

Lawrence B Flanagan

List of Publications by Year in descending order

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115
papers

12,354
citations

19657

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28297

105
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117
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117
docs citations

117
times ranked

11030
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#	ARTICLE	IF	CITATIONS
1	Riparian Cottonwood Trees and Adjacent River Sediments Have Different Microbial Communities and Produce Methane With Contrasting Carbon Isotope Compositions. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2022, 127, .	3.0	4
2	Do ² H and ¹⁸ O in leaf water reflect environmental drivers differently?. <i>New Phytologist</i> , 2022, 235, 41-51.	7.3	29
3	Assessing methane emissions for northern peatlands in ORCHIDEE-PEAT revision 7020. <i>Geoscientific Model Development</i> , 2022, 15, 2813-2838.	3.6	8
4	Productivity of riparian <i>Populus</i> forests: Satellite assessment along a prairie river with an environmental flow regime. <i>Ecosphere</i> , 2022, 13, .	2.2	4
5	Multiple processes contribute to methane emission in a riparian cottonwood forest ecosystem. <i>New Phytologist</i> , 2021, 229, 1970-1982.	7.3	29
6	Lateral subsurface flow modulates forest mortality risk to future climate and elevated CO ₂ . <i>Environmental Research Letters</i> , 2021, 16, 084015.	5.2	10
7	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. <i>Nature Climate Change</i> , 2020, 10, 555-560.	18.8	106
8	The biophysical climate mitigation potential of boreal peatlands during the growing season. <i>Environmental Research Letters</i> , 2020, 15, 104004.	5.2	31
9	Using stable isotopes to quantify water sources for trees and shrubs in a riparian cottonwood ecosystem in flood and drought years. <i>Hydrological Processes</i> , 2019, 33, 3070-3083.	2.6	23
10	Controls on ecosystem water-use and water-use efficiency: Insights from a comparison between grassland and riparian forest in the northern Great Plains. <i>Agricultural and Forest Meteorology</i> , 2019, 271, 22-32.	4.8	20
11	Distributed Plant Hydraulic and Hydrological Modeling to Understand the Susceptibility of Riparian Woodland Trees to Drought-Induced Mortality. <i>Water Resources Research</i> , 2018, 54, 4901-4915.	4.2	43
12	Seasonal controls on ecosystem-scale CO ₂ and energy exchange in a Sonoran Desert characterized by the saguaro cactus (<i>Carnegiea gigantea</i>). <i>Oecologia</i> , 2018, 187, 977-994.	2.0	6
13	ORCHIDEE-PEAT (revision 4596), a model for northern peatland CO ₂ and energy fluxes on daily to annual scales. <i>Geoscientific Model Development</i> , 2018, 11, 497-519.	3.6	43
14	Water use in a riparian cottonwood ecosystem: Eddy covariance measurements and scaling along a river corridor. <i>Agricultural and Forest Meteorology</i> , 2017, 232, 332-348.	4.8	28
15	Coupled eco-hydrology and biogeochemistry algorithms enable the simulation of water table depth effects on boreal peatland net CO ₂ exchange. <i>Biogeosciences</i> , 2017, 14, 5507-5531.	3.3	3
16	Productivity of North American grasslands is increased under future climate scenarios despite rising aridity. <i>Nature Climate Change</i> , 2016, 6, 710-714.	18.8	153
17	Joint control of terrestrial gross primary productivity by plant phenology and physiology. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 2788-2793.	7.1	265
18	Application of the photosynthetic light-use efficiency model in a northern Great Plains grassland. <i>Remote Sensing of Environment</i> , 2015, 168, 239-251.	11.0	23

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19	The uncertain climate footprint of wetlands under human pressure. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4594-4599.	7.1	171
20	Phenology and its role in carbon dioxide exchange processes in northern peatlands. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 1370-1384.	3.0	24
21	Variation in the carbon and oxygen isotope composition of plant biomass and its relationship to water-use efficiency at the leaf and ecosystem scales in a northern Great Plains grassland. Plant, Cell and Environment, 2014, 37, 425-438.	5.7	81
22	Interacting Controls on Ecosystem Photosynthesis and Respiration in Contrasting Peatland Ecosystems. Advances in Photosynthesis and Respiration, 2014, , 253-267.	1.0	3
23	Response of plant biomass and soil respiration to experimental warming and precipitation manipulation in a Northern Great Plains grassland. Agricultural and Forest Meteorology, 2013, 173, 40-52.	4.8	63
24	Convergence of potential net ecosystem production among contrasting C ₃ grasslands. Ecology Letters, 2013, 16, 502-512.	6.4	19
25	Variation in water potential, hydraulic characteristics and water source use in montane Douglas-fir and lodgepole pine trees in southwestern Alberta and consequences for seasonal changes in photosynthetic capacity. Tree Physiology, 2012, 32, 146-160.	3.1	26
26	Characterizing spatial representativeness of flux tower eddy-covariance measurements across the Canadian Carbon Program Network using remote sensing and footprint analysis. Remote Sensing of Environment, 2012, 124, 742-755.	11.0	75
27	Measuring and modeling ecosystem photosynthesis and the carbon isotope composition of ecosystem-respired CO ₂ in three boreal coniferous forests. Agricultural and Forest Meteorology, 2012, 153, 165-176.	4.8	37
28	How climate and vegetation type influence evapotranspiration and water use efficiency in Canadian forest, peatland and grassland ecosystems. Agricultural and Forest Meteorology, 2012, 153, 14-30.	4.8	224
29	On the temporal upscaling of evapotranspiration from instantaneous remote sensing measurements to 8-day mean daily-sums. Agricultural and Forest Meteorology, 2012, 152, 212-222.	4.8	121
30	Impact of hydrological variations on modeling of peatland CO ₂ fluxes: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2012, 117, .	3.3	50
31	Contrasting responses of growing season ecosystem CO ₂ exchange to variation in temperature and water table depth in two peatlands in northern Alberta, Canada. Journal of Geophysical Research, 2011, 116, .	3.3	60
32	Characterizing the performance of ecosystem models across time scales: A spectral analysis of the North American Carbon Program site-level synthesis. Journal of Geophysical Research, 2011, 116, .	3.3	72
33	Assessing eddy-covariance flux tower location bias across the Fluxnet-Canada Research Network based on remote sensing and footprint modelling. Agricultural and Forest Meteorology, 2011, 151, 87-100.	4.8	75
34	Stimulation of both photosynthesis and respiration in response to warmer and drier conditions in a boreal peatland ecosystem. Global Change Biology, 2011, 17, 2271-2287.	9.5	137
35	Interacting controls on productivity in a northern Great Plains grassland and implications for response to ENSO events. Global Change Biology, 2011, 17, 3293-3311.	9.5	63
36	Characterization and Summary of the 1999-2005 Canadian Prairie Drought. Atmosphere - Ocean, 2011, 49, 421-452.	1.6	59

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37	Diurnal and seasonal variation in methane emissions in a northern Canadian peatland measured by eddy covariance. <i>Global Change Biology</i> , 2010, 16, 2420-2435.	9.5	64
38	Variability in exchange of CO ₂ across 12 northern peatland and tundra sites. <i>Global Change Biology</i> , 2010, 16, 2436-2448.	9.5	144
39	Warmer and drier conditions stimulate respiration more than photosynthesis in a boreal peatland ecosystem: Analysis of automatic chambers and eddy covariance measurements. <i>Plant, Cell and Environment</i> , 2010, 33, 394-407.	5.7	93
40	Climate control of terrestrial carbon exchange across biomes and continents. <i>Environmental Research Letters</i> , 2010, 5, 034007.	5.2	137
41	Anisotropic reflectance effects on spectral indices for estimating ecophysiological parameters using a portable goniometer system. <i>Canadian Journal of Remote Sensing</i> , 2010, 36, S355-S364.	2.4	15
42	A model-data intercomparison of CO ₂ exchange across North America: Results from the North American Carbon Program site synthesis. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	247
43	CO ₂ fluxes at northern fens and bogs have opposite responses to interannual fluctuations in water table. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	79
44	Interannual variation of evapotranspiration from forest and grassland ecosystems in western Canada in relation to drought. <i>Agricultural and Forest Meteorology</i> , 2010, 150, 1476-1484.	4.8	139
45	SpecNet revisited: bridging flux and remote sensing communities. <i>Canadian Journal of Remote Sensing</i> , 2010, 36, S376-S390.	2.4	53
46	Interspecific differences in photosynthetic gas exchange characteristics and acclimation to soil moisture stress among shrubs of a semiarid grassland. <i>Ecoscience</i> , 2009, 16, 125-137.	1.4	2
47	Phenology of Plant Production in the Northwestern Great Plains: Relationships with Carbon Isotope Discrimination, Net Ecosystem Productivity and Ecosystem Respiration. , 2009, , 169-185.		10
48	A new model of gross primary productivity for North American ecosystems based solely on the enhanced vegetation index and land surface temperature from MODIS. <i>Remote Sensing of Environment</i> , 2008, 112, 1633-1646.	11.0	364
49	Modelling environmental controls on ecosystem photosynthesis and the carbon isotope composition of ecosystem-respired CO ₂ in a coastal Douglas-fir forest. <i>Plant, Cell and Environment</i> , 2008, 31, 435-453.	5.7	49
50	Environmental controls on the carbon isotope composition of ecosystem-respired CO ₂ in contrasting forest ecosystems in Canada and the USA. <i>Tree Physiology</i> , 2007, 27, 1361-1374.	3.1	29
51	Modeling stomatal and nonstomatal effects of water deficits on CO ₂ fixation in a semiarid grassland. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	39
52	Photosynthesis, chlorophyll fluorescence and spectral reflectance in Sphagnum moss at varying water contents. <i>Oecologia</i> , 2007, 153, 19-28.	2.0	84
53	Evaluation of remote sensing based terrestrial productivity from MODIS using regional tower eddy flux network observations. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2006, 44, 1908-1925.	6.3	562
54	Summer carbon dioxide and water vapor fluxes across a range of northern peatlands. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	96

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55	On the use of MODIS EVI to assess gross primary productivity of North American ecosystems. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	267
56	A multi-site analysis of random error in tower-based measurements of carbon and energy fluxes. <i>Agricultural and Forest Meteorology</i> , 2006, 136, 1-18.	4.8	398
57	Comparison of net ecosystem CO ₂ exchange in two peatlands in western Canada with contrasting dominant vegetation, Sphagnum and Carex. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 115-135.	4.8	65
58	Environmental control of net ecosystem CO ₂ exchange in a treed, moderately rich fen in northern Alberta. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 97-114.	4.8	111
59	Photosynthetic light use efficiency of three biomes across an east-west continental-scale transect in Canada. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 269-286.	4.8	107
60	The Fluxnet-Canada Research Network: Influence of climate and disturbance on carbon cycling in forests and peatlands. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 1-5.	4.8	62
61	Comparing simple respiration models for eddy flux and dynamic chamber data. <i>Agricultural and Forest Meteorology</i> , 2006, 141, 219-234.	4.8	120
62	Comparison of ecosystem water-use efficiency among Douglas-fir forest, aspen forest and grassland using eddy covariance and carbon isotope techniques. <i>Global Change Biology</i> , 2006, 12, 294-310.	9.5	228
63	The stable carbon and nitrogen isotopic composition of vegetation in tropical forests of the Amazon Basin, Brazil. <i>Biogeochemistry</i> , 2006, 79, 251-274.	3.5	134
64	Stocks, Chemistry, and Sensitivity to Climate Change of Dead Organic Matter Along the Canadian Boreal Forest Transect Case Study. <i>Climatic Change</i> , 2006, 74, 223-251.	3.6	78
65	Decomposition, $\delta^{13}C$, and the "lignin paradox". <i>Canadian Journal of Soil Science</i> , 2006, 86, 235-245.	1.2	53
66	Late-summer carbon fluxes from Canadian forests and peatlands along an east-west continental transect. <i>Canadian Journal of Forest Research</i> , 2006, 36, 783-800.	1.7	91
67	The stable carbon and nitrogen isotopic composition of vegetation in tropical forests of the Amazon Basin, Brazil. , 2006, , 251-274.		6
68	Integration of CO ₂ flux and remotely-sensed data for primary production and ecosystem respiration analyses in the Northern Great Plains: potential for quantitative spatial extrapolation. <i>Global Ecology and Biogeography</i> , 2005, 14, 271-292.	5.8	139
69	Modelling CO ₂ and energy exchanges in a northern semiarid grassland using the carbon- and nitrogen-coupled Canadian Land Surface Scheme (C-CLASS). <i>Ecological Modelling</i> , 2005, 181, 591-614.	2.5	18
70	Interacting effects of temperature, soil moisture and plant biomass production on ecosystem respiration in a northern temperate grassland. <i>Agricultural and Forest Meteorology</i> , 2005, 130, 237-253.	4.8	307
71	Midday values of gross CO ₂ flux and light use efficiency during satellite overpasses can be used to directly estimate eight-day mean flux. <i>Agricultural and Forest Meteorology</i> , 2005, 131, 1-12.	4.8	114
72	Ecosystem CO ₂ Exchange and Variation in the $\delta^{18}O$ of Atmospheric CO ₂ . , 2005, , 171-181.		5

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73	Climate impact on net ecosystem productivity of a semi-arid natural grassland: modeling and measurement. <i>Agricultural and Forest Meteorology</i> , 2004, 126, 99-116.	4.8	25
74	Molecular and carbon isotopic composition of leaf wax in vegetation and aerosols in a northern prairie ecosystem. <i>Oecologia</i> , 2003, 135, 67-77.	2.0	87
75	Carbon isotope discrimination in forest and pasture ecosystems of the Amazon Basin, Brazil. <i>Global Biogeochemical Cycles</i> , 2002, 16, 56-1-56-10.	4.9	69
76	Seasonal and interannual variation in evapotranspiration, energy balance and surface conductance in a northern temperate grassland. <i>Agricultural and Forest Meteorology</i> , 2002, 112, 31-49.	4.8	271
77	Seasonal and interannual variation in carbon dioxide exchange and carbon balance in a northern temperate grassland. <i>Global Change Biology</i> , 2002, 8, 599-615.	9.5	474
78	Stable Isotopes and Carbon Cycle Processes in Forests and Grasslands. <i>Plant Biology</i> , 2002, 4, 181-189.	3.8	59
79	Environmental regulation of carbon dioxide exchange at the forest floor in a boreal black spruce ecosystem. <i>Agricultural and Forest Meteorology</i> , 2001, 108, 165-181.	4.8	79
80	CARBON ISOTOPE RATIOS IN BELOWGROUND CARBON CYCLE PROCESSES. , 2000, 10, 412-422.		654
81	Genetic variation in growth, carbon isotope discrimination, and foliar N concentration in <i>Picea mariana</i> : analyses from a half-diallel mating design using field-grown trees. <i>Canadian Journal of Forest Research</i> , 1999, 29, 1727-1735.	1.7	81
82	Spatial and temporal variation in the carbon and oxygen stable isotope ratio of respired CO ₂ in a boreal forest ecosystem*. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 1999, 51, 367-384.	1.6	33
83	Separating Soil Respiration into Plant and Soil Components Using Analyses of the Natural Abundance of Carbon-13. <i>Soil Science Society of America Journal</i> , 1999, 63, 1207-1213.	2.2	194
84	Maize Residue Decomposition Measurement Using Soil Surface Carbon Dioxide Fluxes and Natural Abundance of Carbon-13. <i>Soil Science Society of America Journal</i> , 1999, 63, 1385-1396.	2.2	86
85	Spatial and temporal variation in the carbon and oxygen stable isotope ratio of respired CO ₂ in a boreal forest ecosystem. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 1999, 51, 367-384.	1.6	36
86	Measuring and modelling environmental influences on photosynthetic gas exchange in Sphagnum and Pleurozium. <i>Plant, Cell and Environment</i> , 1998, 21, 555-564.	5.7	114
87	Ecosystem-atmosphere CO ₂ exchange: interpreting signals of change using stable isotope ratios. <i>Trends in Ecology and Evolution</i> , 1998, 13, 10-14.	8.7	98
88	Responses of boreal conifers to climate fluctuations: indications from tree-ring widths and carbon isotope analyses. <i>Canadian Journal of Forest Research</i> , 1998, 28, 524-533.	1.7	102
89	Vertical gradients in photosynthetic gas exchange characteristics and refixation of respired CO ₂ within boreal forest canopies. <i>Tree Physiology</i> , 1997, 17, 1-12.	3.1	99
90	Photosynthesis and carbon isotope discrimination in boreal forest ecosystems: A comparison of functional characteristics in plants from three mature forest types. <i>Journal of Geophysical Research</i> , 1997, 102, 28861-28869.	3.3	40

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91	Quantifying Rhizosphere Respiration in a Corn Crop under Field Conditions. Soil Science Society of America Journal, 1997, 61, 466-474.	2.2	161
92	Discrimination against C18O16O during photosynthesis and the oxygen isotope ratio of respired CO2 in boreal forest ecosystems. Global Biogeochemical Cycles, 1997, 11, 83-98.	4.9	85
93	Leaf $\delta^{13}C$ in <i>Pinus resinosa</i> trees and understory plants: variation associated with light and CO ₂ gradients. Oecologia, 1997, 109, 499-506.	2.0	82
94	Carbon isotope composition of boreal plants: functional grouping of life forms. Oecologia, 1997, 110, 301-311.	2.0	212
95	Unusually low carbon isotope ratios in plants from hanging gardens in southern Utah. Oecologia, 1997, 111, 481-489.	2.0	13
96	Carbon isotope discrimination during photosynthesis and the isotope ratio of respired CO ₂ in boreal forest ecosystems. Global Biogeochemical Cycles, 1996, 10, 629-640.	4.9	137
97	Effect of changes in water content on photosynthesis, transpiration and discrimination against ¹³ CO ₂ and C ¹⁸ O ¹⁶ O in <i>Pleurozium</i> and <i>Sphagnum</i> . Oecologia, 1996, 108, 38-46.	2.0	188
98	Photosynthetic Gas Exchange and Discrimination against ¹³ CO ₂ and C ¹⁸ O ¹⁶ O in Tobacco Plants Modified by an Antisense Construct to Have Low Chloroplastic Carbonic Anhydrase. Plant Physiology, 1996, 112, 319-326.	4.8	81
99	Influence of vegetation and soil CO ₂ exchange on the concentration and stable oxygen isotope ratio of atmospheric CO ₂ within a <i>Pinus resinosa</i> canopy. Oecologia, 1995, 101, 37-44.	2.0	34
100	Genetic variation in carbon isotope discrimination and its relationship to growth under field conditions in full-sib families of <i>Picea mariana</i> . Canadian Journal of Forest Research, 1995, 25, 39-47.	1.7	77
101	Effect of Changes in Leaf Water Oxygen Isotopic Composition on Discrimination Against C ¹⁸ O ¹⁶ O During Photosynthetic Gas Exchange. Functional Plant Biology, 1994, 21, 221.	2.1	49
102	Photosynthetic gas exchange and the stable isotope composition of leaf water: comparison of a xylem-tapping mistletoe and its host. Plant, Cell and Environment, 1993, 16, 623-631.	5.7	42
103	Vegetation effects on the isotope composition of oxygen in atmospheric CO ₂ . Nature, 1993, 363, 439-443.	27.8	374
104	Environmental and Biological Influences on the Stable Oxygen and Hydrogen Isotopic Composition of Leaf Water. , 1993, , 71-90.		55
105	Differential uptake of summer precipitation among co-occurring trees and shrubs in a pinyon-juniper woodland. Plant, Cell and Environment, 1992, 15, 831-836.	5.7	211
106	Climate change and the evolution of C ₄ photosynthesis. Trends in Ecology and Evolution, 1991, 6, 95-99.	8.7	494
107	Stable oxygen and hydrogen isotope composition of leaf water in C ₃ and C ₄ plant species under field conditions. Oecologia, 1991, 88, 394-400.	2.0	83
108	Comparison of Modeled and Observed Environmental Influences on the Stable Oxygen and Hydrogen Isotope Composition of Leaf Water in <i>Phaseolus vulgaris</i> L. Plant Physiology, 1991, 96, 588-596.	4.8	369

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109	Effects of Mild Water Stress and Diurnal Changes in Temperature and Humidity on the Stable Oxygen and Hydrogen Isotopic Composition of Leaf Water in <i>Cornus stolonifera</i> L.. Plant Physiology, 1991, 97, 298-305.	4.8	62
110	Effect of increased salinity on CO ₂ assimilation, O ₂ evolution and the $\delta^{13}\text{C}$ values of leaves of <i>Plantago maritima</i> L. developed at low and high NaCl levels. Planta, 1989, 178, 377-384.	3.2	35
111	Photosynthetic and stomatal responses of the halophyte, <i>Plantago maritima</i> L. to fluctuations in salinity. Plant, Cell and Environment, 1989, 12, 559-568.	5.7	30
112	Stomatal limitation of photosynthesis and reduced growth of the halophyte, <i>Plantago maritima</i> L., at high salinity. Plant, Cell and Environment, 1988, 11, 239-245.	5.7	47
113	Seasonal and successional changes in light quality and quantity in the understory of boreal forest ecosystems. Canadian Journal of Botany, 1986, 64, 2792-2799.	1.1	82
114	Flowering phenology, floral display and reproductive success in dioecious, <i>Aralia nudicaulis</i> L. (Araliaceae). Oecologia, 1985, 68, 23-28.	2.0	31
115	Pattern of ¹⁴ C assimilate distribution in a clonal herb, <i>Aralia nudicaulis</i> . Canadian Journal of Botany, 1985, 63, 2111-2114.	1.1	6