Richard M Petrone

List of Publications by Year
in descending order

89 papers	1,824 citations	236612 25 h-index	329751 37 g-index
89 all docs	89 docs citations	89 times ranked	1370 citing authors

#	Article	IF	Citations
1	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. Nature Climate Change, 2020, 10, 555-560.	8.1	106
2	Surface vegetation controls on evapotranspiration from a subâ€humid Western Boreal Plain wetland. Hydrological Processes, 2010, 24, 1072-1085.	1.1	80
3	Dynamics of evapotranspiration from a riparian pond complex in the Western Boreal Forest, Alberta, Canada. Hydrological Processes, 2007, 21, 1391-1401.	1.1	79
4	Constructing fen peatlands in post-mining oil sands landscapes: Challenges and opportunities from a hydrological perspective. Earth-Science Reviews, 2016, 161, 130-139.	4.0	63
5	Ecosystem scale evapotranspiration and net CO2 exchange from a restored peatland. Hydrological Processes, 2001, 15, 2839-2845.	1.1	62
6	Atmospheric and soil moisture controls on evapotranspiration from above and within a Western Boreal Plain aspen forest. Hydrological Processes, 2014, 28, 4449-4462.	1.1	59
7	Groundwater connectivity controls peat burn severity in the boreal plains. Ecohydrology, 2016, 9, 574-584.	1.1	53
8	Surface moisture and energy exchange from a restored peatland, QuÃ©bec, Canada. Journal of Hydrology, 2004, 295, 198-210.	2.3	52
9	Precipitation variability and its relationship to hydrologic variability in Alberta. Hydrological Processes, 2009, 23, 3040-3056.	1.1	50
10	Burned and unburned peat water repellency: Implications for peatland evaporation following wildfire. Journal of Hydrology, 2014, 513, 335-341.	2.3	46
11	Towards Developing a Functional-Based Approach for Constructed Peatlands Evaluation in the Alberta Oil Sands Region, Canada. Wetlands, 2015, 35, 211-225.	0.7	43
12	The hydrological functioning of a constructed fen wetland watershed. Science of the Total Environment, 2017, 603-604, 593-605.	3.9	41
13	Climatic controls on groundwaterâ€"surface water interactions within the Boreal Plains of Alberta: Field observations and numerical simulations. Journal of Hydrology, 2015, 527, 734-746.	2.3	39
14	Hydrogeological controls on post-fire moss recovery in peatlands. Journal of Hydrology, 2015, 530, 405-418.	2.3	38
15	A Physically Based Terrain Morphology and Vegetation Structural Classification for Wetlands of the Boreal Plains, Alberta, Canada. Canadian Journal of Remote Sensing, 2016, 42, 521-540.	1.1	33
16	Ecosystem-scale flux of CO2from a restored vacuum harvested peatland. Wetlands Ecology and Management, 2003, 11, 419-432.	0.7	32
17	Impacts of donor-peat management practices on the functional characteristics of a constructed fen. Ecological Engineering, 2015, 81, 471-480.	1.6	32
18	Effects of aspen harvesting on groundwater recharge and water table dynamics in a subhumid climate. Water Resources Research, 2011, 47, .	1.7	31

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19	Spatial variation in nutrient dynamics among five different peatland types in the Alberta oil sands region. Ecohydrology, 2016, 9, 688-699.	1.1	31
20	Wetlands in the Athabasca Oil Sands Region: the nexus between wetland hydrological function and resource extraction. Environmental Reviews, 2020, 28, 246-261.	2.1	31
21	Effects of harvesting and drought on CO₂and H₂O fluxes in an aspen-dominated western boreal plain forest: early chronosequence recovery. Canadian Journal of Forest Research, 2015, 45, 87-100.	0.8	30
22	Mulch decomposition impedes recovery of net carbon sink function in a restored peatland. Ecological Engineering, 2003, 20, 199-210.	1.6	29
23	Burn severity alters peatland moss water availability: implications for postâ€fire recovery. Ecohydrology, 2016, 9, 341-353.	1.1	29
24	Post-fire ecohydrological conditions at peatland margins in different hydrogeological settings of the Boreal Plain. Journal of Hydrology, 2017, 548, 741-753.	2.3	28
25	Using Multitemporal and Multispectral Airborne Lidar to Assess Depth of Peat Loss and Correspondence With a New Active Normalized Burn Ratio for Wildfires. Geophysical Research Letters, 2017, 44, 11,851.	1.5	25
26	Moss and peat hydraulic properties are optimized to maximize peatland water use efficiency. Ecohydrology, 2016, 9, 1039-1051.	1.1	24
27	Comparative surface energy budgets in western and central subarctic regions of Canada. International Journal of Climatology, 2000, 20, 1131-1148.	1.5	23
28	Synoptic controls on the surface energy and water budgets in sub-arctic regions of Canada. International Journal of Climatology, 2000, 20, 1149-1165.	1.5	23
29	Peatland water repellency: Importance of soil water content, moss species, and burn severity. Journal of Hydrology, 2017, 554, 656-665.	2.3	23
30	Postfire Soil Carbon Accumulation Does Not Recover Boreal Peatland Combustion Loss in Some Hydrogeological Settings. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 775-788.	1.3	23
31	Observed and Projected Climate Change in the Churchill Region of the Hudson Bay Lowlands and Implications for Pond Sustainability. Arctic, Antarctic, and Alpine Research, 2014, 46, 272-285.	0.4	22
32	Utikuma Region Study Area (URSA) â€“ Part 1: Hydrogeological and ecohydrological studies (HEAD). Forestry Chronicle, 2016, 92, 57-61.	0.5	21
33	Controls on plot-scale evapotranspiration from a constructed fen in the Athabasca Oil Sands Region, Alberta. Ecological Engineering, 2017, 100, 199-210.	1.6	21
34	Low Evapotranspiration Enhances the Resilience of Peatland Carbon Stocks to Fire. Geophysical Research Letters, 2017, 44, 9341-9349.	1.5	21
35	A hydrogeological landscape framework to identify peatland wildfire smouldering hot spots. Ecohydrology, 2018, 11, e1942.	1.1	21
36	Characterizing dominant controls governing evapotranspiration within a natural saline fen in the Athabasca Oil Sands of Alberta, Canada. Ecohydrology, 2016, 9, 817-829.	1.1	18

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37	Hydrological effects of resource-access road crossings on boreal forested peatlands. Journal of Hydrology, 2020, 584, 124748.	2.3	18
38	Microtopographical and canopy cover controls on moss carbon dioxide exchange in a western Boreal Plain peatland. Ecohydrology, 2011, 4, 115-129.	1.1	17
39	Above and below-ground nutrient cycling: a criteria for assessing the biogeochemical functioning of a constructed fen. Applied Soil Ecology, 2016, 98, 177-194.	2.1	17
40	Severe wildfire exposes remnant peat carbon stocks to increased post-fire drying. Scientific Reports, 2019, 9, 3727.	1.6	17
41	Preliminary assessment of greenhouse gas emissions from a constructed fen on post-mining landscape in the Athabasca oil sands region, Alberta, Canada. Ecological Engineering, 2016, 95, 119-128.	1.6	16
42	Effect of a semiâ€permanent road on N, P, and CO₂ dynamics in a poor fen on the Western Boreal Plain, Canada. Ecohydrology, 2017, 10, e1874.	1.1	16
43	Forest floor carbon dioxide fluxes within an uplandâ€peatland complex in the Western Boreal Plain, Canada. Ecohydrology, 2008, 1, 361-376.	1.1	15
44	Evaluating the use of spatially varying versus bulk average 3D vegetation structural inputs to modelled evapotranspiration within heterogeneous land cover types. Ecohydrology, 2014, 7, 1545-1559.	1.1	15
45	Delineating boreal plains bog margin ecotones across hydrogeological settings for wildfire risk management. Wetlands Ecology and Management, 2018, 26, 1037-1046.	0.7	15
46	Long-term precipitation-driven salinity change in a saline, peat-forming wetland in the Athabasca Oil Sands Region, Canada: a diatom-based paleolimnological study. Journal of Paleolimnology, 2017, 58, 533-550.	0.8	14
47	Peat depth as a control on moss water availability under evaporative stress. Hydrological Processes, 2017, 31, 4107-4121.	1.1	14
48	Ecosystem scale evapotranspiration and CO₂ exchange in burned and unburned peatlands: Implications for the ecohydrological resilience of carbon stocks to wildfire. Ecohydrology, 2020, 13, e2189.	1.1	14
49	Impact of Salinity, Hydrology and Vegetation on Long-Term Carbon Accumulation in a Saline Boreal Peatland and its Implication for Peatland Reclamation in the Athabasca Oil Sands Region. Wetlands, 2018, 38, 373-382.	0.7	13
50	Using High Resolution LiDAR Data and a Flux Footprint Parameterization to Scale Evapotranspiration Estimates to Lower Pixel Resolutions. Canadian Journal of Remote Sensing, 2017, 43, 215-229.	1.1	12
51	Effect of climate change and mining on hydrological connectivity of surficial layers in the Athabasca Oil Sands Region. Hydrological Processes, 2018, 32, 3698-3716.	1.1	12
52	Remote sensing of ecosystem trajectories as a proxy indicator for watershed water balance. Ecohydrology, 2018, 11, e1987.	1.1	12
53	Influence of glacial landform hydrology on phosphorus budgets of shallow lakes on the Boreal Plain, Canada. Journal of Hydrology, 2016, 535, 191-203.	2.3	11
54	Increased Peatland Nutrient Availability Following the Fort McMurray Horse River Wildfire. Diversity, 2019, 11, 142.	0.7	11

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55	Seasonal dynamics in shallow freshwater pondâ€peatland hydrochemical interactions in a subarctic permafrost environment. Hydrological Processes, 2017, 31, 462-475.	1.1	10
56	Wildfire overrides hydrological controls on boreal peatland methane emissions. Biogeosciences, 2019, 16, 2651-2660.	1.3	10
57	Seasonal ground ice impacts on spring ecohydrological conditions in a western boreal plains peatland. Hydrological Processes, 2020, 34, 765-779.	1.1	10
58	A <scp>Î´¹⁸O</scp> and <scp>Î´²H</scp> stable water isotope analysis of subalpine forest water sources under seasonal and hydrological stress in the Canadian Rocky Mountains. Hydrological Processes, 2020, 34, 5642-5658.	1.1	10
59	Hydroclimatic influences on peatland CO₂ exchange following upland forest harvesting on the Boreal Plains. Ecohydrology, 2016, 9, 1590-1603.	1.1	9
60	Growing season evapotranspiration in boreal fens in the Athabasca Oil Sands Region: Variability and environmental controls. Hydrological Processes, 2021, 35, e14020.	1.1	9
61	Subalpine forest water use behaviour and evapotranspiration during two hydrologically contrasting growing seasons in the Canadian Rockies. Hydrological Processes, 2021, 35, e14158.	1.1	9
62	High sulfate concentrations maintain low methane emissions at a constructed fen over the first seven years of ecosystem development. Science of the Total Environment, 2021, 789, 148014.	3.9	9
63	Disturbance Impacts on Thermal Hot Spots and Hot Moments at the Peatlandâ€Atmosphere Interface. Geophysical Research Letters, 2018, 45, 185-193.	1.5	8
64	Hydrogeologic setting overrides any influence of wildfire on pore water dissolved organic carbon concentration and quality at a boreal fen. Ecohydrology, 2019, 12, e2141.	1.1	8
65	Climate-induced changes in nutrient transformations across landscape units in a thermokarst subarctic peatland. Arctic, Antarctic, and Alpine Research, 2018, 50, .	0.4	7
66	Hydraulic redistribution and hydrological controls on aspen transpiration and establishment in peatlands following wildfire. Hydrological Processes, 2019, 33, 2714-2728.	1.1	7
67	Utikuma Region Study Area (URSA) â€“ Part 2: Aspen Harvest and Recovery Study. Forestry Chronicle, 2016, 92, 62-65.	0.5	6
68	Ecohydrological functioning of an upland undergoing reclamation on postâ€mining landscape of the Athabasca oil sands region, Canada. Ecohydrology, 2018, 11, e1941.	1.1	6
69	Deeper burning in a boreal fen peatland 1â€year postâ€wildfire accelerates recovery trajectory of carbon dioxide uptake. Ecohydrology, 2021, 14, e2277.	1.1	6
70	Understanding the peak growing season ecosystem waterâ€use efficiency at four boreal fens in the Athabasca oil sands region. Hydrological Processes, 2021, 35, e14323.	1.1	6
71	SYNOPTIC AND SURFACE CLIMATOLOGY INTERACTIONS IN THE CENTRAL CANADIAN SUBARCTIC: NORMAL AND EL NIÃ‘O SEASONS. Physical Geography, 2000, 21, 368-383.	0.6	5
72	Effects of shoreline permafrost thaw on nutrient dynamics and diatom ecology in a subarctic tundra pond. Journal of Paleolimnology, 2019, 62, 151-163.	0.8	5

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73	Regulation of peatland evaporation following wildfire; the complex control of soil tension under dynamic evaporation demand. Hydrological Processes, 2021, 35, e14132.	1.1	5
74	Potential influence of nutrient availability along a hillslope: Peatland gradient on aspen recovery following fire. Ecohydrology, 2018, 11, e1955.	1.1	4
75	Assessment of effective LAI and water use efficiency using Eddy Covariance data. Science of the Total Environment, 2022, 802, 149628.	3.9	4
76	The influence of system heterogeneity on peat-surface temperature dynamics. Environmental Research Letters, 2021, 16, 024002.	2.2	3
77	Assessment of Different Water Use Efficiency Calculations for Dominant Forage Crops in the Great Lakes Basin. Agriculture (Switzerland), 2021, 11, 739.	1.4	3
78	Soil respiration and litter decomposition along a salinity gradient in a saline boreal fen in the Athabasca Oil Sands Region. Geoderma, 2021, 395, 115070.	2.3	3
79	Analysis of growing season carbon and water fluxes of a subalpine wetland in the Canadian Rocky Mountains: Implications of shade on ecosystem water use efficiency. Hydrological Processes, 2022, 36, e14425.	1.1	3
80	Assessing the importance of bi-directional melting when modeling boreal peatland freeze/thaw dynamics. Journal of Hydrology, 2022, 604, 127236.	2.3	3
81	Environmental Controls on CO2 Exchange along a Salinity Gradient in a Saline Boreal Fen in the Athabasca Oil Sands Region. Wetlands, 2020, 40, 1353-1366.	0.7	2
82	Growing season CO₂ exchange and evapotranspiration dynamics among thawing and intact permafrost landforms in the Western Hudson Bay lowlands. Permafrost and Periglacial Processes, 2020, 31, 509-523.	1.5	2
83	Quantifying the spatial variability of melting seasonal ground ice and its influence on potential evapotranspiration spatial variability in a boreal peatland. Hydrological Processes, 2020, 34, 3683-3701.	1.1	2
84	Microclimatic Effects of a Perched Peatland Forest Gap. Boundary-Layer Meteorology, 2022, 182, 95-118.	1.2	2
85	Al-Pac Catchment Experiment (ACE). Forestry Chronicle, 2016, 92, 23-26.	0.5	2
86	A temporal snapshot of ecosystem functionality during the initial stages of reclamation of an upland-fen complex. Journal of Hydrology: Regional Studies, 2022, 41, 101078.	1.0	2
87	Vegetationâ€related influences on carbon and water dynamics of two temperate forage crops. Agronomy Journal, 0, , .	0.9	1
88	Carbon and Nutrient Stoichiometric Relationships in the Soilâ€“Plant Systems of Disturbed Boreal Forest Peatlands within Athabasca Oil Sands Region, Canada. Forests, 2022, 13, 865.	0.9	1
89	Using Stable Water Isotopes to Analyze Spatiotemporal Variability and Hydrometeorological Forcing in Mountain Valley Wetlands. Water (Switzerland), 2022, 14, 1815.	1.2	1