

Alan G Barr

List of Publications by Year in descending order

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Version: 2024-02-01

87
papers

11,191
citations

50244

46
h-index

54882

84
g-index

89
all docs

89
docs citations

89
times ranked

9924
citing authors

#	ARTICLE	IF	CITATIONS
1	Net carbon dioxide losses of northern ecosystems in response to autumn warming. <i>Nature</i> , 2008, 451, 49-52.	13.7	930
2	Separation of net ecosystem exchange into assimilation and respiration using a light response curve approach: critical issues and global evaluation. <i>Global Change Biology</i> , 2010, 16, 187-208.	4.2	752
3	Comprehensive comparison of gap-filling techniques for eddy covariance net carbon fluxes. <i>Agricultural and Forest Meteorology</i> , 2007, 147, 209-232.	1.9	744
4	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. <i>Scientific Data</i> , 2020, 7, 225.	2.4	646
5	Terrestrial biosphere models need better representation of vegetation phenology: results from the North American Carbon Program site synthesis. <i>Global Change Biology</i> , 2012, 18, 566-584.	4.2	583
6	Observed increase in local cooling effect of deforestation at higher latitudes. <i>Nature</i> , 2011, 479, 384-387.	13.7	543
7	Inter-annual variability in the leaf area index of a boreal aspen-hazelnut forest in relation to net ecosystem production. <i>Agricultural and Forest Meteorology</i> , 2004, 126, 237-255.	1.9	430
8	Evaluation of forest snow processes models (SnowMIP2). <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	290
9	A model-data comparison of gross primary productivity: Results from the North American Carbon Program site synthesis. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	274
10	Interpreting the dependence of soil respiration on soil temperature and water content in a boreal aspen stand. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 220-235.	1.9	262
11	Leaf area index measurements at Fluxnet-Canada forest sites. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 257-268.	1.9	261
12	Cross-site evaluation of eddy covariance GPP and RE decomposition techniques. <i>Agricultural and Forest Meteorology</i> , 2008, 148, 821-838.	1.9	248
13	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
14	Climatic controls on the carbon and water balances of a boreal aspen forest, 1994-2003. <i>Global Change Biology</i> , 2007, 13, 561-576.	4.2	238
15	Terrestrial biosphere model performance for inter-annual variability of land-atmosphere CO ₂ exchange. <i>Global Change Biology</i> , 2012, 18, 1971-1987.	4.2	232
16	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.	4.2	228
17	How climate and vegetation type influence evapotranspiration and water use efficiency in Canadian forest, peatland and grassland ecosystems. <i>Agricultural and Forest Meteorology</i> , 2012, 153, 14-30.	1.9	224
18	Modelling multi-year coupled carbon and water fluxes in a boreal aspen forest. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 136-151.	1.9	213

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19	Comparison of carbon dioxide fluxes over three boreal black spruce forests in Canada. <i>Global Change Biology</i> , 2007, 13, 89-107.	4.2	199
20	SNOWMIP2: An Evaluation of Forest Snow Process Simulations. <i>Bulletin of the American Meteorological Society</i> , 2009, 90, 1120-1136.	1.7	186
21	A MODIS-derived photochemical reflectance index to detect inter-annual variations in the photosynthetic light-use efficiency of a boreal deciduous forest. <i>Remote Sensing of Environment</i> , 2005, 98, 212-224.	4.6	176
22	Impact of changing soil moisture distribution on net ecosystem productivity of a boreal aspen forest during and following drought. <i>Agricultural and Forest Meteorology</i> , 2006, 139, 208-223.	1.9	175
23	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.	1.9	139
24	Climate control of terrestrial carbon exchange across biomes and continents. <i>Environmental Research Letters</i> , 2010, 5, 034007.	2.2	137
25	Spatial distribution of carbon sources and sinks in Canada's forests. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2003, 55, 622-641.	0.8	133
26	Biophysical controls on rhizospheric and heterotrophic components of soil respiration in a boreal black spruce stand. <i>Tree Physiology</i> , 2008, 28, 161-171.	1.4	112
27	Carbon sequestration in boreal jack pine stands following harvesting. <i>Global Change Biology</i> , 2009, 15, 1475-1487.	4.2	112
28	Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms. <i>New Phytologist</i> , 2012, 194, 775-783.	3.5	111
29	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.	1.9	107
30	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. <i>Nature Climate Change</i> , 2020, 10, 555-560.	8.1	106
31	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.	0.8	91
32	A comparison of Bowen ratio and eddy correlation sensible and latent heat flux measurements above deciduous forest. <i>Boundary-Layer Meteorology</i> , 1994, 71, 21-41.	1.2	87
33	Impact of snow cover on soil temperature and its simulation in a boreal aspen forest. <i>Cold Regions Science and Technology</i> , 2008, 52, 355-370.	1.6	86
34	Early snowmelt significantly enhances boreal springtime carbon uptake. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 11081-11086.	3.3	84
35	CO ₂ fluxes at northern fens and bogs have opposite responses to inter-annual fluctuations in water table. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	79
36	Assessing eddy-covariance flux tower location bias across the Fluxnet-Canada Research Network based on remote sensing and footprint modelling. <i>Agricultural and Forest Meteorology</i> , 2011, 151, 87-100.	1.9	75

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37	Characterizing spatial representativeness of flux tower eddy-covariance measurements across the Canadian Carbon Program Network using remote sensing and footprint analysis. <i>Remote Sensing of Environment</i> , 2012, 124, 742-755.	4.6	75
38	Characterizing the performance of ecosystem models across time scales: A spectral analysis of the North American Carbon Program site-level synthesis. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	72
39	Radiosonde boundary layer budgets above a boreal forest. <i>Journal of Geophysical Research</i> , 1997, 102, 29205-29212.	3.3	69
40	Uncertainty Quantification. , 2012, , 173-209.		69
41	Factors controlling the interannual variability in the carbon balance of a southern boreal black spruce forest. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	65
42	Influence of temperature and drought on seasonal and interannual variations of soil, bole and ecosystem respiration in a boreal aspen stand. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 203-219.	1.9	61
43	Bias corrections of precipitation measurements across experimental sites in different ecoclimatic regions of western Canada. <i>Cryosphere</i> , 2016, 10, 2347-2360.	1.5	55
44	Inferring terrestrial photosynthetic light use efficiency of temperate ecosystems from space. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	53
45	Soil CO ₂ efflux in contrasting boreal deciduous and coniferous stands and its contribution to the ecosystem carbon balance. <i>Global Change Biology</i> , 2009, 15, 1302-1319.	4.2	52
46	Total and Component Carbon Fluxes of a Scots Pine Ecosystem from Chamber Measurements and Eddy Covariance. <i>Annals of Botany</i> , 2007, 99, 345-353.	1.4	50
47	Impact of hydrological variations on modeling of peatland CO ₂ fluxes: Results from the North American Carbon Program site synthesis. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	50
48	Boreal tree hydrodynamics: asynchronous, diverging, yet complementary. <i>Tree Physiology</i> , 2018, 38, 953-964.	1.4	46
49	Hydrological effects on carbon cycles of Canada's forests and wetlands. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2006, 58, 16-30.	0.8	45
50	Energy Balance Closure Using Eddy Covariance Above Two Different Land Surfaces and Implications for CO ₂ Flux Measurements. <i>Boundary-Layer Meteorology</i> , 2010, 136, 193-218.	1.2	43
51	Differentiating moss from higher plants is critical in studying the carbon cycle of the boreal biome. <i>Nature Communications</i> , 2014, 5, 4270.	5.8	42
52	Climatic and Phenological Controls of the Carbon and Energy Balances of Three Contrasting Boreal Forest Ecosystems in Western Canada. , 2009, , 3-34.		39
53	Data assimilation of photosynthetic light-use efficiency using multi-angular satellite data: II Model implementation and validation. <i>Remote Sensing of Environment</i> , 2012, 121, 287-300.	4.6	39
54	Case study modeling of turbulent and mesoscale fluxes over the BOREAS region. <i>Journal of Geophysical Research</i> , 1997, 102, 29167-29188.	3.3	38

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55	Monitoring the moisture balance of a boreal aspen forest using a deep groundwater piezometer. <i>Agricultural and Forest Meteorology</i> , 2000, 102, 13-24.	1.9	38
56	Modeling the Response of Canopy Stomatal Conductance to Humidity. <i>Journal of Hydrometeorology</i> , 2009, 10, 521-532.	0.7	38
57	Measuring and modeling ecosystem photosynthesis and the carbon isotope composition of ecosystem-respired CO ₂ in three boreal coniferous forests. <i>Agricultural and Forest Meteorology</i> , 2012, 153, 165-176.	1.9	37
58	Meteorological and evaluation datasets for snow modelling at 10 reference sites: description of in situ and bias-corrected reanalysis data. <i>Earth System Science Data</i> , 2019, 11, 865-880.	3.7	36
59	Diurnal and Seasonal Dynamics of Solar-Induced Chlorophyll Fluorescence, Vegetation Indices, and Gross Primary Productivity in the Boreal Forest. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2022, 127, .	1.3	36
60	Modeling analysis of primary controls on net ecosystem productivity of seven boreal and temperate coniferous forests across a continental transect. <i>Global Change Biology</i> , 2008, 14, 1765-1784.	4.2	33
61	Aboveground tree growth is a minor and decoupled fraction of boreal forest carbon input. <i>Agricultural and Forest Meteorology</i> , 2020, 290, 108030.	1.9	33
62	First International Satellite Land Surface Climatology Field Experiment 1987 sonde budget revisited. <i>Journal of Geophysical Research</i> , 1996, 101, 23285-23288.	3.3	32
63	Comparison of regional surface fluxes from boundary-layer budgets and aircraft measurements above boreal forest. <i>Journal of Geophysical Research</i> , 1997, 102, 29213-29218.	3.3	31
64	Evaluating three evapotranspiration methods in the SLURP macroscale hydrological model. <i>Hydrological Processes</i> , 1997, 11, 1685-1705.	1.1	31
65	The biophysical climate mitigation potential of boreal peatlands during the growing season. <i>Environmental Research Letters</i> , 2020, 15, 104004.	2.2	31
66	Intercomparison of BOREAS northern and southern study area surface fluxes in 1994. <i>Journal of Geophysical Research</i> , 2001, 106, 33543-33550.	3.3	29
67	Optimization of water uptake and photosynthetic parameters in an ecosystem model using tower flux data. <i>Ecological Modelling</i> , 2014, 294, 94-104.	1.2	29
68	Assessing land-surface-atmosphere coupling in the ERA-40 reanalysis with boreal forest data. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 365-382.	1.9	27
69	The incorporation of an organic soil layer in the Noah-MP land surface model and its evaluation over a boreal aspen forest. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 8375-8387.	1.9	25
70	Tower-Based Remote Sensing Reveals Mechanisms Behind a Two-Phased Spring Transition in a Mixed-Species Boreal Forest. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2021, 126, e2020JG006191.	1.3	25
71	Divergent long-term trends and interannual variation in ecosystem resource use efficiencies of a southern boreal old black spruce forest 1999-2017. <i>Global Change Biology</i> , 2019, 25, 3056-3069.	4.2	24
72	A comparison of methods to estimate daily global solar irradiation from other climatic variables on the Canadian prairies. <i>Solar Energy</i> , 1996, 56, 213-224.	2.9	23

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73	Summary and synthesis of Changing Cold Regions Network (CCRN) research in the interior of western Canada – Part 2: Future change in cryosphere, vegetation, and hydrology. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 1849-1882.	1.9	20
74	Effects of forest tent caterpillar defoliation on carbon and water fluxes in a boreal aspen stand. <i>Agricultural and Forest Meteorology</i> , 2018, 253-254, 176-189.	1.9	16
75	L-Band response to freeze/thaw in a boreal forest stand from ground- and tower-based radiometer observations. <i>Remote Sensing of Environment</i> , 2020, 237, 111542.	4.6	16
76	Estimating Regional Surface Heat and Moisture Fluxes above Prairie Cropland from Surface and Upper-Air Measurements. <i>Journal of Applied Meteorology and Climatology</i> , 1996, 35, 1716-1735.	1.7	14
77	Spatially simulating changes of soil water content and their effects on carbon sequestration in Canada's forests and wetlands. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 62, 140.	0.8	14
78	Controls on evapotranspiration from jack pine forests in the Boreal Plains Ecozone. <i>Hydrological Processes</i> , 2020, 34, 927-940.	1.1	13
79	Reassessment of the climatic controls on the carbon and water fluxes of a boreal aspen forest over 1996–2016: Changing sensitivity to long-term climatic conditions. <i>Global Change Biology</i> , 2022, 28, 4605-4619.	4.2	7
80	An improved post-processing technique for automatic precipitation gauge time series. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 2979-2994.	1.2	6
81	Effect of Soil Water Content on Carbon Dioxide Flux at a Sparse-Canopy Forest in the Canadian Boreal Ecosystem. <i>J Agricultural Meteorology</i> , 2005, 61, 131-141.	0.8	6
82	Using observed soil moisture to constrain the uncertainty of simulated hydrological fluxes. <i>Hydrological Processes</i> , 2022, 36, .	1.1	5
83	Total and Component Carbon Fluxes of a Scots Pine Ecosystem from Chamber Measurements and Eddy Covariance. <i>Annals of Botany</i> , 2007, 99, 1239-1239.	1.4	4
84	The Environment and Climate Change Canada solid precipitation intercomparison data from Bratt's Lake and Caribou Creek, Saskatchewan. <i>Earth System Science Data</i> , 2019, 11, 1337-1347.	3.7	4
85	Characterization of spring thaw and its relationship with carbon uptake for different types of southern boreal forest. <i>Agricultural and Forest Meteorology</i> , 2021, 307, 108511.	1.9	3
86	Climatology of gravity waves in a forest. <i>Quarterly Journal of the Royal Meteorological Society</i> , 1998, 124, 1403-1419.	1.0	1
87	Use of L-Band Ground-Based Radiometers for Freeze/Thaw Retrieval in A Boreal Forest Site. , 2018, , .		0