

Henry William Loescher, Ph.D.

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US Citizen

Education

University of Florida	Forest Resources and Conservation	2002	PhD
Dissertation title: Ecosystem-level responses of carbon and energy from a wet tropical forest in Costa Rica.			
University of Florida	Forest Resources and Conservation	1997	MS
Thesis title: Non-methane hydrocarbon fluxes from <i>Pinus elliottii</i> and <i>Serenoa repens</i> comparing enclosure and above-canopy measurements			
Vermont State College	Environmental Science, Natural Res Mtg, <i>magna cum laude</i>	1994	BS
State University of NY	Agronomy	1980	AAS
State University of NY	Applied Science	1980	AAS

Appointments/Experience

Director of Strategic Projects / Program Developer for International Development, CEO Office, National Ecological Observatory Network, Feb 2013-to-date, Title has changed, accrued responsibilities below (Dir Strat Dev) have not changed.

Director of Strategic Development / Program Developer for International Development, CEO Office, National Ecological Observatory Network, Mar 2013-to-Feb 2014. In addition to the responsibilities described under the AD Biometeorology; to establish process and structure, and implementation of NEON's Strategic Plan. In particular, advance, develop and lead a number of new community-lead programs, additional international collaborations (Australia, EU, China, Korea, Mexico and others), and advancing interoperability among global earth observatories (CoopEUS et al.),

Assistant Director Biometeorology-National Ecological Observatory Network, Mar 2012-to-Feb 2013, In addition to the responsibilities listed below; Developed a STEM technical transfer project with Historical Black Colleges and Universities (SEA). Initiated, developed and lead an number of new community-lead programs, including those in urban ecology, interoperability, international collaborations, and in the harmonization of continental scale observatories (CoopEUS). Initiated NEON's Strategic Development plan.

Senior Supervising Staff Scientist-National Ecological Observatory Network, October 2007-to-2012 Lead 3 NEON Science teams; instruments, mobile deployment, and aquatic (passed aquatic forward in Nov 2008). Lead staff scientists (+11) and community members in complex teams to realize NEON's design, budget, risk and scope. Determining scientific vision and direction for responsible science teams. Participated in- or lead 16 formal NSF reviews in an 18-month period. Developed structure and process for across Project workflows, w/ engineering, cyber engineering, system engineering, project management, risk mitigation, etc, and contract management. Prototyped designs, site characterizations, and data flows. Informed Policy. Broad community engagement. Acting Chief Scientist (2010).

Research Scientist-Forest Science, Oregon State University, July 2006-Sept 2007. Title has changed, accrued responsibilities below (Res. Assoc.) have not changed.

Research Associate-Forest Science, Oregon State University, July 2002-2006. Included all managerial activities (scheduling, grant writing and execution, personnel management, experimental design, publications) that included Supervised staff to meet project objectives, and broad engagement with a large scientific community.

Research Scientist-Dept. Crop and Soil Science, University of Georgia, Dec 2000-Jan 2003. DOE-TCP funded project entitled "From tower to region: Integration of patch-size NEE using experimental and modeling

footprint analysis". Designed and executed biometry and ecosystem-scale carbon measurements to inform a tracer-based Lagrangian model. Data management.

Research Scientist-Biological Sciences, Florida International University, May 1997-May 2002. DOE-TECO funded project entitled 'Current and future carbon budgets of tropical rain forests; a cross-scale analysis', project was awarded \$1,210,000. PhD project, designed, executed, and published 3-y of ecosystem scale measurements of energy and carbon from a wet tropical forest. Data management. Supervised undergraduates.

Research Assistant, University of Florida, Aug 1994-May 1997. DOE-NIGEC funded project entitled 'Exchanges of energy and radiatively active gases Slash Pine and Cypress ecosystems and the atmosphere in the Southeastern US.', MS project, designed and executed the measurement of non-methane hydrocarbon emissions at the leaf and canopy scales. Data management. Supervised undergraduates.

Director, Alliance for the Monteverde Institute, Monteverde, Costa Rica, Feb 1992-Jan 1995. Established 501(c)3, lead the development of by-laws and BOD, chaired the BOD, developed strategic plan.

Project Manager, OXFAM/APSINCA-funded, Pearl Lagoon, Nicaragua, 1990, awarded \$1,230,000. Secured funding, executed 5-prong economic development project (incl. savage timber harvest, valued added products, local training), contract management, supervised volunteers across cultural and political boundaries; result = sustainable project providing new local economies.

Self-Employed, business owner (Aug 1980 – Aug 1994), managed all fiscal planning and functions, contract management, employee benefits, managed up to 20 staff.

Other Appointments

Adjunct Faculty, Department of Biological Sciences, **University of Alabama**, Tuscaloosa, AL, 2007-to-date

Adjunct Faculty, División de Ciencias Ambientales, **Instituto Potosino de Investigación Científica y Tecnológica** A. C. (IPICYT), San Luís Potosí, México, 2004-to-date

Adjunct Faculty, Department of Natural Resources and Environmental Sciences, **Alabama A+M University**, Normal AL, 2009-to-date

Adjunct Faculty, Institute of Arctic and Alpine Research (INSTAAR), **University of Colorado**, Boulder, CO 2007-2013 (pending)

Awards

Co-PI, NSF-EF, '*Participant Costs: Building Global Ecological Understanding*', workshop, awarded **\$49,967** (2015)

PI, NSF-SAVI funded, '*Building an international cooperative framework between the EU and the USA to harmonize data products relevant to global research infrastructures in the environmental field*', awarded **\$1,012,731** (2013-2015)

PI, NSF funded, '*NEON Satellite Site Training Plan*', (**STEM**) Minority and Tribal Serving Institution training, awarded **\$429,000** (2012-2014)

Co-PI, NSF-funded, '*Organizational and Project Management Support to complete the NEON Construction Ready Design and Project Execution Plan*', awarded **\$57,700,000** (2011-2013)

Co-PI, NASA funded '*Synergistic high-resolution airborne measurements of ecosystem structure and process at NEON sites in California*', awarded, no funding requested (2012-2014)

PI, DOE-TCP funded project entitled '*Enhancing the precision and accuracy within and among AmeriFlux site measurements*', awarded **\$1,494,868** (2007-2009)

Co-PI, NSF-GEO/IR funded '*Consortium of Universities for the Advancement of Hydrologic Science-Hydrologic Measurement Facility Water Cycle*', awarded **\$1,235,126** (2007-2009)

Co-PI, SEP-CONACYT funded 2010 '*Evaluación de escenarios de cambio climático: Impacto del incremento de temperatura y alteración de los regímenes de precipitación sobre las tasas de intercambio neto (NEE) y mineralización de carbono y nitrógeno en el pastizal semiarido*', awarded, **\$113,000+**

Co-PI, SEMARNAT funded '*Impacto del cambio de uso de suelo en el almacen y flujo de carbon en ecosistemas de pastizal semiarido*', awarded **\$165,000+**

Co-PI, SEP-CONACYT funded '*Impacto del cambio de uso de suelo en el almacen y flujo de carbon en ecosistemas de pastizal semiarido*', awarded **\$125,000+**

PI, DOE-NACP funded project entitled '*Improvement in precision and accuracy of AmeriFlux site measurements*', awarded **\$974,651** (2003-2006)

Co-PI, OXFAM/APSINCA-funded, '*Integrated five-prong economic development project for the rural community of Pearl Lagoon, Nicaragua following Hurricane June*', awarded **\$1,230,000** (1990-1992)

Membership in Professional Organizations

American Geophysical Union (AGU), Society for Freshwater Science (SFS-NABS), Consortium for the Advance of Hydrologic Sciences Inc. (CUASHI), American Meteorological Society (AMS), European Geophysical Union (EGU), Association of Tropical Biology and Conservation (ATBC), EarthCube, Earth System Information Partners (ESIP), and the Ecological Society of America (ESA).

Leadership Activities

- Discover Life, virtual biotia archive, U Georgia, Board of Director, **member**, 2015-to-date
 - US North American Carbon Plan (InterAgency WG), Science Steering Group, **member**, 2011-to-date
 - EU FP7 Analyses and Experimentation on Ecosystems (AnaEE), **Science Advisory Board**, 2015-to-date
 - EU ENVRI+, 'Science interoperability', Theme 1, **Science Committee**, Nov 2015-to-date
 - Tomsk State U, BioClimLand Center of Excellence, Russia, **Science Advisory Board**, 2015-to-date
 - Russian Ministry of Education and Science Advisory Board, Moscow, **Science Advisory Board** March 2016
 - CzechGlobe, Czech Republic, Science Advisory Board (SAB), **Advisory Board Member**, 2015-to-date
 - NOAA Coastal Blue Carbon Science Working Group, **Member**, 2015-to-date
 - Barrow-Atqasuk Science Advisors (BASA), Primary Representative, **Science Advisory Board**, 2014-to-date
 - NSF EarthCube Demonstration Governance, Engagement and Leadership Teams, **Member**, 2014-to-date
 - UN FAO Forestry Commission, Atmospheric Change Working Group, **Member**, December 2011-to-date
 - Carbo-North America (CarboNA, multinational) Science Steering Group, **member**, January 2011-to-date
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- EU Integrated Carbon Observation System (ICOS), **Science Advisory Board Member** 2011-to-2016
 - Global Ecosystem Observatory, Strategic Planning Mtg, Queensland Australia, **Participant**, March 2016
 - Florida Earth Institute, 'Big Data and Decision Makers: Future of water space', **Invited Keynote**, Dec 2015
 - EU Joint Programme Initiative, Climate Workshop on Observation Networks, **Report Author**, Nov 2015,
 - ENVRI+, 'Science across observatory networks workshop', Science Committee, **Organizer**, Oct 2015
 - Ministry of Natural Resources Russian Federation, BioClimLand Mtg, Tomsk State U, **Advisor**, Oct 2015
 - LTER All Scientists Meeting, 'Wicked Problem' Working Group, Estes Park CO, **Organizer**, Aug 2015
 - European Commission, ENVRI+ Strategic Planning Workshop, Hyytiälä Finland, **Participant**, Aug 2015
 - NCAR Engineers for Climate Extremes Partnership, Annual Meeting, Boulder CO, **Participant**, Aug 2015
 - Association of Tropical Biology and Conservation, Annual Meeting, Hawaii, **Invited Speaker**, July 2015
 - University of Delaware, 'Towards a Global Ecological Understanding' workshop, **Organizer**, June 2015
 - Cite Universitaire, Paris, France, CoopEUS/NEON/ICOS Data Assimilation Workshop, **Organizer**, Apr 2015
 - University of Florida Informatics Institute, symposium, **Invited Speaker/Panel Member**, March 2015
 - European Commission, ESFRI ExPeer strategic planning workshop, Vienna Austria, **Participant**, Feb 2015
 - European Commission, EuroDish strategic planning workshop, Bruxelles Belgium, **Participant**, Feb 2015
 - DOE BERAC Integrated Field Laboratory scoping workshop, Maryland, **Invited Participant**, Jan 2015
 - North American Carbon Program 2015 meeting, CarboNA and NAFC session **co-Convener**, Jan 2015

- Center for Creative Leadership, Leading Strategically Training, **Participant**, 2014
- CoopEUS (ICOS/NEON) Carbon Training Workshop, Haute Provence, France, **Organizer, Instructor**, 2014
- Mountain Research Institute, Key Projects Workshop, Bern Switzerland, **Participant**, 2014
- Mountain Research and Education Institute, Conceptual Workshop, Chico MT, **Participant**, 2014
- Charge to National Academy of Science 'Integration of Social Ecological Systems', **co-Lead**, 2014
- GEOSS data registry, engagement workshop, **Participant**, Bremen, Germany, 2014
- RCN International Drought Experiments, Science Steering Committee, **Member**, 2014-to-date
- NSF Earthcube Data Facilities Workshop, Arlington VA, **Invited Speaker**, 2014.
- Long-Term Networks for Ecosystem GHG's Fluxes Symposium, AGU, Annual Meeting, **co-Lead** 2013.
- Institute on Ecosystems, Helena Montana, **Keynote Speaker**, 2013
- iLTER Annual Governance meeting, Seoul Korea, **Invited Speaker**, 2013.
- US-EU COOPEUS US Steering Committee, **Chair**, 2012-to-date
- US-EU COOPEUS Strategic Collaboration Board (SCB), **ex-officio**, 2012-to-date
- Global Ecology Special Session, ESA, Portland OR, **Panelist**, 2012
- Workshop: Synergies between NEON and LTER, LTER ASM, Estes Park CO, **Coordinator**, 2012
- Integrated spatial and temporal scale course, NSF-NEON, Niwot Ridge CO, **Instructor**, 2012
- Workshop: Pacific Northwest Old Growth Ecology and Management: Windriver WA, **Co-Instructor**, 2012
- Mexican Carbon Program, 'Dirección general del centro nacional de investigación y capacitación ambiental del Instituto Nacional de Ecología (INE)', Mexico City MX, **Invited Speaker/Participant**, 2012
- University of Central Florida, Biology Dept., Orlando FL, **Invited Speaker**, 2012
- NCAR, Atmospheric Chemistry Observation Facility, Strategic definition, **Participant**, 2012
- Alabama A+M, NEON Satellite Site Prototype, **Invited Speaker/Participant**, 2012
- Science and Engineering Alliance (SEA) NEON Satellite Site concept, **Manager**, 2011-2014
- NSF lead, NEON Operations Review, **Project Team Lead**, January 2012
- Max Planck Institute-Biogeochemistry, Jena, Germany, **Invited Speaker**, 2011
- U.S. DOE Office of Science, Next Generation Ecosystem Experiment, **Reviewer**, August 2011
- U.S. DOE Office of Science, GOamazon2014, strategic science workshop, **Participant**, July 2011
- Integrated spatial and temporal scale course, NSF-NEON, Niwot Ridge CO, **Instructor**, 2011
- USGS Headquarters, Reston, VA, **Invited Speaker**, 2011
- NSF lead, NEON Operations Review, **Project Team Lead**, April 2011
- A.A.A.S Climate Science workshop Washington DC, **Participant**, 2011
- Pan American Scientific Initiative, La Selva Costa Rica, **Lead, Instructor**, August 2010
- University of Alabama, Engineering Dept., Tuscaloosa, AL, **Invited Speaker**, 2010
- NSF Large-scale Project Science Workshop, **participant**, 2009, 2010
- Large-scale Project Management Construction System (PMCS) Training, Apr. 2010
- NSF lead, NEON Final Design Review, **Project Team Lead**, November 2009
- NSF Lead, NEON Preliminary Design Review, **Project Team Lead**, June 2009
- Coordination of Mexican Ecological Program (Mex-Flux, Mex-iLTER), **co-lead**, 2009
- OTS Pan-American Science Initiative, Embedded sensors, **Organizing Committee**, 2009
- Marine Biological Lab, Woods Hole, MA, **Invited Speaker**, 2009
- Integrated spatial and temporal scale workshop, NSF-NEON, Niwot Ridge CO, **Instructor**, 2008
- NSF NEON Nationally embedded STREON experiment, **Lead**, 2008
- U.S. DOE Office of Science the Atmospheric Radiation Measurement (ARM) Climate Research Facility (ACRF), Strategic Planning workshop, **Member**, Oct 2008
- U.S. DOE Office of Science the Atmospheric Radiation Measurement (ARM) Climate Research Facility (ACRF), Strategic Planning workshop, **Member**, Nov 2007

- Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), Hydrologic Measurement Facility-Water Cycle, **Lead**, 2005-2007
- NSF NEON National Network Design, **Team Member**, 2007-present
- NSF NEON Tiger Team, Fundamental Instrument Unit, **Chair**, 2006-2008
- NSF NEON Tiger Team, Aquatic, **Chair**, 2006-2008
- Establishment of the first iLTER site in Mexico, *GRACILIS* Central Sierra Madre, **Founder**, 2004-present
- Instrument Uncertainties Symposium, American Geophysical Union, Annual Meeting, **Lead** 2006.
- AmeriFlux Measurement Guidelines, **Lead** 2006
- AmeriFlux research network, network-level data quality control, **Lead** 2002-2007
- NSF lead, NEON Conceptual Design Review, **Panel Member**, 2006
- DOE- BERAC review; AmeriFlux Site Evaluation for Network enhancements, **Author**, June 2005.
- First International Eddy Covariance Comparison, AmeriFlux Davis CA, **Leader** 2004
- Institute for Ecosystem Studies, Millbrook, NY, **Invited Speaker**, 2002
- Forest Stewardship Council's Mission and by-laws, **Co-Author** 1994
- OXFAM Hurricane relief, economic development project, Pearl Lagoon, Nicaragua, **PM**, 1990
- OXFAM development project, Muy Muy, Nicaragua, **Lead**, 1988

Scientific Peer-Reviewed Publications (RG index = 32, impact factor = 145, H-factor = 16, i10 = 25)

49. Kuhlman, M., **H. W. Loescher**, R. Leonard, T. E. Dawson, E. F. Kelly, **2016**. A new emergent model to complete and operate the National Ecological Observatory Network. *Bulletin of the Ecological Society of America* (in press).

48. Vargas, R., D. Alcaraz-Segura, R. Birdsey, N.A. Brunsell, C.O. Cruz, B. de Jong, J. Etchevers, M. Guevara, D.J. Hayes, K. Johnson, **H. W. Loescher**, F. Paz, Y. Ryu, Z. Sanchez, K.P. Toledo-Gutierrez, **2016**. Enhancing interoperability to facilitate implementation of REDD+: case study of Mexico. *Carbon Management*. (in press)

47. Starr, G., C. L. Staudhammer, S. Wiesner, S. Kunwor, **H. W. Loescher**, A. F. Baron, A. Whelan, R. J. Mitchell, and L. Boring **2016**. Carbon dynamics of *Pinus palustris* ecosystems following drought. *Forests*. 7, 98, doi:10.3390/f7050098

46. Arredondo, T., E. G. Moya, E. Huber-Sannwald, **H. W. Loescher**, and M. Luna **2016**. Drought manipulation and its legacy effects on above and belowground biomass productivity on monospecific and mixed semiarid grasslands. *Agricultural and Forest Meteorology* 223, 132-140.

45. **Loescher, H. W.**, E. Kelly, and R. Lea, **2016**. National Ecological Observatory Network: Beginnings, Programmatic and Scientific Challenges, and Ecological Forecasting. In: *Terrestrial Ecosystem Research Infrastructures: Challenges, New developments and Perspectives*. Eds. A. Chabbi, **H.W. Loescher**. CRC Press Taylor & Francis Group. (in copy edit)

44. Chabbi, A., **H. W. Loescher**. **2016**. Integrated Experimental research infrastructures as a paradigm shift to face an uncertain world. In: *Terrestrial Ecosystem Research Infrastructures: Challenges, New developments and Perspectives*. . Eds. A. Chabbi, **H.W. Loescher**. CRC Press Taylor & Francis Group. Boca Raton, FL. (in copy edit)

43. Chabbi, A., **H. W. Loescher (Eds)**. **2016**. Preface. *Terrestrial Ecosystem Research Infrastructures: Challenges, New developments and Perspectives*. CRC Press Taylor & Francis Group. Boca Raton, FL. pp 400 (in copy edit)

42. Whelan, A., G. Starr, C. L. Staudhammer, **H. W. Loescher**, and R. Mitchell **2015**. Effects of drought and

prescribed fire on energy exchange in longleaf pine ecosystems. *Ecosphere*, 6(7), 6(7):128.
<http://dx.doi.org/10.1890/ES15-00111.1>

41. Starr, G., C. L. Staudhammer, **H. W. Loescher**, R. Mitchell, R., A. Whelan, J.K. Hiers, J. K., and J. J. O'Brien, **2015**. Time series analysis of forest carbon dynamics: recovery of *Pinus palustris* physiology following a prescribed fire. *New Forests*. doi:10.1007/s11056-014-9447-3

40. Sadeghi, S-H., T. Peters, M. Z. Amini, S. L. Malone, and **H. W. Loescher** **2015**. Novel approach to evaluate the dynamic variation of wind drift and evaporation losses under moving irrigation systems. *Biosystems Engineering* 135, 44-53. dx.doi.org/10.1016/j.biosystemseng.2015.04.011

39. Gheysari, M., **H.W. Loescher**, S. H. Sadeghi, S. M. Mirlatifi, M. J. Zareian, and G. Hoogenboom. **2015**. Water-yield relations and water use efficiency of silage maize under nitrogen fertigation for semi-arid environments: Experiment and Synthesis. *Advances in Agronomy*, v. 130, pp. 1-55. dx.doi.org/10.1016/bs.agron.2014.12.001.

38. Malone, S.L., C. L. Staudhammer, S. F. Oberbauer, P. Olivas, M. G. Ryan, J. Schedlbauer, **H. W. Loescher**, and G. Starr, **2014**. El Niño Southern Oscillation (ENSO) enhances CO₂ exchange rates in freshwater marsh ecosystems in the Florida Everglades, *PLoS ONE* 9(12): e115058. doi:10.1371/journal.pone.0115058

37. Roberti, J. A., M. D. SanClements, **H. W. Loescher**, and E. Ayres **2014**. Traceable calibration, performance metrics, and uncertainty estimates of minirhizotron digital imagery for fine-root measurements. *PLoS ONE* 9(11), e112362. doi:10.1371/journal.pone.0112362

36. SanClements, M., H. Luo, N. Pingingtha-Durden, S. Metzger, R. Zulueta, and **H. W. Loescher** **2014**. The National Ecological Observatory's Terrestrial Infrastructure: A standardized framework for decadal ecosystem observations at the continental scale. *iLEAPs Newsletter, Fall 2014. Special Issue on Environmental Research Infrastructures*, p. 23-26.

35. Koop-Jakobsen, K., L. Powers, R. Huber, C. Waldmann, and **H. W. Loescher**, **2014**. COOPEUS – Building the framework for information exchange between the US and EU Environmental Research Infrastructures. *iLEAPs Newsletter, Fall 2014. Special Issue on Environmental Research Infrastructures*, p. 31-32.

34. Malone, S. L., C. L. Staudhammer, **H.W. Loescher**, P. Olivas, S. F. Oberbauer, and G. Starr, **2014**. Seasonal patterns in energy partitioning of two freshwater marsh ecosystems in the Florida Everglades. *J. Geophys. Res.-Biogeosciences*. 119, doi:10.1002/2014JG002700.

33. Peters, D. P. C., **H. W. Loescher**, M. SanClements and K. M. Havstad **2014**. Taking the pulse of a continent: role of observatories and long-term research networks to fill critical knowledge gaps. *Ecosphere*. 5(3), Article 29, 1-23, dx.doi.org/10.1890/ES13-00295.1

32. **Loescher, H. W.**, E. Ayres, P. Duffy, H. Luo, and M. Brunke **2014**. Spatial variation in soil properties among North American ecosystems and guidelines for sampling designs. *PLoS ONE*, 9(1), e83216. doi:10.1371/journal.pone.0083216

31. Gilmanov, T. G., J. M. Baker, C. J. Bernacchi, D. P. Billesbach, G. G. Burba, S. Castro, W. Eugster, M. L. Fischer, J. A. Gamon, M. T. Gebremedhin, A. J. Glenn, T. J. Griffis, J.L. Hatfield, M. W. Heuer, D. M. Howard, M. Y. Leclerc, **H.W. Loescher**, R. Matamala, T. P. Meyers, R. L. Phillips, J. H. Prueger, A. E. Suyker, M. Tenuta, and B. K. Wylie,

- 2014.** Carbon dioxide uptake and ecophysiological parameters of the leguminous crops of North America: Estimates From flux-tower measurements. *Agronomy J.* 106, 545-559, doi: 10.2134/agronj2013.0270.
30. Taylor, J., and **H.W. Loescher, 2013.** Automated Quality Control Methods for Sensor Data: A Novel Observatory Approach. *Biogeosciences*, 10, 4957-4971. doi:10.5194/bg-10-4957-2013.
29. Sadeghi, S-H, T. R. Peters, D. R. Cobos, **H. W. Loescher**, and C. S. Campbell, **2013.** Direct Calculation of Thermodynamic Wet Bulb Temperature as a Function of Pressure and Elevation, *J. Atmos. Ocean. Tech.*, 30, 1757-1765, doi:10.1175/JTECH-D-12-00191.1.
28. Delgado-Balbuena, J., J. T. Arredondo, **H. W. Loescher**, E. Huber-Sannwald, G. Chavez-Aquilar, M. Luna-Luna, and R. Barretero-Hernandez, **2013.** Plant cover and species composition effects on net ecosystem exchange among the semiarid short-grass steppe in Central Mexico. *Biogeosciences*, 10, 4673-4690, doi: 10.5194/bg-10-4673-2013.
27. Jimenez, K. L., G. Starr, C. L. Staudhammer, J. L. Schedlbauer, **H. W. Loescher**, S. L. Malone and S. F. Oberbauer, **2012.** Carbon Dioxide Exchange Rates from Short- and Long-Hydroperiod Everglades Freshwater Marsh. *J. Geophys. Res.- Biogeosciences*, 117, doi:10.1029/2012JG002117.
26. Gebremedhin, M. T., **H. W. Loescher**, and T. Tsegaye, **2012.** Carbon Balance of Soybean/Winterwheat in southeastern United States: interaction between no-till, rain fed agriculture and drought. *Agronomy J.*, 104, 1321-1335.
25. Vargas, R., **H. W. Loescher**, T. Arredondo, E. Huber-Sannwald, R. Lara-Lara, E. A. Yépez, **2012.** Opportunities for advancing carbon cycle science in Mexico: towards a continental scale understanding. *Environmental Science and Policy*, 12, 84-93, <http://dx.doi.org/10.1016/j.envsci.2012.04.033>.
24. Bracho, R., G. Starr, H. L. Gholz, T. A. Martin, W. P. Cropper Jr, and **H. W. Loescher, 2012.** Controls on carbon dynamics by ecosystem structure and climate for southeastern U.S. pine plantations. *Ecological Monographs* 82, 101-128, doi: 10.1890/11-0587.1.
23. Munger, J. W., **H. W. Loescher**, H. Luo, **2012.** Measurement, tower, and site design considerations. In, *The Eddy Covariance Handbook*. Eds. M. Aubinet, T. Vesala, D. Papale. Springer Verlag Pub., pp 22-53.
22. Schimel, D., M. Keller, S. Berukoff, R. Kao, **H. W. Loescher**, H. Powell, T. Kampe, D. Moore, and W. Gram, **2011.** NEON Science Strategy; Enabling continental-scale ecological forecasting. Pub. NEON Inc., Boulder CO. pp 55.
21. Sierra, C. A., M. E. Harmon, E. Thomann, S. S. Perakis, and **H. W. Loescher, 2011.** Amplification and dampening of soil respiration by changes in temperature variability. *Biogeosciences* 8, 951-961, doi:10.5194/bg-8-951-2011.
20. Zulueta, R. C., W. C. Oechel, **H. W. Loescher**, W.T. Lawrence, and K. T. Paw U, **2011.** Aircraft-derived regional scale CO₂ fluxes from drained thaw lake basins and interstitial tundra on the high arctic coastal plain of Alaska. *Global Change Biology* doi:10.1111/j/1365-2486.2011.02433.x.
19. Schimel D., M. Keller, P. Duffy, L. Alves, S. Aulenbach, W. Gram, B. Johnson, T. Hehn, T. Kampe, R. Kao, M. Kuester, **H. W. Loescher**, V. McKenzie, and H. Powell, **2009.** The NEON strategy: Enabling continental scale

ecological forecasting. Pub. NEON Inc., Boulder CO.

18. **Loescher, H. W.**, C. Hanson, and T. W. Ocheltree, **2009**. The psychrometric constant is not constant; a novel approach to enhance the accuracy and precision of latent energy flux estimates through automated water vapor calibrations. *J. HydrolMeteorol.*, 10, 1271-1284, doi: 10.1175/2009JHM1148.1.

17. Sierra, C. A., **H. W. Loescher**, M. E. Harmon, A. D. Richardson, D. Y. Hollinger, and S. S. Perakis, **2009**. Interannual variation of carbon fluxes from a tropical, a temperate, and a boreal evergreen forest: the role of forest dynamics and climate. *Ecology*, **90**, 2711-2723.

16. Fisher, J. B., Y. Malhi, D. Bonal, H.R. da Rocha, A. C. de Araujo, M. Gamo, M. L. Goulden, T. Hirano, A. R. Huete, H. Kondo, T. Kumagai, **H. W. Loescher**, S. Miller, A. D. Nobre, Y. Nouvellon, S. F. Oberbauer, S. Panuthai, O. Roupsard, S. Saleska, K. Tanaka, N. Tanaka, K. P. Tu, and C. von Randow, **2009**. The land-atmosphere water flux in the tropics. *Global Change Biology*, **15**, 2694-2714, DOI: 10.1111/j.1365-2486.2008.01813.x

15. C. Thomas, J.G. Martin, M. Goeckede, M.B. Siqueira, T. Foken, B. Law, **H.W. Loescher**, and G. Katul. **2008**. Estimating daytime forest floor respiration from conditional sampling methods applied to multi-scalar high frequency turbulence time series *Agric. For. Meteorol.* 148, 1210-1229.

14. **Loescher, H. W.**, J. Jacobs, O. Wendroth, D. A. Robinson, G. S. Poulos, K. McGuire, P. Reed, B. Mohanty, and W. Krajewski, **2007**. Enhancing water cycle measurements for future hydrologic research. *Bull Am. Meteorol. Soc.*, 88, 669-676, doi: 10.1175/BAMS-88-5-669

13. Dragoni, D., H. P. Schmid C. S. B. Grimmond, and **H. W. Loescher**, **2007**. Uncertainty of annual net ecosystem productivity estimated using eddy-covariance flux measurement. *J. Geophys. Res.-Atmos.*, doi: 10.1029/2006JD008149.

12. Ocheltree, T. O., and **H. W. Loescher**, **2007**. Design of the AmeriFlux portable eddy-covariance system and uncertainty analysis of carbon measurements. *J. Atmos. Ocean. Tech.*, 24, 1389-1409.

11. **Loescher, H. W.**, Starr, G., Martin, T. A., Binford, M., and Gholz, H. L., **2006**. The effect of daytime circulations on eddy covariance carbon dioxide flux measurements over a *Pinus elliottii* canopy, *J. Appl. Meteorol. Clim.*, 45, 1127-1140.

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Collaborators within the past 4 years

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Journals: *African Journal of Agricultural Research; Agroforestry Systems; Agricultural and Forest Meteorology; Arctic, Antarctic and Alpine Research, Atmospheric Measurement Techniques; Biogeochemistry; Biotropica; Boreal Environmental Research; Canadian Journal of Forest Research; Ecological Applications; Ecosystem Health and Sustainability; Global Change Biology; Journal of Geophysical Research-Atmospheres; Journal of Geophysical Research-Biogeosciences; Journal of Applied Meteorology and Climate; Journal of Hydrology; Journal of Oceanic and Atmospheric Technology; Journal of Tropical Ecology; Nature-Climate Change; Plant, Cell and Environment; Public Library of Science (PLoS), Scientia Horticultura; Tellus B; Tree Physiology; Proceedings of the Chinese Academy of Sciences; and multiple ad hoc Book reviews*

Programs; DOD-SERDP, DOE-SBIR, DOE-STTR, DOE-NICCR, DOE-SCRF, DOE-BER, NSF-ATM, NSF-Ecosystems, NSF-DEB, NSF-EAR, NSF-NEON, NSF-Macrosystems, European Commission-ESFRI, Copernicus, European Investment Bank

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Christoph Thomas, from U Bayrueth, Germany (Oregon State U)

Uli Falk, from U Gottingen, Germany (Oregon State U)

Interns

Laura Abreu, Tropical throughfall study, 1999

Hitomi Okada, 'Using Photosynthetically Active Radiation as a Proxy to Estimate the Impact of NEON's Tower Infrastructure on Microclimate Measurements.' 2nd place AGU Virtual Poster Award, 2015

Research, Teaching, References, Transcripts, and reprints are available upon request.