

# Alan G Barr

## List of Publications by Year in descending order

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87  
papers

11,191  
citations

50276

46  
h-index

54911

84  
g-index

89  
all docs

89  
docs citations

89  
times ranked

9924  
citing authors

#	ARTICLE	IF	CITATIONS
1	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.	1.6	14
2	Using observed soil moisture to constrain the uncertainty of simulated hydrological fluxes. <i>Hydrological Processes</i> , 2022, 36, .	2.6	5
3	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, .	3.0	36
4	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.	9.5	7
5	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.	4.9	20
6	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.	3.0	25
7	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.	4.8	3
8	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.	11.0	16
9	Controls on evapotranspiration from jack pine forests in the Boreal Plains Ecozone. <i>Hydrological Processes</i> , 2020, 34, 927-940.	2.6	13
10	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. <i>Scientific Data</i> , 2020, 7, 225.	5.3	646
11	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. <i>Nature Climate Change</i> , 2020, 10, 555-560.	18.8	106
12	Aboveground tree growth is a minor and decoupled fraction of boreal forest carbon input. <i>Agricultural and Forest Meteorology</i> , 2020, 290, 108030.	4.8	33
13	An improved post-processing technique for automatic precipitation gauge time series. <i>Atmospheric Measurement Techniques</i> , 2020, 13, 2979-2994.	3.1	6
14	The biophysical climate mitigation potential of boreal peatlands during the growing season. <i>Environmental Research Letters</i> , 2020, 15, 104004.	5.2	31
15	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.	9.5	24
16	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.	9.9	4
17	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.	9.9	36
18	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.	4.8	16

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19	Use of L-Band Ground-Based Radiometers for Freeze/Thaw Retrieval in A Boreal Forest Site. , 2018, , .		0
20	Boreal tree hydrodynamics: asynchronous, diverging, yet complementary. Tree Physiology, 2018, 38, 953-964.	3.1	46
21	Early snowmelt significantly enhances boreal springtime carbon uptake. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11081-11086.	7.1	84
22	Bias corrections of precipitation measurements across experimental sites in different ecoclimatic regions of western Canada. Cryosphere, 2016, 10, 2347-2360.	3.9	55
23	The incorporation of an organic soil layer in the Noah-MP land surface model and its evaluation over a boreal aspen forest. Atmospheric Chemistry and Physics, 2016, 16, 8375-8387.	4.9	25
24	Differentiating moss from higher plants is critical in studying the carbon cycle of the boreal biome. Nature Communications, 2014, 5, 4270.	12.8	42
25	Optimization of water uptake and photosynthetic parameters in an ecosystem model using tower flux data. Ecological Modelling, 2014, 294, 94-104.	2.5	29
26	Uncertainty Quantification. , 2012, , 173-209.		69
27	Data assimilation of photosynthetic light-use efficiency using multi-angular satellite data: II Model implementation and validation. Remote Sensing of Environment, 2012, 121, 287-300.	11.0	39
28	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
29	Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms. New Phytologist, 2012, 194, 775-783.	7.3	111
30	Measuring and modeling ecosystem photosynthesis and the carbon isotope composition of ecosystem-respired CO <sub>2</sub> in three boreal coniferous forests. Agricultural and Forest Meteorology, 2012, 153, 165-176.	4.8	37
31	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
32	Terrestrial biosphere model performance for interannual variability of land-atmosphere CO <sub>2</sub> exchange. Global Change Biology, 2012, 18, 1971-1987.	9.5	232
33	Impact of hydrological variations on modeling of peatland CO <sub>2</sub> fluxes: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2012, 117, .	3.3	50
34	A model-data comparison of gross primary productivity: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2012, 117, .	3.3	274
35	Terrestrial biosphere models need better representation of vegetation phenology: results from the North American Carbon Program site synthesis. Global Change Biology, 2012, 18, 566-584.	9.5	583
36	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

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37	Inferring terrestrial photosynthetic light use efficiency of temperate ecosystems from space. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	53
38	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.	4.8	75
39	Observed increase in local cooling effect of deforestation at higher latitudes. <i>Nature</i> , 2011, 479, 384-387.	27.8	543
40	Energy Balance Closure Using Eddy Covariance Above Two Different Land Surfaces and Implications for CO <sub>2</sub> Flux Measurements. <i>Boundary-Layer Meteorology</i> , 2010, 136, 193-218.	2.3	43
41	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.	9.5	752
42	Climate control of terrestrial carbon exchange across biomes and continents. <i>Environmental Research Letters</i> , 2010, 5, 034007.	5.2	137
43	A model-data intercomparison of CO <sub>2</sub> exchange across North America: Results from the North American Carbon Program site synthesis. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	247
44	CO <sub>2</sub> 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
45	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
46	SNOWMIP2: An Evaluation of Forest Snow Process Simulations. <i>Bulletin of the American Meteorological Society</i> , 2009, 90, 1120-1136.	3.3	186
47	Modeling the Response of Canopy Stomatal Conductance to Humidity. <i>Journal of Hydrometeorology</i> , 2009, 10, 521-532.	1.9	38
48	Carbon sequestration in boreal jack pine stands following harvesting. <i>Global Change Biology</i> , 2009, 15, 1475-1487.	9.5	112
49	Soil CO <sub>2</sub> 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.	9.5	52
50	Evaluation of forest snow processes models (SnowMIP2). <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	290
51	Climatic and Phenological Controls of the Carbon and Energy Balances of Three Contrasting Boreal Forest Ecosystems in Western Canada. , 2009, , 3-34.		39
52	Net carbon dioxide losses of northern ecosystems in response to autumn warming. <i>Nature</i> , 2008, 451, 49-52.	27.8	930
53	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.	9.5	33
54	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

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55	Cross-site evaluation of eddy covariance GPP and RE decomposition techniques. <i>Agricultural and Forest Meteorology</i> , 2008, 148, 821-838.	4.8	248
56	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.	3.5	86
57	Biophysical controls on rhizospheric and heterotrophic components of soil respiration in a boreal black spruce stand. <i>Tree Physiology</i> , 2008, 28, 161-171.	3.1	112
58	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.	2.9	50
59	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.	2.9	4
60	Comprehensive comparison of gap-filling techniques for eddy covariance net carbon fluxes. <i>Agricultural and Forest Meteorology</i> , 2007, 147, 209-232.	4.8	744
61	Climatic controls on the carbon and water balances of a boreal aspen forest, 1994-2003. <i>Global Change Biology</i> , 2007, 13, 561-576.	9.5	238
62	Comparison of carbon dioxide fluxes over three boreal black spruce forests in Canada. <i>Global Change Biology</i> , 2007, 13, 89-107.	9.5	199
63	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
64	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.	4.8	175
65	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.	4.8	61
66	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.	4.8	262
67	Leaf area index measurements at Fluxnet-Canada forest sites. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 257-268.	4.8	261
68	Modelling multi-year coupled carbon and water fluxes in a boreal aspen forest. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 136-151.	4.8	213
69	Assessing land-surface-atmosphere coupling in the ERA-40 reanalysis with boreal forest data. <i>Agricultural and Forest Meteorology</i> , 2006, 140, 365-382.	4.8	27
70	Hydrological effects on carbon cycles of Canada's forests and wetlands. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2006, 58, 16-30.	1.6	45
71	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
72	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

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73	A MODIS-derived photochemical reflectance index to detect inter-annual variations in the photosynthetic light-use efficiency of a boreal deciduous forest. Remote Sensing of Environment, 2005, 98, 212-224.	11.0	176
74	Effect of Soil Water Content on Carbon Dioxide Flux at a Sparse-Canopy Forest in the Canadian Boreal Ecosystem. J Agricultural Meteorology, 2005, 61, 131-141.	1.5	6
75	Inter-annual variability in the leaf area index of a boreal aspen-hazelnut forest in relation to net ecosystem production. Agricultural and Forest Meteorology, 2004, 126, 237-255.	4.8	430
76	Spatial distribution of carbon sources and sinks in Canada's forests. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 622-641.	1.6	133
77	Intercomparison of BOREAS northern and southern study area surface fluxes in 1994. Journal of Geophysical Research, 2001, 106, 33543-33550.	3.3	29
78	Monitoring the moisture balance of a boreal aspen forest using a deep groundwater piezometer. Agricultural and Forest Meteorology, 2000, 102, 13-24.	4.8	38
79	Climatology of gravity waves in a forest. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 1403-1419.	2.7	1
80	Comparison of regional surface fluxes from boundary-layer budgets and aircraft measurements above boreal forest. Journal of Geophysical Research, 1997, 102, 29213-29218.	3.3	31
81	Radiosonde boundary layer budgets above a boreal forest. Journal of Geophysical Research, 1997, 102, 29205-29212.	3.3	69
82	Case study modeling of turbulent and mesoscale fluxes over the BOREAS region. Journal of Geophysical Research, 1997, 102, 29167-29188.	3.3	38
83	Evaluating three evapotranspiration methods in the SLURP macroscale hydrological model. Hydrological Processes, 1997, 11, 1685-1705.	2.6	31
84	First International Satellite Land Surface Climatology Field Experiment 1987 sonde budget revisited. Journal of Geophysical Research, 1996, 101, 23285-23288.	3.3	32
85	Estimating Regional Surface Heat and Moisture Fluxes above Prairie Cropland from Surface and Upper-Air Measurements. Journal of Applied Meteorology and Climatology, 1996, 35, 1716-1735.	1.7	14
86	A comparison of methods to estimate daily global solar irradiation from other climatic variables on the Canadian prairies. Solar Energy, 1996, 56, 213-224.	6.1	23
87	A comparison of bowen ratio and eddy correlation sensible and latent heat flux measurements above deciduous forest. Boundary-Layer Meteorology, 1994, 71, 21-41.	2.3	87