IVAN J. FERNANDEZ, Ph.D.

Professor Emeritus and Climate Research Scientist

CONTACT INFORMATION

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EDUCATION

- **Ph.D.** - University of Maine (1981) - Forest Resources (Forest Soils)
- **M.S.** - University of Maine (1978) - Plant & Soil Sciences (Soil Chemistry)
- **B.A.** - Hartwick College (1975) - Biology (Plant Science)

EMPLOYMENT HISTORY

- **2023-present** - Professor Emeritus of Soil Science in the School of Forest Resources and Climate Change Institute and Climate Research Scientist
- **2012-2023** - Professor of Soil Science in the School of Forest Resources
- **2008-2023** - Cooperating Professor - Climate Change Institute
- **2012-2023** - Cooperating Professor - School of Food and Agriculture
- **1993-2012** - Professor of Soil Science in the Department of Plant, Soil and Environmental Sciences
- **1993-2012** - Cooperating Professor - School of Forest Resources
- **2006-2010** - Cooperating Professor - Center for Research on Sustainable Forests
- **1997-2002** - Chair - Department of Plant, Soil and Environmental Sciences
- **1990-1994** - Chair - Department of Plant, Soil, and Environmental Sciences
- **1987-1993** - Associate Professor of Soil Science and Cooperating Associate Professor of Forest Resources - University of Maine
- **1983-1987** - Assistant Professor of Soil Science and Cooperating Assistant Professor of Forest Resources - University of Maine
- **1981-1983** - Research Forester - National Council of the Paper Industry for Air and Stream Improvement, New York

AWARDS AND RECOGNITION

- **2025** - College of Earth, Life, and Health Sciences Outstanding Research Collaboration Award for the Biochar Research Collaborative
- **2024** - Distinguished Alumni Award, University of Maine School of Forest Resources
- **2018** - University of Maine Presidential Public Service Award
- **2010** - Named Fellow in the Soil Science Society of America
- **2010** - Sergei A. Wilde Distinguished Lectureship in Forest Soils - Soil Science Society of America
- **2008** - CASE/Carnegie Professor of the Year (Maine) - Washington DC
- **2007** - Distinguished Maine Professor - University of Maine
- **2004** - College of Natural Sciences, Forestry, and Agriculture Outstanding Research Award
- **1997** - G. Peirce and Florence Pitts Webber Award for Outstanding Research in Forest Resources

SELECTED PROFESSIONAL SERVICE

- **2019-2026** - Member - Maine Climate Council
- **2019-2026** - Member and Co-Chair of the Maine Climate Council's Scientific and Technical Subcommittee
- **2019-2026** - Member - Maine Climate Council's Natural and Working Lands Working Group
- **2022-present** - Director, Maine Climate Science Information Exchange
- **2021** - Member - Governor's Forest Carbon Program Task Force
- **2014-2022** - USDA Northeast Climate HUB - University of Maine representative
- **2007-2010** - Maine Science/Research Advisory Panel (Forestry Offsets) - Regional Greenhouse Gas Initiative (RGGI)
- **2003-2005** - Soil Science Society of America (Chair-elect/Chair Div. S-7, Forest, Range and Wildland Soils)
- **1985-2007** - National Atmospheric Deposition Technical Committee and Site Supervisor
- **2013-2019** - External Science Advisor to the Hubbard Brook Ecosystem Study (HBES - a NSF Long Term Ecological Study site)
- **1993-present** - Member - State of Maine Board of Certification for Geologists and Soil Scientists
- **2019-present** - Member - Advisory Council - Forest Society of Maine
- **2021-present** - Member - Board of Directors - Maine Conservation Alliance
- **2020-present** - Member - Board of Directors - Schoodic Institute
- **2021-2024** - Member - Maine Climate Corps Task Force

U.S. Environmental Protection Agency - Science Advisory Board Service

Advisory Committees

- **2015-2021** - Clean Air Scientific Advisory Committee (chartered CASAC)

- **2009-2014** - Advisory Council on Clean Air Compliance Analysis (chartered Council)
- **2009-2010** - Advisory Council on Clean Air Compliance Analysis, Ecological Effects Subcommittee (Chair)
- **2000-2006** - Science Advisory Board Ecological Process and Effects Committee (EPEC)

Panels of the EPA Science Advisory Board

- **2005-2007** - Ecological Risk Assessment Panel
- **2005-2006** - Metals Risk Assessment Framework Review Panel
- **2005-2006** - Geographic Information System Screening Tool Review Panel
- **2005** - Critical Ecosystem Assessment Model Review Panel
- **2005** - Katrina Soil and Sediment Sampling Plan Workgroup
- **2003** - Panel on Suspended and Bedded Sediments

Panels of the EPA Clean Air Scientific Advisory Committee (CASAC)

- **2015-2021, 2021-2024** - Secondary NAAQS Review Panel for Oxides of Nitrogen and Sulfur (Chair 2015-2018)

Panels of the EPA Advisory Council on Clean Air Compliance

- **2011** - Advisory Council on Clean Air Compliance Analysis Augmented for Review of Black Carbon
- **2009-2010** - Ecological Effects Subcommittee Augmented for Review of the Second Section 812 Prospective Study (Chair)

PROFESSIONAL AFFILIATIONS

- American Society of Agronomy (1979-present)
- Certified Soil Scientist - State of Maine (1984-present)
- Council for Agricultural Science and Technology (1986-1994)
- Maine Audubon (1985-present)
- Maine Association of Professional Soil Scientists (1984-present)
- Member - Council of Soil Science Examiners (CSSE) (1997-2012)
- Natural Resources Council of Maine (1985-present)
- Phi Kappa Phi (1979-present)
- Sigma Xi (1979-present)
- Society of American Foresters (1982-present)
- Society of Soil Scientists of Northern New England (1984-present)
- Soil Conservation Society of America (1979-present)
- Soil Science Society of America (1976-present)

MAINE CLIMATE SCIENCE ASSESSMENTS

- MCC STS. 2024. Scientific Assessment of Climate Change and Its Effects in Maine - 2024 Update. A Report by the Scientific and Technical Subcommittee (STS) of the Maine Climate Council (MCC). Augusta, Maine. 268 pp.
- MCC STS. 2020. Maine Climate Science Update 2021 - An Interim Communication of the Maine Climate Council's Scientific and Technical Subcommittee. Maine Climate Council (MCC). Augusta, Maine. 370 pp.
- MCC STS. 2020. Scientific Assessment of Climate Change and Its Effects in Maine. A Report by the Scientific and Technical Subcommittee (STS) of the Maine Climate Council (MCC). Augusta, Maine. 370 pp.
- Fernandez, I., S. Birkel, C. Schmitt, J. Simonson, B. Lyon, A. Pershing, E. Stancioff, G. Jacobson, and P. Mayewski. 2020. Maine's Climate Future 2020 Update. Orono, ME: University of Maine. climatechange.umaine.edu/climate-matters/mainesclimate-future/
- Fernandez, I.J., C.V. Schmitt, S.D. Birkel, E. Stancioff, A.J. Pershing, J.T. Kelley, J.A. Runge, G.L. Jacobson, and P.A. Mayewski. 2015. Maine's Climate Future: 2015 Update. Orono, ME: University of Maine. 24pp.
- Jacobson, G.L., I.J. Fernandez, P.A. Mayewski, and C.V. Schmitt (editors). 2009. Maine's Climate Future: An Initial Assessment. Orono, ME: University of Maine. 72 pp.
- Jacobson, G.L., I.J. Fernandez, P.A. Mayewski, and C.V. Schmitt. 2009. Maine's Climate Yesterday, Today, and Tomorrow. Maine Policy Review Vol. 17, No. 2. pp. 16-23

PUBLICATIONS (Since 2010)

Peer Reviewed Journal Articles

2025

- Stupak, I., Barusco, B., Briggs, R.D., Fernandez, I.J., Fraver, S., Grigaitė, A., Preece, C., Roth, B.E., Smith, C.T. 2025. Recovery of ecosystem carbon pools 35 years after whole-tree and stem-only clearcutting a red spruce - balsam fir forest in north-central Maine, USA. Forest Ecol Manag. In press.
- Avis, P.G., Goldman, L.L., Carrara, J., Fernandez, I.J. 2025. Six years later: Ectomycorrhizal fungal communities recovering after the end of long-term nitrogen and sulfur addition in a mixed-species temperate North American forest. Fungal Ecology. In press.
- Beugnon, R. et al. 2025. The Microclimate DataBase - turning the global SoilTemp project into an accessible archive for microclimate data. Scientific Data. In press.

2023

- Spaulding, N.E., Fernandez, I.J., Gassett, P.R. 2023. "University contributions to sustainability via state-level climate action plans in the USA", International Journal of Sustainability in Higher Education, https://doi.org/10.1108/IJSHE-01-2023-0020

- Chase, A.J., Erich, S., Fernandez, I.J., Birthisel, S.K., Ohno, T. 2023. Using Soil Testing Data to Monitor Changes in Maine Agricultural Soil Organic Carbon from 1995 to 2021. Communications in Soil Science and Plant Analysis, DOI:10.1080/00103624.2023.2256795.
- Lawrence, G., Fernandez, I., Bailey, S., Beier, C., Contosta, A., Lane, E., Murdoch, P., Nave, L., Quintana, A., Ross, D., White, A. 2023. Forming regional soil carbon networks to support effective climate change solutions. Soil Sci. Soc. Am. J. doi: 10.1002/saj2.20551.
- Gavin, A.L., Nelson, S.J., Saros, J.E., SanClements, M.D., Fernandez, I.J. 2023. Depth moderates DOC impact on cold-water refugia in small, northern temperate lakes. Water Resourc. Res. doi.org/10.1029/2022WR033430.
- Puhlick, J.J., Fernandez, I.J. 2023. Change in soil carbon, nitrogen, and phosphorus after timber harvesting in northern hardwood forests. Soil Sci. Soc. Am. J. doi: 10.1002/saj2.20496. 2023.
- Dykema, S., Nelson, S.J., Hovel, R., Saros, J.E., Fernandez, I.J., Webster, K.E. 2023. Biogeochemical shifts and zooplankton responses in post-CAAA northeastern lakes: The success of acid recovery, complexity of biological recovery, and value of long-term monitoring. Atmospheric Environment (in press).

2022

- Smith, C.T., Briggs, R.D., Stupak, I., Preece, C., Rezai-Stevens, A., Barusco, B., Roth, B.E., Fernandez, I.J., Simpson, M.J. 2022. Effects of whole-tree and stem-only clearcutting on forest floor and soil carbon and nutrients in a balsam fir (Abies balsamea (L.) Mill.) and red spruce (Picea rubens Sarg.) dominated ecosystem. For. Ecol. Manag. 519:120325. doi.org/10.1016/j.foreco.2022.120325.
- Simon, K.S., Anderson, D.S., Fernandez, I.J., Norton, S.A. 2022. Chronic nitrogen deposition induces phosphorus limitation of aquatic, but not terrestrial, decomposition. Ecosystems doi.org/10.1007/s10021-022-00743-y.
- Carrara, J.E., Fernandez, I.J., Brzostek, E.R. 2022. Mycorrhizal type determines root-microbial responses to nitrogen fertilization and recovery. Glob. Change Biol. 157:245-258. doi.org/10.1007/s10533-021-00871-y.
- Puhlick, J.J., Weiskittel, A.R., Fernandez, I.J., Solarik, K.A., Sleep, D.J.H. 2022. Evaluation of projected carbon accumulation after implementing different forest management treatments in mixed-species stands in northern Maine. Carbon Mgt. 13(1) 190-204. https://doi.org/10.1080/17583004.2022.2063761.

2021

- Patel, K.F., Fernandez, I.J., Nelson, S.J., Norton, S.A., Spencer, C.J. 2021. The Bear Brook Watershed in Maine: Multi-decadal whole-watershed experimental acidification. Hydrol. Proc. doi.org/10.1002/hyp.14147.
- Patel, K.F., Tatariw, C., MacRae, J.D., Ohno, T., Nelson, S.J., Fernandez, I.J. 2021. Repeated freeze-thaw cycles increase extractable, but not total, carbon and nitrogen in a Maine coniferous soil. Geoderma https://doi.org/10.1016/j.geoderma.2021.115353.

- Soucy, A.R., De Urioste-Stone, S., Fernandez, I.J., Weiskittel, A., Rahimzadeh-Bajgiran, P., Doak, T. 2021. Forest Policies and Adaptation to Climate Change in Maine: Stakeholder Perceptions and Recommendations. Maine Policy Review Vol. 30, No. 1, pp. 66-77.
- Wei, X., Hayes, D.J., Fernandez, I., Zhao, J., Fraver, S., Chan, C., Diao, J. 2021. Identifying key environmental factors explaining temporal patterns of DOC export from watersheds in the conterminous United States. J. Geophys Res Biogeosci 126, e2020JG005813. https://doi.org/10.1029/2020JG005813.
- Wei, X., Hayes, D.J., Fernandez, I., Fraver, S., Zhao, J., Weiskittel, A. 2021. Climate and atmospheric deposition drive the inter-annual variability and long-term trend in dissolved organic carbon flux in the conterminous United States. Sci. Tot. Env. /doi.org/10.1016/j.scitotenv.2021.145448
- Wei, X., Hayes, D., Fernandez, I. 2021. Fire reduces riverine DOC concentration draining a watershed and alters post-fire DOC recovery patterns. Environ. Res. Let. 16 024022.
- Carrara, J.E., Walter, C.A., Freedman, Z.B., Hostetler, A.N., Hawkins, J.S., Fernandez, I.J., Brzostek, E.R. 2021. Differences in microbial community response to nitrogen fertilization result in unique enzyme shifts between arbuscular and ectomycorrhizal dominated soils. Glob. Change Biol. 27:2049-2060. https://doi.org/10.1111/GCB.15523.
- Puhlick, J.J., Fernandez, I.J., Watson, J.W. 2021. Non-native earthworms invade forest soils in northern Maine, USA. Forests 12, 80. https://doi.org/10.3390/f12010080.

2020

- Patel, K.F., Tatariw, C., MacRae, J.D., Ohno, T., Nelson, S.J., Fernandez, I.J. 2020. Snowmelt periods as hot moments for soil N dynamics: A case study in Maine, USA. Environ. Monitor. Assess. 192:777. DOI.org/10.1007/s10661-020-08733-0.
- Patel, K.F., Fernandez, I.J., Nelson, S.J., Malcomb, J., Norton, S.A. 2020. Contrasting stream nitrate and sulfate response to recovery from experimental watershed acidification. Biogeochemistry Letters https://doi.org/10.1007/s10533-020-00711-5.
- Bai, X., Fernandez, I.J. 2020. Comparing publicly available databases to evaluate soil organic carbon in Maine, USA. Soil Sci. Soc. Am. J. 1-15 DOI:10.1002/saj2.20123.
- Hazlett, P., Emilson, C., Lawrence, G., Fernandez, I., Ouimet, R., Bailey, S. 2020. Reversal of forest soil acidification in the northeastern United States and eastern Canada: site and soil factors contributing to recovery. Soil Systems 4, 54; doi:10.3390/soilsystems4030054.
- Puhlick, J.J., Fernandez, I.J. 2020. Influence of mechanized timber harvesting on soil compaction in northern hardwood forests. Soil Sci. Soc. Am. J. 84:1737-1750. DOI: 10.1002/saj2.20127.
- Puhlick, J.J., Weiskittel, A.R., Kenefic, L., Woodall, C., Fernandez, I.J. 2020. Strategies for enhancing long-term carbon sequestration in mixed-species, naturally regenerated northern temperate forests. Carbon Mgt. 11(4): 381-397. https://doi.org/10.1080/17583004.2020.1795599
- Patel, K.F., Fernandez, I.J., Nelson, S.J., Spencer, C.J., Norton, S.A. 2020. The Bear Brook Watershed in Maine, USA: Long-term atmospheric deposition chemistry 1987 - 2012 ver 1. Environmental Data Initiative.

https://doi.org/10.6073/pasta/c207d374793da5168749d460a4933f2f (Accessed 2020-09-30).

- Patel, K.F., Fernandez, I.J., Nelson, S.J., Spencer, C.J., Norton, S.A. 2020. The Bear Brook Watershed in Maine, USA: Soil quantitative pit chemistry 1998 - 2010 ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/d100ba93b45049ed7bc7d81ef9aa9304 (Accessed 2020-09-30).
- Patel, K.F., Fernandez, I.J., Nelson, S.J., Spencer, C.J., Norton, S.A. 2020. The Bear Brook Watershed in Maine, USA: Soil moisture record 2003 - 2016 ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/5d2772e51968230ceec2242e8990529e (Accessed 2020-09-30).
- Patel, K.F., Fernandez, I.J., Nelson, S.J., Spencer, C.J., Norton, S.A. 2020. The Bear Brook Watershed in Maine, USA: Long-term stream chemistry 1986 - 2016 ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/04d5e1c0533b1e60537530f726876952 (Accessed 2020-10-01).
- Patel, K.F., Fernandez, I.J., Nelson, S.J., Spencer, C.J., Norton, S.A. 2020. The Bear Brook Watershed in Maine, USA: Long-term soil temperature 2001 - 2016 ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/5d3763b5bf1a7077a7acc2d337f6b094 (Accessed 2020-10-05).
- Patel, K.F., Fernandez, I.J., Nelson, S.J., Malcomb, J., Norton, S.A. 2020. Contrasting stream nitrate and sulfate response to recovery from experimental watershed acidification 1988 - 2018 ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/ac940d77e7a677efb8fe764421da1687 (Accessed 2020-10-26).

2019

- Puhlick, J.J., Fraver, S., Fernandez, I.J., Teets, A., Weiskittel, A.R., Kenefic, L.S. 2019. Site quality, disturbance, and vegetation effects on carbon storage and accumulation in old, mixed-species stands in central Maine, USA. Natural Res. J. 39(4): 429-441.
- Salvino, C.J., Patel, K.F., Fernandez, I.J., Gruselle, M.C., Tatariw, C., MacRae, J.D. 2019. Phorphorus limits nitrogen dynamics in the O horizon of a forested watershed in Maine, USA. Soil Sci. Soc. Am. J. doi:10.2136/sssaj2019.02.0043.
- Contosta, A.R., Casson, N.J., Garlick, S., Nelson, S.J., Ayres, M.P., Burakowski, E.A., Campbell, J., Creed, I., Eimers, C., Evans, C., Fernandez, I., Fuss, C., Huntington, T., Patel, K., Sanders-DeMott, R., Son, K., Templer, P., Thornbrugh, C. 2019. Northern forest winters have lost cold, snowy conditions that are important for ecosystems and human communities. Ecolog. Applic. doi: 10.1002/eap.1974.
- Patel, K.F., Fernandez, I.J., Nelson, S.J., Gruselle, M.C., Norton, S.A., Weiskittel, A.R. 2019. Forest N dynamics after 25 years of whole watershed N enrichment: The Bear Brook Watershed in Maine. Soil Science Society of America Journal. 83:S161-S174. doi: 10.2136/sssaj2018.09.0348.
- Belyazid, S., Phelan, J., Nihlgård, B., Sverdrup, H., Driscoll, C., Fernandez, I., Aherne, J., Teeling-Adams, L.M., Bailey, S., Arsenault, M., Cleavitt, N., Engstrom, B., Dennis,

R., Sperduto, D., Werier, D., Clark, C. 2019. Assessing the Effects of Climate Change and Air Pollution on Soil Properties and Plant Diversity in Northeastern U.S. Hardwood Forests: Model Setup and Evaluation. WASP 230:106. doi.org/10.1007/s11270-019-4145-6

- Muñoz Delgado, B.L., Kenefic, L.S., Weiskittel, A.R., Fernandez, I.J., Benjamin, J.G., Dibble, A.C. 2019. Northern mixedwood composition and productivity 50 years after whole-tree and stem-only harvesting with and without post-harvest prescribed burning. For. Ecol. Manage. 441:155-166.
- Sebestyen, S., Ross, D., Shanley, J., Elliott, E., Kendall, C., Campbell, J., Dail, D., Fernandez, I., Goodale, C., Lawrence, G., Lovett, G., McHale, P., Mitchell, M., Nelson, S., Shattuck, M., Wickman, T., Barnes, R., Bostic, J., Buda, A., Burns, D., Eshleman, K., Finlay, J., Nelson, D., Ohte, N., Pardo, L., Rose, L., Sabo, R., Schiff, S., Spoelstra, J., Williard, K. 2019. Unprocessed atmospheric nitrate in waters of the Northern Forest Region in the USA and Canada. ES&T (in press).
- Cheng, S.J., Hess, P.G., Wieder, W.R., Thomas, R.Q., Nadelhoffer, K.J., Vira, J., Lombardozzi, D.L., Gundersen, P., Fernandez, I.J., Schleppi, P., Gruselle, M.C., Moldan, F., Goodale, C.L. 2019. Decadal impacts of nitrogen additions on temperate forest carbon sinks: A data-model comparison. Biogeosciences 16: 2771-2793. doi.org/10.5194/bg-16-2771-2019.
- Minocha, R., Long, S., Turlapati, S.A., Fernandez, I. 2019. Evaluation of metabolic changes as indicators of physiological stress and overall health in trees exposed to N+S additions at the Bear Brook Watershed in Maine, USA. Ann. For. Sci. 76:25. doi.org/10.1007/s13595-019-0808-0.
- Sebestyen, S.D., Kendall, C., Elliott, E.M., Schiff, S.L., Barnes, R.T., Bostic, J.T., Buda, A.R., Burns, D.A., Campbell, J.L., Dail, D.B., Eshleman, K.N., Fernandez, I.J., Finlay, J.C., Goodale, C.L., Griffiths, N.A., Hall, S.J., Lawrence, G.B., Lovett, G.M., McHale, P.J., Mitchell, M.J., Nelson, D.M., Nelson, S.J., Ohte, N., Pardo, L.H., Rose, L.A., Ross, D.S., Sabo, R.D., Shanley, J.B., Shattuck, M.D., Spoelstra, J., Weintraub, S.R., Wickman, T.R., Williard, K.W.J. 2019. Nitrate isotope database for meteoric waters, surface waters, soil waters, and groundwaters. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2019-0003
- Patel, K.F., Jakubowski, M.D., Fernandez, I.J., Nelson, S.J., Gawley, W. 2019. Soil nitrogen and mercury dynamics seven decades after a fire disturbance: A case study at Acadia National Park. Water Air Soil Pollut. https://doi.org/10.1007/s11270-019-4085-1.
- McDonald, G.J., Norton, S.A., Fernandez, I.J., Hoppe, K.M., Dennis, J., Amirbahman, A. 2019. Chemical controls on dissolved phosphorus mobilization in a calcareous agricultural stream during base flow. Sci. Tot. Env. 660:876-885.

2018

- Heuck, C., Smolka, G., Whalen, E.D., Frey, S., Gundersen, P., Moldan, F., Fernandez, I.J., Spohn, M. 2018. Effects of long-term nitrogen addition on phosphorus cycling in organic soil horizons of temperate forests. Biogeochemistry 141:167-181. doi.org/10.1007/s10533-018-0511-5

- Patel, K.F., Fernandez, I.J. 2018. Nitrogen mineralization in O horizon soils during 27 years of nitrogen enrichment at the Bear Brook Watershed in Maine, USA. Environmental Monitoring and Assessment. 190:563. DOI: 10.1007/s10661-018-6945-3
- Gavin, A., Nelson, S., Klemmer, A., Fernandez, I., Strock, K., McDowell, W.H. 2018. Acidification and climate linkages to increased dissolved organic carbon in high elevation lakes. Water Res. Research https://doi.org/10.1029/2017WR020963.
- Patel, K., Nelson, S., Spencer, C., Fernandez, I.J. 2018a. Fifteen-year record of soil temperature at the Bear Brook Watershed in Maine. Scientific Data 5: 180153. DOI: 10.1038/sdata.2018.153.
- Patel, K., Nelson, S., Spencer, C., Fernandez, I.J. 2018b. Soil temperature record for the Bear Brook Watershed in Maine. PANGAEA. DOI:10.1594/PANGAEA.885860.
- Sullivan, T.J., Driscoll, C.T., Beier, C.M., Burtraw, D., Fernandez, I.J., Galloway, J.N., Gay, D.A., Goodale, C.L., Likens, G.E., Lovett, G.M., Watmough, S.A. 2018. Air pollution success stories in the United States: The Value of Long-Term Observations. Environ. Sci. Policy 84:69-73.
- SanClements, M.D., Fernandez, I.J., Adams, M.B., Roberti, J.A., Lee, R.H., Rue, G.A., McKnight, D.M. 2018. Long-term experimental acidification drives watershed scale shift in dissolved organic matter composition and flux. Environ. Sci. Tech. 52 (5), pp 2649-2657.

2017

- Ohno, T., Heckman, K.A., Plante, A.F., Fernandez, I.J., Parr, T.B. 2017. 14C mean residence time and its relationship with thermal stability and molecular composition of soil organic matter: A case study of deciduous and coniferous forest types. Geoderma 308:1-8. doi.org/10.1016/j.geoderma.2017.08.023.
- Tartariw, C., MacRae, J.D., Fernandez, I.J., Gruselle, M.C., Salvino, C.J., Simon, K.S. 2017. Chronic nitrogen enrichment at the watershed scale does not enhance microbial phosphorus limitation. Ecosystems doi:10.1007/s10021-017-0140-1.
- Tartariw, C., Patel, K., MacRae, J.D., Fernandez, I.J. 2017. Snowpack loss promotes soil freezing and concrete frost formation in a northeastern temperate softwoods stand. Northeastern Naturalist 24(special issue 7):B42-B54.
- Kopáček, J., Kaňa, J., Bičárová, S., Fernandez, I.J., Hejzlar, J., Kahounová, M., Norton, S.A., Stuchlík, E. 2017. Climate change increases calcium and magnesium leaching from granitic alpine catchments. Environ. Sci. Tech. 51:159-166.
- Pourmokhtarian, A., Driscoll, C.T., Campbell, J.L., Hayhoe, K., Stoner, A.M.K., Adams, M.B., Fernandez, I., Burns, D., Mitchell, M.J., Shanley, J.B. 2017. Modeled ecohydrological responses to climate change at seven small watersheds in the northeastern U.S. Global Change Biology 23:840-856.

2016

- Fatemi, F.R., Fernandez, I.J., Simon, K.S., Dail, D.B. 2016. Nitrogen and phosphorus regulation of soil enzyme activities in acid forest soils. Soil Biol. Biochem. 98:171-179.
- Lawrence, G.B., Fernandez, I.J., Hazlett, P.W., Bailey, S.W., Ross, D.S., Villars, T.R., Quintana, A., Ouimet, R., McHale, M.R., Johnson, C.E., Briggs, R.D., Colter, R.A.,

Siemion, J., Barlett, O.L., Vargas, O., Antidormi, M.R., Koppers, M.M. 2016. Methods of soil resampling to monitor changes in the chemical concentrations of forest soils. J. Vis. Exp. E54815, doi:10.3791/54815.

- Puhlick, J.J., Weiskittel, A.R., Fernandez, I.J., Fraver, S., Kenefic, L.S., Seymour, R.S., Kolka, R.K., Rustad, L.E., Brissette, J.C. 2016. Long-term influence of alternative forest management treatments on total ecosystem and wood product carbon storage. Can. J. For. Res. 46:1404-1412.
- Puhlick, J.J., Fernandez, I.J., Weiskittel, A.R. 2016. Evaluation of forest management effects on the mineral soil carbon pool of a lowland, mixed-species forest in Maine, USA. Can. J. Soil Sci. 96:207-218.
- Puhlick, J.J., Fraver, S., Fernandez, I.J., Weiskittel, A.R., Kenefic, L.S., Kolka, R.K., Gruselle, M.-C. 2016. Factors influencing organic horizon carbon pools in mixed-species forests of central Maine, USA. For. Ecol. Manage. 364:90-100.
- Nelson, A.S., Wagner, R.G., Day, M.E., Fernandez, I.J., Weiskittel, A.R., Saunders, M.R. 2016. Light absorption and light-use efficiency of juvenile white spruce trees in natural stands and plantations. Forest Ecology and Management 376: 158-165.

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