

Lianhong Gu

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Academic training

Ph.D., Environmental Sciences, University of Virginia, 1998
M.S., Ecology, Chinese Academy of Sciences, China, 1989
B.S., Physics, Xuzhou Normal University, China, 1986

Employment

2016- Oak Ridge National Laboratory, Environmental Sciences Division,
Distinguished R&D Staff Scientist
2009-2015 Oak Ridge National Laboratory, Environmental Sciences Division,
Senior R&D Staff Scientist
2002-2009 Oak Ridge National Laboratory, Environmental Sciences Division, R&D
Staff Scientist (II, III)
2000-2002 University of California at Berkeley, Department of Environmental
Sciences, Policy and Management, Project Scientist / Associate Specialist
1998-2000 University of Virginia, Department of Environmental Sciences, Research
Associate
1995-1998 University of Virginia, Department of Environmental Sciences, Graduate
Research Assistant
1994-1995 University of Maine at Orono, Department of Forest Ecosystem Science,
Graduate Research Assistant
1986-1994 Chinese Academy of Sciences, Institute of Geographic Sciences and
Natural Resources Research (formerly Commission for Integrated Survey of
of Natural Resources), Graduate Research Assistant - Research Associate -
Research Assistant Professor

Awards / honors

2015 Distinguished Researcher of the Year, Oak Ridge National Laboratory
2012 World Meteorological Organization Norbert-Gerbier Mumm Award.
2004 United States Presidential Early Career Award Nominee
2004 The Stanley I. Auerbach Award for Excellence In Environmental
Sciences, Environmental Sciences Division, Oak Ridge National
Laboratory.
2004 World Meteorological Organization Norbert-Gerbier Mumm Award.
2004 Outstanding Early Career Award Finalist, UT-Battelle.
1997 Outstanding Graduate Student in Ecology, Department of Environmental
Sciences, University of Virginia.
1997 DuPont Fellowship, Graduate School of Arts and Sciences, University
of Virginia.
1997 Natural Science Award, Chinese Academy of Sciences.

1996 Dean's Reserve Fellowship, Graduate School of Arts and Sciences,
University of Virginia, 1996.

Academic advising/mentoring

Summer Interns

Ying Sun and Binyan Yan, Department of Geological Sciences, University of Texas at Austin

Visiting scholars

Yuling Fu, Chinese Academy of Sciences, Institute of Geographic Sciences and Natural Resources Research, 2009 – 2010

Wenjie Wang, Northeast Forestry University of China, 2010 -

Postdoctoral researchers:

Daniel M. Ricciuto, Postdoctoral research associate, Oak Ridge National Laboratory, 2007 -2010

Shuyong Li, Postdoctoral research associate, Oak Ridge National Laboratory, 2006 - 2008

Bai Yang, Postdoctoral research associate, Oak Ridge National Laboratory, 2004 -2007

Qing Liu, Postdoctoral research associate, Oak Ridge National Laboratory, 2004 - 2006

Postmaster researcher:

Jesse Miller, Postmaster research associate, Oak Ridge National Laboratory, 2006 -

Academic services

Frequent panel members / reviewers for NSF, DOE, NASA, and other public or private funding agencies.

2015 Chair, AmeriFlux PI Meeting,

2010 Guest editor of the JGR-Biogeosciences Special Section on

Biogeosciences of Extreme weather and climate events.

http://www.agu.org/journals/jg/special_sections.shtml?collectionCode=EXTREME1&journalCode=JG

2009 Panel member for DOE Early Career Grants

2008 Chair, Session on "Climate Variability, Extreme Events and Biospheric Impacts and Feedbacks", AGU Fall Meeting, San Francisco

2007 NASA Carbon Cycle and Ecosystems Panel Member

2006 - Reviewer, National Science Foundation

2005 - Editorial advisory board, *Journal of Integrated Plant Biology*

2004 - Editorial advisory board, *Tree Physiology*

2005 Chair, special session "*Impacts of Clouds and Aerosols on Terrestrial Carbon and Hydrological Cycles (ICATCH)*", Fall Meeting, American Geophysical Union

2005 Organizer, Session on "Technical issues in land surface data assimilation", AmeriFlux Annual Science Meeting.

2005 Invited participant, *Planning Workshop on the National Phenology Network*, National Science Foundation

2005 Invited participant, North American Carbon Program Data Workshop, NASA

- 2004 Invited participant, North American Carbon Program Midwest Intensive Workshop, NASA/DOE
- 2003 Panel member, NASA Ecology/ Land Cover/Biodiversity Program
- 2002 Guest editor, Fluxnet Special Issue, *Agricultural and Forest Meteorology*
- 2001 Convener / organizer, special session "Water, energy, and carbon cycles in terrestrial systems: local-scale observations through Fluxnet and other micrometeorological tower sites". Fall Meeting, American Geophysical Union
- Referee for *Nature*, *BioScience*, *Ecological Applications*, *Global Change Biology*, *Global Biogeochemical Cycles*, *Agricultural and Forest Meteorology*, *Geophysical Research Letters*, *Journal of Geophysical Research - Atmosphere*, *Journal of Geophysical Research - Biogeosciences*, *Journal of Applied Meteorology*, *The New Phytologist*, *Tree Physiology*, *Atmospheric Chemistry and Physics*, *International Journal of Biometeorology*, *Theoretical and Applied Climatology*, *Journal of Atmospheric and Oceanographic Technology*, *Tellus* etc.
 - Memberships: Sigma Xi, American Geophysical Union, Ecological Society of America.

Public outreach

- 2015 BBC News (<http://www.bbc.com/news/science-environment-29601644>)
- 2015 Australian ABC News (<http://www.abc.net.au/news/2014-10-14/carbon-levels-17pc-lower-than-predicted-study/5811610>)
- 2015 MNN Network News (<http://www.mnn.com/earth-matters/climate-weather/blogs/how-much-are-plants-helping-us-fight-climate-change>)
- 2009 Earth 2100, American Broadcasting Company (ABC)
- 2008 Science Daily
(<http://www.sciencedaily.com/releases/2008/03/080303072651.htm>)
- 2008 Climate War Game in Washington, DC
- 2005 The ORNL Reporter, June 2005
- 2003 ScienceNow, 28 March
- 2003 Scientific American, 28 March
- 2003 New York Times, 22 April
- 2003 ORNL Review, October
- 2002 Geotimes Magazine, March 2002
- 2001 NASA Science Top Story News Release, 10 December

Peer-Reviewed Publications

- 2019
- 117 Gu L, Han J, Wood JD, Chang CY, Sun Y (2019) Sun-induced chlorophyll fluorescence and its importance for modeling photosynthesis from the side of light reactions. *New Phytologist* (in revision).
- 116 Gu, L., Wood, J. D., Chang, C. Y.-Y., Sun, Y., & Riggs, J. S. (2019). Advancing terrestrial ecosystem science with a novel automated measurement system for sun-induced chlorophyll fluorescence for integration with Eddy covariance flux networks. *Journal of Geophysical Research: Biogeosciences*, 124, 127–146. <https://doi.org/10.1029/2018JG004742>

2018

- 115 Ge X, Zhou B, Wang X, Li Q, Cao Y, Gu L (2018) Imposed drought effects on carbon storage of moso bamboo ecosystem in southeast China: results from a field experiment. *Ecological Research* 33 (2), 393-402.
- 114 Lu, D., Ricciuto, D., Stoyanov, M., & Gu,L. (2018). Calibration of the E3SM landmodel using surrogate-based global optimization. *Journal of Advances in Modeling Earth Systems*,10, 1337–1356.
- 113 Walker AP, Ye M, Lu D, De Kauwe MG, Gu L, Medlyn BE, Rogers A, Serbin SP (2018) The multi-assumption architecture and testbed (MAAT v1. 0): R code for generating ensembles with dynamic model structure and analysis of epistemic uncertainty from multiple sources. *Geoscientific Model Development (Online)* 11 (8).
- 112 Filella I, Zhang C, Seco R, Potosnak M, Guenther A, Karl T, Gamon J, Pallardy S, Gu L, Kim S, Balzarolo M, Fernandez-Martinez M and Penuelas J (2018). A MODIS Photochemical Reflectance Index (PRI) as an estimator of isoprene emissions in a temperate deciduous forest. *Remote Sens.*, 10, 557, doi:10.3390/rs10040557.
- 111 Wood JD, Knapp BO, Muzika RM, Stambaugh MC, Gu L (2018) The importance of drought–pathogen interactions in driving oak mortality events in the Ozark Border Region. *Environmental Research Letters*, 13, 015004.
- 110 Pallardy, S.G., Gu, L., Wood, J.D., Hosman, K. P., Sun, Y., and hook, Les. Predawn Leaf Water Potential of Oak-Hickory Forest at Missouri Ozark (MOFLUX) Site: 2004-2017. United States: N. p., 2018. Web. doi:10.3334/CDIAC/ORNLSFA.004.
- 109 Jiang X, Guenther A, Potosnak, M, Geron C, Seco R, Karl T, Kim S, Gu L, Pallardy S (2018). Isoprene emission response to drought and the impact on global atmospheric chemistry. *Atmospheric Environment*, 183, 69-83.

2017

- 108 Sun Y, Frankenberg C, Wood JD, Schimel DS, Jung M, Guanter L, Drewry DT, Verma M, Porcar-Castell A, Griffis TJ, Gu LH, Magney TS, Köhler P, Evans B, Yuen K. 2017. OCO-2 advances photosynthesis observation from space via solar-induced chlorophyll fluorescence. *Science* 358, eaam5747 (2017). DOI: 10.1126/science.aam5747.
- 107 Zheng YQ, Unger N, Tadić JM, Seco R, Guenther AB, Barkley MP, Potosnak MJ, Murray L, Michalak AM, Qiu XM, Kim S, Karl T, Gu LH, Pallardy SG. 2017. Drought impacts on photosynthesis, isoprene emission and atmospheric formaldehyde in a mid-latitude forest. *Atmospheric Environment* 167: 190-201.
- 106 Norby RJ, Gu LH, Haworth IC, Jensen AM, Turner BL, Anthony P Walker AP, Warren JM, Weston DJ, Xu C, Winter K. 2017. Informing models through empirical relationships between foliar phosphorus, nitrogen and photosynthesis across diverse woody species in tropical forests of Panama. *New Phytologist* 215: 1425-1437.
- 105 Walker, A. P., K. R. Carter, L. Gu, P. J. Hanson, A. Malhotra, R. J. Norby, S. D. Sebestyen, S. D. Wullschleger, and D. J. Weston (2017), Biophysical drivers of

- seasonal variability in Sphagnum gross primary production in a northern temperate bog, *J. Geophys. Res. Biogeosci.*, 122, 1078–1097, doi:10.1002/2016JG003711.
- 104 Hanson, P. J., Riggs, J. S., Nettles, W. R., Phillips, J. R., Krassovski, M. B., Hook, L. A., Gu, L., Richardson, A. D., Aubrecht, D. M., Ricciuto, D. M., Warren, J. M., and Barbier, C.: Attaining whole-ecosystem warming using air and deep-soil heating methods with an elevated CO₂ atmosphere, *Biogeosciences*, 14, 861-883, <https://doi.org/10.5194/bg-14-861-2017>, 2017
- 103 Zhou BZ, Wang XM, Cao YG, Ge XG, Gu LH, Meng JL. 2017. Damage assessment to subtropical forests following the 2008 Chinese ice storm. *iForest* 10: 406-415.
- 102 Zhang JX, Gu LH, Zhang JB, Wu R, Wang F, Lin GH, Wu B, Lu Q, Meng P. (2017) The interaction between nitrogen and phosphorous is a strong predictor of intra-plant variation in nitrogen isotope composition in a desert species. *Biogeosciences* 14 (1), 131-144.
- 2016
- 101 Gu L, Pallardy SG, Yang B, Hosman KP, Mao J, Ricciuto D, Shi X, Sun Y (2016) Testing a land model in ecosystem functional space via a comparison of observed and modeled ecosystem flux responses to precipitation regimes and associated stresses in a central USA forest. *Journal of Geophysical Research - Biogeosciences* 121, 1884-1902.
- 100 Kravitz B, Guenther A, Karl T, Gu, L, Pallardy S, Seco R, Potosnak M (2016) A new paradigm of quantifying ecosystem stress through chemical signatures. *Ecosphere* 7:DOI: 10.1002/ecs2.1559.
- 99 Shao J, Zhou X, Luo Y, Li B, Aurela M, Billesbach D, Blanken P, Bracho R, Chen J, Fischer M, Fu Y, Gu L, Han S, He Y, Kolb T, Li Y, Nagy Z, Niu S, Oechel W, Pinter K, Shi P, Suyker A, Torn M, Varlagin A, Wang H, Yan J, Yu G, Zhang J (2016) Direct and indirect effects of climatic variations on the interannual variability in net ecosystem exchange across terrestrial ecosystems. *Tellus – B* 68, 30575, <http://dx.doi.org/10.3402/tellusb.v68.30575>.
- 98 Liu S, Zhuang Q, Chen M, Gu L (2016) Quantifying spatially and temporally explicit CO₂ fertilization effects on global terrestrial ecosystem carbon dynamics. *Ecosphere*, DOI: 10.1002/ecs2.1391
97. Gu L, Pallardy SG, Hosman KP, Y Sun (2016) Impacts of precipitation variability on plant species and community water stress in a temperate deciduous forest in the central US. *Agricultural and Forest Meteorology* 217: 120-136.
96. Geron C, Daly R, Harley P, Rasmussen R, Seco R, Guenther A, Karl T, Gu L (2016) Large drought-induced variations in oak leaf volatile organic compound emissions during PINOT NOIR 2012. *Chemosphere* 146:8-21.
95. Liu S, Zhuang Q, Chen J, Gu L, Noormets A (2016) Evaluating atmospheric CO₂ effects on gross primary productivity and net ecosystem exchanges of terrestrial ecosystems in the conterminous United States using the AmeriFlux data and an artificial neural network approach. *Agricultural and Forest Meteorology* 220: 38-49.
- 2015
94. Sun Y, Fu R, Dickinson R, Joiner J, Frankenberg C, Gu L, Xia Y, Fernando N (2015) Satellite solar-induced chlorophyll fluorescence reveals drought onset mechanisms:

- Insights from two contrasting extreme events. *JGR-Biogeosciences* DOI: 10.1002/2015JG003150
- 93 Pallardy, S. G., L. Gu, K. P. Hosman, and Y. Sun (2015), Predawn leaf water potential of oak-hickory forest at Missouri Ozark (MOFLUX) site: 2004–2014, Carbon Dioxide Inf. Anal. Cent., Oak Ridge Natl. Lab., U.S. Dep. of Energy, Oak Ridge, Tenn. [Available at 10.3334/CDIAC/ornlsfa.004.]
 92. He Y, Yang J, Zhuang Q, Harden J, McGuire AD, Liu Y, Wang G, Gu L (2015) Incorporating microbial dormancy dynamics into soil decomposition models to improve quantification of soil carbon dynamics of northern temperate forests. *JGR-Biogeosciences* DOI: 10.1002/2015JG00313
 91. Huang N, Gu L, Black TA, Wang L, Niu Z (2015) Remote sensing-based estimation of annual soil respiration at two contrasting forest sites. *JGR-Biogeosciences* 120: 2306-2325.
 90. Liu S, Zhuang Q, Chen M, Gu L (2015) Quantifying spatially explicit CO₂ fertilization effects on global terrestrial ecosystem carbon dynamics. *Environmental Research Letters* (accepted).
 89. Gu L, Pallardy SG, Hosman KP, Y Sun (2015) Drought-influenced mortality of tree species with different predawn leaf water dynamics in a decade-long study of a central US forest. *Biogeosciences* 12: 2831-2845.
 88. Gu L (2015) Fluxes as functions of ecosystem and drivers of atmosphere (book review). *Ecology* 96: 1737-1738.
 87. Zhang J, Gu L, Bao F, Cao Y, Hao Y, He J, Li J, Li Y, Ren Y, Wang F, Wu R, Yao B, Zhao Y, Lin G, Wu B, Lu Q and Meng P (2015) Nitrogen control of ¹³C enrichment in heterotrophic organs relative to leaves in a landscape-building desert plant species. *Biogeosciences* 12: 15-27.
 86. Seco R, Karl T, Guenther A, Hosman KP, Pallardy SG, Gu L, Geron C, Harley P & Kim S (2015) Ecosystem-scale VOC fluxes during an extreme drought in a broad-leaf temperate forest of the Missouri Ozarks (central USA). *Global Change Biology* DOI: 10.1111/gcb.12980.
 85. Wohlfahrt G, Gu L (2015) Opinion: The many meanings of gross photosynthesis and their implication for photosynthesis research from leaf to globe. *Plant Cell and Environment* DOI: 10.1111/pce.12569.
 84. Wohlfahrt G, Amelynck C, Ammann C, Arneth A, Bamberger I, Goldstein AH, Gu L, Guenther A, Hansel A, Heinesch B, Holst T, Hörtnagl L, Karl T, Laffineur Q, Neftel A, McKinney K, Munger JW, Pallardy SG, Schade GW, Seco R, Schoon N (2015) An ecosystem-scale perspective of the net land methanol flux: synthesis of micrometeorological flux measurements. *Atmospheric Chemistry and Physics* 15, 7413-7427.
 83. Shao J, Zhou X, Luo Y, Li B, Aurela M, Billesbach D, Blanken P, Bracho R, Chen J, Fischer M, Fu Y, Gu L, Han S, He Y, et al. (2015) Biotic and climatic controls on interannual variability in carbon fluxes across terrestrial ecosystems. *Agricultural and Forest Meteorology* 205, 11-22.
 82. Wu X, Ju W, Zhou Y, He M, Law B, Black T, Margolis H, Cescatti A, Gu L, Montagnani L, et al. (2015) Performance of Linear and Nonlinear Two-Leaf Light Use Efficiency Models at Different Temporal Scales. *Remote Sensing* 7, 2238-2278.

2014

81. Weston D, Timm C, Walker A, Gu L, Muchero W, Schmutz J, Shaw A, Tuskan G, Warren J, Wullschleger S (2014) Sphagnum physiology in the context of changing climate: Emergent influences of genomics, modeling and host-microbiome interactions on understanding ecosystem function. *Plant Cell & Environment* 38: 1737:1751, doi: 10.1111/pce.12458.
80. Shao J, Zhou X, He H, Yu G, Wang H, Luo Y, Chen J, Gu L, Li B (2014) Partitioning Climatic and Biotic Effects on Interannual Variability of Ecosystem Carbon Exchange in Three Ecosystems. *Ecosystems* 17 (7), 1186-1201.
79. Dong X, Patton J, Gu L, Wang J, Patton B (2014) Leaf photosynthesis and plant competitive success in a mixed-grass prairie: With reference to exotic grasses invasion. *Ecosystem and Ecography* 4,1:9.
78. Yu H, Orteg J, Smith JN, Guenther AB, Kanawade VP, You Y, Liu Y, Hosman K, Karl T, Seco R, Geron C, Pallardy SG, Gu L, Mikkilä J & Shan-Hu Lee SH (2014) New particle formation and growth in an isoprene-dominated Ozark forest: From sub-5 nm to CCN-active sizes. *Aerosol Science and Technology* 48:1285-1298.
77. Xiao J, Ollinger S, Frolking S, Hurtt G, Hollinger D, Davis K, Pan Y, Zhang X, Deng F, Chen J, Baldocchi D, Law B, Arain M, Desai A, Richardson A, Sun G, Amiro B, Margolis H, Gu L, Scott R, Blanken P, Suyker A (2014) Data-driven diagnostics of terrestrial carbon dynamics over North America. *Agricultural and Forest Meteorology* 197, 142-157.
76. Sun Y, Gu L, Dickinson RE, Norby RJ, Pallardy SG, Hoffman FM (2014) Impact of mesophyll diffusion on estimated global land CO₂ fertilization. *Proceedings of the National Academy of Sciences of the United States of America* 111: 15774–15779, doi: 10.1073/pnas.1418075111.
75. Joiner J, Yoshida Y, Vasilkov AP, Schaefer K, Jung M, Guanter L, Zhang Y, Garrity S, Middleton EM, Huemmrich KF, Gu LH, Marchesini LB (2014) The seasonal cycle of satellite chlorophyll fluorescence observations and its relationship to vegetation phenology and ecosystem-atmosphere carbon exchange. *Remote Sensing of the Environment* 152, 375-391.
74. Walker A, Beckerman A, Gu L, Kattge J, Cernusak L, Domingues T, Scales J, Wohlfahrt G, Wullschleger S, Woodward F (2014) The relationship of leaf photosynthetic traits—V_{cmax} and J_{max}—to leaf nitrogen, leaf phosphorus, and specific leaf area: a meta-analysis and modeling study. *Ecology and Evolution* 4, 3218-3235.
73. Wang GS, Jagadamma S, Mayes MA, Schadt CW, Steinweg JM, Gu LH, Post WM, (2014) Microbial dormancy improves development and experimental validation of ecosystem model. *The ISME Journal*, doi: 10.1038/ismej.2014.120.
72. Van Goethem D, Potters G, De Smedt S, Gu LH, Samson R (2014) Seasonal, diurnal and vertical variation in photosynthetic parameters in *Phyllostachys humilis* bamboo plants. *Photosynthesis Research* 120: 331-346
71. Wang DL, Xu Y, Thornton P, King A, Steed C, Gu LH, Schuchart J (2014) A functional test platform for the Community Land Model. *Environmental Modeling and Software* 55: 25-31. DOI: 10.1016/j.envsoft.2014.01.015.

70. Gu L & Sun Y (2014) Artefactual responses of mesophyll conductance to CO₂ and irradiance estimated with the variable J and online isotope discrimination methods. *Plant Cell & Environment* 37: 1231-1249.
69. Sun Y, Gu L, Dickinson RE, Pallardy SG, Baker J, Cao Y, DaMatta FM, Dong X, Ellsworth D, Goethem DV, Jensen AM, Law BE, Loos R, Martins SCV, Norby RJ, Warren J, Weston D, Winter K (2014) Asymmetrical effects of mesophyll conductance on fundamental photosynthetic parameters and their relationships estimated from leaf gas exchange measurements. *Plant Cell and Environment* 37, 978-994.
68. Potosnak MJ, LeSturgeon L, Pallardy SG, Hosman KP, Gu LH, Karl T, Gerone C & Guenther AB (2014) Observed and modeled ecosystem isoprene fluxes from an oak-dominated temperate forest and the influence of drought stress. *Atmospheric Environment* 84: 314-322.
67. Wang GS, Mayes MA, Gu LH, Schadt CW (2014) Representation of Dormant and Active Microbial Dynamics for Ecosystem Modeling. *Plos One* 9, Article Number: e89252, DOI: 10.1371/journal.pone.0089252.
66. Huang N, Gu L, Niu Z (2014) Estimating soil respiration using spatial data products: A case study in a deciduous broadleaf forest in the Midwest USA. *Journal of Geophysical Research - Atmosphere* 119: 6393-6408.

2013

65. Gu LH (2013) An eddy covariance theory of using O₂ to CO₂ exchange ratio to constrain measurements of net ecosystem exchange of any gas species. *Agricultural and Forest Meteorology* 176, 104-110.
64. Barr, A.G., A.D. Richardson, D.Y. Hollinger, D. Papale, M.A. Arain, T.A. Black, G. Bohrer, D. Dragoni, M. Fischer, L. Gu, B.E. Law, H.M. Margolis, J.H. McCaughey, J.W. Munger, W. Oechel, K. Schaeffer (2013) Use of change-point detection for friction-velocity threshold evaluation in eddy-covariance studies. *Agricultural and Forest Meteorology* 171/172, 31-45.
63. Niu, S., Y. Fu, L. Gu, and Y. Luo (2013) Temperature sensitivity of canopy photosynthesis phenology in northern ecosystems. Chapter 27 in *Phenology: An Integrated Environmental Science*. M.D. Schwartz (ed.), Phenology: An Integrative Environmental Science, DOI 10.1007/978-94-007-6925-0_27, © Springer Science+Business Media B.V. 2013.

2012

62. Sun, Y., Gu, L., and Dickinson, R. (2012) A numerical issue in calculating the coupled carbon and water fluxes in a climate model. *Journal of Geophysical Research – Atmosphere* 117, Article Number: D22103 DOI: 10.1029/2012JD018059
61. Sun, Y., Gu, L., Dickinson, R. and Zhou, B. (2012) Forest greenness after the massive 2008 Chinese ice storm: integrated effects of natural processes and human intervention. *Environ. Res. Lett.* 7 (2012) 035702.
60. Schaefer K, Schwalm C, Williams C, Arain M, Barr A, Chen JM, Davis K, Dimitrov D, Hilton T, Hollinger D, Humphreys E, Poulter B, Raczka B, Richardson A, Sahoo A, Thornton P, Vargas R, Verbeeck H, Anderson R, Baker I, Black T,

Bolstad P, Chen J, Curtis P, Desai A, Dietze M, Dragoni D, Gough C, Grant R, Gu LH, et al (2012) A Model-Data Comparison of Gross Primary Productivity: Results from the North American Carbon Program Site Synthesis. *Journal of Geophysical Research – Biogeosciences* 117 Article Number: G03010 DOI: 10.1029/2012JG001960.

59. Warren, JM, Iversen, CM, Garten, CT, Norby, RJ, Childs, J, Brice, D, Evans, RM, Gu, L, Thornton, P, Weston, DJ. (2012) Timing and magnitude of C partitioning through a young loblolly pine (*Pinus taeda* L.) stand using C-13 labeling and shade treatments. *Tree Physiology* 32: 799-813 DOI: 10.1093/treephys/tpr129.
58. Niu, SL; Luo, YQ; Fei, SF; Yuan, WP; Schimel, D; Law, BE; Ammann, C; Arain, MA; Arneth, A; Aubinet, M; Barr, A; Beringer, J; Bernhofer, C; Black, TA; Buchmann, N; Cescatti, A; Chen, JQ; Davis, KJ; Dellwik, E; Desai, AR; Etzold, S; Francois, L; Gianelle, D; Gielen, B; Goldstein, A; Groenendijk, M; Gu, LH, et al. (2012) Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms. *New Phytologist* 194, 775-783.
57. Gu, L., W.J. Massman, R. Leuning, S.G. Pallardy, T. Meyers, P.J. Hanson, J.S. Riggs, K.P. Hosman, B. Yang (2012) The fundamental equation of eddy covariance and its application in flux measurements. *Agricultural and Forest Meteorology* 152, 135-148.
56. Ryu, Y; Baldocchi, DD; Black, TA; Detto, M; Law, BE; Leuning, R; Miyata, A; Reichstein, M; Vargas, R; Ammann, C; Beringer, J; Flanagan, LB; Gu, LH; Hutley, LB; Kim, J; McCaughey, H; Moors, EJ; Rambal, S; Vesala, T (2012), On the temporal upscaling of evapotranspiration from instantaneous remote sensing measurements to 8-day mean daily-sums. *AGRICULTURAL AND FOREST METEOROLOGY*, 152, 212-222, DOI: 10.1016/j.agrformet.2011.09.010.
55. Warren J, Garten C, Iversen C, Norby R, Thornton P, Weston D, Gu L, Brice D, Childs J, Evans R (2012) Partitioning in trees and soil (PiTS)-a experimental approach to improve knowledge of forest carbon dynamics. *Tree Physiology* 32, 799-813.

2011

54. Lee, X, M L Goulden, DY Hollinger, A Barr, T Black, G Bohrer, R Bracho, B Drake, A Goldstein, L Gu, G Katul, T Kolb, BE Law, H Margolis, T Meyers, R Monson, W Munger, R Oren, KT Paw U, AD Richardson, HP Schmid, R Staebler, S Wofsy & L Zhao (2011) Observed increase in local cooling effect of deforestation at higher latitudes. *Nature* 479: 384-387.
53. Marino GP, Kaiser DP, Gu LH, Ricciuto DM (2011) Reconstruction of false spring occurrence over the southeastern United States, 1901-2007: Increasing risk of spring freeze damage? *Environmental Research Letters*: 6, Article Number: 024015 DOI: 10.1088/1748-9326/6/2/024015.
52. Wang, T; Ciais, ; Piao, SL; Oettle, C; Brender, P; Maignan, F; Arain, A; Cescatti, A; Gianelle, D; Gough, C; Gu, L; Lafleur, P; Laurila, T; Marcolla, B; Margolis, H; Montagnani, L; Moors, E; Saigusa, N; Vesala, T; Wohlfahrt, G; Koven, C; Black, A; Dellwik, E; Don, A; Hollinger, D; Knohl, A; Monson, R; Munger, J; Suyker, A; Varlagin, A; Verma, S. Controls on winter ecosystem respiration in temperate and

boreal ecosystems. *BIOGEOSCIENCES* 8, 2009-2025 DOI: 10.5194/bg-8-2009-2011.

51. Zhou, B, L Gu, Y Ding, L Shao, Z Wu, X Yang, C Li, Z Li, X Wang, Y Cao, B Zeng, M Yu, M Wang, S Wang, H Sun, A Duan, Y An, X Wang, W Kong (2011) The Great 2008 Chinese ice storm, its socioeconomic-ecological impact, and sustainability lessons learned. *Bulletin of the American Meteorological Society* 92, 47-60.
50. Zhou, B., Z Li, X Wang, Y Cao, Y An, Z Deng, G Letu, G Wang, L Gu (2011) Impact of the 2008 ice storm on moso bamboo plantations in southeast China. *Journal of Geophysical Research-Biogeosciences* 116, Article Number: G00H06.
49. Xiao JF, Zhuang QL, Law BE, Baldocchi DD, Chen JQ, Richardson AD, Melillo JM, Davis KJ, Hollinger DY, Wharton S, Oren R, Noormets A, Fischer ML, Verma SB, Cook DR, Sun G, McNulty S, Wofsy SC, Bolstad PV, Burns SP, Curtis PS, Drake BG, Falk M, Foster DR, Gu LH, Hadley JL, Katulk GG, Litvak M, Ma SY, Martinz TA, Matamala R, Meyers TP, Monson RK, Munger JW, Oechel WC, Paw UKT, Schmid HP, Scott RL, Starr G, Suyker AE, Torn MS (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.

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