Alex Cannon

List of Publications by Year
in descending order

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123 papers	6,218 citations	87888 38 h-index	76900 74 g-index
151 all docs	151 docs citations	151 times ranked	6056 citing authors

#	Article	IF	Citations
1	Bias Correction of GCM Precipitation by Quantile Mapping: How Well Do Methods Preserve Changes in Quantiles and Extremes?. Journal of Climate, 2015, 28, 6938-6959.	3.2	743
2	Multivariate quantile mapping bias correction: an N-dimensional probability density function transform for climate model simulations of multiple variables. Climate Dynamics, 2018, 50, 31-49.	3.8	290
3	Quantile regression neural networks: Implementation in R and application to precipitation downscaling. Computers and Geosciences, 2011, 37, 1277-1284.	4.2	256
4	Groundwaterâ€“surface water interaction under scenarios of climate change using a high-resolution transient groundwater model. Journal of Hydrology, 2007, 333, 165-181.	5.4	207
5	Coupled modelling of glacier and streamflow response to future climate scenarios. Water Resources Research, 2008, 44, .	4.2	199
6	Complexity in estimating past and future extreme short-duration rainfall. Nature Geoscience, 2017, 10, 255-259.	12.9	193
7	Daily streamflow forecasting by machine learning methods with weather and climate inputs. Journal of Hydrology, 2012, 414-415, 284-293.	5.4	190
8	Crop yield forecasting on the Canadian Prairies by remotely sensed vegetation indices and machine learning methods. Agricultural and Forest Meteorology, 2016, 218-219, 74-84.	4.8	188
9	Downscaling recent streamflow conditions in British Columbia, Canada using ensemble neural network models. Journal of Hydrology, 2002, 259, 136-151.	5.4	171
10	Attribution of the Influence of Humanâ€Induced Climate Change on an Extreme Fire Season. Earth's Future, 2019, 7, 2-10.	6.3	159
11	Downscaling Extremesâ€”An Intercomparison of Multiple Statistical Methods for Present Climate. Journal of Climate, 2012, 25, 4366-4388.	3.2	154
12	Recent Variations in Climate and Hydrology in Canada. Canadian Water Resources Journal, 2000, 25, 19-65.	1.2	135
13	Multivariate Bias Correction of Climate Model Output: Matching Marginal Distributions and Intervariable Dependence Structure. Journal of Climate, 2016, 29, 7045-7064.	3.2	134
14	Selecting GCM Scenarios that Span the Range of Changes in a Multimodel Ensemble: Application to CMIP5 Climate Extremes Indices*. Journal of Climate, 2015, 28, 1260-1267.	3.2	132
15	A flexible nonlinear modelling framework for nonstationary generalized extreme value analysis in hydroclimatology. Hydrological Processes, 2010, 24, 673-685.	2.6	110
16	Hydrologic extremes â€“ an intercomparison of multiple gridded statistical downscaling methods. Hydrology and Earth System Sciences, 2016, 20, 1483-1508.	4.9	109
17	Downscaling Extremes: An Intercomparison of Multiple Methods for Future Climate. Journal of Climate, 2013, 26, 3429-3449.	3.2	98
18	Probabilistic Multisite Precipitation Downscaling by an Expanded Bernoulliâ€“Gamma Density Network. Journal of Hydrometeorology, 2008, 9, 1284-1300.	1.9	95

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19	Forecasting daily streamflow using online sequential extreme learning machines. Journal of Hydrology, 2016, 537, 431-443.	5.4	92
20	Attributing extreme fire risk in Western Canada to human emissions. Climatic Change, 2017, 144, 365-379.	3.6	92
21	A closer look at novel climates: new methods and insights at continental to landscape scales. Global Change Biology, 2017, 23, 3934-3955.	9.5	88
22	Intercomparison of projected changes in climate extremes for South Korea: application of trend preserving statistical downscaling methods to the <scp>CMIP5</scp> ensemble. International Journal of Climatology, 2017, 37, 3381-3397.	3.5	81
23	Non-crossing nonlinear regression quantiles by monotone composite quantile regression neural network, with application to rainfall extremes. Stochastic Environmental Research and Risk Assessment, 2018, 32, 3207-3225.	4.0	77
24	Multivariate bias corrections of climate simulations: which benefits for which losses?. Earth System Dynamics, 2020, 11, 537-562.	7.1	73
25	Variability in simulated recharge using different GCMs. Water Resources Research, 2010, 46, .	4.2	70
26	Nonlinear regression in environmental sciences using extreme learning machines: A comparative evaluation. Environmental Modelling and Software, 2015, 73, 175-188.	4.5	68
27	Future changes in autumn atmospheric river events in British Columbia, Canada, as projected by CMIP5 global climate models. Journal of Geophysical Research D: Atmospheres, 2015, 120, 9279-9302.	3.3	64
28	Effects of univariate and multivariate bias correction on hydrological impact projections in alpine catchments. Hydrology and Earth System Sciences, 2019, 23, 1339-1354.	4.9	63
29	Maize yield forecasting by linear regression and artificial neural networks in Jilin, China. Journal of Agricultural Science, 2015, 153, 399-410.	1.3	61
30	Climate change impacts on Canadian yields of spring wheat, canola and maize for global warming levels of 1.5 Â°C, 2.0 Â°C, 2.5 Â°C and 3.0 Â°C. Environmental Research Letters, 2019, 14, 074005.	5.2	50
31	A long-term, temporally consistent, gridded daily meteorological dataset for northwestern North America. Scientific Data, 2019, 6, 180299.	5.3	49
32	CMIP5 drought projections in Canada based on the Standardized Precipitation Evapotranspiration Index. Canadian Water Resources Journal, 2019, 44, 90-107.	1.2	48
33	Synoptic Map-Pattern Classification Using Recursive Partitioning and Principal Component Analysis. Monthly Weather Review, 2002, 130, 1187-1206.	1.4	47
34	A graphical sensitivity analysis for statistical climate models: application to Indian monsoon rainfall prediction by artificial neural networks and multiple linear regression models. International Journal of Climatology, 2002, 22, 1687-1708.	3.5	47
35	Evaluating hourly air quality forecasting in Canada with nonlinear updatable machine learning methods. Air Quality, Atmosphere and Health, 2017, 10, 195-211.	3.3	47
36	Modelling Streamflow in Present and Future Climates: Examples from the Georgia Basin, British Columbia. Canadian Water Resources Journal, 2002, 27, 427-456.	1.2	44

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37	Historical trends and extremes in boreal Alaska river basins. Journal of Hydrology, 2015, 527, 590-607.	5.4	42
38	Forecasting Summertime Surface-Level Ozone Concentrations in the Lower Fraser Valley of British Columbia: An Ensemble Neural Network Approach. Journal of the Air and Waste Management Association, 2000, 50, 322-339.	1.9	39
39	Recent variations in seasonality of temperature and precipitation in Canada, 1976-95. International Journal of Climatology, 2002, 22, 1617-1644.	3.5	38
40	Reductions in daily continental-scale atmospheric circulation biases between generations of global climate models: CMIP5 to CMIP6. Environmental Research Letters, 2020, 15, 064006.	5.2	37
41	Comparison of statistically downscaled precipitation in terms of future climate indices and daily variability for southern Ontario and Quebec, Canada. Climate Dynamics, 2014, 43, 3201-3217.	3.8	35
42	Modelling Future Streamflow Extremes â€" Floods and Low Flows in Georgia Basin, British Columbia. Canadian Water Resources Journal, 2003, 28, 633-656.	1.2	34
43	Wetter summers can intensify departures from natural variability in a warming climate. Nature Communications, 2018, 9, 783.	12.8	34
44	A novel approach for selecting extreme climate change scenarios for climate change impact studies. Science of the Total Environment, 2019, 678, 476-485.	8.0	34
45	Comparison of gridded snow water equivalent products with in situ measurements in British Columbia, Canada. Journal of Hydrology, 2016, 541, 714-726.	5.4	33
46	Improving gridded snow water equivalent products in British Columbia, Canada: multi-source data fusion by neural network models. Cryosphere, 2018, 12, 891-905.	3.9	33
47	Projected intensification of sub-daily and daily rainfall extremes in convection-permitting climate model simulations over North America: implications for future intensityâ€"durationâ€"frequency curves. Natural Hazards and Earth System Sciences, 2019, 19, 421-440.	3.6	32
48	Neural networks for probabilistic environmental prediction: Conditional Density Estimation Network Creation and Evaluation (CaDENCE) in R. Computers and Geosciences, 2012, 41, 126-135.	4.2	31
49	Nonlinear regression in environmental sciences by support vector machines combined with evolutionary strategy. Computers and Geosciences, 2013, 50, 136-144.	4.2	31
50	Statistical emulation of streamflow projections from a distributed hydrological model: Application to CMIP3 and CMIP5 climate projections for <scp>B</scp>ritish <scp>C</scp>olumbia, <scp>C</scp>anada. Water Resources Research, 2014, 50, 8907-8926.	4.2	31
51	Projected changes to extreme freezing precipitation and design ice loads over North America based on a large ensemble of Canadian regional climate model simulations. Natural Hazards and Earth System Sciences, 2019, 19, 857-872.	3.6	31
52	Variable complexity online sequential extreme learning machine, with applications to streamflow prediction. Journal of Hydrology, 2017, 555, 983-994.	5.4	30
53	A global climate model ensemble for downscaled monthly climate normals over North America. International Journal of Climatology, 2022, 42, 5871-5891.	3.5	29
54	Characterizing non-stationary compound extreme events in a changing climate based on large-ensemble climate simulations. Climate Dynamics, 2021, 56, 1389-1405.	3.8	28

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55	Influence of Pacific Climate Patterns on Low-Flows in British Columbia and Yukon, Canada. Canadian Water Resources Journal, 2006, 31, 25-40.	1.2	26
56	Transferability of climate simulation uncertainty to hydrological impacts. Hydrology and Earth System Sciences, 2018, 22, 3739-3759.	4.9	26
57	Robust nonlinear canonical correlation analysis: application to seasonal climate forecasting. Nonlinear Processes in Geophysics, 2008, 15, 221-232.	1.3	25
58	Estimation of rainfall intensityâ€“durationâ€“frequency curves at ungauged locations using quantile regression methods. Stochastic Environmental Research and Risk Assessment, 2018, 32, 2821-2836.	4.0	25
59	Indices of Canadaâ€™s future climate for general and agricultural adaptation applications. Climatic Change, 2018, 148, 249-263.	3.6	25
60	Revisiting the nonlinear relationship between <scp>ENSO</scp> and winter extreme station precipitation in North America. International Journal of Climatology, 2015, 35, 4001-4014.	3.5	24
61	Human influence on the 2021 British Columbia floods. Weather and Climate Extremes, 2022, 36, 100441.	4.1	24
62	GEVcdn: An R package for nonstationary extreme value analysis by generalized extreme value conditional density estimation network. Computers and Geosciences, 2011, 37, 1532-1533.	4.2	22
63	Adjusting climate model bias for agricultural impact assessment: How to cut the mustard. Climate Services, 2019, 13, 65-69.	2.5	22
64	High-resolution meteorological forcing data for hydrological modelling and climate change impact analysis in the Mackenzie River Basin. Earth System Science Data, 2020, 12, 629-645.	9.9	22
65	Downscaling and visioning of mountain snow packs and other climate change implications in North Vancouver, British Columbia. Mitigation and Adaptation Strategies for Global Change, 2012, 17, 25-49.	2.1	21
66	Projected Changes in the Probability Distributions, Seasonality, and Spatiotemporal Scaling of Daily and Subdaily Extreme Precipitation Simulated by a 50â€Member Ensemble Over Northeastern North America. Journal of Geophysical Research D: Atmospheres, 2019, 124, 10427-10449.	3.3	21
67	Multivariate Biasâ€Correction of Highâ€Resolution Regional Climate Change Simulations for West Africa: Performance and Climate Change Implications. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	21
68	The potential impact of climate change on the occurrence of winter freeze events in six fruit crops grown in the Okanagan Valley. Canadian Journal of Plant Science, 2010, 90, 85-93.	0.9	20
69	Regression-Guided Clustering: A Semisupervised Method for Circulation-to-Environment Synoptic Classification. Journal of Applied Meteorology and Climatology, 2012, 51, 185-190.	1.5	20
70	Projecting future nonstationary extreme streamflow for the Fraser River, Canada. Climatic Change, 2017, 145, 289-303.	3.6	20
71	Multi-site bias correction of climate model outputs for hydro-meteorological impact studies: An application over a watershed in China. Hydrological Processes, 2020, 34, 2575-2598.	2.6	20
72	Forecasting all-India summer monsoon rainfall using regional circulation principal components: a comparison between neural network and multiple regression models. International Journal of Climatology, 1999, 19, 1561-1578.	3.5	19

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73	Intercomparison of multiple statistical downscaling methods: multi-criteria model selection for South Korea. Stochastic Environmental Research and Risk Assessment, 2017, 31, 683-703.	4.0	18
74	MODELING TRANSIENT pH DEPRESSIONS IN COASTAL STREAMS OF BRITISH COLUMBIA USING NEURAL NETWORKS. Journal of the American Water Resources Association, 2001, 37, 73-89.	2.4	17
75	Negative ridge regression parameters for improving the covariance structure of multivariate linear downscaling models. International Journal of Climatology, 2009, 29, 761-769.	3.5	17
76	Using a Down-Scaled Bioclimate Envelope Model to Determine Long-Term Temporal Connectivity of Garry oak (Quercus garryana) Habitat in Western North America: Implications for Protected Area Planning. Environmental Management, 2012, 49, 802-815.	2.7	17
77	Climatic Controls on Future Hydrologic Changes in a Subarctic River Basin in Canada. Journal of Hydrometeorology, 2019, 20, 1757-1778.	1.9	17
78	Bias correction of climate model output for impact models. , 2020, , 77-104.		17
79	Disease Risk Forecasting with Bayesian Learning Networks: Application to Grape Powdery Mildew (Erysiphe necator) in Vineyards. Agronomy, 2020, 10, 622.	3.0	17
80	Quantifying the uncertainty introduced by internal climate variability in projections of Canadian crop production. Environmental Research Letters, 2020, 15, 074032.	5.2	17
81	Heterogeneous snowpack response and snow drought occurrence across river basins of northwestern North America under 1.0Â°C to 4.0Â°C global warming. Climatic Change, 2021, 164, 1.	3.6	17
82	Machine learning in Earth and environmental science requires education and research policy reforms. Nature Geoscience, 2021, 14, 878-880.	12.9	17
83	Nonlinear analog predictor analysis: A coupled neural network/analog model for climate downscaling. Neural Networks, 2007, 20, 444-453.	5.9	16
84	KÃ¶ppen versus the computer: comparing KÃ¶ppen-Geiger and multivariate regression tree climate classifications in terms of climate homogeneity. Hydrology and Earth System Sciences, 2012, 16, 217-229.	4.9	15
85	Evaluation of Linear and Non-Linear Downscaling Methods in Terms of Daily Variability and Climate Indices: Surface Temperature in Southern Ontario and Quebec, Canada. Atmosphere - Ocean, 2014, 52, 211-221.	1.6	14
86	Modelling changing suitability for tree fruits in complex terrain. Acta Horticulturae, 2017, , 207-214.	0.2	14
87	Changes in seasonal patterns of temperature and precipitation in China during 1971â€“2000. Advances in Atmospheric Sciences, 2007, 24, 459-473.	4.3	13
88	An evaluation of single-site statistical downscaling techniques in terms of indices of climate extremes for the Midwest of Iran. Theoretical and Applied Climatology, 2015, 120, 377-390.	2.8	13
89	Changes in the Seasonal Cycle in the Circumpolar Arctic, 1976-95: Temperature and Precipitation. Arctic, 2004, 57, .	0.4	13
90	Validation of historical and future statistically downscaled pseudo-observed surface wind speeds in terms of annual climate indices and daily variability. Renewable Energy, 2013, 51, 489-496.	8.9	12

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91	A Dynamical Climate Modelâ€“Driven Hydrologic Prediction System for the Fraser River, Canada. Journal of Hydrometeorology, 2015, 16, 1273-1292.	1.9	11
92	Observed and Simulated Precipitation over Northeastern North America: How Do Daily and Subdaily Extremes Scale in Space and Time?. Journal of Climate, 2019, 32, 8563-8582.	3.2	11
93	Uncertainties in Riverine and Coastal Flood Impacts under Climate Change. Water (Switzerland), 2021, 13, 1774.	2.7	11
94	Projected changes to moisture loads for design and management of building exteriors over Canada. Building and Environment, 2020, 170, 106609.	6.9	10
95	ClimDown: Climate Downscaling in R. Journal of Open Source Software, 2018, 3, 360.	4.6	10
96	Influences of atmospheric blocking on North American summer heatwaves in a changing climate: a comparison of two Canadian Earth system model large ensembles. Climatic Change, 2022, 172, .	3.6	9
97	Nonlinear Principal Predictor Analysis: Application to the Lorenz System. Journal of Climate, 2006, 19, 579-589.	3.2	8
98	Links between atmospheric blocking and North American winter cold spells in two generations of Canadian Earth System Model large ensembles. Climate Dynamics, 2021, 57, 2217-2231.	3.8	8
99	An intercomparison of regional and at-site rainfall extreme value analyses in southern British Columbia, Canada. Canadian Journal of Civil Engineering, 2015, 42, 107-119.	1.3	7
100	Landscape Based Agricultural Water Demand Modelingâ€”A Tool for Water Management Decision Making in British Columbia, Canada. Frontiers in Environmental Science, 2018, 6, .	3.3	7
101	Projected changes to wind loads coinciding with rainfall for building design in Canada based on an ensemble of Canadian regional climate model simulations. Climatic Change, 2020, 162, 821-835.	3.6	7
102	Simulating shrubs and their energy and carbon dioxide fluxes in Canada's Low Arctic with the Canadian Land Surface Scheme Including Biogeochemical Cycles (CLASSIC). Biogeosciences, 2021, 18, 3263-3283.	3.3	7
103	Evaluation and joint projection of temperature and precipitation extremes across Canada based on hierarchical Bayesian modelling and large ensembles of regional climate simulations. Weather and Climate Extremes, 2022, 36, 100443.	4.1	7
104	Classification and Conceptual Models for Heavy Snowfall Events over East Vancouver Island of British Columbia, Canada. Weather and Forecasting, 2013, 28, 1219-1240.	1.4	6
105	Towards Robust Nonlinear Multivariate Analysis by Neural Network Methods. Lecture Notes in Earth Sciences, 2008, , 97-124.	0.5	6
106	Defining climatological seasons using radially constrained clustering. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	5
107	Downscaling temperature and precipitation using support vector regression with evolutionary strategy. , 2012, , .		5
108	Effectiveness of using representative subsets of global climate models in future crop yield projections. Scientific Reports, 2021, 11, 20565.	3.3	5

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109	Exacerbated heat in large Canadian cities. Urban Climate, 2022, 42, 101097.	5.7	5
110	Canadian Large Ensembles Adjusted Dataset version 1 (CanLEADv1): Multivariate biasâ€corrected climate model outputs for terrestrial modelling and attribution studies in North America. Geoscience Data Journal, 2022, 9, 288-303.	4.4	5
111	Recent Variations in Temperature, Precipitation, and Streamflow in the Rio Grande and Pecos River Basins of New Mexico and Colorado. Reviews in Fisheries Science, 2006, 14, 51-78.	2.1	4
112	Bayesian Neural Networks Based Bootstrap Aggregating for Tropical Cyclone Tracks Prediction in South China Sea. Lecture Notes in Computer Science, 2016, , 475-482.	1.3	4
113	Projected changes to risk of wind-driven rain on buildings in Canada under +0.5ÂÂ°C to +3.5ÂÂ°C global warming above the recent period. Climate Risk Management, 2020, 30, 100261.	3.2	4
114	Short Lead-Time Streamflow Forecasting by Machine Learning Methods, with Climate Variability Incorporated. , 2010, , .		3
115	Seasonal Modulations of the Active MJO Cycle Characterized by Nonlinear Principal Component Analysis. Monthly Weather Review, 2011, 139, 2259-2275.	1.4	3
116	Lapse Rate Adjustments of Gridded Surface Temperature Normals in an Area of Complex Terrain: Atmospheric Reanalysis versus Statistical Up-Sampling. Atmosphere - Ocean, 2012, 50, 9-16.	1.6	3
117	Semiâ€supervised multivariate regression trees: putting the â€˜circulationâ€™ back into a â€˜circulationâ€toâ€environmentâ€™ synoptic classifier. International Journal of Climatology, 2012, 32, 2251-2254.	3.5	2
118	The occurrence of winter-freeze events in fruit crops grown in the Okanagan Valley and the potential impact of climate change.. , 0, , 190-197.		2
119	Climate change impacts on linkages between atmospheric blocking and North American winter cold spells in CanESM2 and CanESM5. Climate Dynamics, 0, , .	3.8	2
120	Nonlinear principal predictor analysis using neural networks. , 0, , .		1
121	Multi-site precipitation downscaling via an expanded conditional density network. Nature Precedings, 2007, , .	0.1	1
122	A Hybrid Neural Network/Analog Model for Climate Downscaling. , 2006, , .		0
123	A comparison of bayesian and conditional density models in probabilistic ozone forecasting. , 2008, , .		0