Michael D Flannigan

List of Publications by Year
in descending order

125	15,939	18482 62	20358 116
papers	citations	h-index	g-index

130	130	130	12400
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Climate Change and Forest Disturbances. BioScience, 2001, 51, 723.	4.9	1,682
2	Implications of changing climate for global wildland fire. International Journal of Wildland Fire, 2009, 18, 483.	2.4	1,061
3	Climate change and forest fires. Science of the Total Environment, 2000, 262, 221-229.	8.0	716
4	Future Area Burned in Canada. Climatic Change, 2005, 72, 1-16.	3.6	709
5	Climate-induced boreal forest change: Predictions versus current observations. Global and Planetary Change, 2007, 56, 274-296.	3.5	619
6	Impacts of climate change on fire activity and fire management in the circumboreal forest. Global Change Biology, 2009, 15, 549-560.	9.5	559
7	Global wildland fire season severity in the 21st century. Forest Ecology and Management, 2013, 294, 54-61.	3.2	534
8	Vegetation fires in the Anthropocene. Nature Reviews Earth & Environment, 2020, 1, 500-515.	29.7	419
9	Anticipating the consequences of climate change for Canadaâ€™s boreal forest ecosystems. Environmental Reviews, 2013, 21, 322-365.	4.5	414
10	Assessing the response of area burned to changing climate in western boreal North America using a Multivariate Adaptive Regression Splines (MARS) approach. Global Change Biology, 2009, 15, 578-600.	9.5	340
11	Can forest management based on natural disturbances maintain ecological resilience?. Canadian Journal of Forest Research, 2006, 36, 2285-2299.	1.7	338
12	Forest fire occurrence and climate change in Canada. International Journal of Wildland Fire, 2010, 19, 253.	2.4	331
13	A review of machine learning applications in wildfire science and management. Environmental Reviews, 2020, 28, 478-505.	4.5	305
14	Fire-regime changes in Canada over the last half century. Canadian Journal of Forest Research, 2019, 49, 256-269.	1.7	261
15	An introduction to Canadaâ€™s boreal zone: ecosystem processes, health, sustainability, and environmental issues. Environmental Reviews, 2013, 21, 207-226.	4.5	247
16	Climate change impacts on future boreal fire regimes. Forest Ecology and Management, 2013, 294, 35-44.	3.2	241
17	A classification of landscape fire succession models: spatial simulations of fire and vegetation dynamics. Ecological Modelling, 2004, 179, 3-27.	2.5	233
18	Forest Fires and Climate Change in the 21ST Century. Mitigation and Adaptation Strategies for Global Change, 2006, 11, 847-859.	2.1	228

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19	A comparison of Canadian and Russian boreal forest fire regimes. Forest Ecology and Management, 2013, 294, 23-34.	3.2	208
20	Biomass offsets little or none of permafrost carbon release from soils, streams, and wildfire: an expert assessment. Environmental Research Letters, 2016, 11, 034014.	5.2	199
21	Vulnerability of carbon storage in North American boreal forests to wildfires during the 21st century. Global Change Biology, 2009, 15, 1491-1510.	9.5	185
22	Wildfire as a major driver of recent permafrost thaw in boreal peatlands. Nature Communications, 2018, 9, 3041.	12.8	168
23	Comparison of the Sensitivity of Landscape-fire-succession Models to Variation in Terrain, Fuel Pattern, Climate and Weather. Landscape Ecology, 2006, 21, 121-137.	4.2	158
24	The Science of Firescapes: Achieving Fire-Resilient Communities. BioScience, 2016, 66, 130-146.	4.9	157
25	Vulnerability of land systems to fire: Interactions among humans, climate, the atmosphere, and ecosystems. Mitigation and Adaptation Strategies for Global Change, 2006, 12, 33-53.	2.1	154
26	BIOTIC AND ABIOTIC REGULATION OF LIGHTNING FIRE INITIATION IN THE MIXEDWOOD BOREAL FOREST. Ecology, 2006, 87, 458-468.	3.2	152
27	Interactive effects of vegetation, soil moisture and bulk density on depth of burning of thick organic soils. International Journal of Wildland Fire, 2011, 20, 418.	2.4	148
28	Crown fire behaviour in a northern jack pine Â– black spruce forest. Canadian Journal of Forest Research, 2004, 34, 1548-1560.	1.7	142
29	Past, current, and future fire frequencies in Quebec's commercial forests: implications for the cumulative effects of harvesting and fire on age-class structure and natural disturbance-based management. Canadian Journal of Forest Research, 2006, 36, 2737-2744.	1.7	141
30	Soil bacterial and fungal response to wildfires in the Canadian boreal forest across a burn severity gradient. Soil Biology and Biochemistry, 2019, 138, 107571.	8.8	139
31	Increasing frequency of extreme fire weather in Canada with climate change. Climatic Change, 2015, 130, 573-586.	3.6	135
32	Short-interval wildfire and drought overwhelm boreal forest resilience. Scientific Reports, 2019, 9, 18796.	3.3	131
33	Wildfire management in Canada: Review, challenges and opportunities. Progress in Disaster Science, 2020, 5, 100045.	2.7	131
34	Observed increases in extreme fire weather driven by atmospheric humidity and temperature. Nature Climate Change, 2022, 12, 63-70.	18.8	131
35	Fire activity in Portugal and its relationship to weather and the Canadian Fire Weather Index System. International Journal of Wildland Fire, 2008, 17, 328.	2.4	129
36	Future emissions from Canadian boreal forest fires. Canadian Journal of Forest Research, 2009, 39, 383-395.	1.7	126

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37	A 500 hPa synoptic wildland fire climatology for large Canadian forest fires, 1959-1996. Theoretical and Applied Climatology, 2002, 71, 157-169.	2.8	123
38	Long-distance transport of pollen into the Arctic. Nature, 1999, 399, 29-30.	27.8	121
39	Scientistsâ€™ warning on wildfire â€" a Canadian perspective. Canadian Journal of Forest Research, 2019, 49, 1015-1023.	1.7	120
40	Lightning-ignited forest fires in northwestern Ontario. Canadian Journal of Forest Research, 1991, 21, 277-287.	1.7	118
41	The spatially varying influence of humans on fire probability in North America. Environmental Research Letters, 2016, 11, 075005.	5.2	116
42	Scale-dependent controls on the area burned in the boreal forest of Canada, 1980â€“2005. , 2011, 21, 789-805.		109
43	Wildfires in the Siberian taiga. Ambio, 2021, 50, 1953-1974.	5.5	108
44	Fire weather index system components for large fires in the Canadian boreal forest. International Journal of Wildland Fire, 2004, 13, 391.	2.4	106
45	Predicted changes in fire weather suggest increases in lightning fire initiation and future area burned in the mixedwood boreal forest. Climatic Change, 2009, 92, 83-97.	3.6	104
46	Relative importance of fuel management, ignition management and weather for area burned: evidence from five landscape - fire - succession models. International Journal of Wildland Fire, 2009, 18, 147.	2.4	96
47	Variability and drivers of burn severity in the northwestern Canadian boreal forest. Ecosphere, 2018, 9, e02128.	2.2	95
48	Trend analysis of fire season length and extreme fire weather in North America between 1979 and 2015. International Journal of Wildland Fire, 2017, 26, 1009.	2.4	91
49	Lightning and lightning fire, central cordillera, Canada. International Journal of Wildland Fire, 2002, 11, 41.	2.4	86
50	The impact of spatial resolution on area burned and fire occurrence projections in Portugal under climate change. Climatic Change, 2010, 98, 177-197.	3.6	86
51	Development of a Global Fire Weather Database. Natural Hazards and Earth System Sciences, 2015, 15, 1407-1423.	3.6	86
52	Projected changes in daily fire spread across Canada over the next century. Environmental Research Letters, 2017, 12, 025005.	5.2	85
53	cffdrs: an R package for the Canadian Forest Fire Danger Rating System. Ecological Processes, 2017, 6, .	3.9	82
54	Global increase in wildfire risk due to climateâ€driven declines in fuel moisture. Global Change Biology, 2022, 28, 1544-1559.	9.5	80

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55	An analysis of the daily radial activity of 7 boreal tree species, northwestern Quebec. Environmental Monitoring and Assessment, 2001, 67, 141-160.	2.7	78
56	Mapping Canadian wildland fire interface areas. International Journal of Wildland Fire, 2018, 27, 1.	2.4	78
57	Impact of climate change on area burned in Alberta's boreal forest. International Journal of Wildland Fire, 2007, 16, 153.	2.4	76
58	Trends and periodicities in the Canadian Drought Code and their relationships with atmospheric circulation for the southern Canadian boreal forest. Canadian Journal of Forest Research, 2004, 34, 103-119.	1.7	73
59	Synoptic-Scale Atmospheric Circulation and Boreal Canada Summer Drought Variability of the Past Three Centuries. Journal of Climate, 2006, 19, 1922-1947.	3.2	71
60	Boreal fire records in Northern Hemisphere ice cores: a review. Climate of the Past, 2016, 12, 2033-2059.	3.4	70
61	Wildland fire risk research in Canada. Environmental Reviews, 2020, 28, 164-186.	4.5	69
62	A spatial evaluation of global wildfire-water risks to human and natural systems. Science of the Total Environment, 2018, 610-611, 1193-1206.	8.0	67
63	Third Millennium Forestry: What climate change might mean to forests and forest management in Ontario. Forestry Chronicle, 2000, 76, 445-463.	0.6	65
64	Historical fire regime shifts related to climate teleconnections in the Waswanipi area, central Quebec, Canada. International Journal of Wildland Fire, 2007, 16, 607.	2.4	64
65	A 229-year dendroclimatic-inferred record of forest fire activity for the Boreal Shield of Canada. International Journal of Wildland Fire, 2006, 15, 375.	2.4	62
66	An analysis of controls on fire activity in boreal Canada: comparing models built with different temporal resolutions. Ecological Applications, 2014, 24, 1341-1356.	3.8	57
67	Multicentury reconstruction of the Canadian Drought Code from eastern Canada and its relationship with paleoclimatic indices of atmospheric circulation. Climate Dynamics, 2004, 23, 99-115.	3.8	56
68	Topoedaphic and Forest Controls on Post-Fire Vegetation Assemblies Are Modified by Fire History and Burn Severity in the Northwestern Canadian Boreal Forest. Forests, 2018, 9, 151.	2.1	55
69	Fire in arctic tundra of Alaska: past fire activity, future fire potential, and significance for land management and ecology. International Journal of Wildland Fire, 2015, 24, 1045.	2.4	53
70	Future burn probability in south-central British Columbia. International Journal of Wildland Fire, 2016, 25, 200.	2.4	50
71	The potential and realized spread of wildfires across Canada. Global Change Biology, 2014, 20, 2518-2530.	9.5	49
72	The effects of climate change on landscape diversity: an example in Ontario forests. Environmental Monitoring and Assessment, 1998, 49, 213-233.	2.7	44

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73	Did enhanced afforestation cause high severity peat burn in the Fort McMurray Horse River wildfire?. Environmental Research Letters, 2018, 13, 014018.	5.2	41
74	Fifty years of wildland fire science in Canada. Canadian Journal of Forest Research, 2021, 51, 283-302.	1.7	40
75	Potential changes in monthly fire risk in the eastern Canadian boreal forest under future climate change. Canadian Journal of Forest Research, 2009, 39, 2369-2380.	1.7	39
76	Relationship between fire, climate oscillations, and drought in British Columbia, Canada, 1920â€“2000. Global Change Biology, 2010, 16, 977-989.	9.5	39
77	Ensemble lightning prediction models for the province of Alberta, Canada. International Journal of Wildland Fire, 2016, 25, 421.	2.4	39
78	Potential impacts of climate change on the habitat of boreal woodland caribou. Ecosphere, 2018, 9, e02472.	2.2	39
79	Seasonality and trends in human- and lightning-caused wildfires â‰¥ 2 ha in Canada, 1959â€“2018. International Journal of Wildland Fire, 2020, 29, 473.	2.4	36
80	Fire and the relative roles of weather, climate and landscape characteristics in the Great Lakesâ€“St. Lawrence forest of Canada. Journal of Vegetation Science, 2008, 19, 57-66.	2.2	35
81	Prediction of Seasonal Forest Fire Severity in Canada from Large-Scale Climate Patterns. Journal of Applied Meteorology and Climatology, 2011, 50, 785-799.	1.5	34
82	Projected changes in fire size from daily spread potential in Canada over the 21st century. Environmental Research Letters, 2020, 15, 104048.	5.2	31
83	Spatial and temporal variations of fire regimes in the Canadian Rocky Mountains and Foothills of southern Alberta. International Journal of Wildland Fire, 2016, 25, 1117.	2.4	29
84	Automated prediction of extreme fire weather from synoptic patterns in northern Alberta, Canada. Canadian Journal of Forest Research, 2017, 47, 1175-1183.	1.7	29
85	Temporal Patterns of Wildfire Activity in Areas of Contrasting Human Influence in the Canadian Boreal Forest. Forests, 2018, 9, 159.	2.1	29
86	Fire-growth modelling using meteorological data with random and systematic perturbations. International Journal of Wildland Fire, 2007, 16, 174.	2.4	29
87	Exploring the role of fire, succession, climate, and weather on landscape dynamics using comparative modeling. Ecological Modelling, 2013, 266, 172-186.	2.5	28
88	Examining the utility of the Canadian Forest Fire Weather Index System in boreal peatlands. Canadian Journal of Forest Research, 2012, 42, 47-58.	1.7	27
89	Wildland Fire Danger Rating and Early Warning Systems. , 2015, , 207-228.		26
90	Dendroclimatic inference of wildfire activity in Quebec over the 20th century and implications for natural disturbance-based forest management at the northern limit of the commercial forest. International Journal of Wildland Fire, 2008, 17, 348.	2.4	26

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91	A Regional-Scale Index for Assessing the Exposure of Drinking-Water Sources to Wildfires. Forests, 2019, 10, 384.	2.1	23
92	A high-resolution reanalysis of global fire weather from 1979 to 2018 â€“ overwintering the Drought Code. Earth System Science Data, 2020, 12, 1823-1833.	9.9	23
93	Importance of fuel treatment for limiting moderate-to-high intensity fire: findings from comparative fire modelling. Landscape Ecology, 2017, 32, 1473-1483.	4.2	22
94	Spatial planning of fire-agency stations as a function of wildfire likelihood in Thasos, Greece. Science of the Total Environment, 2020, 729, 139004.	8.0	21
95	Effects of climate on occurrence and size of large fires in a northern hardwood landscape: historical trends, forecasts, and implications for climate change in TÃ©miscamingue, QuÃ©bec. Applied Vegetation Science, 2009, 12, 261-272.	1.9	20
96	Characterization of wildfire regimes in Canadian boreal terrestrial ecosystems. International Journal of Wildland Fire, 2009, 18, 992.	2.4	20
97	The association between Northern Hemisphere climate patterns and interannual variability in Canadian wildfire activity. Canadian Journal of Forest Research, 2011, 41, 2193-2201.	1.7	20
98	Predicting slowâ€drying fire weather index fuel moisture codes with NOAAâ€AVHRR images in Canada's northern boreal forests. International Journal of Remote Sensing, 2006, 27, 3881-3902.	2.9	19
99	Temporal variability in area burned for the province of Ontario, Canada, during the past 200 years inferred from tree rings. Journal of Geophysical Research, 2006, 111, .	3.3	18
100	Correlations between forest fires in British Columbia, Canada, and sea surface temperature of the Pacific Ocean. Ecological Modelling, 2010, 221, 122-129.	2.5	18
101	Variation in local weather explains differences in fire regimes within a QuÃ©bec south-eastern boreal forest landscape. International Journal of Wildland Fire, 2010, 19, 1073.	2.4	18
102	A framework for modeling habitat quality in disturbanceâ€prone areas demonstrated with woodland caribou and wildfire. Ecosphere, 2017, 8, e01787.	2.2	16
103	An early warning system to forecast the close of the spring burning window from satellite-observed greenness. Scientific Reports, 2017, 7, 14190.	3.3	16
104	An Assessment of Surface and Atmospheric Conditions Associated with the Extreme 2014 Wildfire Season in Canadaâ€™s Northwest Territories. Atmosphere - Ocean, 2019, 57, 73-90.	1.6	16
105	Could restoration of a landscape to a preâ€European historical vegetation condition reduce burn probability?. Ecosphere, 2019, 10, e02584.	2.2	15
106	Evaluation of Gridded Precipitation Data and Interpolation Methods for Forest Fire Danger Rating in Alberta, Canada. Journal of Geophysical Research D: Atmospheres, 2019, 124, 3-17.	3.3	15
107	Wildfires in boreal ecoregions: Evaluating the power law assumption and intraâ€annual and interannual variations. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 14-23.	3.0	14
108	Forest Fire-Conducive Drought Variability in the Southern Canadian Boreal Forest and Associated Climatology Inferred from Tree Rings. Canadian Water Resources Journal, 2006, 31, 275-296.	1.2	13

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109	Characterisation of initial fire weather conditions for large spring wildfires in Alberta, Canada. International Journal of Wildland Fire, 2021, 30, 823-835.	2.4	12
110	Using cumulative NOAA-AVHRR spectral indices for estimating fire danger codes in northern boreal forests. International Journal of Applied Earth Observation and Geoinformation, 2007, 9, 335-342.	2.8	11
111	Evaluation of the Canadian Precipitation Analysis (CaPA) to improve forest fire danger rating. International Journal of Wildland Fire, 2017, 26, 509.	2.4	11
112	Ignitions explain more than temperature or precipitation in driving Santa Ana wind fires. Science Advances, 2021, 7, .	10.3	11
113	Downscaling fire weather extremes from historical and projected climate models. Climatic Change, 2020, 163, 189-216.	3.6	9
114	Spatiotemporal variation in forest fire danger from 1996 to 2010 in Jilin Province, China. Journal of Forestry Research, 2017, 28, 983-996.	3.6	7
115	One extreme fire weather event determines the extent and frequency of wildland fires. Environmental Research Letters, 2021, 16, 114031.	5.2	7
116	Future wildfire extent and frequency determined by the longest fire-conducive weather spell. Science of the Total Environment, 2022, 830, 154752.	8.0	6
117	Climate Change and Early Warning Systems for Wildland Fire. , 2014, , 127-151.		5
118	Preceding Fall Drought Conditions and Overwinter Precipitation Effects on Spring Wildland Fire Activity in Canada. Fire, 2020, 3, 24.	2.8	4
119	New In-Flame Flammability Testing Method Applied to Monitor Seasonal Changes in Live Fuel. Fire, 2022, 5, 1.	2.8	4
120	Understanding Global Fire Dynamics by Classifying and Comparing Spatial Models of Vegetation and Fire. , 2007, , 139-148.		2
121	Ensuring That We Can See the Wood and the Trees. , 2015, , 247-262.		1
122	Forest Fires and Climate Change in the Northwest Territories. , 2008, , 403-417.		1
123	The Nature and Impacts of Thunderstorms in a Northern Climate. , 2008, , 383-402.		1
124	Preface to 'Fire and Forest Meteorology'. International Journal of Wildland Fire, 2007, 16, iii.	2.4	0
125	Challenges and Needs in Fire Management: A Landscape Simulation Modeling Perspective. , 2011, , 75-98.		0