Publications of Mer Bleue Research

Refereed Publications (published and in press):

120. Živković, T., K. Disney & T.R. Moore 2017. Variations in nitrogen and phosphorus and ^{15}N content of *Sphagnum* mosses along a climatic and atmospheric deposition gradient, eastern Canada. *Botany* 95: 829-839 doi: 10.1139/cjb-2016-0314
119. Goud, E.M., T.R. Moore & N.T. Roulet in press. Plant species affect the rate and spatial distribution of peatland carbon flux. *Functional Ecology* doi: 10.1111/1365-2435.12891
118. Pinsonneault, A.J., T.R. Moore, & N.T. Roulet 2016. Effects of long-term fertilization on belowground stoichiometry and microbial enzyme activity in an ombrotrophic bog. *Biogeochemistry.* 129: 149-164 doi: 10.1007/s10533-016-0224-6.
117. Malhotra, A., N.T. Roulet, P. Wilson, X. Giroux-Bougard & L.I. Harris 2016. Ecohydrological feedbacks in peatlands: an empirical test of the relationship among vegetation, microtopography and water table. *Ecohydrology* 9: 1346–1357 doi: 10.1002/eco.173
116. Pinsonneault, A.J., T.R. Moore, N.T. Roulet & J-F. Lapierre 2016. Biodegradability of vegetation-derived dissolved organic carbon in a cool temperate ombrotrophic bog. *Ecosystems* 19: 1023-1036 doi: 10.1007/s10021-016-9984-z.
115. Pinsonneault, A.J., T.R. Moore & N.T. Roulet 2016. Patterns of microbial enzyme activity across a range of temperate peatland types. *Soil Biology and Biochemistry*. 97: 121-130 doi: 10.1016/j.soilbio.2016.03.006
114. Juutinen, S., T.R. Moore, A.M. Laine, J.L. Bubier, E-S. Tuittila, A. De Young & M. Chong 2016. Responses of mosses *Sphagnum capillifolium* and *Polytrichum strictum* to nitrogen deposition in a bog: height growth, ground cover, and CO_2 exchange. *Botany* 94: 127-138 doi: 10.11319/cjb-2015-0183.
113. Wang M., T. Larmola, M.T. Murphy, T.R..Moore & J.L. Bubier 2016. Stoichiometric response of shrubs and mosses to long-term nutrient (N, P and K) addition in an ombrotrophic peatland. *Plant & Soil* 400: 403-416 doi: 10.1007/s11104-015-2744-6
112. Kalacska, M., M. Lalonde & T.R. Moore 2015. Estimation of foliar chlorophyll and nitrogen content in an ombrotrophic bog from hyperspectral data: scaling from leaf to image. *Remote Sensing of Environment* 169: 270-279. doi: 10.1016/j.rse.2015.08.012.
111. Wu, Y. & C. Blodau 2015.Vegetation composition in bogs is sensitive to both load and concentration of deposited nitrogen: a modeling analysis. *Ecosystems* 18: 171–185 doi: 10.1007/s10021-014-9820-2.
110. Nichols, J.E., P.D.F. Isles & D.M. Peteet 2014. A novel framework for quantifying past methane recycling by *Sphagnum*-methanotroph symbiosis using carbon and hydrogen isotope ratios of leaf wax biomarkers. *Geochemistry, Geophysics, Geosystems* 15: doi:10.1002/2014GC005242.
109. Wu, Y., C. Blodau, T.R. Moore, J.L. Bubier, S. Juutinen & T. Larmola 2014. Effects of experimental nitrogen deposition on peatland carbon pools and fluxes: a modeling analysis. *Biogeosciences* 12: 79–101 doi: 10.5194/bg-12-79-2015.
108. Talbot, J., N.T. Roulet, O. Sonnentag & T.R. Moore 2014. Increases in aboveground biomass and leaf area 85 years after drainage in a bog. *Botany* 92: 713-721 doi: 10.1139/cjb-2013-0319.
107. Sharp, C.E., J.M. Graham, M.B. Stott, T.R. Moore, S.E. Grasby, M. Strack & P.F. Dunfield 2014. Distribution and diversity of *Verrucomicrobia* methanotrophs in geothermal and acidic environments. *Environmental Microbiology* 6: 1867-78.
106. Brown, M.G., E.R. Humphreys, T.R. Moore, N.T. Roulet & P.M. Lafleur 2014. Evidence for a non-monotonic relationship between ecosystem-scale peatland methane emissions and water table depth. *Journal of Geophysical Research: Biogeosciences* 119: 826-835.
105. Humphreys, E.R., M. Brown, C. Charron & R. Jones 2014. Contrasting the CO_2 fluxes of a temperate ombrotrophic bog with fluxes from two bogs in the Canadian Hudson Bay Lowland. *Arctic Antarctic Alpine Research* 46: 103-113.

104. Lai, D.Y.F., N.T. Roulet & T.R. Moore 2014a. The spatial and temporal relationships between CO_2 and CH_4 exchange in a temperate ombrotrophic bog. *Atmospheric Environment* 89: 249-259.
103. Lai, D.Y.F., T.R. Moore & N.T. Roulet. 2014b. Spatial and temporal variations of methane flux measured by autochambers in a temperate ombrotrophic peatland. *Journal of Geophysical Research: Biogeosciences* 119:864-880.
102. Kross, A.S.E., N.T. Roulet, T.R. Moore, P.M. Lafleur, E.R. Humphreys, J.W. Seaquist, L.B. Flanagan & M. Aurela 2014. Phenology and its role in carbon dioxide exchange processes in northern peatlands. *Journal of Geophysical Research: Biogeosciences* 119:1370–1384. doi: 10.1002/2014jg002666.
101. Wang, M., T.R. Moore, J. Talbot & P.J.H. Richard 2014. The cascade of C:N:P stoichiometry in an ombrotrophic peatland: from plants to peat. *Environmental Research Letters* 9:024003 (7 pp) http://dx.doi.org/10.1088/1748-9326/9/2/024003.
100. Loisel, J., Z. Yu, D.W. Beilman, P. Camill, J. Alm, M.J. Amesbury, D. Anderson, S. Andersson, C. Bochicchio, K. Barber, L.R. Belyea, J. Bunbury, F.M. Chambers, D.J. Charman, F. De Vleeschouwer, B. Fiałkiewicz-Kozieł, S.A. Finkelstein, M. Gałka, M. Garneau, D. Hammarlund, W. Hinchcliffe, J. Holmquist, P. Hughes, M.C. Jones, E.S. Klein, U. Kokfelt, A. Korhola, P. Kuhry, A. Lamarre, M. Lamentowicz, D. Large, M. Lavoie, G. MacDonald, G. Magnan, M. Makila, G. Mallon, P. Mathijssen, D. Mauquoy, J. McCarroll, T.R. Moore, J. Nichols, B. O'Reilly, P. Oksanen, M. Packalen, D. Peteet, P.J.H. Richard, S. Robinson, T. Ronkainen, M. Rundgren, A. Britta, K. Sannel, C. Tarnocai, T. Thom, E.-S. Tuittila, M. Turetsky, M. Valiranta, M. van der Linden, B. van Geel, S. van Bellen, D. Vitt, Y. Zhao & W. Zhou 2014. A database and synthesis of northern peatland soil properties and Holocene carbon and nitrogen accumulation. *The Holocene* 24: 1028–1042 doi: 10.1177/0959683614538073.
99. Wang, M., M.T. Murphy & T.R. Moore 2014. Nutrient resorption of two evergreen shrubs in response to long-term fertilization in an ombrotrophic peatland. *Oecologia* 174: 365–377 doi:10.1007/s00442-013-2784-7.
98. Basiliko, N., K. Henry, V. Gupta, T.R. Moore, B.T. Driscoll & P.F. Dunfield 2013. Controls on bacterial and archaeal community structure and links to greenhouse gas production in natural, mined, and restored Canadian peatlands. *Frontiers in Terrestrial Microbiology* 4: 215 doi: 10.3389/fmicb.2013.00215.
97. Wang M. & T.R. Moore 2014. Carbon, nitrogen, phosphorus and potassium stoichiometry in an ombrotrophic peatland reflects plant functional type. *Ecosystems* 17: 673–684.
96. Turetsky M.R., A. Kotowska, J. Bubier, N.B. Dise, P. Crill, E. Hornibrook, K. Minkinnen, T.R. Moore, I. H. Myers-Smith, H. Nykänen, D. Olefeldt, J. Rinne, S. Saarnio, N. Shurpali, J.M. Waddington, J. White, K. Wickland & M. Wilmking 2014. A synthesis of methane emissions from 71 northern, temperate, and subtropical wetlands. *Global Change Biology* 20: 2183-2197 doi: 10.1111/gcb.12580.
95. Kalacska, M., J.P. Arroyo-Mora, J. de Gea, E. Snirer, C. Herzog & T.R. Moore 2013. Videographic analysis of *Eriophorum vaginatum* spatial coverage in an ombotrophic bog. *Remote Sensing* 5: 6501-6512.
94. El Bilali H, Patterson T, Prokoph A 2013. A Holocene paleoclimate reconstruction for eastern Canada based on $\delta^{18}O$ cellulose of Sphagnum mosses from Mer Bleue Bog. *Holocene* 23: 1260-1271.
93. Kross A., J.W. Seaquist, N.T. Roulet, R. Fernandes & O. Sonnentag 2013. Estimating carbon dioxide exchange rates at contrasting northern peatlands using MODIS satellite data. *Remote Sensing of Environment* 137: 234–243.
92. Kopp B.J., J.H. Fleckenstein, N.T. Roulet, E. Humphreys, J. Talbot & C. Blodau 2013. Impact of long-term drainage on summer groundwater flow patterns in the Mer Bleue peatland, Ontario, Canada. *Hydrology and Earth System Sciences* 17: 3485–3498.

91. Larmola, T., J.L. Bubier, C. Kobyljanec, N. Basiliko, S. Juutinen, E. Humphreys, M. Preston & T.R. Moore 2013.Vegetation feedbacks of nutrient addition lead to a weaker carbon sink in an ombrotrophic bog. *Global Change Biology* 19: 3729-3739**.**
90. Pratte S., A. Mucci & M. Garneau 2013. Historical records of atmospheric metal deposition along the St. Lawrence Valley (eastern Canada) based on peat bog cores. *Atmospheric Environm*ent 79: 831-840.
89. Turetsky M.R., B. Bond-Lamberty, E. Euskirchen, J. Talbot, S. Frolking, A.D. McGuire & E-S. Tuittila 2012. Tansley Review: The resiliency and functional role of moss in boreal and arctic ecosystems. *New Phytologist* 196: 49-67.
88. Blodau, C. & M. Deppe 2012. Humic acid addition lowers methane release in peats of the Mer Bleue bog, Canada. *Soil Biology & Biochemistry* 52: 96-98.
87. Blodau, C. & M. Siems 2012. Drainage-induced forest growth alters belowground carbon biogeochemistry in the Mer Bleue bog, Canada. *Biogeochemistry* 107**:** 107-123.
86. Wu, J., N. Roulet, M. Nilsson, P. Lafleur & E. Humphreys 2012. Simulating the carbon cycling of northern peatlands using a coupled land surface climate and wetland carbon model (CLASS3W-MWM). *Atmosphere-Ocean*, 50: 487-506.
85. Sulman, B.N., A.R. Desai, N.M. Schroeder, D. Ricciuto, A. Barr, A.D. Richardson, L.B. Flanagan, P.M. Lafleur, H. Tian, G. Chen, R.F. Grant, B. Poulter, H. Verbeeck, P. Ciais, B. Ringeval, I.T. Baker, K. Schaefer, Y. Luo & E. Weng 2012. Impact of hydrological variations on modeling of peatland CO_2 fluxes: results from the North American Carbon Program site synthesis. *J. Geophys. Res.* 117: G01031, doi:10.1029/2011JG001862.
84. Laine, A., J. Bubier, T. Riutta, M. Nilsson, T.R. Moore, H. Vasander & E-S. Tuitilla 2012. Abundance and composition of plant biomass as potential controls for mire NEE. *Botany* 90: 63-74.
83. Limpens, J. G. Granath, R. Aerts, M.M.P.D. Heijmans, L.J. Sheppard, L. Bragazza, B. Williams, H. Rydin, J. Bubier, T. Moore, L. Rochefort, E.A.D. Mitchell, A. Buttler, L.J.L. van den Berg, U. Gunnarsson, A-J. Francez, R. Gerdol, M. Thormann, P. Grosvernier, M.M. Wiedermann, M.B. Nilsson, M.R. Hoosbeek, S. Bayley, J-F. Nordbakken, M.P.C.P. Paulissen, S. Hotes, A. Breeuwer, M. Ilomets, H.B.M. Tomassen, I. Leith & B. Xu 2012. Glasshouse *vs* field experiments: do they yield ecologically similar results for assessing N impacts on peat mosses? *New Phytologist* 195**:** 408-418**.**
82. Lai, D.Y.F., N.T. Roulet, E.R. Humphreys, T.R. Moore & M. Dalva 2012. The effect of atmospheric turbulence and chamber deployment period on autochamber CO_2 and CH_4 flux measurements in an ombrotrophic peatland. *Biogeosciences* 9: 3305-3322.
81. Knox, S.H., S.K. Carey & E.R. Humphreys 2012. Snow surface energy exchanges and snow-melt in a shrub-covered bog in eastern Ontario, Canada. *Hydrological Processes* 26: 1876-1890.
80. Chong, M., E.R. Humphreys & T.R. Moore 2012. Microclimatic response to increasing shrub cover and its effect on *Sphagnum* CO_2 exchange in a bog. *Ecoscience* 19: 89-97
79. Schaefer, K., C.R. Schwalm, C. Williams, M.A. Arain, A. Barr, J.M. Chen, K.J. Davis, D. Dimitrov, T.W. Hilton, D.Y. Hollinger, E. Humphreys and 40 others 2012. A model-data comparison of gross primary productivity: Results from the North American Carbon Program site synthesis. *J. Geophys. Res*. 117: G03010, doi:10.1029/2012JG001960.
78. Brümmer, C., T.A. Black, R.S. Jassal, N.J. Grant, D.L. Spittlehouse, B. Chen, Z. Nesic, B.D. Amiro, M.A. Arain, A.G. Barr, C.P.-A. Bourque, C. Coursolle, A.L. Dunn, L.B. Flanagan, E.R. Humphreys, P.M. Lafleur, H.A. Margolis, J.H. McCaughey & S.C. Wofsy 2012. How climate and vegetation type influence evapotranspiration and water use efficiency in Canadian forest, peatland and grassland ecosystems. *Agric. Forest Meteorol.*153: 14-30.
77. Strilesky, S.L. & E.R. Humphreys 2012. A comparison of the net ecosystem exchange of carbon dioxide and evapotranspiration for treed and open portions of a temperate peatland. *Agric. Forest Meteorol.*153: 45-53.
76. Basiliko, N., H. Stewart, T.R. Moore, & N.T. Roulet 2012. Do root exudates enhance peat decomposition? *Geomicrobiology Journal* 29: 374-378.

75. Limpens, J., G. Granath, U. Gunnarson, R. Aerts, S. Bayley, L. Bragazza, J. Bubier, A. Buttler, L. van den Berg, A-J. Francez, R. Gerdol, P. Grosvernier, M.M.P.D. Heijmans, M.R. Hoosbeek, S. Hotes, M. Ilomets, I. Leith, E.A.D. Mitchell, T. Moore, M.B. Nilsson, J-F. Nordbakken, L. Rochefort, H. Rydin, L.J. Sheppard, M. Thormann, M.M. Wiedermann, B. Williams, & B. Xu 2011. Climatic modifiers of the response to N deposition in peat-forming *Sphagnum* mosses: a meta-analysis. *New Phytologist* 191: 496–507
74. Bubier, J.L, R. Smith, S. Juutinen, T.R. Moore, R. Minocha, S. Long & S. Minocha 2011. Effects of nutrient addition on leaf chemistry, morphology, and photosynthetic capacity of three bog shrubs. *Oecologia* 167: 355-368.
73. Wendel, S., T.R. Moore, J. Bubier, & C. Blodau 2011. Experimental nitrogen, phosphorus, and potassium deposition decreases summer soil temperatures, water contents, and soil CO_2 concentrations in a northern bog. *Biogeosciences* 8: 585-595.
72. Xing, Y., J. Bubier, T. Moore, M. Murphy, N. Basiliko, S. Wendel & C. Blodau 2011. The fate of ^{15}N-nitrate in a northern peatland impacted by long term experimental nitrogen, phosphorus and potassium fertilization. *Biogeochemistry* 103: 281-296.
71. Elliott, S.M., H.M. Roea, & R.T. Patterson 2012. Testate amoebae as indicators of hydroseral change: An 8500 year record from Mer Bleue Bog, eastern Ontario, Canada. Quaternary International 268: 128-144.
70. Adkinson, A.C. & E.R. Humphreys 2011. The response of carbon dioxide exchange to manipulations of Sphagnum water content in an ombrotrophic bog. *Ecohydrology* 6: 733-743.
69. Moore, T.R., A. De Young, J.L. Bubier, E.R. Humphreys, P.M. Lafleur, & N.T. Roulet 2011. A multi-year record of methane flux at the Mer Bleue bog, southern Canada. *Ecosystems* 14: 646-657.
68. Dimitrov, D.D., R.F. Grant, P.M. Lafleur, & E.R. Humphreys 2011. Modelling the effects of hydrology on gross primary productivity and net ecosystem productivity at Mer Bleue bog. *Journal of Geophysical Research-Biogeosciences* 116, G04010, doi:10.1029/2010JG001586.
67. Frolking, S., N.T. Roulet, E. Tuittila, J.L. Bubier, A. Quillet, J. Talbot, & P.J.H. Richard 2010. A new model of Holocene peatland net primary production, decomposition, water balance, and peat accumulation. *Earth Systems Dynamics* 1: 1–25.
66. Dimitrov, D.D., R.F. Grant, P.M. Lafleur & E.R. Humphreys 2010. Modelling the effects of hydrology on ecosystem respiration at Mer Bleue bog, *Soil Science Society of America Journal* 74: 680-694.
65. Dimitrov, D.D., R.F. Grant, P.M. Lafleur & E.R. Humphreys 2010. Modeling peat thermal regime of an ombrotrophic peatland with hummock-hollow microtopography. *Soil Science Society of America Journal* 74: 1406-1425.
64. Teklemariam, T.A., P.M. Lafleur, T.R. Moore, N.T. Roulet & E.R. Humphreys 2010. The direct and indirect effects of inter-annual meteorological variability on ecosystem carbon dioxide exchange at a temperate ombrotrophic bog. *Agricultural and Forest Meteorology* 150: 1402-1411.
63. Wu, J., N.T. Roulet, T.R. Moore, P. Lafleur & E. Humphreys 2010. Dealing with microtopography of an ombrotrophic bog for simulating ecosystem-level CO_2 exchanges. *Ecological Modelling* 222: 1038-1047.
62. Juutinen, S., J.L. Bubier & T.R. Moore 2010. Responses of vegetation and ecosystem CO_2 exchange to nine years of fertilization at Mer Bleue bog. *Ecosystems* 6: 874-887.
60. Murphy, M.T. & T.R. Moore 2010. Linking root production to aboveground plant characteristics and water table in a temperate bog. *Plant & Soil* 336: 219-231.
59. Winsborough, C. & N. Basiliko 2010. Fungal and bacterial activity in northern peatlands. *Geomicrobiology Journal* 27: 315-320.
58. Dimitrov, D.D., R.F. Grant, P.M. Lafleur, & E.R. Humphreys 2010. Modeling the subsurface hydrology of Mer Bleue bog. *Soil Science Society of America Journal* 74: 680–694.
57. Deppe, M., D. McKnight, K.-H. Knorr & C. Blodau 2011. Effects of short-term drying and irrigation on CO_2 and CH_4 production and emission from mesocosms of a northern bog and alpine fen. *Biogeochemistry* 100: 89-103.

56. Deppe, M., D. McKnight & C. Blodau 2010. Effects of short-term drying and irrigation on electron flow in mesocosms of a northern bog and an alpine fen. *Environmental Science & Technology* 44: 80-86.
55. Lund, M., P.M. Lafleur, N.T. Roulet, A. Lindroth, T.R. Christensen, M. Aurela, B.H. Chojnicki, L.B. Flanagan, E.R. Humphreys, T. Laurila, W.C. Oechel, J. Olejnik, J. Rinne, P. Schubert & M.B. Nilsson 2010. Exchange of carbon dioxide across twelve northern peatland and tundra sites. *Global Change Biology* 16: 2436-2448.
54. Talbot, J., P.J.H. Richard, N.T. Roulet & R. Booth 2010. Assessing long-term hydrological and vegetation changes following drainage in a bog using paleoecological reconstructions and a hydrosequence. *Vegetation Science* 21: 143-156.
53. Touzi, R., A. Deschamps & G. Rother 2009. Phase of target scattering for wetland characterization using polarimetric C-Band SAR. *IEEE Transactions on Geoscience and Remote Sensing* 47: 3241-3261.
52. Murphy, M.T., A. McKinley & T.R. Moore 2009. Variations in above- and below-ground vascular plant biomass and water table on a temperate ombrotrophic peatland. *Canadian Journal of Botany* 87: 845-853.
51. Dinsmore, K.J., M. Billet & T.R. Moore 2009. Transfer of carbon dioxide and methane through the soil-water-atmosphere system at Mer Bleue peatland, Canada. *Hydrological Processes* 23: 330-341.
50. Connolly J., N.T. Roulet, J.W. Seaquist, N.M. Holden, P.M. Lafleur, E.R. Humphreys, B. Heumann & S.M. Ward 2009. Using MODIS derived *f*PAR with ground based flux tower measurements to derive the light use efficiency for two Canadian peatlands. *Biogeosciences* 6: 225-234.
49. St-Hilaire, F., J. Wu, N.T. Roulet, S. Frolking, P.M. Lafleur, E.R. Humphreys, & V. Arora 2010. McGill Wetland Model: Evaluation of a peatland carbon simulator developed for global assessments. *Biogeosciences* 17: 13517-3530.
48. Lai, D. 2009. Modelling the effects of climate change on methane emission from a northern ombrotrophic bog in Canada. *Environmental Geology* 58: 1197-1206.
47. Goldhammer, T. & C. Blodau 2008. Desiccation and product accumulation constrain heterotrophic anaerobic respiration in peats of an ombrotrophic temperate bog. *Soil Biology and Biochemistry* 40: 2007-2015.
46. Sonnentag, O., J.M. Chen, N.T. Roulet, W. Ju & A. Govind 2008. Spatially explicit simulation of peatland hydrology and carbon dioxide exchange: the influence of mesoscale topography. *JGR-Biogeosciences* 113: doi:10.1029/2007JG000605.
45. Bonneville, M.-C., I.B. Strachan, E.R. Humphreys & N.T. Roulet 2008. Net ecosystem CO_2 exchange in a temperate cattail marsh in relation to biophysical properties. *Agricultural and Forest Meteorology* 148: 69-81.
44. Hember, R.A. & P.M. Lafleur 2008. Effects of serial dependence and large-scale tropospheric circulation on mid-latitude North American terrestrial carbon dioxide exchange. *Journal of Climate* 21: 751-770.
43. Li, J., W. Chen & R. Touzi 2007. Optimum RADARSAT-1 configurations for wetlands discrimination: a case study of the Mer Bleue peat bog. *Canadian Journal of Remote Sensing* 33 Supp. 1: 46-55.
42. Sonnentag, O., J.M. Chen, D.A. Roberts, J. Talbot, K.Q. Halligan & A. Govind 2007. Mapping tree and shrub leaf area indices in an ombrotrophic peatland through multiple endmember spectral unmixing. *Remote Sensing of Environment* 109: 342-360.
41. Sonnentag, O., J. Talbot, J.M. Chen & N.T. Roulet 2007. Using direct and indirect measurements of leaf area index to characterize the shrub canopy in an ombrotrophic peatland. *Agricultural and Forest Meteorology* 144: 200-212.
40. Heitmann, T., T. Goldhammer, J. Beer & C. Blodau 2007. Electron transfer of dissolved organic matter and its potential significance for anaerobic respiration in a northern bog. *Global Change Biology* 13: 1771-1785.

39. Goldhammer, T., F. Einsiedl & C. Blodau 2008. *In situ* determination of sulfate turnover in peatlands: a downscaled push-pull tracer technique. *Journal of Plant Nutrition and Soil Science* 171: 740-750.
38. Beer, J. & C. Blodau 2007. Transport and thermodynamics constrain belowground carbon turnover in a northern peatland. *Geochimica Cosmochimica Acta* 71: 2989-3002.
37. Billett, M.F. & T.R. Moore 2008. Supersaturation and evasion of CO_2 and CH_4 in surface waters at Mer Bleue peatland, Canada. *Hydrological Processes* 22: 2044-2054.
36. Moore, T.R., J.L. Bubier & L.A. Bledzki 2007. Litter decomposition in temperate peatlands: the effect of substrate and site. *Ecosystems* 10: 949-963.
35. Bubier, J.L., T.R. Moore & L.A. Bledzki 2007. Effects of nutrient addition on vegetation and carbon cycling in an ombrotrophic bog. *Global Change Biology* 13: 1168-1186.
34. Admiral S.A. & P.M. Lafleur, 2007. Modelling of latent heat partitioning at a bog peatland. *Agricultural & Forest Meteorology* 144: 213-229.
33. Blodau, C., H. Stewart, T. Heitmann, P. Lafleur, T. Moore & N. Roulet 2007. Below-ground C turnover in a temperate ombrotrophic bog. *Global Biogeochemical Cycles* 21: doi:10.1029/2005GB002659.
32. Blodau, C., B. Mayer, S. Peiffer & T.R. Moore 2007. Support for an anaerobic sulfur cycle in two Canadian peatland soils. *JGR-Biogeosciences* 112: G02004, doi:10.1029/2006JG000364, 2007.
31. Roulet N.T., P.M. Lafleur, P.J.H. Richard, T.R. Moore, E.R. Humphreys & J. Bubier 2007. Comparison of a six year contemporary carbon balance and the carbon accumulation for the last 3,000 years for a northern peatland. *Global Change Biology* 13: 397-411.
30. Bubier, J.L., T.R. Moore, & G. Crosby 2006. Fine-scale vegetation distribution in a cool temperate peatland. *Canadian Journal of Botany* 84: 910-923.
29. Admiral S.A. & P.M. Lafleur 2007. Partitioning of latent heat flux in a northern peatland. *Aquatic Botany* 86: 107-116.
28. Basiliko, N., J.L. Bubier, R. Jeannotte and T.R. Moore 2006. The effect of nutrient input on carbon and microbial dynamics in an ombrotrophic bog. *Geomicrobiology Journal* 23: 531-543.
27. Admiral S.A., P.M. Lafleur & N.T. Roulet 2006. Controls on latent heat flux and energy partitioning at a bog in eastern Canada. *Agricultural and Forest Meteorology* (*Fluxnet Canada Special Issue*) 140: 308-321.
26. Moore, T.R., P.M. Lafleur, D.M.I. Poon, B.W. Heumann, J.W. Seaquist & N.T. Roulet 2006. Spring photosynthesis is a cool temperate bog. *Global Change Biology* 12: 2323-2335.
25. Humphreys, E.R., P.M. Lafleur, L.C. Flanagan, N. Hedstrom, K.H. Syed, A.J. Glenn & R. Granger 2006. Summer carbon dioxide and water vapor fluxes across a range of northern peatlands. *Journal of Geophysical Research* 111, G04011, doi:10.1029/2005JG000111.
24. Blodau, C., N. Basiliko, B. Mayer & T.R. Moore 2006. The fate of experimentally deposited nitrogen in mesocosms from two Canadian peatlands. *Science of the Total Environment* 364: 215-228.
23. Basiliko, N., T.R. Moore, P.M. Lafleur & N.T. Roulet 2005. Seasonal and inter-annual decomposition, microbial biomass, and nitrogen dynamics in a Canadian bog. *Soil Science* 170: 902-912.
22. Lafleur, P.M., R.A. Hember, S.W. Admiral & N.T. Roulet 2005. Annual and seasonal variability in evapotranspiration and water table at a shrub-covered bog in southern Ontario, Canada. *Hydrological Processes* 19: 3533-3550.
21. Lafleur, P., T.R. Moore, N. Roulet & S. Frolking 2005. Ecosystem respiration in a cool temperate bog: dependency on peat temperature and moisture content. *Ecosystems* 8: 619-629.
20. Hember, R.A., P.M. Lafleur & J.G. Cogley 2005. Synoptic controls on summer evapotranspiration from a bog in southern Canada. *International Journal of Climatology* 25: 793-809.
19. Letts, M., P.M. Lafleur & N.T. Roulet 2005. On the relationship between cloudiness and net ecosystem exchange in a peatland ecosystem. *Écoscience* 12: 53-59.
18. Moore, T.R., C. Blodau, J. Turunen, J., N.T. Roulet & P.J.H. Richard 2004. Recent rates of N and S accumulation in peatlands, eastern Canada. *Global Change Biology* 11: 356-367.

17. Turunen, J., N. Roulet, T.R. Moore & P.J.H. Richard 2004. Nitrogen deposition and increased carbon accumulation in ombrotrophic peatlands in eastern Canada. *Global Biogeochemical Cycles* 18 # 3, doi 10.1029/2003GB002154.
16. Basiliko, N., R. Knowles & T.R. Moore 2004. On the roles of moss species and habitat in methane oxidation in northern peatlands. *Wetlands* 24: 178-185.
15. Blodau, C., N. Basiliko & T.R. Moore 2004. Carbon turnover in peatland mesocosms exposed to different water table levels. *Biogeochemistry* 67: 331-351.
14. Blodau, C. & T.R. Moore 2003. Microscale CO_2 and CH_4 dynamics in a peat soil during a water table fluctuation and sulfate pulse. *Soil Biology & Biochemistry* 35: 535-547.
13. Blodau, C. & T.R. Moore 2003. Experimental response of peatland carbon dynamics to a water table fluctuation. *Aquatic Sciences* 65: 47-62.
12. Bubier, J.L., G. Bhatia, T.R. Moore, N. T. Roulet & P.M. Lafleur 2003. Spatial and temporal variability in growing season net ecosystem carbon dioxide exchange at a large peatland in Ontario, Canada. *Ecosystems* 6: 353-367 (doi 10.1007/S10021-003-0125-0).
11. Lafleur, P.M., N.T. Roulet, J.L. Bubier & T.R. Moore 2003. Interannual variability in the peatland-atmosphere carbon dioxide exchange at an ombrotrophic bog. *Global Biogeochemical Cycles* 17 #2 doi 10.1029/2002GB001983.
10. Blodau, C., C.L. Roehm & T.R. Moore 2002. Iron, sulphur and dissolved organic carbon dynamics in northern peatland. *Archiv fur Hydrobiologie* 154: 561-583.
9. Blodau, C. & T.R. Moore 2002. Macro-porosity affects water movement and pore water sampling in peatland mesocosms. *Soil Science* 167: 98-109.
8. Frolking, S., N.T. Roulet, T.R. Moore, P.M. Lafleur, J.L. Bubier & P.M. Crill 2002. Modeling the seasonal to annual carbon balance of Mer Bleue Bog, Ontario, Canada. *Global Biogeochemical Cycles* 16 doi 10.1029/2001GB0011457.
7. Moore, T., J. Bubier, P. Lafleur, S. Frolking & N. Roulet 2002. Plant biomass, production and CO_2 exchange in an ombrotrophic bog. *Journal of Ecology* 90: 25-36.
6. Fraser, C.J.D., N.T. Roulet & M. Lafleur 2001. Groundwater flow patterns in a large peatland. *Journal of Hydrology* 246: 142-154.
5. Fraser, C.J.D., N.T. Roulet & T.R. Moore 2001. Hydrology and dissolved organic carbon biogeochemistry in an ombrotrophic bog. *Hydrological Processes* 15: 3151-3166.
4. Frolking, S., N.T. Roulet, T.R. Moore, P.J.H. Richard, M. Lavoie& S.D. Muller 2001. Modelling northern peatland decomposition and peat accumulation. *Ecosystems* 4: 479-498.
3. Lafleur, P.M., N.T. Roulet & S.W. Admiral 2001. The annual cycle of CO_2 exchange at a boreal bog peatland. *Journal of Geophysical Research* 106: 3071-3081.
2. Hilbert, D.W., N. Roulet & T. Moore 2000. Modelling and analysis of peatlands as dynamic systems. *Journal of Ecology* 88: 241-256.
1. Scanlon, D. & T.R. Moore 2000. CO_2 production from peatland soil profiles: the influence of temperature, oxic/anoxic conditions and substrate. *Soil Science* 165: 153-160.

Student Theses:

58. Shao, S. in prep. Modelling the nutrient dynamics of northern peatlands. Ph.D. Thesis. McGill University.
57. Živković, T. in prep. Nitrogen fixation in peatlands. Ph.D. Thesis. McGill University.
56. Pinsonneault, A. 2016. Substrate and Enzymatic Controls on Temperate Peatland Carbon Cycling. Ph.D. Thesis. McGill University.
55. Arnkil, S. 2016. The effects of long-term nutrient addition on methane fluxes and vegetation in an ombrotrophic bog. M.Sc. Thesis, University of Helsinki.
54. Canham, R. 2016. Investigating the effects of precipitation on peatland photosynthesis at Mer Bleue bog, Ottawa. B.A. Thesis, Carleton University.

53. Cowan, E. 2015. Differences in methane production, storage and transport among plant community types during a wet summer at Mer Bleue bog, Ottawa. MSc Thesis, Carleton University.
52. Malhotra, A. 2015. Relating self-regulation with ecosystem structure and function in northern peatlands. Ph.D. Thesis. McGill University.
51. Singer, E. 2014. The effect of nutrient limitation on substrate induced microbial respiration at Mer Bleue Bog, Ontario, Canada. B.Sc. Honors Thesis. Mount Holyoke College.
50. Goud, E.M. 2014. Short-term effects of a lowered water table on carbon cycling and plant community structure in a temperate bog margin. M.Sc. Thesis, McGill University.
49. Marincak, B.F. 2014. Potential impacts of long-term fertilization on microtopography and peat moisture. B.Sc. thesis, Carleton University.
48. Lalonde, M. 2014. The hyperspectral determination of *Sphagnum* water content in a bog. M.Sc. Thesis, McGill University.
47. Wang, M. 2014. Plant stoichiometry in the Mer Bleue peatland. Ph.D. Thesis. McGill University.
46. De Young, A. 2014. Nitrous oxide and methane production and emission from the Mer Bleue bog and Mont Saint Hilaire forested swamp. M.Sc. Thesis, McGill University.
45. Bui, V. 2013. Stress responses in *Chamaedaphne calyculata* after 12 years of fertilization at Mer Bleue Bog. B.Sc. Honors Thesis. Mount Holyoke College.
44. Kross, A. 2012. Characterization of the variability and controls of carbon exchange in northern peatlands. Ph.D. Thesis. McGill University.
43. Lai, D. 2012. Spatial and temporal variations of carbon dioxide and methane fluxes measured by autochambers at the Mer Bleue peatland. Ph.D. Thesis. McGill University.
42. Lalonde, M. 2010. Using hyperspectral remote sensing to estimate foliar chlorophyll and nitrogen concentrations in an ombrotrophic peatland. B.Sc. Honours Thesis. McGill University.
41. Alfonso, A. 2012. Organic nitrogen use by different plant functional types in a boreal peatland. M.Sc. Thesis. McGill University.
40. Wilson, P. 2012. The relationship among micro-topographic variation, water table depth and biogeochemistry in an ombrotrophic bog. M.Sc. Thesis. McGill University.
39. Kobyljanec, C. 2011. Microbial respiration and substrate utilization across a nutrient gradient at Mer Bleue. B.Sc. Honors Thesis. Mount Holyoke College.
38. Isles, P. 2011. An inquiry into the determinants of the stable carbon isotope signatures of *Sphagnum* biomarkers from an ombrotrophic bog. M.A. Thesis, Columbia University, NY.
37. Chong, M. 2011. The microclimatic response to increasing shrub cover, and its consequent control on *Sphagnum* carbon dioxide exchange in an ombrotrophic bog. M.Sc. Thesis. McGill University.
36. Allux, S.H.A. 2010. Hyperspectral remote sensing of peatland vegetation at multiple spatial scales. B.Sc. Honours Thesis. McGill University.
35. Reichert, M. 2009. Impact of long term N-deposition on below ground C-cycling in a Canadian bog – based on a ^{13}C tracer experiment. Diploma Thesis. University of Bayreuth.
34. Armés, C.J. 2009. Methane production, oxidation, and emissions under simulated enhanced nutrient deposition in a northern peat bog. M.Sc. Thesis, University of Toronto.
33. Wu, J. 2009. Simulating northern peatland - atmosphere carbon dioxide exchange with changes in climate. Ph.D. Thesis. McGill University.
32. Smith, R. 2009. The effects of nitrogen, phosphorus and potassium fertilization on leaf morphology and photosynthesis processes for evergreen and deciduous shrubs in a boreal peatland. B.Sc. Honors Thesis. Mount Holyoke College.
31. De Young, A. 2009 Methane flux from the Blue Dome section of Mer Bleue. B.Sc. Honours Thesis. McGill University.
30. Adkinson, Angela C. 2009. Responses of *Sphagnum* productivity and net ecosystem exchange of CO_2 to modifications of moss moisture content in an ombrotrophic bog. M.Sc. Thesis. Carleton University.

29. Murphy, M. 2009. Getting to the root of the matter: Variations in vascular root biomass and production in peatlands and responses to global change. Ph.D. thesis. McGill University.
28. Talbot, J. 2009. The response of a northern peatland to long-term water table lowering. Ph.D. thesis. McGill University.
27. Strilesky, S. 2008. Comparison of the annual exchange of carbon dioxide between treed and open portions of a temperate bog peatland and the atmosphere. M.Sc. Thesis. Carleton University.
26. Dimitrov, D.D. 2009. Modelling of hydrological and thermal controls on CO_2 exchange at Mer Bleue bog. Ph.D. Thesis. University of Alberta.
25. Sonnentag, O. 2008. Spatially explicit simulation of peatland hydrology and carbon dioxide exchange. Ph.D. Thesis. University of Toronto.
24. Poon, D. 2007. Remote sensing and vegetation patterns at Mer Bleue. M.Sc. Thesis. McGill University.
23. Adkinson, A. 2006. Sphagnum in the bog water balance: Effects of air temperature and water dynamics on storage in the mass layer. B.Sc. Honours Thesis. Trent University.
22. Admiral, S.A. 2006. Measurement and modelling of evapotranspiration at a bog in southern Ontario. Ph.D. Thesis. Trent University.
21. Brunie, L. 2006. Plant responses to fertilization at a boreal peatland. B.Sc. Honors Thesis, Mount Holyoke College.
20. Rattle, J. 2006. Dissolved nitrogen dynamics in an ombrotrophic bog. M.Sc. Thesis. McGill University.
19. Stewart, H. 2006. Partitioning CO_2 flux into plant and peat components in an ombrotrophic bog. M.Sc. Thesis. McGill University.
18. Bonneville, M-C. 2007. Measurement and modeling of surface-atmosphere exchange of carbon dioxide and methane in a cattail marsh in Eastern Ontario. M.Sc. Thesis. McGill University.
17. Hember, R.A. 2006. Effects of synoptic- and large-scale atmospheric circulation variability on mid-latitude North American terrestrial carbon dioxide exchange. M.Sc. Thesis.Trent University.
16. McKinley, A. 2006. Root distribution in a temperate bog. B.A. Honours Thesis. McGill University.
15. Crosby, G. 2005. Northern peatland vegetation patterns along water-table gradients in Mer Bleue Bog, Ontario. B.Sc. Honors Thesis. Mount Holyoke College.
14. Hember, R.A. 2005. Synoptic controls on summer evapotranspiration above a bog peatland in eastern Ontario, Canada. B.Sc. Thesis. Trent University.
13. Basiliko, N. 2004. Nutrient, substrate, and microbial-ecological links to decomposition and greenhouse gas production in northern peatlands. Ph.D. Thesis. McGill University.
12. Murphy, M. 2003. Contributions of plant respiration to ecosystem respiration at Mer Bleue Bog, Ottawa, Ontario, Canada. B.Sc. Honors Thesis. Mount Holyoke College.
11. Roehm, C. 2003. Carbon dynamics in northern peatlands, Canada. Ph.D. Thesis. McGill University.
10. Smith, C.R. 2003. Winter carbon dioxide exchange at an ombrotrophic bog in southern Ontario. M.Sc. Thesis. Trent University.
9. Blodau, C. 2002. Carbon biogeochemistry in northern peatlands: regulation by environmental and biogeochemical factors. Ph.D. Thesis. McGill University.
8. Isernhagen, B. 2002. The effect of beaver pond drainage on CO_2 and CH_4 fluxes in a Canadian temperate peatland. M.Sc. Thesis. McGill University.
7. Reimer, A. 2002. The role of bog plants in the exchange of carbon dioxide and water between the atmosphere and the Mer Bleue peatland. M.Sc. Thesis. McGill University.
6. Bhatia, N. 2001. Tracking CO_2 flux: seasonal patterns, net ecosystem exchange and site comparisons of environmental variables in a boreal peatland. B.Sc. Honors Thesis. Mount Holyoke College.
5. Neal, E. 2001. Variation in net ecosystem CO_2 exchange at a peatland fertilization study. B.Sc. Honors Thesis. Mount Holyoke College.
4. Fraser, C. 2000. The hydrology and dissolved organic carbon (DOC) biogeochemistry of a boreal peatland. M.Sc.Thesis. McGill University.

3. Worth, D. 2000. The effect of temperature and water table depth on evaporation from a *Sphagnum* moss surface. B.Sc.Thesis. Trent University.
2. Paterson, J. 1999. Beavers and bog ecology: vegetation responses to beaver management practices at the Mer Bleue Bog Conservation Area. B.Sc.Thesis, McGill University.
1. Scanlon, D. 1998. Controls on decomposition of organic matter in peatland soils. M.Sc.Thesis, McGill University.