

I V A N J. F E R N A N D E Z

Abbreviated VITA

(2/22)

BUSINESS ADDRESS:

University of Maine
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EMPLOYMENT HISTORY:

2012 - Present	Professor of Soil Science in the School of Forest Resources
2008 - Present	Cooperating Professor - Climate Change Institute
2012 - Present	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, Orono, Maine
1983 - 1987	Assistant Professor of Soil Science and Cooperating Assistant Professor of Forest Resources - University of Maine, Orono, Maine
1981 - 1983	Research Forester - National Council of the Paper Industry for Air and Stream Improvement, 260 Madison Avenue, New York

EDUCATION:

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

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 Profession Soil Scientists (1984 – present)
Member - Council of Soil Sci. 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

SELECTED PROFESSIONAL SERVICE:

Member – Maine Climate Council, Co-Chair of the Science and Technical Subcommittee, and member of the Natural and Working Lands Working Group (2019-2022)

Member – Governor’s Forest Carbon Program Task Force. 2021.

USDA Northeast Climate HUB – University of Maine representative (2014-present)

Maine Science/Research Advisory Panel (Forestry Offsets) – Regional Greenhouse Gas Initiative (RGGI) – 2007-2010

Soil Sci. Soc. of America (Chair-elect/Chair Div. S-7, Forest, Range and Wildland Soils, 2003-2005)

National Atmospheric Deposition Technical Committee and Site Supervisor (1985-2007)

External Science Advisor to the Hubbard Brook Ecosystem Study (HBES – a National Science Foundation Long Term Ecological Study site) and member of the Hubbard Brook Scientific Coordinating Committee. Thornton, New Hampshire. (2013 – 2019)

Member - State of Maine Board of Certification for Geologists and Soil Scientists (1993 – present)

Member - Advisory Council – Forest Society of Maine (2019 – present)

Member – Board of Directors – Maine Conservation Alliance (2021 – present)

Member – Board of Directors – Schoodic Institute (2022 – present)

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

Advisory Committees

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

Advisory Council on Clean Air Compliance Analysis (chartered Council): 2009-2014

Advisory Council on Clean Air Compliance Analysis, Ecological Effects Subcommittee (a subcommittee of the chartered Council) (Chair): 2009 - 2010

Science Advisory Board Ecological Process and Effects Committee (EPEC, a standing Committee of the chartered Science Advisory Board): 2000-2006

Panels of the EPA Science Advisory Board

Ecological Risk Assessment Panel: 2005-2007*

Metals Risk Assessment Framework Review Panel: 2005-2006

Geographic Information System Screening Tool Review Panel: 2005-2006

Critical Ecosystem Assessment Model Review Panel: 2005 *

Katrina Soil and Sediment Sampling Plan Workgroup: 2005

Panel on Suspended and Bedded Sediments: 2003*

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

Secondary NAAQS Review Panel for Oxides of Nitrogen and Sulfur (Chair 2015-2018): 2015-2021, Reappointed in 2022.

Panels of the EPA Advisory Council on Clean Air Compliance

Advisory Council on Clean Air Compliance Analysis Augmented for Review of Black Carbon: 2011

Ecological Effects Subcommittee Augmented for Review of the Second Section 812 Prospective Study (Chair): 2009-2010

AWARDS AND RECOGNITION:

Conservation Leadership Award (2021) – Natural Resources Council of Maine

University of Maine 2018 Presidential Public Service Award

Named Fellow in the Soil Science Society of America (2010)

Sergei A. Wilde Distinguished Lectureship in Forest Soils – Soil Science Society of America (2010)

CASE/Carnegie Professor of the Year (Maine-2008) – Washington DC

Distinguished Maine Professor – University of Maine (2007)

College of Natural Sciences, Forestry, and Agriculture Outstanding Research Award (2004)

G. Peirce and Florence Pitts Webber Award for Outstanding Research in Forest Resources (1997)

PUBLICATIONS (Since 2010):**Peer Reviewed Journal Articles**

Carrara, Joseph E., Ivan J. Fernandez, and Edward R. Brzostek. 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.

Xue Bai, Ivan J. Fernandez & Cheryl J. Spencer. 2022. Chemical Response of Soils to Traditional and Industrial Byproduct Wood Biochars, *Comm. Soil Sci. Plant Anal.*, DOI: 10.1080/00103624.2022.2028812.

Smith, Tattersall C., Christopher Preece, Inge Stupak, Russell D. Briggs, Bruna Barusco, Brian E. Roth, and Ivan J. Fernandez. 2022. Balsam fir (*Abies balsamea* (L.) Mill.) – Red spruce (*Picea rubens* Sarg.) forest productivity 35 years after whole-tree and stem-only harvesting in north-central Maine, USA. *For. Ecol. Manag.* 504. doi.org/10.1016/j.foreco.2021.119823

Patel, Kaizad F., Ivan J. Fernandez, Sarah J. Nelson, Stephen A. Norton, and Cheryl J. Spencer. 2021. The Bear Brook Watershed in Maine: Multi-decadal whole-watershed experimental acidification. *Hydrol. Proc.* doi.org/10.1002/hyp.14147.

Patel, Kaizad F., Corianne Tatariw, Jean D. MacRae, Tsutomu Ohno, Sarah J. Nelson, and Ivan J. Fernandez. 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, Alyssa R., Sandra De Urioste-Stone, Ivan J. Fernandez, Aaron Weiskittel, Parinaz Rahimzadeh-Bajgiran, and Tom Doak. 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, Xinyuan, Daniel J. Hayes, Ivan Fernandez, Jianheng Zhao, Shawn Fraver, Catherine Chan and Jiaojiao Diao. 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, Xinyuan, Daniel J. Hayes, Ivan Fernandez, Shawn Fraver, Jianheng Zhao, and Aaron Weiskittel. 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, Xinyuan, Daniel Hayes and Ivan Fernandez. 2021. Fire reduces riverine DOC concentration draining a watershed and alters post-fire DOC recovery patterns. *Environ. Res. Lett.* 16 024022.

Carrara, Joseph E., Christopher A. Walter, Zachary B. Freedman, Ashley N. Hostetler, Jennifer S. Hawkins, Ivan J. Fernandez, and Edward R. Brzostek. 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, Joshua J., Ivan J. Fernandez and Jay W. Watson. 2021. Non-native earthworms invade forest soils in northern Maine, USA. *Forests* 12, 80. https://doi.org/10.3390/f12010080.

Patel, Kaizad F., Corianne Tatariw, Jean MacRae, Tsutomu Ohno, Sarah J. Nelson and Ivan J. Fernandez. 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, Kaizad F., Ivan J. Fernandez, Sarah J. Nelson, Jacob Malcomb and Stephen A. Norton. 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, Xue, Ivan J. Fernandez. 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, Paul, Caroline Emilson, Gregory Lawrence, Ivan Fernandez, Rock Ouimet, and Scott Bailey.

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, Joshua J. and Ivan J. Fernandez. 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, Joshua J., Aaron R. Weiskittel, Laura Kenefic, Christopher Woodall, and Ivan J. Fernandez. 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., I.J. Fernandez, S.J. Nelson, C.J. Spencer, and S.A. Norton. 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., I.J. Fernandez, S.J. Nelson, C.J. Spencer, and S.A. Norton. 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., I.J. Fernandez, S.J. Nelson, C.J. Spencer, and S.A. Norton. 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., I.J. Fernandez, S.J. Nelson, C.J. Spencer, and S.A. Norton. 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., I.J. Fernandez, S.J. Nelson, C.J. Spencer, and S.A. Norton. 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., I.J. Fernandez, S.J. Nelson, J. Malcomb, and S.A. Norton. 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).

Puhlick, Joshua J., Shawn Fraver, Ivan J. Fernandez, Aaron Teets, Aaron R. Weiskittel, and Laura S. Kenefic. 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, Cayce J., Kaizad F. Patel, Ivan J. Fernandez, Marie-Cecile Gruselle, Corianne Tatariw, and Jean D. MacRae. 2019. Phosphorus 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, Alexandra R., Nora J. Casson, Sarah Garlick, Sarah J. Nelson, Matthew P. Ayres, Elizabeth A. Burakowski, John Campbell, Irena Creed, Catherine Eimers, Celia Evans, Ivan Fernandez, Colin Fuss, Thomas Huntington, Kaizad Patel, Rebecca Sanders-DeMott, Kyongho Son, Pamela Templer, and Casey Thornbrugh. 2019. Northern forest winters have lost cold, snowy conditions that are important for ecosystems and human communities. *Ecolog. Applic.* (in press) doi: 10.1002/eap.1974.

Patel, Kaizad F., Ivan J. Fernandez, Sarah J. Nelson, Marie-Cécile Gruselle, Stephen A. Norton, and Aaron R. Weiskittel. 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, Salim, Jennifer Phelan, Bengt Nihlgård, Harald Sverdrup, Charles Driscoll, Ivan Fernandez, Julian Aherne, Leslie M. Teeling-Adams, Scott Bailey, Matt Arsenaault, Natalie Cleavitt, Brett Engstrom, Robin Dennis, Dan Sperduto, David Werier, and Christopher Clark. 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, Bethany L., Laura S. Kenefic, Aaron R. Weiskittel, Ivan J. Fernandez, Jeffrey G. Benjamin, and Alison C. Dibble. 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, Stephen, Donald Ross, James Shanley, Emily Elliott, Carol Kendall, John Campbell, David Dail, Ivan Fernandez, Christine Goodale, Gregory Lawrence, Gary Lovett, Patrick McHale, Myron Mitchell, Sarah Nelson, Michelle Shattuck, Trent Wickman, Rebecca Barnes, Joel Bostic, Anthony Buda, Douglas Burns, Keith Eshleman, Jacques Finlay, David Nelson, Nobuhito Ohte, Linda Pardo, Lucy Rose, Robert Sabo, Sherry Schiff, John Spoelstra, and Karl Williard. 2019. Unprocessed atmospheric nitrate in waters of the Northern Forest Region in the USA and Canada. *ES&T* (in press).

Cheng, Susan J., Peter G. Hess, William R. Wieder, R. Quinn Thomas, Knute J. Nadelhoffer, Julius Vira, Danica L. Lombardozzi, Per Gundersen, Ivan J. Fernandez, Patrick Schleppi, Marie-Cécile Gruselle, Filip Moldan, and Christine L. Goodale. 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, Rakesh, Stephanie Long, Swathi A. Turlapati, and Ivan Fernandez. 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, Stephen D.; Kendall, Carol; Elliott, Emily M.; Schiff, Sherry L.; Barnes, Rebecca T.; Bostic, Joel T.; Buda, Anthony R.; Burns, Douglas A.; Campbell, John L.; Dail, D. Bryan; Eshleman, Keith N.; Fernandez, Ivan J.; Finlay, Jacques C.; Goodale, Christine L.; Griffiths, Natalie A.; Hall, Steven J.; Lawrence, Gregory B.; Lovett, Gary M.; McHale, Patrick J.; Mitchell, Myron J.; Nelson, David M.; Nelson, Sarah J.; Ohte, Nobuhito; Pardo, Linda H.; Rose, Lucy A.; Ross, Donald S.; Sabo, Robert D.; Shanley, James B.; Shattuck, Michelle D.; Spoelstra, John; Weintraub, Samantha R.; Wickman, Trent R.; Williard, Karl 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, Kaizad F., Michael D. Jakubowski, Ivan J. Fernandez, Sarah J. Nelson, and William Gawley. 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, Gregory J., Stephen A. Norton, Ivan J. Fernandez, Kathy M. Hoppe, Jeff Dennis, and Aria Amirbahman. 2019. Chemical controls on dissolved phosphorus mobilization in a calcareous agricultural stream during base flow. *Sci. Tot. Env.* 660:876-885.

Heuck, Christine, Georg Smolka, Emily D. Whalen, Serita Frey, Per Gundersen, Filip Moldan, Ivan J. Fernandez, and Marie Spohn. 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, Kaizad F. and Ivan J. Fernandez. 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, Amanda, Sarah Nelson, Amanda Klemmer, Ivan Fernandez, Kristin Strock, and William H. McDowell. 2018. Acidification and climate linkages to increased dissolved organic carbon in high elevation lakes. *Water Res. Research* <https://doi.org/10.1029/2017WR020963>.

Patel, Kaizad, Sarah Nelson, Cheryl Spencer, and Ivan J. Fernandez. 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, Kaizad, Sarah Nelson, Cheryl Spencer, and Ivan J. Fernandez. 2018b. Soil temperature record for the Bear Brook Watershed in Maine. PANGAEA. DOI:10.1594/PANGAEA.885860.

Sullivan, Timothy J., Charles T. Driscoll, Colin M. Beier, Dallas Burtraw, Ivan J. Fernandez, James N. Galloway, David A. Gay, Christine L. Goodale, Gene E. Likens, Gary M. Lovett and Shaun A. Watmough. 2018. Air pollution success stories in the United States: The Value of Long-Term Observations. *Environ. Sci. Policy* 84:69-73.

SanClements, Michael D., Ivan J. Fernandez, Mary Beth Adams, Joshua A. Roberti, Robert H. Lee, Garret A. Rue, and Diane M. McKnight. 2018. Long-term experimental acidification drives watershed scale shift in dissolved organic matter composition and flux. *Environ. Sci. Tech.* 52 (5), pp 2649–2657.

Ohno, Tsutomu, Katherine A. Heckman, Alain F. Plante, Ivan J. Fernandez, and Thomas B. Parr. 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, Corianne, Jean D. MacRae, Ivan J. Fernandez, Marie Cécile Gruselle, Cayce J. Salvino, and Kevin S. Simon. 2017. Chronic nitrogen enrichment at the watershed scale does not enhance microbial phosphorus limitation. *Ecosystems* doi:10.1007/s10021-017-0140-1.

Tartariw, Corianne, Kaizad Patel, Jean D. MacRae, and Ivan J. Fernandez. 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, Jiří, Jiří Kaňa, Svetlana Bičárová, Ivan J. Fernandez, Josef Hejzlar, Marie Kahounová, Stephen A. Norton, and Evžen Stuchlík. 2017. Climate change increases calcium and magnesium leaching from granitic alpine catchments. *Environ. Sci. Tech.* 51:159-166.

Pourmokhtarian, Afshin, Charles T. Driscoll, John L. Campbell, Katharine Hayhoe, Anne M.K. Stoner, Mary Beth Adams, Ivan Fernandez, Douglas Burns, Myron J. Mitchell, and James B. Shanley. 2017. Modeled ecohydrological responses to climate change at seven small watersheds in the northeastern U.S. *Global Change Biology* 23:840-856.

Fatemi, Farrah R., Ivan J. Fernandez, Kevin S. Simon, and David B. Dail. 2016. Nitrogen and phosphorus regulation of soil enzyme activities in acid forest soils. *Soil Biol. Biochem.* 98:171-179.

Lawrence, Gregory B., Ivan J. Fernandez, Paul W. Hazlett, Scott W. Bailey, Donald S. Ross, Thomas R. Villars, Angelica Quintana, Rock Ouimet, Michael R. McHale, Chris E. Johnson, Russell D. Briggs, Robert A. Colter, Jason Siemion, Olivia L. Barlett, Olga Vargas, Michael R. Antidormi, and Mary M. Koppers. 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., A. R. Weiskittel, I. J. Fernandez, S. Fraver, L. S. Kenefic, R. S. Seymour, R. K. Kolka, L. E. Rustad, and J. C. Brissette. 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, Joshua J., Ivan J. Fernandez, and Aaron R. Weiskittel. 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., S. Fraver, I. J. Fernandez, A. R. Weiskittel, L. S. Kenefic, R. K. Kolka, and M. -C. Gruselle. 2016. Factors influencing organic horizon carbon pools in mixed-species forests of central Maine, USA.

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Nelson, A.S., Wagner, R.G., Day, M.E., Fernandez, I.J., Weiskittel, A.R., and 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.

Lawrence, Gregory B., Paul W. Hazlett, Ivan J. Fernandez, Rock Ouimet, Scott W. Bailey, Walter C. Shortle, Kevin T. Smith, and Michael R. Antidormi. 2015. Declining acidic deposition begins reversal of forest-soil acidification in the northeastern U.S. and eastern Canada. *Environ. Sci. Technol.* 49 (22):13103–13111.

Morse, Jennifer, Jorge Duran, Fed Beall, Eric M. Enanga, Irena F. Creed, Ivan J. Fernandez, Peter M. Groffman. 2015. Soil denitrification fluxes from three northeastern North American forests ranging in nitrogen availability. *Oecologia* 177:17-27.

Ohno, Tsutomu, Thomas B. Parr, Marie-Cécile Gruselle, Ivan J. Fernandez, Rachel L. Sleighter, and Patrick G. Hatcher. 2014. Molecular composition and biodegradability of soil organic matter: A case study comparing two New England forest types. *Environ. Sci. Tech.* 2014: 7229-7236.

Mineau M. M., F. R. Fatemi, I. J. Fernandez and K. S. Simon. 2014. Microbial enzyme activity at the watershed scale: Response to chronic nitrogen deposition and acute phosphorous enrichment. *Biogeochemistry* 117:131-142.

Raymond, Jay E., Ivan J. Fernandez, Tsutomu Ohno, and Kevin Simon. 2013. Soil drainage class influences on soil carbon in a New England Forested Watershed. *Soil Sci. Soc. Am. J.* 77:307–317.

Lawrence, Gregory B., Ivan J. Fernandez, Daniel D. Richter, Donald S. Ross, Paul W. Hazlett, Scott W. Bailey, Rock Ouimet, Richard A. F. Warby, Arthur H. Johnson, Henry Lin, James M. Kaste, Andrew G. Lapenis, and Timothy J. Sullivan. 2013. Measuring environmental change in forest ecosystems by repeated soil sampling: A North American Perspective. *J. Environ. Qual.* 42:623-639.

Fatemi, Farrah R., Ivan J. Fernandez, Stephen A. Norton and Lindsey E. Rustad. 2013. Soil solution response to two decades of experimental acidification at the Bear Brook Watershed in Maine. *Water Air Soil Pollut.* 223:6171–6186.

Mineau, Madeleine M., Chad M. Grigsby, Damon T. Ely, Ivan J. Fernandez, Stephen A. Norton, Tsutomu Ohno, H. Maurice Valett, and Kevin S. Simon. 2013. Chronic catchment nitrogen enrichment and stoichiometric constraints on the bioavailability of dissolved organic matter from leaf leachate. *Freshwater Biology* 58:248-260.

Stone, Madeleine M., Marissa S. Weiss, Christine L. Goodale, Mary Beth Adams, Ivan J. Fernandez, Donovan P. German, and Steven D. Allison. 2011. Temperature sensitivity of soil enzyme kinetics under N-fertilization in two temperate forests. *Global Change Biology* 18:1173-1184.

Kerr, J.G., M. C. Eimers, I. F. Creed, M. B. Adams, F. Beall, D. Burns, J. L. Campbell, S. F. Christopher, T. A. Clair, F. Courchesne, L. Duchesne, I. Fernandez, D. Houle, D. S. Jeffries, G. E. Likens, M. J. Mitchell, J. Shanley, H. Yao. 2011. The effects of seasonal drying on sulphate dynamics in streams across southeastern Canada and the northeastern USA. *Biogeochemistry* DOI 10.1007/s10533-011-9664-1.

Norton, Stephen A., Randall H. Perry, Jasmine Saros, George J. Jacobson, Ivan J. Fernandez, Jiří Kopáček, Michael D. SanClements, and Tiffany A. Wilson. 2011. The controls on phosphorus availability in a boreal lake ecosystem since deglaciation. *J. Paleolimnol.* 46:107–122.

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Decade. Preface. *Environ. Monitor. Assess.* 171: 1-2.

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Navrátil, Tomás, Stephen A. Norton, Ivan J. Fernandez, and Sarah J. Nelson. 2010. Twenty-year inter-annual trends and seasonal variations in precipitation and stream water chemistry at the Bear Brook Watershed in Maine, USA. *Environ. Monitor. Assess.* 171: 23–45.

Amirbahman, Aria, Brett C. Holmes, Ivan J. Fernandez, Stephen A. Norton. 2010. Mobilization of metals and phosphorus from intact forest soil cores by dissolved inorganic carbon. *Environ. Monitor. Assess.* 171: 93–110.

SanClements, Michael D., Ivan J. Fernandez, and Stephen A. Norton. 2010. Soil chemical and physical properties at the Bear Brook Watershed in Maine, USA. *Environ. Monitor. Assess.* 171: 111-128.

Fernandez, Ivan J., Mary Beth Adams, Michael D. SanClements, and Stephen A. Norton. 2010. Comparing decadal responses of whole-watershed manipulations at the Bear Brook and Fernow experiments. *Environ. Monitor. Assess.* 171: 149–161.

Mitchell, Myron J., Gary Lovett, Scott Bailey, Fred Beall, Doug Burns, Don Buso, Thomas A. Clair, Francois Courchesne, Louis Duchesne, Cathy Eimers, Ivan Fernandez, Daniel Houle, Dean S. Jeffries, Gene E. Likens, Micheal D. Moran, Christopher Rogers, Donna Schwede, Jamie Shanley, Kathleen C. Weathers, and Robert Vet. 2010. Comparisons of watershed sulfur budgets in southeast Canada and northeast US: new approaches and implications. *Biogeochemistry* DOI 10.1007/s10533-010-9455-0.

Sarah E. Godsey, Wenche Aas, Thomas A. Clair, Heleen A. de Wit, Ivan J. Fernandez, J. Steve Kahl, Iain A. Malcolm, Colin Neal, Margaret Neal, Sarah J. Nelson, Stephen A. Norton, Marisa C. Palucis, Brit Lisa Skjelkvåle, Chris Soulsby, Doerthe Tetzlaff, and James W. Kirchner. 2010. Generality of fractal 1/f scaling in catchment tracer time series and its implications for catchment travel time distributions. *Hydrological Processes* 24: (in press).

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