N P Molotch

List of Publications by Citations

91 papers	4,534 citations	40 h-index	66 g-index
94 ext. papers	5,301 ext. citations	5.4 avg, IF	5.86 L-index

#	Paper	IF	Citations
91	Mountain hydrology of the western United States. *Water Resources Research*, **2006**, 42,	5.4	416
90	Extreme snowfall events linked to atmospheric rivers and surface air temperature via satellite measurements. *Geophysical Research Letters*, **2010**, 37, n/a-n/a	4.9	208
89	Elevation-dependent influence of snow accumulation on forest greening. *Nature Geoscience*, **2012**, 5, 705-709	18.3	152
88	Snowmelt rate dictates streamflow. *Geophysical Research Letters*, **2016**, 43, 8006-8016	4.9	149
87	Estimating the spatial distribution of snow water equivalent in an alpine basin using binary regression tree models: the impact of digital elevation data and independent variable selection. *Hydrological Processes*, **2005**, 19, 1459-1479	3.3	144
86	Scaling snow observations from the point to the grid element: Implications for observation network design. *Water Resources Research*, **2005**, 41,	5.4	132
85	GRACE Groundwater Drought Index: Evaluation of California Central Valley groundwater drought. *Remote Sensing of Environment*, **2017**, 198, 384-392	13.2	127
84	Contact spectroscopy for determination of stratigraphy of snow optical grain size. *Journal of Glaciology*, **2007**, 53, 121-127	3.4	127
83	Spatial variation of the rain-snow temperature threshold across the Northern Hemisphere. *Nature Communications*, **2018**, 9, 1148	17.4	122
82	Effects of vegetation on snow accumulation and ablation in a mid-latitude sub-alpine forest. *Hydrological Processes*, **2008**, 22, 2767-2776	3.3	122
81	Ecohydrological controls on snowmelt partitioning in mixed-conifer sub-alpine forests. *Ecohydrology*, **2009**, 2, 129-142	2.5	118
80	Does the Madden□Julian Oscillation Influence Wintertime Atmospheric Rivers and Snowpack in the Sierra Nevada?. *Monthly Weather Review*, **2012**, 140, 325-342	2.4	112
79	Estimating the distribution of snow water equivalent using remotely sensed snow cover data and a spatially distributed snowmelt model: A multi-resolution, multi-sensor comparison. *Advances in Water Resources*, **2008**, 31, 1503-1514	4.7	110
78	The 2010/2011 snow season in California's Sierra Nevada: Role of atmospheric rivers and modes of large-scale variability. *Water Resources Research*, **2013**, 49, 6731-6743	5.4	104
77	□Quantifying the effects of forest canopy cover on net snow accumulation at a continental, mid-latitude site□*Ecohydrology*, **2009**, 2, 115-128	2.5	93
76	Estimating sublimation of intercepted and sub-canopy snow using eddy covariance systems. *Hydrological Processes*, **2007**, 21, 1567-1575	3.3	93
75	Subgrid variability of snow water equivalent at operational snow stations in the western USA. *Hydrological Processes*, **2013**, 27, 2383-2400	3.3	81

74	Quantifying the effects of vegetation structure on snow accumulation and ablation in mixed-conifer forests. *Ecohydrology*, **2015**, 8, 1073-1094	2.5	78
73	Snowpack regimes of the Western United States. *Water Resources Research*, **2014**, 50, 5611-5623	5.4	76
72	Snow water equivalent in the Sierra Nevada: Blending snow sensor observations with snowmelt model simulations. *Water Resources Research*, **2013**, 49, 5029-5046	5.4	73
71	Estimating snow sublimation using natural chemical and isotopic tracers across a gradient of solar radiation. *Water Resources Research*, **2010**, 46,	5.4	72
70	Reconstructing snow water equivalent in the Rio Grande headwaters using remotely sensed snow cover data and a spatially distributed snowmelt model. *Hydrological Processes*, **2009**, 23, 1076-1089	3.3	70
69	SNOTEL representativeness in the Rio Grande headwaters on the basis of physiographics and remotely sensed snow cover persistence. *Hydrological Processes*, **2006**, 20, 723-739	3.3	70
68	Testing above- and below-canopy representations of turbulent fluxes in an energy balance snowmelt model. *Water Resources Research*, **2013**, 49, 1107-1122	5.4	69
67	Soil moisture response to snowmelt timing in mixed-conifer subalpine forests. *Hydrological Processes*, **2015**, 29, 2782-2798	3.3	66
66	Algae Drive Enhanced Darkening of Bare Ice on the Greenland Ice Sheet. *Geophysical Research Letters*, **2017**, 44, 11,463-11,471	4.9	65
65	LiDAR-derived snowpack data sets from mixed conifer forests across the Western United States. *Water Resources Research*, **2014**, 50, 2749-2755	5.4	63
64	Influence of canopy structure and direct beam solar irradiance on snowmelt rates in a mixed conifer forest. *Agricultural and Forest Meteorology*, **2012**, 161, 46-56	5.8	62
63	Estimation of solar direct beam transmittance of conifer canopies from airborne LiDAR. *Remote Sensing of Environment*, **2013**, 136, 402-415	13.2	61
62	Sensitivity of soil water availability to changing snowmelt timing in the western U.S.. *Geophysical Research Letters*, **2015**, 42, 8011-8020	4.9	57
61	LiDAR measurement of seasonal snow accumulation along an elevation gradient in the southern Sierra Nevada, California. *Hydrology and Earth System Sciences*, **2014**, 18, 4261-4275	5.5	57
60	Merging complementary remote sensing datasets in the context of snow water equivalent reconstruction. *Remote Sensing of Environment*, **2008**, 112, 1212-1225	13.2	53
59	Interannual variability of snowmelt in the Sierra Nevada and Rocky Mountains, United States: Examples from two alpine watersheds. *Water Resources Research*, **2012**, 48,	5.4	50
58	Estimating the distribution of snow water equivalent and snow extent beneath cloud cover in the Salt Verde River basin, Arizona. *Hydrological Processes*, **2004**, 18, 1595-1611	3.3	50
57	A Bayesian approach to snow water equivalent reconstruction. *Journal of Geophysical Research*, **2008**, 113,		46

56	Catchment response to bark beetle outbreak and dust-on-snow in the Colorado Rocky Mountains. *Journal of Hydrology*, **2015**, 523, 196-210	6	45
55	The effect of spatial variability on the sensitivity of passive microwave measurements to snow water equivalent. *Remote Sensing of Environment*, **2013**, 136, 163-179	13.2	43
54	A Vision for Future Observations for Western U.S. Extreme Precipitation and Flooding. *Journal of Contemporary Water Research and Education*, **2014**, 153, 16-32	1.2	41
53	Earlier snowmelt reduces atmospheric carbon uptake in midlatitude subalpine forests. *Geophysical Research Letters*, **2016**, 43, 8160-8168	4.9	41
52	The Role of Frozen Soil in Groundwater Discharge Predictions for Warming Alpine Watersheds. *Water Resources Research*, **2018**, 54, 1599-1615	5.4	40
51	Spatio-temporal variability of snow water equivalent in the extra-tropical Andes Cordillera from distributed energy balance modeling and remotely sensed snow cover. *Hydrology and Earth System Sciences*, **2016**, 20, 411-430	5.5	39
50	Summer and winter drought drive the initiation and spread of spruce beetle outbreak. *Ecology*, **2017**, 98, 2698-2707	4.6	38
49	. *IEEE Geoscience and Remote Sensing Letters*, **2011**, 8, 730-734	4.1	35
48	Energy budget increases reduce mean streamflow more than snow-rain transitions: using integrated modeling to isolate climate change impacts on Rocky Mountain hydrology. *Environmental Research Letters*, **2016**, 11, 044015	6.2	33
47	Laser vision: lidar as a transformative tool to advance critical zone science. *Hydrology and Earth System Sciences*, **2015**, 19, 2881-2897	5.5	33
46	Snow Temperature Changes within a Seasonal Snowpack and Their Relationship to Turbulent Fluxes of Sensible and Latent Heat. *Journal of Hydrometeorology*, **2014**, 15, 117-142	3.7	33
45	Filling in the gaps: Inferring spatially distributed precipitation from gauge observations over complex terrain. *Water Resources Research*, **2014**, 50, 8589-8610	5.4	32
44	Improved snowmelt simulations with a canopy model forced with photo-derived direct beam canopy transmissivity. *Water Resources Research*, **2012**, 48,	5.4	32
43	Case study of spatial and temporal variability of snow cover, grain size, albedo and radiative forcing in the Sierra Nevada and Rocky Mountain snowpack derived from imaging spectroscopy. *Cryosphere* , **2016**, 10, 1229-1244	5.5	32
42	Sources of streamflow along a headwater catchment elevational gradient. *Journal of Hydrology*, **2017**, 549, 163-178	6	29
41	Snowmelt-Driven Trade-Offs Between Early and Late Season Productivity Negatively Impact Forest Carbon Uptake During Drought. *Geophysical Research Letters*, **2018**, 45, 3087-3096	4.9	23
40	Physiographic and climatic controls on snow cover persistence in the Sierra Nevada Mountains. *Hydrological Processes*, **2014**, 28, 4573-4586	3.3	23
39	Real-time estimation of snow water equivalent in the Upper Colorado River Basin using MODIS-based SWE Reconstructions and SNOTEL data. *Water Resources Research*, **2016**, 52, 7892-7910	5.4	21

38	Winter melt trends portend widespread declines in snow water resources. *Nature Climate Change*, **2021**, 2021,	21.4	21
37	Topographic heterogeneity explains patterns of vegetation response to climate change (1972–2008) across a mountain landscape, Niwot Ridge, Colorado. *Arctic, Antarctic, and Alpine Research*, **2018**, 50, e1504492	1.8	21
36	The "Teflon basin" myth: hydrology and hydrochemistry of a seasonally snow-covered catchment. *Plant Ecology and Diversity*, **2015**, 8, 639-661	2.2	20
35	Monitoring the timing of snowmelt and the initiation of streamflow using a distributed network of temperature/light sensors. *Ecohydrology*, **2008**, 1, 215-224	2.5	20
34	Snowmelt response to simulated warming across a large elevation gradient, southern Sierra Nevada, California. *Cryosphere*, **2017**, 11, 2847-2866	5.5	19
33	Observations and simulations of the seasonal evolution of snowpack cold content and its relation to snowmelt and the snowpack energy budget. *Cryosphere*, **2018**, 12, 1595-1614	5.5	19
32	The sensitivity of modeled snow accumulation and melt to precipitation phase methods across a climatic gradient. *Hydrology and Earth System Sciences*, **2019**, 23, 3765-3786	5.5	17
31	Modelling the effects of the mountain pine beetle on snowmelt in a subalpine forest. *Ecohydrology*, **2014**, 7, 226-241	2.5	17
30	Snowpack-climate manipulation using infrared heaters in subalpine forests of the Southern Rocky Mountains, USA. *Agricultural and Forest Meteorology*, **2015**, 203, 142-157	5.8	16
29	Spatially Extensive Ground-Penetrating Radar Snow Depth Observations During NASA's 2017 SnowEx Campaign: Comparison With In Situ, Airborne, and Satellite Observations. *Water Resources Research*, **2019**, 55, 10026-10036	5.4	16
28	Extreme Runoff Generation From Atmospheric River Driven Snowmelt During the 2017 Oroville Dam Spillways Incident. *Geophysical Research Letters*, **2020**, 47, e2020GL088189	4.9	15
27	Estimating stream chemistry during the snowmelt pulse using a spatially distributed, coupled snowmelt and hydrochemical modeling approach. *Water Resources Research*, **2008**, 44,	5.4	15
26	Spatial snow water equivalent estimation for mountainous areas using wireless-sensor networks and remote-sensing products. *Remote Sensing of Environment*, **2018**, 215, 44-56	13.2	14
25	Quantifying insect-related forest mortality with the remote sensing of snow. *Remote Sensing of Environment*, **2017**, 188, 26-36	13.2	12
24	On the characterization of vegetation transmissivity using LAI for application in passive microwave remote sensing of snowpack. *Remote Sensing of Environment*, **2015**, 156, 310-321	13.2	12
23	Measuring spatiotemporal variation in snow optical grain size under a subalpine forest canopy using contact spectroscopy. *Water Resources Research*, **2016**, 52, 7513-7522	5.4	11
22	On the use of a snow aridity index to predict remotely sensed forest productivity in the presence of bark beetle disturbance. *Water Resources Research*, **2017**, 53, 4891-4906	5.4	11
21	Relationships between stream nitrate concentration and spatially distributed snowmelt in high-elevation catchments of the western U.S.. *Water Resources Research*, **2014**, 50, 8694-8713	5.4	10

20	The Counteracting Effects of Snowmelt Rate and Timing on Runoff. *Water Resources Research*, **2020**, 56, e2019WR026634	5.4	10
19	Combining Ground-Penetrating Radar With Terrestrial LiDAR Scanning to Estimate the Spatial Distribution of Liquid Water Content in Seasonal Snowpacks. *Water Resources Research*, **2018**, 54, 10,339	5.4	10
18	Snowfall Fraction, Cold Content, and Energy Balance Changes Drive Differential Response to Simulated Warming in an Alpine and Subalpine Snowpack. *Frontiers in Earth Science*, **2020**, 8,	3.5	9
17	Signatures of Hydrologic Function Across the Critical Zone Observatory Network. *Water Resources Research*, **2021**, 57, e2019WR026635	5.4	9
16	Hydrologic connectivity at the hillslope scale through intra-snowpack flow paths during snowmelt. *Hydrological Processes*, **2020**, 34, 1616-1629	3.3	8
15	Portable spectral profiler probe for rapid snow grain size stratigraphy. *Cold Regions Science and Technology*, **2013**, 85, 183-190	3.8	8
14	Response to comment by A.G. Slater, M.P. Clark, and A.P. Barrett on Estimating the distribution of snow water equivalent using remotely sensed snow cover data and a spatially distributed snowmelt model: A multi-resolution, multi-sensor comparison [[Adv. Water Resour. 31 (2008) 1503–1514]. Adv Water Resour 2009;32(11):1680–4]. *Advances in Water Resources*, **2010**, 33, 231-239	4.7	8
13	Snowfall interception in a deciduous Nothofagus forest and implications for spatial snowpack distribution. *Hydrological Processes*, **2019**, 33, 1818	3.3	7
12	Within-Stand Boundary Effects on Snow Water Equivalent Distribution in Forested Areas. *Water Resources Research*, **2020**, 56, e2019WR024905	5.4	5
11	From Patch to Catchment: A Statistical Framework to Identify and Map Soil Moisture Patterns Across Complex Alpine Terrain. *Frontiers in Water*, **2020**, 2,	2.6	3
10	Snow Cover Depletion Curves and Snow Water Equivalent Reconstruction. *Geophysical Monograph Series*, **2014**, 157-173	1.1	2
9	. *IEEE Geoscience and Remote Sensing Letters*, **2020**, 17, 1667-1671	4.1	1
8	Combining ground-based and remotely sensed snow data in a linear regression model for real-time estimation of snow water equivalent. *Advances in Water Resources*, **2021**, 160, 104075	4.7	1
7	Evaluation of stereology for snow microstructure measurement and microwave emission modeling: a case study. *International Journal of Digital Earth*, **2021**, 14, 1316-1336	3.9	1
6	Investigating the Relationship Between Peak Snow-Water Equivalent and Snow Timing Indices in the Western United States and Alaska. *Water Resources Research*, **2021**, 57, e2020WR029395	5.4	1
5	Event-Response Ellipses: A Method to Quantify and Compare the Role of Dynamic Storage at the Catchment Scale in Snowmelt-Dominated Systems. *Water (Switzerland)*, **2018**, 10, 1824	3	1
4	The sensitivity of runoff generation to spatial snowpack uniformity in an alpine watershed: Green Lakes Valley, Niwot Ridge Long-Term Ecological Research station. *Hydrological Processes*, **2021**, 35, e14331	3.3	1
3	Catchment-scale observations at the Niwot Ridge long-term ecological research site. *Hydrological Processes*, **2021**, 35, e14320	3.3	1

2	Long-term ecological research and the COVID-19 anthropause: A window to understanding social-ecological disturbance.. *Ecosphere*, **2022**, 13, e4019	3.1	1
1	Future land cover and climate may drive decreases in snow wind-scour and transpiration, increasing streamflow at a Colorado, USA headwater catchment. *Hydrological Processes*, **2021**, 35, e14416	3.3	0