

Kimberly A. Novick

School of Public and Environmental Affairs, Indiana University – Bloomington
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EDUCATION

Duke University, Durham, NC, USA Ph.D. in Environmental Science, 2010
Dissertation: *Reducing Uncertainty in the Biosphere-Atmosphere Exchange of Trace Gases*

Duke University, Durham, NC, USA B.S.E. Civil & Environmental Engineering, 2002
Honors Thesis: *Carbon dioxide and water vapor exchange in a warm temperate grassland*

APPOINTMENTS

Associate Professor 2018 - present
School of Public and Environmental Affairs (SPEA), Indiana University (IU) - Bloomington

Director 2018 - present
IU Environmental Science PhD Program

Assistant Professor 2012 - present
School of Public and Environmental Affairs (SPEA), Indiana University (IU) - Bloomington

Adjunct Faculty 2014 - present
Department of Geography, IU-Bloomington

Post-Doctoral Research Ecologist 2010 - 2012
USDA Forest Service, Southern Research Station, Coweeta Hydrologic Laboratory

Graduate Research Assistant 2009 - 2010
Nicholas School of the Environment, Duke University

National Science Foundation (NSF) Graduate Research Fellow 2006 - 2009
Nicholas School of the Environment, Duke University

Graduate Teaching Assistant 2007 - 2008
Nicholas School of the Environment, Duke University

James B. Duke Fellow 2005 - 2006
Nicholas School of the Environment, Duke University

HONORS, AWARDS, and FELLOWSHIPS

Thomas Hilker Early Career Award for Excellence in Biogeosciences, American Geophysical Union (2019)
American Geophysical Union Conference Caregiver Support Award (2018)

Editor's Citation for Excellence in Reviewing, *Journal of Geophysical Research – Biogeosciences* (2018)
IU Sustainability Course Development Fellowship (2018)
NSF CAREER Award (2016)
IU Outstanding Faculty Collaborative Research Award, with Dr. Rich Phillips (2016)
IU Trustees Teaching Award (2015)
IU Center of Excellence for Women in Technology Outstanding Faculty Mentor Award (2015)
The IU – SPEA Student's Choice Award for Most Creative Teaching Methods (2015)
IU – SPEA Award for Outstanding Graduate Teaching (2014)
USDA Forest Service Merit Award (2014 & 2015)
NSF Graduate Research Fellowship (2006 – 2009)
James B. Duke Fellowship (2005 – 2009)
Eric I. Pas Award for most outstanding undergraduate research project (2002)
William Brewster Snow Award for Academic Excellence (2002)
Phi Beta Kappa (2002)

GRANTS, SUB-CONTRACTS, AND CO-OPERATIVE AGREEMENTS

Active projects

US Department of Energy via Lawrence Berkeley National Lab >\$2,400,000 to IU
Ameriflux Management Project – Morgan Monroe State Forest Core Site Funding. **K. Novick (PI)** and Rich Phillips (co-PI, IU). 2013 – 2025.

NSF Division of Environmental Biology \$763,019 to IU
CAREER: A network-oriented research and education plan to explore links between forest cover and temperature in the Eastern United States. **K. Novick (PI)**. 2016 – 2021.

NSF Division of Integrative Organismal Systems \$395,000 to IU
Collaborative Research: The coordinated structural and physiological responses of trees to water stress: an organismal approach. X. Yang (UVA-Project PI), M. Lerdau (UVA, co-PI), **K. Novick (institutional PI)**, R. Phillips (co-PI).

NASA Roses (Carbon Cycle Science) \$909,212 total, \$428,430 to IU
Impacts of climate and land-use/land-cover change on gross and net primary productivity in the Southeastern USA. C. Song (PI, University of North Carolina - Chapel Hill), T. Hwang (institutional PI, IU), **K. Novick (co-I)**. 2017 – 2020.

IU Environmental Resilience Institute \$221,000 (internal)
Ecosystem and climate consequences of forest community change. R. Phillips (PI), K. Novick (co-PI), J. Raff (co-PI, IU). 2019-2021.

Completed projects

US Department of Agriculture (NIFA – AFRI) \$469,263 to IU
Drought impacts on species-specific carbon uptake and growth in Eastern U.S. hardwood forests. **K. Novick (PI)**, J. Maxwell (co-I, IU), L. Wang (co-I, IU-PUI), J. Wood (co-I, U. of Missouri) and Rich Phillips (co-I, IU). 2017 – 2020.

NSF Division of Environmental Biology >\$2,000,000 total, \$72,000 to IU
LTER: Examining long-term southern Appalachian ecosystem dynamics through interactions and indirect effects. R. Jackson (PI, UGA). I am one of >30 funded collaborators. 2014 - 2019.

USDA Forest Service – Southern Research Station \$69,721 to IU
Understanding carbon and water cycling in an intensely managed, restored Loblolly Pine forest in southern Arkansas. **K Novick (PI)**. 2015 – 2017

USDA Forest Service – Southern Research Station \$31,885 to IU
Quantifying age-related hydraulic and biochemical constraints on tree photosynthesis in the southern Appalachian mountains. **K. Novick (PI)**. 2014-2016

Indiana University Faculty Research Support Program \$40,581
External Resubmission Grant - Exploring the links between surface temperature and forest cover in the Eastern U.S. **K. Novick (PI)**. 2015-2016

Indiana University Faculty Research Support Program \$75,000
Collaborative Research Grant - The drought effects on forest carbon uptake and water use-coupling stable isotopes, eddy covariance and process-based modeling. L. Wang (PI, IU-PUI), **K. Novick (co-I)**. 2013-2014.

US Department of Agriculture (NIFA – AFRI) \$463,773
Title and Project Dates: Consequences of stand age and structure on water yield. C. Miniati (PI, USDA Forest Service), J. Vose (co-I, USDA Forest Service), **K. Novick (co-I)**, S. Brantley (co-I, University of Minnesota), P. Bolstad (co-I, University of Minnesota). 2012-2016.

PUBLICATIONS

Manuscripts under review or in revision. Lab members are in bold.

Benson, M., Oishi, A.C., Miniati, C.F., **Denham, S.**, **Missik, J.E.** Phillips, R.P., Wood, J.D., **Novick, K.A.**
Hydraulic traits of trees growing in wet places: Do lessons learned from arid biomes translate to mesic forests? *Under review.*

Denham, S., Oishi, A.C., Miniati, C.F., **Benson, M.**, **Yi, K.**, and **Novick, K.A.** Eastern US deciduous tree species respond dissimilarly to declining soil moisture but similarly to rising evaporative demand. *Under review.*

Jones, J., Groffman, P., Blair, J., Dvais, F., Dugan, H., Euskirchen, E., Frey, S., Harms, T., Hinckley, E.-L., Kosmala, M., Loberg, S., Malone, S., **Novick, K.**, Record, S., Rocha, A., Ruddell, B., Stanley, E., Sturtevant, C., Thorpe, A., White, T., Wieder, W., Zhai, L., Zhu, K. The age of network science: Emerging synergies between NEON and the US LTER networks. *Under review.*

Oh, Y., Welp, L., **Yi, K.**, **Benson, M.**, **Novick, K.**, Zhuang, Q. Seasonal leaf carbon isotope signals reveal species-specific carbon allocation strategies of temperate deciduous trees. *Under review.*

Wu, G., Guan, K., Li, Y., **Novick, K.A.**, Feng, X., McDowell, N., Konings, A., Thompson, S.E., Kimball, J.S., De Kauwe, M.G., Ainsworth, E.A., and Jiang, C. Assessing and interpreting the interannual variability of plant iso/anisohydry at species and ecosystem levels. *Under review*.

Yi, K., Smith, J., Jablonski, A., Tatham, E., Scanlon, T., Lerdau, M., **Novick, K.**, Yang, K. High Heterogeneity in Canopy Temperature among Co-occurring Tree Species in a Temperate Forest. *Under review*.

Peer-reviewed journal articles, published or in press. Lab members are in bold.

65. Oishi, A.C., **Denham, S.O.**, Brantley, S.B., **Novick, K.A.**, Bolstad, P., Miniati, C.F. Quantifying the effects of stand age on components of forest evapotranspiration. *Acta Horticulturae*. *In press*.

64. Pastorello, G. + >150 Fluxnet data providers **including K. Novick** (2020). The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. *Scientific Data*. *In press*.

63. Au, T.F., Maxwell, J.T., **Novick, K.A.**, Robeson, S., Warner, S., Lockwood, B., Phillips, R., Harley, G., Telewski, F., Therrell, M., Pederson, N. (in press) Demographic shifts in eastern US forests increase the impact of late-season drought on forest growth. *Ecography*. *In press*.

62. Lanning, M., Wang, L., **Benson, M., Zhang, Q., Novick, K.A.** Canopy isotopic investigation reveals different dynamics of water uptake for maples and oaks. *Phytochemistry*, 175, p.112389.

61. Groissord, C., Buckley, T., Cernusak, L., **Novick, K.**, Poulter, B., Seigwolf, R., Sperry, J., McDowell, N. (in press) Plant responses to rising vapor pressure deficit. *New Phytologist*.

60. **Zhang, Q., Barnes, M., Benson, M.,** Burakowski, E., Oishi, A.C., Ouimette, A., Sanders-DeMott, R., Stoy, P., **Wenzel, M., Yi, K., Novick, K.A.** (in press) Reforestation and surface cooling in the Eastern US: mechanisms and implications. *Global Change Biology* 26, 3384–3401.

59. **Novick, K.A.**, Katul, G.G. (in press) Reforestation and the duality between surface and air temperature. *Journal of Geophysical Research – Biogeosciences*, 124, <https://doi.org/10.1029/2019JG005543>.
AGU EOS SPOTLIGHT article for this paper: Sidder, A. (2020), Reforestation as a local cooling mechanism, *Eos*, 101, <https://doi.org/10.1029/2020EO142166>.

58. Lanning, M., Wang, L., **Novick, K.** (in press) The importance of cuticular permeance in assessing plant water use strategies. *Tree Physiology*.

57. Rannik, Ü., Vesala, T., Peltola, O., **Novick, K.A.**, Aurela, M., Järvi, L., Montagnani, L., Mölder, M., Peichl, M., Pilegaard, K., Mammarella, I. (in press) Impact of coordinate rotation on eddy covariance fluxes at complex sites. *Agricultural and Forest Meteorology*.

56. Maxwell, J.T., Harley, G., **Mandra, T., Yi, K.**, Kannenberg, S., Au, T., Robeson, S., Pederson, N., Sauer, P., and **Novick, K.** (2019) Higher CO₂ concentrations and lower acidic deposition have not changed drought response in hardwood trees in the Midwestern US. *Journal of Geophysical Research – Biogeosciences* 124, DOI: 10.1029/2019JG005298.

55. Guerrieri, R., Belmecheri, S., Ollinger, S., Asbjornsen, H., Jennings, K., Xiao, J., Stocker, B.D., Martin, M., Hollinger, D., Bracho-Garrilo, R., Clark, K., Dore, S., Kolb, T., Munger, J.W., **Novick, K.**, Richardson, A.D. (2019) Disentangling the role of photosynthesis and stomatal conductance on rising forest water-use efficiency. *Proceedings of the National Academy of Sciences* 116, 16909-16914.

54. Ficklin, D., Abatzoglou, J., **Novick, K.** (2019) A new perspective on terrestrial hydroclimatic intensity that incorporates both supply and demand. *Geophysical Research Letters*. 46, 8114-8124.

53. **Zhang, Q.**, Ficklin, D.L., Manzoni, S., Wang, L., Way, D., Phillips, R.P. and **Novick, K.A.** (2019) Response of ecosystem intrinsic water use efficiency and gross primary productivity to rising vapor pressure deficit. *Environmental Research Letters*, 14(7), p.074023.
52. Burakowski, E.A., Tawfik, A., Ouimette, A., Lepine, L., Zarzycki, C., Novick, K., Ollinger, S. and Bonan, G. (2019) Simulating surface energy fluxes using the variable-resolution Community Earth System Model (VR-CESM). *Theoretical and Applied Climatology* 138, 115-133.
51. Jiao, W., Wang, L., **Novick, K.**, Chang, Q. (2019) A new station-enabled multi-sensor integrated index for drought monitoring. *Journal of Hydrology* 574, 169-180.
50. Kannenberg, S., **Novick, K.**, Alexander, R., Maxwell, J.T., Moore, D., Phillips, R. Anderegg, W. (2019) Linking drought legacy effects across scales: From leaves to tree rings to ecosystems. *Global Change Biology* 25, 2978-2992.
49. **Novick, K.**, Konings, K.G., Gentine, P. (2019) Beyond soil water potential: An expanded view on isohydricity including land-atmosphere interactions and phenology. *Plant Cell & Environment* 42, 1802-1815.
48. Kannenberg, S., **Novick, K.**, Phillips, R. (2019) Anisohydric behavior linked to persistent hydraulic damage and delayed drought recovery across tree sapling species. *New Phytologist* 22, 1862-1872.
47. Jiao, W., Wang, L., Chang, Q., **Novick, K.A.** (2019) A new multi-sensor integrated index for drought monitoring. *Agricultural and Forest Meteorology* 268, 74-85.
46. **Yi, K.**, Maxwell, J.T., **Wenzel, M.K.**, Roman, D.T., Sauer, P.E., Phillips, R.P., **Novick, K.A.** (2019) Linking variation in intrinsic water-use efficiency to isohydricity: a comparison at multiple spatio-temporal scales. *New Phytologist* 221, 195-208.
45. **Denham, S.O.**, , Coyle, D.R., Oishi, A.C., Bullock, B.P., Heliövaara, A.K., **Novick, K.A.** (2019) Tree resin flow dynamics during an experimentally induced attack by *Ips avulsus*, *I. calligraphus*, and *I. grandicollis*. *Canadian Journal of Forest Research* 49, 53-63.
44. Asbjornsen, H., Campbell, J.L., Jennings, K.A., Vadeboncoeur, M.A., McIntire, C., Templer, P.H., Phillips, R.P., Bauerle, T.L., Dietze, M.C., Frey, S.D., Groffman, P.M., Guerrieri, R., Hanson, P.J., Kelsey, E.P., Knapp, A.K., McDowell, N.G., Meir, P., **Novick, K.A.**, Ollinger, S.V., Pockman, W.T., Schaberg, P.G., Wullschleger, S.D., Smith, M.D., Rustad, L. (2018) Guidelines and considerations for designing precipitation manipulation experiments in forest ecosystems. *Methods in Ecology and Evolution* 9, 2310-2325.
43. Tor-ngern, P., Oren, R., Palmroth, S., **Novick, K.**, Linder, S., Ottosson-Löfvenius, Näsholm, T. (2018) Water balance of pine forests: synthesis of new and published results. *Agricultural and Forest Meteorology* 259, 107-117.
42. **Zhang, Q.**, **Novick, K.**, Manzoni, S., Scott, R.L, Oishi, A.C., Finzi, A., Vargas, E.R., Phillips, R.P. (2018) Photosynthesis and soil moisture affect the seasonal soil respiration-temperature hysteresis relationship. *Agricultural and Forest Meteorology* 259, 184-195.
41. Oishi, A.C., Miniati, C.F., **Novick, K.A.**, Brantley, S.T., Vose, J.M., Walker, J.T. (2018) Warmer temperatures reduce net carbon uptake, but not water use, in a mature southern Appalachian forest. *Agricultural and Forest Meteorology* 252, 269-282.
40. Burakowski, E., Tawfik, A., Ouimette, A., Lepine, L., **Novick, K.**, Ollinger, S., Zarzycki, C., Bonan, G. (2018) The role of surface roughness, albedo, and Bowen ratio on ecosystem energy balance in the Eastern United States. *Agricultural and Forest Meteorology* 249, 367-376.

39. **Novick, K.A.**, Biederman, J., Desai, A., Litvak, M., Moore, D., Scott, R.L. Torn, M.S. (2018) AmeriFlux – A Coalition of the Willing. *Agricultural and Forest Meteorology* 249, 444-456.
38. Liu, Y., Wang, Z., Sun, Q., Erb, A., Li, Z., Schaaf, C., Zhang, X., Roman, M., Scott, R., **Zhang, Q., Novick, K.A.**, Bret-Harte, M.S., Petroy, S. (2017) Evaluation of the VIIRS BRDF, Albedo and NBAR products suite and an assessment of continuity with the long term MODIS record. *Remote Sensing of Environment* 201, 256-274.
37. Momen, M., Wood, J.D., **Novick, K.A.**, Pangle, R., Pockman, W.T., McDowell, N.G., Konings, A., Interacting effects of leaf water potential and biomass on vegetation optical depth. (2017) *Journal of Geophysical Research – Biogeosciences*. <https://doi.org/10.1002/2017JG004145>
36. Kannenberg, S., **Novick, K.A.**, Phillips, R.P. (2017) Coarse roots prevent declines in whole-tree non-structural carbohydrate pools during drought in an isohydric and an anisohydric species. *Tree Physiology* 28, 582-590.
35. Montane, F., Fox, A.M., Arellano, A.F., MacBean, N., Alexander, M.R., Dye, A., Bishop, D., Trouet, V., Babst, F., Hessel, A.E., Pederson, N., Blanken, P.D., Bohrer, G., Gough, C.M., Litvak, M.E., **Novick, K.A.**, Phillips, R.P., Wood, J.D., Moore, D.J.P. (2017) Evaluating the effect of alternative carbon allocation schemes in a land surface model (CLM4.5) on carbon fluxes, pools and turnover in temperate forests. *Geoscientific Model Development* 10, 3499-3517
34. Hwang, T., Gholizadeh, H., Sims, D.A., **Novick, K.A.**, Brzostek, E.R., Phillips, R.P., Robeson, S.M., **Roman, D.T.**, Rahman, A.F. (2017) . Capturing species-level drought responses in a temperate deciduous forest using ratios of photochemical reflectance indices between sunlit and shaded canopies. *Remote Sensing of the Environment* 199: 350-359.
33. Runkle, R.K., Rigby, J.R., Reba, M.L., Anapalli, S.S., Bhattacharjee, J., Krauss, K.W., Liang, L., Locke, M., **Novick, K.A.**, Sui, R., Suvocarev, K., White, P.M. Jr. (2017) Delta-Flux: An eddy covariance network for a climate-smart lower Mississippi Basin. *Agricultural & Environmental Letters* 2, 170003-170003.
32. **Yi, K.**, Dragoni, D., Phillips, R., **Roman, D.T.**, **Novick, K.A.** (2017) Dynamics of stem water uptake among isohydric and anisohydric species experiencing a severe drought. *Tree Physiology* 37, 1379-1392.
31. Ficklin, D, and **Novick, K.A.** (2017) Historic and projected changes in evaporative demand suggest a continental-scale drying of the U.S. atmosphere. *Journal of Geophysical Research – Atmospheres*, 122, 2061–2079, doi:10.1002/2016JD025855.
30. **Sulman, B.N.**, **Roman, D.T.**, **Yi, K.**, Wang, L., Phillips, R., **Novick, K.A.** (2016) Atmospheric demand for water can limit forest carbon uptake and transpiration as severely as soil drying. *Geophysical Research Letters* 43, 9686-9695.
29. Zscheischler, J., Fatichi, S., Wolf, S., Blanken, P., Bohrer, G., Clark, K., Desai, A., Hollinger, D., Keenan, T., Novick, K.A., Seneviratne, S.I. (2016) Short-term favorable weather conditions are an important control of interannual variability in carbon and water fluxes in temperate forests. *Journal of Geophysical Research – Biogeosciences* 21, 2186-2198.
28. Tian, C., Wang, L., **Novick, K.A.** (2016) On the concentration and delta dependence of water vapor δD , $\delta^{18}O$ and $\delta^{17}O$ measurements using an off-axis integrated cavity output spectrometer. *Rapid Communications in Mass Spectrometry* 30, 2077-2086.

27. **Novick, K.A.**, Ficklin, D., Stoy, P.C., Williams, C.A., Bohrer, G., Oishi, A.C., Papuga, S.A., Blanken, P., Noormets, A., **Sulman, B.**, Scott, R.L., Wang, L., Phillips, R. (2016) The increasing importance of atmospheric demand for ecosystem water and carbon fluxes. *Nature Climate Change* 6, 1023-1027.
26. **Sulman, B.N., Roman, D.T.** Scanlon, T.M., Wang, L., **Novick, K.A.** (2016) Comparing methods for partitioning a decade of carbon dioxide and water vapor fluxes in a temperate forest. *Agricultural and Forest Meteorology* 226, 229-245.
25. Wagle, P., Xiao, X., Kolb, T., Law, B., Wharton, S., Monson, R., Chen, J., Blanken, P., **Novick, K.A.**, Dore, S., and Noormets, A. (2016) Differential responses of carbon and water vapor fluxes to climate among evergreen needleleaf forests in the USA. *Ecological Processes* 5, 8. DOI: 10.1186/s13717-016-0053-5.
24. **Novick, K.A.**, Oishi, A.C., Miniati, C.F. (2016) Cold air drainage flows subsidize montane valley ecosystem productivity. *Global Change Biology* 22, 4014–4027.
23. Manoli, G., Domec, J.-C., **Novick, K.A.**, Oishi, A.C., Marani, M., Katul, G. (2016). Soil-plant-atmosphere conditions regulating convective cloud formation above southeastern US pine plantations. *Global Change Biology* 22, 2238–2254.
22. **Novick, K.A.**, Miniati, CF, Vose, JM. (2016). Drought limitations to leaf-level gas exchange: results from a model linking stomatal optimization and cohesion tension theory. *Plant Cell & Environment* 39, 583-596.
21. **Roman, D.T., Novick, K.A.**, Brzostek, E., Dragoni, D., Rahman, F., and Phillips, R. (2015). The role of isohydric and anisohydric species in determining ecosystem-scale response to severe drought. *Oecologia* 179, 641-654.
20. **Novick, K.A.**, Oishi, A.C., Ward, E., Siqueira, M.B.S., Juang, J.-Y., and Stoy, P.C. (2015). On the difference in the net ecosystem exchange of CO₂ between deciduous and evergreen forests in the southeastern United States. *Global Change Biology* 21, 827-842.
19. Matheny, A.M., Bohrer, G., Stoy, P., Baker, I., Black, A., Desai, A., Deitze, M., Gough, C., Ivanov, V., Jassal, P., **Novick, K.**, Schäfer, K., and Verbeek, H. (2014). Characterizing the diurnal patterns of errors in the prediction of evapotranspiration by several land-surface models: an NACP analysis. *Journal of Geophysical Research – Biogeosciences* 119, 1458 – 1473.
18. Pryor, S.C., Horsby, K. and **Novick, K.A.** (2014). Multi-year measurements of nucleation mode particles through a deciduous forest canopy. *Atmospheric Chemistry & Physics* 14, 18181-18206.
17. Stoy, P.C., Lin, H., **Novick, K.A.**, Siqueira, M.B.S., and Juang, J.-Y. (2014). The role of vegetation on the ecosystem radiative entropy budget and trends along ecological succession. *Entropy* 16, 3710-3731.
16. Luyssaert, S., Jammot, M., Stoy, P.C., Estel, S., Pongratz, J., Ceschia, E., Churkina, G., Don, A., Erb, K., Ferlicoq, M., Gielen, B., Brunwald, T., Houghton, R.A., Klumpp, K., Knohl, A., Kolb, T., Kuemmerle, T., Laurila, T., Lohila, A., Loustau, D., McGrath, M.J., Meyfroidt, P., Moors, E., Naudts, K., **Novick, K.**, Otto, J., Pilegaard, K., Pio, C., Rambal, S., Rebmann, C., Ryder, J., Suyker, A.E., Varlagin, A., Wattenbach, M., Dolman, A.J. (2014). Land management and land-cover change have impacts of similar magnitude on surface temperature. *Nature Climate Change* 4, 389-393.
15. Kim, D., Oren, R., Oishi, A.C., Hsieh, C.-I., Phillips, N., **Novick, K.A.**, and Stoy, P.C. (2014). The effect of wind velocity on transpiration in a mixed broadleaved deciduous forest. *Agricultural and Forest Meteorology* 187, 62-71.

14. **Novick, K.A.**, Miniati, C.F., Brantley, S.B., Walker, J.T., and J.M. Vose. (2014). Inferring the contribution of advection to total ecosystem scalar fluxes over a tall forest in complex terrain. *Agricultural and Forest Meteorology* 185, 1-13.
13. **Novick, K.A.**, Walker, J.T., Chan, W.S., Sobek, C.M., and J.M. Vose. (2013). Eddy covariance measurements with a new fast-response, enclosed-path analyzer: spectral characteristics and cross-system comparison. *Agricultural and Forest Meteorology* 181, 17-32.
12. Campbell, P.P.K., Middleton, E., Thome, K.J., Kokaly, K.F., Huemmrich, K.F., Lagomasino, D., **Novick, K.A.**, Brunsell, N.A. (2012). EO-1 Hyperion reflectance time series at calibration and validation sites: stability and sensitivity to seasonal dynamics. *IEEE Journal of Select Topics in Applied Earth Observations and Remote Sensing* 6, 276-290.
11. **Novick, K.A.**, G.G. Katul, H.R. McCarthy, and R. Oren. (2012). Increased resin flow in mature pine trees growing under elevated CO₂ and moderate soil fertility. *Tree Physiology* 32, 752-763.
10. Oishi, A.C., Oren, R., **Novick, K.A.**, Palmroth, S., Katul, G. (2010). Inter-annual invariability of forest evapotranspiration and its consequences to water flow downstream. *Ecosystems* 13, 421 – 436.
9. Avissar, R., Holder, H.S., Abehserra, N., Bolch, M.A., **Novick, K.A.**, Canning, P., Prince, K., Magalhaes, N., Katul, G., Walko, R.L., Johnson, K.M. (2009). The Duke University Helicopter Observation Platform. *Bulletin of the American Meteorological Society* 90, 939 – 954.
8. **Novick, K.A.**, Oren, R., Stoy, P.C., Siqueira, M.B.S., Katul, G.G. (2009). Nocturnal evapotranspiration in eddy-covariance records from three co-located ecosystems in the southeastern U.S.: Implications for annual fluxes. *Agricultural and Forest Meteorology* 149, 1491-1504.
7. **Novick, K.A.**, Oren, R., Stoy, P.C., Siqueira, M.B.S., Katul, G.G. (2009). The relationship between reference canopy conductance and simplified hydraulic architecture. *Advances in Water Resources* 32, 808-819.
6. Stoy PC, Katul, G.G., Siqueira, M.B.S., Juang, J.-Y., **Novick, K.A.**, McCarthy, H.R., Oishi, A.C., Oren, R. (2008). Role of vegetation in determining carbon sequestration along ecological succession in the southeastern United States. *Global Change Biology* 14, 1409-1427.
5. Juang J.-y., Katul, G.G., Siqueira, M.B.S., Stoy, P.C. **Novick, K.A.** (2007). Separating the effects of albedo from eco-physiological changes on surface temperature along a successional chronosequence in the southeastern United States. *Geophysical Research Letters* 34, doi:10.1029/2007GL031296.
4. Stoy, P.C., Palmroth, S., Oishi, A.C., Ward, E., Siqueria, M.B.S., Juang, J.-Y., **Novick, K.A.**, Johnsen, K., Katul, G.G., Oren, R. (2007). Are ecosystem carbon inputs and outputs coupled at short time scales? A case study from adjacent pine and hardwood forests using impulse-response analysis. *Plant, Cell and Environment* 6, 700-710.
3. Stoy, P., Katul, G.G., Siqueria, M.B.S., Juang, J.-Y., **Novick, K.A.**, McCarthy, H.R., Oishi, A.C., Uebelherr, J.M., Kim., H.-S., Oren, R. (2006). Separating the effects of climate and vegetation on evapotranspiration along a successional chronosequence in the southeastern U.S. *Global Change Biology* 12, 1-21.
2. Stoy, P., Katul, G.G., Siqueira, M.B.S., Juang, J.-Y., **Novick, K.A.**, Uebelherr, J.M., Oren, R. (2006). An evaluation of models for partitioning eddy covariance-measured net ecosystem exchange into photosynthesis and respiration. *Agricultural and Forest Meteorology* 141, 2-18.
1. **Novick, K.A.**, Stoy, P.C., Katul, G.G., Ellsworth, D.S., Siqueira, M.B.S., Juang, J.-Y., Oren, R. (2004). Carbon dioxide and water vapor exchange in a warm temperate grassland. *Oecologia* 138, 259-274.

Book Chapters

1. Katul, G. and **Novick, K.A.** 2009. Evapotranspiration. In: Gene E. Likens, (Editor) *Encyclopedia of Inland Waters*. Volume 1, pp. 661-667 Oxford: Elsevier.

PRESENTATIONS

Invited lectures and seminars

Northern Arizona University. School of Informatics, Computing, and Cyber Systems. April 2020. (virtual)

University of Washington. Jill Fredericksen-Adams Endowed Lecture. November 2019.

Massachusetts Institute of Technology (MIT). September 2019.

Coweeta LTER Retrospective Symposium. Dillard, GA. May 2019.

University of Illinois, Urbana-Champaign. Department of Plant Biology. February 2019.

AmeriFlux Decadal Synthesis Workshop. August 2018. Berkeley, California.

University of Virginia. Department of Environmental Science. October 2017. Charlottesville, VA.

Columbia University, Department of Earth and Environmental Engineering. September 2017. New York, NY.

Indiana University, School of Public and Environmental Affairs. August 2017. Bloomington, IN.

Flux Course, University of Colorado Mountain Research Station. July 2017. Nederland, CO.

Workshop on land cover, carbon uptake, and energy balance in the Southeastern US. Mary 2017. Coweeta Hydrologic Laboratory, Otto, NC.

Stanford University, Department of Earth Sciences. May 2017. Stanford, CA. Title:

Workshop on Synergies between LTER and NEON. March 2017. Santa Barbara, CA.

University of Arizona, School of Natural Resources and the Environment. February 2017. Tucson, AZ.

Science on Tap, Panel Discussion on Climate Change. Bloomington, IN 2017.

Indiana University, Lecture for Outstanding Faculty Collaboration Award. December 2016. Bloomington, IN.

Flux Course, University of Colorado Mountain Research Station. July 2016. Nederland, CO.

University of Arkansas – Monticello, School of Forestry and Natural Resources. April 2016. Monticello, AR.

Indiana Department of Natural Resources, Division of Forestry. February 2016. Madison, IN.

Purdue University, Department of Earth, Atmospheric and Planetary Sciences. November 2015. West Lafayette, IN.

University of Wisconsin – Madison, Department of Atmospheric and Ocean Sciences. October 2015. Madison, Wisconsin.

USDA Natural Resources Conservation Service, Central States Soils Workshop. September 2015. Martinsville, Indiana.

Flux course, University of Colorado Mountain Research Station. July 2015. Nederland, CO.

Indiana University – Purdue University – Indianapolis (IU-PUI), Department of Earth Sciences. March 2015. Indianapolis, Indiana.

University of Illinois – Urbana-Champaign, Department of Natural Resources and Environmental Science. February 2015. Urbana, IL.

Flux course, University of Colorado Mountain Research Station. July 2014. Nederland, CO.

Indiana Department of Natural Resources, Forest Stewardship Committee Meeting. April 2014. Martinsville, Indiana.

The Ohio State University, Department of Civil and Environmental Engineering. February 2013. Columbus, Ohio.

North Carolina Museum of Natural Science. April 2012. Raleigh, NC.

Duke University, Program in Ecology. April 2011. Durham, North Carolina.

USDA Forest Service, Coweeta Hydrologic Laboratory. March 2011. Otto, North Carolina.

Conference presentations (* indicates poster):

Novick, K.A., Barnes, M., Katul, G., Phillips, R.P., Stoy, P.C., and Zhang, Q. (2019) Biogeochemical legacies of a century of Eastern US reforestation. (Invited). American Geophysical Union Fall Meeting. San Francisco, CA.

Novick, K.A. and Moore, D.J.P. (2019). More than NEE: The rich problem-solving potential of land-atmosphere flux observation networks. (Invited). American Geophysical Union Fall Meeting. San Francisco, CA.

Novick, K.A., Benson, M.C., Denham, S.O., Phillips, R.P. and Yi, K. (2019). Are plant responses to drying soil and drying air coupled across species and ecosystems? (Invited). American Geophysical Union Fall Meeting. San Francisco, CA.

Novick, K.A. (2019). Harnessing the power of an environmental observation network to understand land-atmosphere interactions during drought. (Invited). 99th meeting of the American Meteorological Society, 33rd Conference on Hydrology. Phoenix, AZ.

Novick, K.A., Konings, A., Gentine, P. (2018). Beyond soil water potential: Incorporating land-atmosphere interactions and phenology into a popular plant hydraulics framework. American Geophysical Union Fall Meeting. Washington, D.C.

Novick, K.A., Benson, M.C., Roman, D.T., Kannenberg, S., Denham, S.O., Yi, K., Phillips, R. (2018). The perplexing drought response strategy of Eastern Oak species, evaluated in the context of their ongoing decline. (Invited) American Geophysical Union Fall Meeting. Washington, D.C.

Novick, K.A. (2018) The increasing importance of humidity in determining tree response to drought. (Invited). Central Hardwoods Forest Conference. Bloomington, IN.

- Novick, K.A., Ficklin, D., Stoy, P.C., Williams, C.A., Bohrer, G., Oishi, A.C., Papuga, S.A., Blanken, P., Noormets, A., Sulman, B., Scott, R.L., Wang, L., Yi, K., Roman, D.T., Phillips, R. (2016) Harnessing Long-Term Flux Records to Better Understand Ecosystem Response to Drought (Invited). American Geophysical Union Fall Meeting. San Francisco, CA.
- Novick, K.A., Oishi, A.C., Roman, D.T., Benson, M., Miniati, C.F. (2016) Hydrodynamics of isohydric and anisohydric trees: insights from models and measurements (Invited). American Geophysical Union Fall Meeting. San Francisco, CA.
- Novick, K.A., Oishi, A.C., Miniati, C.F. (2016) Cold air drainage flows subsidize montane valley ecosystem productivity. Coweeta LTER Annual Summer Meeting, Otto, NC.
- Novick, K.A., Williams, C., Oishi, A.C., Phillips, R., Sulman, B., Bohrer, G., Ficklin, D. (2015) Vapor pressure deficit is as important as soil moisture in determining limitations to evapotranspiration during drought. AGU Fall Meeting, San Francisco, CA.
- *Novick, K.A., Oishi, A.C., Miniati, C.F. (2015) Interactions between climate and topography enhance Appalachian valley carbon uptake. LTER All-Scientists Meeting, Estes Park, CO.
- Novick, K.A., Oishi, A.C., Brantley, S.T., Miniati, C.F., Walker, J.T., Vose, J.M. (2014). Biosphere-atmosphere fluxes in complex terrain: Challenges and opportunities (invited). AGU Fall meeting, San Francisco, CA.
- *Novick, K.A., Roman, D.T., Brzostek, E.R., Dragoni, D., Phillips, R. (2014) A novel approach for diagnosing isohydric and anisohydric behavior during drought. AGU Fall Meeting, San Francisco, CA.
- *Novick, K.A., Roman, D.T., Brzostek, E.R., Dragoni, D., Rahman, A.F., Phillips, R. (2014) The role of isohydric and anisohydric species in determining ecosystem-scale response to severe drought. Annual Ameriflux PI meeting. Potomac, MD.
- *Novick, K.A., Miniati, C.F., Denham, S.O., Ritger, H.M., Williams, C., Guldin, J.M., Bragg, D., Coyle, D. (2013) The biophysical controls on tree defense against attacking bark beetles in managed pine forests of the Southeastern United States. AGU Fall meeting, San Francisco, CA.
- Novick, K.A., Bragg, D., Guldin, J., Vose, J., Miniati, C.F., (2013) Carbon and water vapor exchange in a 65-year-old pine forest: results from a new flux tower in the Crossett Experimental Forest. North American Forest Ecology Workshop, Bloomington, IN.
- *Novick, K.A., Miniati, C.F., Brantley, S.B., Walker, J.T., Vose, J.M. (2013) Estimates of ecosystem exchange in a new site challenged by topography, landscape heterogeneity, and environmental conditions. North American Carbon Program meeting, Albuquerque, NM.
- Novick, K.A., Ward, E., Oishi, A.C., Stoy, P.C.S. (2012) Inter-annual variability in the biosphere-atmosphere exchange of carbon dioxide and water vapor in adjacent pine and hardwood forests: links to drought, disturbance, and seasonality. AGU Fall Meeting, San Francisco, CA.
- *Novick, K.A., G.G. Katul, J.T. Walker, J.M. Vose. (2011) A new Ameriflux tower in mountainous terrain at the Coweeta Hydrologic Laboratory. *Ameriflux Science Meeting & 3rd NACP Investigators Meeting*. New Orleans, LA.
- *Novick, K.A., G.G. Katul, M.L. Ardon, J.L. Morse, E.S. Bernhardt. (2008) The impact of drainage and re-flooding of a restored wetland on ecosystem-scale greenhouse gas fluxes. *AGU Fall Meeting*. San Francisco, California, CA.

- *Novick, K.A., G.G. Katul, H.P Schmid, P.C. Stoy, C. Wayson. (2007) Effective physiological parameters for use in carbon and water cycling models. *Marie Curie iLEAPs workshop*. Helsinborg, Sweden.
- Novick, K.A., P.C. Stoy, J.J. Juang, M.B.S. Siqueira, G.G. Katul. (2007) What do the towers see at night? An exploration of nocturnal evapotranspiration fluxes from three adjacent ecosystems in the Southeastern U.S. *AGU Fall Meeting*. San Francisco, CA.
- Novick, K.A., G.G. Katul, H.P Schmid, P.C. Stoy, C. Wayson. (2006) Ecosystem functional convergence models of carbon and water cycling for use in bottom-up scaling strategies. *AGU Fall Meeting*. San Francisco, CA.
- Novick, K.A., R. Oren, P.C. Stoy, J.J. Juang, M.B. Siqueira, G. Katul. (2006) Inter-specific variation in mean canopy stomatal conductance with canopy architecture. *ESA Annual Meeting*. Memphis, TN.
- *Novick, K.A., G.G. Katul, J.J. Juang, M.B. Siqueira, P.C. Stoy. (2005) Towards a bottom-up scaling strategy for regional carbon and water cycling – field testing simple models for ecosystem assimilation and transpiration. *AGU Fall Meeting*, San Francisco, CA.

TEACHING ASSIGNMENTS

Indiana University

- E528 Forest Ecology and Management (3 credits, Fall 2017, 15 students per course)
- E426/E526 Applied Math for Environmental Science (3 credits, Spring 2013-2019 typically ~60 students per course)
- E183 – Environment and People (Fall 2015, 2018, 2019, typically ~50 students per course)
- E555 – Topics in Environmental Science – Watershed Hydrology (3 credits, Fall 2013, 2014, typically <10 students per course)
- SPEA Advanced Math Camp (August 2013 - 2019, typically ~40 students per course)

Duke University

- ENV734L – Watershed Hydrology (Teaching Assistant, Fall 2007, 2008)

PROFESSIONAL SERVICE AND ACTIVITIES

- Co-Organizer, Flux Course – a two week workshop for early career scientists studying land-atmosphere interactions. Held annually in July in Nederland, Colorado. (2016 – present)
- Member of the Science, Technology, & Education Advisory Committee (STEAC) to the National Ecological Observatory Network (NEON). (2018 – present).
- Member of the Committee on Agricultural and Forest Meteorology, American Meteorological Society (2018 – present)
- Founding member of the Fluxcourse Curriculum Committee (2018 – present).
- Ameriflux Science Steering Committee member (2017 – present)
- Editorial Board Member, *Agricultural and Forest Meteorology* (2019 – present)
- European Geophysical Union (EGU) Annual Meeting Session Convener; 2020

Ecological Society of America (ESA) Session Convener; 2020

Co-Chair, 2018 AmeriFlux PI meeting, held in Bloomington, IN, October 2018.

Co-Organizer, 2018 AmeriFlux technician workshop, held in Bloomington, IN, October 2018.

Co-Organizer, Flux Course syllabus workshop, held in Bloomington, IN, October 2018.

Lead Organizer, Workshop exploring “Land Cover, Carbon Uptake, and Energy Balance in the Southeastern US.” Held at the Coweeta Hydrologic Lab in Otto, NC (May 2017).

Guest-Editor, Special Issue of *Agricultural and Forest Meteorology* to celebrate the 20th anniversary of Ameriflux (2016-2017)

Steering Committee Member, Working Group on Synergies between LTER and NEON (2015 – 2018)

Co-chair, Ameriflux Principal Investigator’s meeting planning committee (2014 – 2015)

Review Committee member, Ameriflux Scholarship for Flux Course (2015 – present)

Proposal Panel Reviewer for NSF (2015, 2016), USDA (2017, 2019), and EPA (2015)

Ad – hoc Proposal Reviewer for NSF (2015, 2016, 2017), European Science Foundation (ESF, 2019), National Sciences and Engineering Research Council of Canada (NSERC, 2019).

Lead Organizer, Workshop for Midwestern Ameriflux Core Site scientists. Held in Bloomington, IN, (June 2013)

Peer Reviewer for: *Advances in Water Resources, Agricultural and Forest Meteorology, Bulletin of the American Meteorological Society, Biogeosciences Discussions, Biogeochemistry, Ecological Applications, Ecosphere, Environmental Research Letters, Global Biogeochemical Cycles, Global Change Biology, Hydrological Processes, Hydrology and Earth System Sciences (HESS), Journal of Forest Research, Journal of Geophysical Research –Atmospheres, Journal of Geophysical Research –Biogeosciences, Journal of Hydrology, Journal of Plant Ecology, Nature, Nature Climate Change, Nature Communications, Nature Geoscience, New Phytologist, Oecologia, Plant Cell and Environment, Plant Ecology and Diversity, Proceedings of the National Academy of Sciences (PNAS), Remote Sensing of Environment, Science Advances, Tree Physiology, Water Resources Research*

Workshop, Working Group, and PI Meeting Participation:

Ecological Forecasting Initiative (EFI) RCN workshop (virtual) May 2020

Keck Institute for Space Studies, Sensing Forest Water Dynamics from Space, Pasadena, CA, Oct. 2019

AmeriFlux Community Meeting, Boulder, CO, September 2019

Coweeta LTER Retrospective Symposium, Dillard, GA. May 2019

AmeriFlux Decadal Synthesis Workshop, Berkeley, CA, August 2018

Coweeta LTER PI Meeting, Otto, NC, June 2018

LTER Science Council Meeting, Madison, WI, May 2018

Workshop on Land Cover, Carbon Uptake, and Energy Balance in the Southeastern US, May 2017

Workshop on synergies between LTER and NEON, Santa Barbara, CA, March 2017

Coweeta LTER PI Meeting, Otto, NC, August 2016

DROUGHT-NET RCN Workshop. Sevilleta National Wildlife Refuge, New Mexico, May 2016

Coweeta LTER PI Meeting, Otto, NC, January 2016

Forest DROUGHT-NET workshop. Woodstock, NH, October 2014

LTER All-Investigators Meeting. Estes Park, CO. September 2015

Coweeta LTER PI Meeting, Otto, NC, June 2015

5th Annual NACP and Ameriflux Joint PI meeting. Washington, D.C. January 2015.

Coweeta LTER PI Meeting, Otto, NC, January 2015
Coweeta LTER PI Meeting, Otto, NC, Summer 2014
DOE and Ameriflux PI Meeting, Washington, D.C, May 2014
Coweeta LTER PI Meeting, Otto, NC, Winter 2014
Midwest Ameriflux Core Site PI workshop, Bloomington, IN, June 2013
North American Forest Ecology Workshop, Bloomington, IN, June 2013
Coweeta LTER PI Meeting, Otto, NC, Summer 2013
4th Annual NACP and Ameriflux Joint PI meeting. Albuquerque, NM, February 2013
Coweeta LTER PI Meeting, Otto, NC, Winter 2013
3rd Annual NACP and Ameriflux Joint PI meeting. New Orleans, LA, February 2011

ACADEMIC SERVICE

Committee and Program Service for O'Neill SPEA and the University

Director, O'Neill SPEA PhD Program in Environmental Sciences (2018 – present)
Steering Committee member for the IU Environmental Resilience Institute (2019 – present)
O'Neill SPEA Scheduling Committee (2019 – present)
O'Neill SPEA MSES Admissions & Curriculum Committee (2016 - present)
Indiana University Research and Teaching Preserve Executive Committee (2013 – present)
SPEA Search Committee – Environmental Informatics (2018-2019)
SPEA Search Committee – Conservation Biology (2018 – 2019)
SPEA Undergraduate Programs Advisory Committee (2015-2019)
Indiana University Committee on General Education (2016 – 2018)
SPEA Undergraduate Curriculum Committee (2015-2018)
Indiana University Research and Teaching Preserve Executive Board (2013 – present)
SPEA Ad-hoc committee to develop a new environmental sustainability masters degree (2014 –2015)
SPEA Ad-hoc committee on new course evaluations (2014-2015)
SPEA PhD Admissions Committee (2013-2015)
SPEA Search Committee – Hydrologist (2013-2014)
SPEA Search Committee – Eco-hydrologist (2012-2013)

Indiana University Student Service

PhD Thesis Committee Chair: Sander Denham (2016 – present), Michael Benson (2018 – present), Koong Yi (2013 – 2019)
PhD Thesis Committee Member: Tom Au (2019 – present), Lienne Sethna (2018 – present), Mollie Cain (2016 – present), Steve Kannenberg (2014 – 2018), Kara Prior (2016 – 2018), Aslan Aslan (2014–2016), Nichole Sharko (2013 –2016)
Masters Thesis Committee Chair: Justine Missik (2014-2015)
Masters Thesis Committee Member: Tom Au (2018-2019), Marika Lapham (2018 – 2019), Taylor Buskey (2018 – 2019)
Undergraduate Thesis Committee Chair: Lily Young (2018-2019)
Undergraduate Thesis Committee Member: Andy Reese (2018-2019)
Masters Student Independent Research Project Supervisor: Kathryn Shay (MPA-MSES, 2018 – present), Daniel Ishmael (MPA-MSES, 2018 – present), Glenia Pena (MPA-MSES, 2017 – present), Yuqian Zhang (MSES, 2017 – 2018), Tessa Mandra (MPA/MSES, 2016 – 2017), Martin Medicus

(MPA/MSES, 2016 – 2017), : Donovan Moxley (MPA-MSES, 2017), Rio Schondelmeyer (MPA/MSES, summer 2016), Yingchu Wei (MSES, Summer 2015), Haley Ritger (MPA-MSES, 2014-2015), Julie Savia (MPA-MSES, 2014-2015)

Undergraduate Student Research Experience Supervisor: Mitch Korolev (BAESS, 2019 – present); Jane Williams (BSES, 2019 – present), Lily Young (BSES, 2015-present), BJ Toole (BSPA, IU Civic Leaders Program, 2013-2014), Morgan Mosley (BSES, IU Cox Research Scholar, 2013-2014)

Mentored incoming freshman for a six-week research experience through the IU Groups STEM program for first-generation, underrepresented students (Summer 2016, Summer 2018, Summer 2020)

Mentored high school students for an intensive, one-week field research experience through the IU Jim Holland Summer Science Research Program for high achieving, under-represented students in STEM (Summer 2015, 2017, 2018, 2019)

Post-doctoral scholar supervisor: Mallory Barnes (2018 – 2019), Quan Zhang (2015 – present), Benjamin Sulman (2014-2015)

Research assistant supervisor and mentor: Michael Voyles (2017 – present), Michael Benson (2015 – 2018), Matt Wenzel (2016 – present), Tyler Roman (2013 – 2015)

Gatekeeper for the Calculus requirement of the Masters of Science in Environmental Science (MSES) program (2013–present)

Advisor for the SPEA Masters of Public Affairs and Masters of Science in Environmental Science (MPA/MSES) Water Resources concentration (2013–present)

Other service to the University and O'Neill SPEA

Member of the leadership committee for the ERI Environmental Resilience Report (2020 – present)

Coordinator – O'Neill SPEA Environmental Science happy hour (2018 – present)

Panel Discussant for a peer review workshops for the preparation of NSF CAREER awards, sponsored by the IU Proposal Development Services (2017, 2019)

Guest Instructor – IU Jim Holland RISE program for underrepresented minorities in STEM (2016 – 2017).

Guest Lecturer for SPEA Preview Days (2017)

Session Chair, SPEA Association of PhD Students Annual Conference (2016, 2017)

Panel Chair, SPEA Wider World Conference (2016, 2017)

IU Representative and judge for the Network of Schools of Public Policy, Affairs, and Administration (NASPAA) student simulation competition (2016)

Led efforts to solicit public, private, and non-profit partners for the Water Sustainability IU Grand Challenge proposal (PI Royer, 2015 – 2016)

Panel discussant: SPEA Distinguished Alumni Council (2014, 2015)

Panel discussant: SPEA Teaching & Learning committee meeting on best teaching practices (2015)

Panel discussant: SPEA Research Retreat panel on synergies in environmental science and policy (2014)

SPEA Environmental Science and Policy Seminar Series – Hosted approximately one speaker per semester (2013 – present)

Led outreach activities for IU Research and Teaching Preserve, including *Sciencefest* (2014) and organized hikes (2015, 2017)

PUBLIC SERVICE

Co-Organizer, Summer Science Institute: Education for Environmental Change. A series of 3-day workshops for K-12 educators held in Bloomington, Indiana (Summer 2018 - present)

Panel participant for a series of three workshops bringing together IU's Scientific Community and the Bloomington Evangelical Community to discuss climate change (September – October, 2019).

Coordinated a series of citizen science phenology monitoring activities in Bloomington in coordination with the Indiana University Research and Teaching Preserve (2017 – present). Over 15 events reaching hundreds for students and private citizens since 2016.

Provided the US Department of Energy with long-term data from multiple AmeriFlux flux tower monitoring sites (site codes US-MMS, US-BRG, US-DK1, US-DK2, US-DK3), which have been collectively downloaded >1,000 times by researchers all over the world

Maintained operations of a USDA-Forest Service surface-atmosphere flux monitoring tower in the Crossett Experimental Forest in Arkansas (2012 – 2019)

Provided technical expertise and student research assistant support to collaborators at the USDA Forest Service, Southern Research Station, Coweeta Hydrologic Laboratory in support of a number of projects (2013 – 2018)

Provided technical expertise and student research assistant support to the Indiana Department of Natural Resources – Division of Forestry for an ongoing analysis of their Continuous Forest Inventory (CFI) database (2016 – present)

Led more than a dozen field tours of the long running Morgan-Monroe State Forest Ameriflux tower site in collaboration with a number of public and non-profit organizations and groups, including the Indiana Department of Natural Resources, IU-PUI the Sycamore Land Trust, and Bloomington High School South (2013 – present)

Guest Speaker for the 2016 Indiana DNR Division of Forestry Annual Personnel Meeting

Guest Speaker for the Central States Soils Workshop organized by the Indiana Department of Natural Resources and the USDA Natural Resources Conservation Service, Fall 2015.

Guest Speaker – Indiana Department of Natural Resources Forest Stewardship Committee Meeting (2013)