guest Professor, Nanjing University of Information, Science and Technology, Nanjing, China
2006	Panel Member, National Institute for Climate Change Research, Department of Energy
2005	Panel Member, LBA Program, NASA
2004-2016	Member of Advisory Committee, Ameriflux Science Team
2003-2008	Member of Editorial Board, Agricultural and Forest Meteorology
2001-2010	Guest Professor, Chinese Academy of Sciences, Beijing, China
2000-2002	Member, Expert Advisory Panel, Metal in the Environment Research Network, Canada
2000	Panel Member, Terrestrial Carbon Program, Department of Energy
2000	Member of Program Committee, 24 th American Meteorological Society Conference on Agricultural and Forest Meteorology
1999-2001	Chair, American Meteorological Society Committee on Agricultural and Forest Meteorology
1998-2003	Regional Editor for North America, Agricultural and Forest Meteorology
1998	Member of Program Committee, 23 rd American Meteorological Society Conference on Agricultural and Forest Meteorology
1997-1999	Member, American Meteorological Society Committee on Agricultural and Forest Meteorology
1996-1998	Rapporteur, Commission of Agricultural Meteorology, World Meteorological Organization

CHAIR OF PROFESSIONAL MEETINGS AND CONFERENCES

2017	Chair, 4 th Chinese Symposium on Isotope Ecology, Nanjing, China
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- 2016 Session Chair, 32nd American Meteorological Society Conference on Agricultural and Forest Meteorology, Salt Lake City, USA
- 2015 Co-Chair, Workshop on Urban Climate: From Science to Solutions, Yale Beijing Center, Beijing China (with Peng Gong and Karen Seto)
- 2014 Chair, 11th Chinese Symposium on Boundary-Layer Meteorology, Nanjing, China
- 2007 Co-Chair, Session on Investigation of Carbon and Water Cycle Processes Using Isotopes – New Techniques, Data, and Analyses, American Geophysical Union Fall Meeting (with Tim Griffis and Kevin Tu)
- 2007 Co-Chair, Session on Ecosystem Scale Isotope Fluxes, Annual Ameriflux Science Meeting (with David Bowling)
- 2002 Co-Chair, Workshop on Standardization of Flux Diagnostics and Analysis Guidelines, Corvallis, Oregon (with Bill Massman)
- 1998 Session Chair, 23rd American Meteorological Society Conference on Agricultural and Forest Meteorology

PEER REVIEW CONTRIBUTIONS

Manuscripts

Advances in Atmospheric Sciences
 Advances in Water Resources
 Agricultural and Forest Meteorology
 Atmospheric Chemistry and Physics
 Atmospheric Research
 Boundary-Layer Meteorology
 Bulletin of American Meteorological Society
 Ecological Applications
 Environmental Fluid Mechanics
 Environmental Research Letters
 Environmental Science and Technology
 Global Biogeochemical Cycles
 Global Change Biology
 Geoderma
 Hydrological Processes
 Hydrology and Earth System Sciences
 Journal of Atmospheric Sciences
 Journal of Atmospheric and Oceanic Technology
 Journal of Applied Meteorology
 Journal of Geophysical Research – Atmospheres
 Journal of Geophysical Research – Biogeosciences
 Journal of Hydrometeorology
 Journal of Sustainable Forestry
 Nature
 Nature Climate Change
 Nature Ecology and Evolution
 Oecologia
 Plant and Soil

Proceedings of the National Academy of Sciences
Quarterly Journal of Royal Meteorological Society
Rangeland Ecology and Management
Sustainable Cities and Society
Science
Scientific Reports
Tellus B
Water Resources Research

Tenure and promotion

Arizona State University, USA
Beijing Normal University, China
City University of New York, USA
Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
East Carolina University, USA
Harvard University, USA
National University of Singapore, Singapore
Oregon State University, USA
Princeton University, USA
State University of New York at Albany, USA
Scripps Institution of Oceanography, USA
Tsinghua University, China
University of Connecticut, USA
University of Kansas, USA,
University of Michigan
University of Minnesota, USA
University of Pennsylvania, USA
University of Winnipeg, Canada

Research proposals

Canadian Metals in the Environment Network
Chinese Academy of Sciences
Chinese Ministry of Science and Technology
Chinese National Science Foundation
Council for the Earth and Life (The Netherlands)
European Research Council
Department of Energy (USA)
Israel National Science Foundation
National Center for Atmospheric Research (USA)
Natural Sciences and Engineering Research Council of Canada
National Science Foundation (USA)
The Royal Society of New Zealand
UK Natural Environment Research Council

Book proposals

Oxford University Press
Elsevier

UNIVERSITY SERVICES

2017-present	Director, Yale Center for Earth Observation
2015-present	Program Coordinator, Yale-Tsinghua Dual Degree Program
2018	Climate Solutions Panel, University Science Strategy Committee
2018	Ad-hoc Committee on Tenure Promotion, School of Forestry and Environmental Studies
2018	Climate Search Committee, Geology and Geophysics
2016-present	Doctoral Admissions Committee, School of Forestry and Environmental Studies
2014	Chair, Ad-hoc Committee on Tenure Promotion, School of Forestry and Environmental Studies
2011-2014	Provost's Standing Advisory and Appointments Committee for the School of Forestry and Environmental Studies
2011-present	Masters Admissions Committee, School of Forestry and Environmental Studies
2009-2011	Faculty Development and Appointments Committee, School of Forestry and Environmental Studies
2009-2010	Climate Science Search Committee, School of Forestry and Environmental Studies
2009	Atmosphere Physics and Climate Dynamics Search Committee, Department of Geology and Geophysics
2008-2009	Non-Ladder Appointments Committee, School of Forestry and Environmental Studies
2004-2007	Director of Doctoral Studies, School of Forestry and Environmental Studies
2002-2007	Space Committee, School of Forestry and Environmental Studies
2002-2006	Environmental Stewardship Committee, School of Forestry and Environmental Studies
2001-2011	Coordinator, Faculty Focal Group on Global Change, School of Forestry and Environmental Studies
1998	Hydrology Search Committee, School of Forestry and Environmental Studies
1997-2004	Curriculum Committee, School of Forestry and Environmental Studies
1997	Chair, Committee on Hydrology, School of Forestry and Environmental Studies
1996	Doctoral Admissions committee, School of Forestry and Environmental Studies
1995	Committee on School's Forests, School of Forestry and Environmental Studies
1994-	Steering Committee, Yale Center for Earth Observation
1994-2000	Masters Admissions Committee, School of Forestry and Environmental Studies

TEACHING AND MENTORING

Courses taught

2019-	Physical Science of Climate Change, 3 credits, with Peter Raymond
2016	Cities in Hot Water: Urban Climate Adaptation, 3 credits, with Brad Gentry
2015, 18	Workshop on Remote Sensing with Drones, 3 credits
2014-2016	Climate and Society, 3 credits, with Nadine Unger
2009-	Boundary Layer Meteorology, 3 credits

2008	Lecture Series on China's Environment, 1-3 credits
2008	Seminar in Forest Carbon Science, 1-3 credits, with Mark Ashton
2004-2006	Doctoral Research Seminar, 3 credits
2005	Political Economy of Climate Change, 2-3 credits, with David Runnalls
2002, 09, 17	Research Methods, 3 credits
2002	Seminar on Remote Sensing Applications, 1 credit, with Mark Ashton
2000	Seminar on Climate Change Science and Policy, 2-3 credits
2000-2012	A Biological Perspective of Global Change, 3 credits
2000-present	Observing the Earth from Space, 3 credits (team taught)
1998-2015	Seminar on Alpine, Boreal and Arctic Ecosystems, 3 credits, with Graeme Berlyn and Mark Ashton
1997-2016	Climate and Life, 3 credits
1996	Seminar on Plants and Their Environment, 1 credit, with Graeme Berlyn and Bill Smith
1995-1996	Biometeorology, 3 credits
1994-1998	Forest Meteorology and Methods of Micrometeorology, 3 credits

Doctoral students and current affiliations

As Chair/Co-Chair	<ul style="list-style-type: none"> • Cao, Chang (Nanjing University of Information Science and Technology), Assistant Professor, Nanjing University of Information Science and Technology • Chakraborty, Tirthankar (current) • Gao, Yunqiu (Nanjing University of Information Science and Technology), Scientist, Carbon Accounting Consortium, Hangzhou, China • Harper, Kandice. Affiliation unknown • Hu, Cheng (Nanjing University of Information Science and Technology), Assistant Professor, Nanjing Forestry University • Hu, Xinzhang. Senior Engineer, Bloomberg LP • Kim, Kyounghee. Affiliation unknown • Li, Jun (Chinese Academy of Science), Associate Professor, Chinese Academy of Sciences • Liu, Cheng (Nanjing University of Information Science and Technology), Assistant Professor, East China University of Technology • Richardson, Andrew. Professor, Northern Arizona State University • Schultz, Natalie. Associate Research Scientist, Yale University • Sigler, Jeff. Professor, Tulane University • Wang, Wei (Nanjing University of Information Science and Technology), Associate Professor, Nanjing University of Information Science and Technology • Wu, Hui-Ju. Affiliation unknown • Xiao, Qitao (Nanjing University of Information Science and Technology), Research Scientist, Nanjing Institute of Geography and Limnology, Chinese Academy of Science • Xiao, Wei (Chinese Academy of Science), Professor, Nanjing University of Information Science and Technology • Zhao, Yong. Affiliation Unknown • Zhang, Keer (current)
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- Zhang, Xin. Assistant Professor, University of Maryland
- Zhao, Lei. Assistant Professor, University of Illinois Urbana-Champaign

As Committee
Member

- Aho, Kelly
- Bash, Jesse (University of Connecticut)
- Bouda, Martin
- Butman, David
- Covey, Kris
- Della Valle, Curt
- Feng, Therese
- Harper, Kandice
- He, Hui
- Huang, Kangning
- Kapur, Amit
- Morrison, Wendy
- Koenig, Susan
- Mills, Helen
- Parry, Brooke
- Sigurdardottir, Ragnhildur
- Stoughton, Thomas (University of Connecticut)
- Takeishi, Azusa
- Zaitchik, Benjamin
- Zheng, Yiqi

Post-doctoral advisee, current affiliation and year

Bin Deng	Current affiliation unknown, 2011
Congsheng Fu	Professor, Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences, 2015 – 2017
Jianping Huang	Research Scientist, NOAA, 2009 – 2011
Zhongwang Wei	Associate Professor, Sun Yat-Sen University, 2016 – 2018
Lisa Welp	Assistant Professor, Purdue University, 2007-2009
Xuefa Wen	Professor, Institute of Geographic Science and Natural Resources Research, Chinese Academy of Science, 2007 – 2008
Wei Xiao	Professor, Nanjing University of Information Science and Technology, 2011

GRANTS

2018-2020	“Measuring heat stress of urban residents with smart thermometers on bicycles”, Leitner Award for Uncommon Environmental Collaborations, \$75K, with Co-PIs Justin Farrell, Roman Kuc, and Zhong Shao
2018-2020	“Yale Sphagnum Carbon Project”, funded by private donors, \$500K, with Dean Takahashi (PI), Peter Raymond, and Mark Bradford
2015-2019	“Deuterium excess of water vapor in the atmospheric boundary layer”, US National

- Science Foundation, \$467K, with Co-PI Edward Patton
- 2013-2017 "Regional-scale assessment of N₂O emissions within the US Corn Belt: The impact of precipitation and agricultural drainage on indirect emissions", US Department of Agriculture, \$500K (Yale budget \$250K), with John Baker and Tim Griffis (PI)
- 2010-2015 "A doctoral and post-doctoral training program", Nanjing University of Information Science and Technology, \$100K
- 2010-2014 "Carbon dioxide and water vapor isotopes in the atmospheric boundary layer", US National Science Foundation, \$240K
- 2010-2013 "New constraints on the nitrous oxide budget of agricultural ecosystems growing in the Upper Midwest, United States", US Department of Agriculture, \$399K (Yale budget \$12K), with John Baker, Kaycie Billmark, Tim Griffis (PI), Dylan Millet, and Rod Venterea
- 2009-2011 "Land surface properties, regional climate and feedbacks", with Karen Seto and Ron Smith (PI), Yale Climate and Energy Institute Interdisciplinary Grant, \$100K,
- 2007-2011 "Greenhouse gas fluxes in managed and natural ecosystems in China", Rice Family Foundation, \$200K
- 2007-2009 "Lecture series on China's environment", Rice Family Foundation, \$100K
- 2007-2008 "Cycling of nitrous oxide in farmland", funded by an anonymous donor, \$50K
- 2006-2009 "Influences of boundary layer flow on vegetation-air exchanges of energy, water and carbon dioxide". National Institute for Climatic Change Research, US Department of Energy, \$363K
- 2005-2008 "Collaborative research: ecosystem-atmosphere oxygen isotopic fluxes and discrimination mechanisms". US National Science Foundation, with Co-PI T Griffis, \$250K
- 2003-2007 "Development and application of in-situ measurement of water vapor isotopes for hydrological and ecological research", US National Science Foundation, with Co-PI R B Smith, \$500K
- 2004-2007 "Response of soil respiration to rain", National Institute for Global Environmental Change, US Department of Energy, \$240K
- 2001-2004 "Forest ecosystem respiration with the eddy covariance (II)", National Institute for Global Environmental Change, US Department of Energy, with Co-PI T Siccama, \$240K
- 2000-2003 "Vegetation-atmosphere exchange in non-ideal conditions", US National Science Foundation, \$140K
- 2000 "AmeriFlux workshop on unaccounted flux in long-term observations of surface-air exchange", National Institute for Global Environmental Change, US Department of Energy, with Co-PI W Massman, \$24K
- 1999-2000 "Forest ecosystem respiration with the eddy covariance (I)", National Institute for Global Environmental Change, US Department of Energy, \$46K
- 1996-2000 "CAREER award: nocturnal atmospheric exchange over forests", US National Science Foundation, \$230K
- 1996-1999 "Climate change and human response in the semi-arid Near-East using remote sensing", NASA, with R B Smith (PI), F Hole, N Kouchoukos and M L Wilson, \$1,200K
- 1996-1998 "Development and application of a mobile micrometeorological system for measuring volatile mercury flux from Connecticut salt marshes", Connecticut Sea Grant Program, with Co-PI G Benoit, \$105K

INVITED SEMINARS AND MEETING PRESENTATIONS

2018

- City University of New York, New York, USA
- Third International Potsdam Greenhouse Gas Flux Workshop, Nanjing, China
- 15th US-China Carbon Consortium Annual Meeting on Water-Heat-Carbon Nexus fluxes in Terrestrial Water Bodies, Jiujuang, China
- 35th Annual Meeting, Chinese Meteorological Society, Hefei, China

2017

- Annual AsiaFlux Workshop, Beijing, China
- Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences, Lanzhou, China
- Fourth Chinese Symposium on Isotope Ecology, Nanjing, China

2016

- University of Minnesota, Minnesota, USA
- Oakridge National Laboratory, Tennessee, USA

2015

- Annual American Geophysical Union Fall Meeting, Session on New Perspectives in Land Ecosystem Atmosphere Processes Research, San Francisco, USA
- 32nd Annual Meeting, Chinese Meteorological Society, Tianjin, China
- Beijing Normal University, Beijing, China
- IAEA International Symposium on Isotope Hydrology: Revisiting Foundations and Exploring Frontiers, Vienna, Austria

2014

- 12th AsiaFlux International Workshop, Los Baños, The Philippines
- Annual American Geophysical Union Fall Meeting, Session on Urban Areas and Global Change, San Francisco, USA
- 11th Chinese Symposium on Boundary-Layer Meteorology, Nanjing, China
- Peking University, Beijing, China

2013

- University of Minnesota, Minnesota, USA
- First International Workshop on Advances in Observations, Models and Measurement Techniques of Atmospheric Water Vapor Isotopes, Gif-sur-Yvette, France
- International Workshop on Challenges in the Applications of Stable Isotopes across Disciplines and Scales, Wroclaw, Poland

2012

- University of Connecticut, Connecticut, USA
- Princeton University, New Jersey, USA
- University of New Haven, Connecticut, USA
- Symposium on Sustaining Forest Resources in a Changing Climate, Taipei, Taiwan.

- 2011
- American Geophysical Union Fall Meeting, Session on Carbon and Water isotopes, San Francisco, California
 - Conference on The Roles of Stable Isotopes in Water Cycle Research, Keystone, Colorado
 - Annual ASIAFLUX Workshop, Guangzhou, China
 - Workshop on Forest Carbon Flux, Taiwan
 - GreenFlux Workshop, Mierzecin, Poland
- 2010
- Chinese Academy of Agricultural Sciences, Beijing, China
- 2009
- Xiamen University, Xiamen, China
 - Nanjing University of Information, Science and Technology, Nanjing, China
 - Sun Yat-Sen University, Guangzhou, China
- 2008
- Nanjing University, Nanjing, China
 - Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China
- 2007
- Nanjing University of Information, Science and Technology, Nanjing, China
 - Pre-AGU BASIN Meeting, San Francisco, California, USA
- 2005
- Chinese Academy of Sciences, Beijing, China
 - Annual American Crop Society Meeting, Salt Lake City, Utah, USA
- 2003
- Eddy Covariance Training Workshop, Chinese Academy of Sciences, Beijing, China
 - International Workshop on Flux Footprint Observation and Modeling, Hyytiälä, Finland
- 2002
- Workshop on Standardization of Flux Diagnostics and Analysis Guidelines, Corvallis, Oregon, USA
- 2001
- Harvard University, Massachusetts, USA
 - Chinese Academy of Sciences, Beijing, China
 - National Bureau of Meteorology, Beijing, China
 - Conference on Forest at the Land-Atmosphere Interface, Edinburgh, Scotland.
 - Annual Ameriflux Meeting, Chicago, Illinois, USA
- 2000
- International FLUXNET Workshop, Marshall, California, USA
- 1999

- Indiana University, Indian, USA

1998

- Harvard University, Massachusetts, USA
- IUFRO (International Union of Forestry Research Organisations) Conference on Wind and Other Abiotic Risks to Forests and Trees, Joensuu, Finland
- Annual Ameriflux Meeting, Harvard Forest, Massachusetts, USA
- International FluxNet (Network of Carbon and Energy Study Flux Sites) Workshop, Paulson, Montana, USA

1994

- University of Northern British Columbia, British Columbia, Canada
- University of Toronto
- Atomic Energy of Canada Ltd., Chalk River Laboratories, Canada

PUBLICATIONS

Books

Lee X (2018) *Fundamentals of Boundary-Layer Meteorology*. Springer

Lee X (2009) *Lectures on China's Environment*. Yale School of Forestry and Environmental Studies Publication Series, Report No 20.

Lee X, W Massman, B Law (2004) *Handbook of Micrometeorology: A Guide for Surface Flux Measurement and Analysis*. Kluwer Academic Publishers.

Papers submitted to or published in referred journals

(# lab member; + visiting student; * corresponding author)

(reprints available at <https://xleelab.sites.yale.edu/publications>)

2020

1. Ruehr S^{#*}, **X Lee**, R Smith, X Li, Z Xu, S Liu, X Yang, Y Zhou (2020) A mechanistic investigation of the oasis effect in the Zhangye cropland in semiarid western China. *Journal of Arid Environments*, in press
2. Meng L, J Mao*, Y Zhou, AD Richardson, **X Lee**, PE Thornton, DM Ricciuto, X Li, Y Dai, X Shi, G Jia (2020) Urban warming advances spring phenology but reduces temperature response of plants in the conterminous United States. *Proceedings of the National Academy of Sciences of the United States of America*, in press
3. Shao L, G Li, Q Zhao, Y Li, Y Sun, W Wang, C Cai, W Chen, R Liu, W Luo*, X Yin*, **X Lee*** (2020) The fertilization effect of global dimming on crop yields is not attributed to an improved light interception. *Global Change Biology*, in press
4. Hu C*, TJ Griffis, JM Baker, JD Wood, DB Millet, Z Yu, **X Lee** (2020) Modeling the sources and transport processes during extreme ammonia episodes in the US Corn Belt. *Journal of Geophysical Research - Atmospheres*, in press
5. Xiao Q, X Xu, H Duan*, T Qi, B Qin, **X Lee**, Z Hu, W Wang, W Xiao, M Zhang (2020) Eutrophic

Lake Taihu as a significant CO₂ source during 2000–2015. *Water Research*, in press

6. Li J, Y Zhang*, F Cao, W Zhang, M Fan, **X Lee**, G Michalski (2020) Stable sulfur isotopes revealed a major role of transition-metal-ion catalyzed SO₂ oxidation in haze episodes. *Environmental Science & Technology*, in press.

2019

7. Chakraborty T**, **X Lee** (2019) A simplified urban-extent algorithm to characterize surface urban heat islands on a global scale and examine vegetation control on their spatiotemporal variability. *International Journal of Applied Earth Observations and Geoinformation* 74: 269-280.
8. Chakraborty T**, **X Lee** (2019) Land cover regulates the spatial variability of temperature response to the direct radiative effect of aerosols. *Geophysical Research Letters* 46: 8995-9003.
9. Wei Z**, **X Lee**, F Aemisegger, M Benetti, M Berkelhammer, M Casado, K Caylor, E Christner, D Christoph, O Garcia, Y González, T Griffis, N Kurita, J Liang, M Liang, G Lin, D Noone, K Griбанov, N Munksgaard, M Schneider, F Ritter, H Steen-Larsen, CV Coulomb, X Wen, JS Wright, W Xiao, K Yoshimura (2019) A global database of water vapor isotopes measured with high temporal resolution infrared laser spectroscopy. *Scientific Data* 6: 180302.
10. Wei Z**, **X Lee** (2019) The utility of near-surface water vapor deuterium excess as an indicator of atmospheric moisture source. *Journal of Hydrology* 577: 123923.
11. Liang J⁺, Z Wei[#], **X Lee***, JS Wright, X Cui, H Chen, G Lin* (2020) Evapotranspiration characteristics distinct to mangrove ecosystems are revealed by multiple site observations and a modified two-source model. *Water Resources Research* 55: 11250-11273.
12. Yang Y[#], **X Lee*** (2019) Four-band thermal mosaicking: a new method to process infrared thermal imagery of urban landscapes from UAV flights. *Remote Sensing* 11:1365.
13. Zhang M, Q Xiao, Z Zhang, Y Gao, J Zhao⁺, Y Pu, W Wang, W Xiao, S Liu, **X Lee*** (2019) Methane flux dynamics in a submerged aquatic vegetation zone in a subtropical lake. *Science of Total Environment* 672: 400-409.
14. Zhao J⁺, Mi Zhang, W Xiao, W Wang, Z Zhang, Z Yu, Q Xiao, Z Cao, J Xu, X Zhang, S Liu, **X Lee*** (2019) An evaluation of the flux-gradient and the eddy covariance method to measure CH₄, CO₂, and H₂O fluxes from small ponds. *Agricultural and Forest Meteorology* 275: 255-264.
15. Xiao Q, X Xu, M Zhang, H Duan*, Z Hu, W Wang, W Xiao, **X Lee** (2019) Coregulations of nitrous oxide emissions by nitrogen and temperature in China's third largest freshwater lake (Lake Taihu). *Limnology and Oceanography* 64: 1070-1086.
16. Xiao Q, Z Hu*, C Fu, H Bian, **X Lee**, S Chen, D Shang (2019) Surface nitrous oxide concentrations and fluxes from water bodies of the agricultural watershed in Eastern China. *Environmental Pollution* 251: 185-192.
17. Huang W, W Xiao, M Zhang, W Wang, J Xu, Y Hu, C Hu, S Liu, **X Lee*** (2019) Anthropogenic CH₄ emissions in the Yangtze River Delta based on a "top-down" method. *Atmosphere* 10: 185.
18. Hu C*, TJ Griffis*, S Liu, W Xiao, N Hu, W Huang, D Yang, **X Lee** (2019) Anthropogenic methane emission and its partitioning for the Yangtze River Delta region of China. *Journal of Geophysical Research – Biogeosciences* 124: 1148-1170.
19. Wang L⁺, **X Lee***, D Feng, C Fu[#], Z Wei[#], Y Yang, Y Yin, Y Luo, G Lin* (2019) Impact of large-scale afforestation on surface temperature: a case study in the Kubuqi Desert, Inner Mongolia based

on the WRF model. *Forests* 10: 368.

20. Jiang S⁺, **X Lee**, J Wang, K Wang* (2019) Amplified urban heat islands during heat wave periods. *Journal of Geophysical Research - Atmospheres* 124: 7797-7812.
21. Zhang X, J Huang*, G Li, Y Wang, C Liu, K Zhao, X Tao, XM Hu, **X Lee** (2019) Improving lake-breeze simulation with WRF nested LES and lake-model over a large shallow lake. *Journal of Applied Meteorology and Climatology* 58: 1689-1708.
22. Liu C, E Fedorovich, J Huang*, X Hu, Y Wang, **X Lee** (2019) Impact of aerosol shortwave radiative heating on the entrainment in atmospheric convective boundary layer: a large-eddy simulation study. *Journal of the Atmospheric Sciences* 76: 785-799.
23. Zhao K, Y Bao, J Huang*, Y Wu, F Moshary, M Arend, Y Wang, **X Lee** (2019) A high-resolution modeling study of a heat wave-driven ozone exceedance event in New York City and surrounding regions. *Atmospheric Environment* 199: 368-379.
24. Liu X⁺, Y Zhang*, Y Peng, L Xu, C Zhu, F Cao, X Zhai, M Haque, C Yang, Y Chang, T Huang, Z Xu, M Bao, W Zhang, M Fan, **X Lee** (2019) Chemical and optical properties of carbonaceous aerosols in Nanjing, eastern China: regionally transported biomass burning contribution. *Atmospheric Chemistry and Physics* 19: 11213-11233.

2018

25. Wang W, **X Lee**, W Xiao, S Liu, N Schultz, Y Wang, M Zhang, L Zhao (2018) Global lake evaporation accelerated by changes in surface energy allocation in a warmer climate. *Nature Geoscience* 11: 410-414.
26. Xiao K, TJ Griffis, JM Baker, PV Bolstad, MD Erickson, **X Lee**, JD Wood, C Hu, JL Nieber (2018) Evaporation from a temperate closed-basin lake and its impact on present, past, and future water level. *Journal of Hydrology* 561: 59-75.
27. Yang Y, Y Wang, Z Zhang, W Wang, X Ren, Y Gao, S Liu, **X Lee** (2018) Diurnal and seasonal variations of thermal stratification and vertical mixing in a shallow fresh water lake. *Journal of Meteorological Research* 32: 219-232.
28. Wei Z, **X Lee**, Z Liu, U Seeboonruang, M Koike, K Yoshimura (2018) Influences of large-scale convection and moisture source on monthly precipitation isotope ratios observed in Thailand, Southeast Asia. *Earth and Planetary Science Letters* 488: 181-192.
29. Xiao W, **X Lee**, W Wang, M Zhang, X Wen, S Liu, Y Hu, C Xie, Z Zhang, X Zhang, X Zhao (2018) Hydrologic implications of the isotopic kinetic fractionation of open-water evaporation. *Science China - Earth Sciences* 61: 1523-1532.
30. Wei Z, **X Lee**, X Wen, W Xiao (2018) Evapotranspiration partitioning for three agro-ecosystems with contrasting moisture conditions: a comparison of an isotope method and a two-source model calculation. *Agricultural and Forest Meteorology* 252: 296-310.
31. Wei Z, **X Lee**, EG Patton (2018) ISOLESC: A coupled Isotope-LSM-LES-Cloud modeling system to investigate the water budget in the atmospheric boundary layer. *Journal of Advances in Modeling Earth Systems* 10: 2589-2617.
32. Liu C, J Huang, E Fedorovich, X Hu, Y Wang, **X Lee** (2018) The effect of aerosol radiative heating on turbulence statistics and spectra in the atmospheric convective boundary layer: a large-eddy simulation study. *Atmosphere* 9: 347.

33. Li H, F Meier, **X Lee**, T Chakraborty, J Liu, M Schaap, S Sodoudi (2018) Interaction between urban heat island and urban pollution island in Berlin during summer. *Science of Total Environment* 636: 818-828.
34. Wang L, **X Lee**, N Schultz, S Chen, Z Wei, C Fu, Y Gao, Y Yang, G Lin (2018) Response of surface temperature to afforestation in the Kubuqi Desert, Inner Mongolia. *Journal of Geophysical Research – Atmospheres* 123: 948-964.
35. Chu H, DD Baldocchi, C Poindexter, M Abraha, A R Desai, G Bohrer, MA Arain, T Griffis, PD Blanken, TL O’Halloran, RQ Thomas, Q Zhang, S Burns, JM Frank, D Christian, S Brown, TA Black, CM Gough, BE Law, **X Lee**, J Chen, DE Reed, WJ Massman, K Clark, J Hatfield, J Prueger, R Bracho, JM Baker, TA Martin (2018) Temporal dynamics of aerodynamic canopy height derived from eddy covariance momentum flux data across North American Flux Networks. *Geophysical Research Letters* 45: 9275-9287.
36. Gao Y, **X Lee**, S Liu, N Hu, X Wei, C Hu, C Liu, Z Zhang, Y Yang (2018) Spatiotemporal variability of the near-surface CO₂ concentration across an industrial-urban-rural transect, Nanjing, China. *Science of the Total Environment* 631-632: 1192-1200.
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CONFERENCE AND WORKSHOP PRESENTATIONS

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- Chakraborty T, X Lee. Creating bias-corrected global radiation datasets from climate reanalysis products using supervised learning. *100th American Meteorological Society Annual Meeting*, Boston, Massachusetts.
- Chakraborty T, X Lee. Aerosol-climate interactions at the local scale are strongly modulated by the biophysical properties of the underlying land surface. *American Geophysical Union Fall Meeting*, San Francisco, California.
- O'Brien M, NM Schultz, X Lee. UAV deployment for fine-scale CO₂ flux estimation in a mid-size city. *American Geophysical Union Fall Meeting*, San Francisco, California.

2018

- T Chakraborty, X Lee. Quantifying surface climate response to aerosol-induced shortwave and longwave radiative forcing. *American Geophysical Union Fall Meeting*, Washington DC.

2017

- Wei Z, X Lee, X Wen, W Xiao. Evapotranspiration partitioning for three agro-ecosystems with contrasting moisture conditions: a comparison of an isotope method and a two-source model calculation. *American Geophysical Union Fall Meeting*, New Orleans, Louisiana.
- Wang L, X Lee, D Feng, S Chen, C Fu, Z Wei, Y Yang, Y Yin, Y Luo, W Gang, G Lin. Impacts of large scale afforestation on regional climate: a case study in the Kubuqi Desert, Inner Mongolia based on WRF model. *American Geophysical Union Fall Meeting*, New Orleans, Louisiana.

2016

- Turner P, T Griffis, J Baker, X Lee, J Crawford, L Loken, R Venterea. Regional-scale Controls on Dissolved Nitrous Oxide in the Upper Mississippi River. *American Geophysical Union Fall Meeting*, San Francisco, California.
- Zhao J, M Zhang, W Xiao, W Wang, Z Zhang, Q Xiao, C Hu, Z Yu, Z Cao, JZ Xu, S Liu, X Lee. Measuring methane emission from fish ponds with micrometeorological methods. *32nd American*

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- Griffis T, Z Chen, J Wood, J Baker, P Turner, X Lee, D Millet. Sensitivity of nitrous oxide emissions to climate. *32nd American Meteorological Society Conference on Agricultural and Forest Meteorology*, Salt Lake City, Utah.
- Wang W, X Lee, L Zhao, ZM Subin. Lake evaporation in a changing climate. *32nd American Meteorological Society Conference on Agricultural and Forest Meteorology*, Salt Lake City, Utah.
- Hu N, X Zhang, JZ Xu, Z Zhang, S Liu, X Lee, X Zhao. A mobile laboratory for measuring greenhouse gases and gaseous pollutants in urban airsheds. *32nd American Meteorological Society Conference on Agricultural and Forest Meteorology*, Salt Lake City, Utah.

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- Schultz N, X Lee, PJ Lawrence, DM Lawrence, L Zhao. Improvements towards using sub-grid CLM output to study. *American Geophysical Union Fall Meeting*, San Francisco, California.
- Zhao L, X Lee, K Oleson, N Schultz, R Smith. Mitigating the urban heat island under climate change through urban management. *American Geophysical Union Fall Meeting*, San Francisco, California.
- Hu N, S Wang, X Zhang, S Liu, X Lee, L Deng, X Zhao. Carbon dioxide and methane measurement on urban roads in Nanjing, China. *American Geophysical Union Fall Meeting*, San Francisco, California.

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- Zhang X, X Lee, T Griffis. Evaluating uncertainties in nitrous oxide emission inventories with multi-scale observations for an agriculture-dominated region. *American Geophysical Union Fall Meeting*, San Francisco, California (**invited**).
- Lee X. Taihu Eddy Flux Mesonet: Results to date and scientific challenges. *Asia-Pacific Economic Cooperation Climate Symposium*, Nanjing, China.
- Zhao L, X Lee, RB Smith, K Oleson. Significant contributions of background climate to urban heat island. *31st American Meteorological Society Conference on Agricultural and Forest Meteorology*, Portland, Oregon.
- Liu S, Y Gao, H Li, S Wang, L Deng, N Hu, W Xiao, X Zhao, Z Xu, X Lee. Temporal and spatial variations of atmospheric CO₂ in Nanjing, China. *31st American Meteorological Society Conference on Agricultural and Forest Meteorology*, Portland, Oregon.
- Xu J, Y Gao, W Wang, W Xiao, S Liu, G Yuan, X Sun, X Lee. Performance evaluation of an integrated eddy covariance system in a cold environment. *31st American Meteorological Society Conference on Agricultural and Forest Meteorology*, Portland, Oregon.

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- Xiao W, X Lee, X Wen, S Liu, H Li. Validation of the Craig-Gordon isotopic model for lake evaporation. *European Geosciences Union General Assembly*, Vienna, Austria.
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- Griffis T, X Lee, J Baker, M Russelle, X Zhang, R Venterea, D Millet. Regional scale analysis of nitrous oxide emissions within the US Corn Belt and the potential role of episodic hot spots. *American Geophysical Union Fall Meeting*, San Francisco, California.
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- Zhao, L, X Lee. Correcting surface solar radiation modeled by two data assimilation systems against FLUXNET observations. *30th American Meteorological Society Conference on Agricultural and Forest Meteorology*, Boston, Massachusetts.
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- Welp L, X Lee, K Kim. Variability in the hourly deuterium excess of water vapor near the ground. *American Geophysical Union Fall Meeting*, San Francisco, California.

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- Kim K, X Lee, L Welp. Transition of the isotopic composition of leaf water to the isotopic steady state in soybeans and corns. *American Geophysical Union Fall Meeting*, San Francisco, California.
- Lee X. Measurement and interpretation of water vapor isotopic flux. *Annual Ameriflux Meeting*, Boulder, Colorado.
- Lee X, L Welp. TDL water vapor isotope measurements: ambient and flux ratios. *Pre-AGU BASIN Meeting*, San Francisco, California.
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- Griffis T, S Sargent, B Tanner, J Greene, E Swiatek, J Baker, X Lee. Direct measurement of biosphere-atmosphere isotopic CO₂ exchange using the eddy covariance technique. *American Geophysical Union Fall Meeting*, San Francisco, California.
- Kim K, X Lee. Continuous isotope signal of water balance in a northeastern forest in the United States. *27th American Meteorological Society Conference on Agricultural and Forest Meteorology*, San Diego, California.

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- Wu HJ, X Lee. Response of Soil Respiration to rain in a temperate, hardwood forest in Massachusetts. *Annual NIGEC (National Institute for Global Environmental Change) Meeting*, Harvard Forest, Massachusetts.

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- Greene BT, AC Kerr, X Lee. A portable chamber system for measurements of whole-ecosystem CO₂ flux in remote montane ecosystems. *25th American Meteorological Conference on Agricultural and Forest Meteorology*, Norfolk, Virginia.
- Lee X, AC Oishi, J Sigler, T Siccama. Short-term response of carbon dioxide flux to rain and pressure pumping in a forest with shallow soil. *Annual Department of Energy NIGEC (Institute for Global Environmental Change) Meeting*, Harvard Forest, Massachusetts.
- Lee X. Fetch and footprint of turbulent fluxes over vegetative stands. *25th American Meteorological Conference on Agricultural and Forest Meteorology*, Norfolk, Virginia.
- Oishi AC, X Lee. Temporal and spatial variations of soil CO₂ in a temperate forest with shallow soil. *25th American Meteorological Conference on Agricultural and Forest Meteorology*, Norfolk, Virginia.
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- Barr AG, TA Black, X Lee, RM Staebler, JD Fuentes, Z Chen. Comparing the carbon balances of mature boreal and temperate forest stands. *International Boreal Forest Research Association Workshop*, Edmonton, Canada.
- Barr JG, JD Fuentes, RS Staebler, X Lee. Environmental controls on annual net ecosystem exchange in a temperate mixed deciduous forest. *American Geophysical Union Fall Meeting*, San Francisco, California.
- Hu X, X Lee, DE Stevens. A numerical simulation of nocturnal wavelike motions over forests. *14th American Meteorological Society Symposium on Boundary Layer Meteorology*, Davis, California
- Lee X, X Hu. Influence of advection on carbon and energy fluxes at a forest on nonflat terrain. *24th American Meteorological Conference on Agricultural and Forest Meteorology*, Davis, California.
- Lee X. Field observations of energy and carbon fluxes at the Great Mountain forest. *Annual DOE NIGEC (Institute for Global Environmental Change) Meeting*, Harvard Forest, Massachusetts.
- Sun J, S Burns, D Lenschow, X Hu, X Lee. Intermittent turbulent mixing in stable boundary layers. *American Geophysical Union Fall Meeting*, San Francisco, California.

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- Hu X, X Lee. Kelvin-Helmholtz billows over forest canopy. *23rd American Meteorological Conference on Agricultural and Forest Meteorology*, Albuquerque, New Mexico.
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- Stoughton TE, DR Miller, X Lee, X Yang. Lidar measurements of nocturnal boundary layer structures above a forest. *23rd American Meteorological Society Conference on Agricultural and Forest Meteorology*, Albuquerque, New Mexico.

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- Lee X. Development and application of a micrometeorological system for quantifying Hg emission from Connecticut salt marshes. *Electrical Power Research Institute (EPRI) Mercury Flux Intercomparison Workshop*, Reno, Nevada.
 - Lee X. Bias measurements: laying the groundwork for accurate Hg flux observations. *Automated Mercury Instrumentation Workshop*, Toronto, Canada.
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- Lee X, TA Black. Wind and turbulence regimes in an old-growth Douglas-fir stand on a south facing slope. *Annual Meeting of the Canadian Society of Agrometeorology*, Penticton, B.C., Canada.