

N P Molotch

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Long-term ecological research and the COVID-19 anthropause: A window to understanding social-ecological disturbance.. <i>Ecosphere</i> , 2022 , 13, e4019	3.1	1
90	Future land cover and climate may drive decreases in snow wind-scour and transpiration, increasing streamflow at a Colorado, USA headwater catchment. <i>Hydrological Processes</i> , 2021 , 35, e14416	3.3	0
89	Combining ground-based and remotely sensed snow data in a linear regression model for real-time estimation of snow water equivalent. <i>Advances in Water Resources</i> , 2021 , 160, 104075	4.7	1
88	Evaluation of stereology for snow microstructure measurement and microwave emission modeling: a case study. <i>International Journal of Digital Earth</i> , 2021 , 14, 1316-1336	3.9	1
87	Winter melt trends portend widespread declines in snow water resources. <i>Nature Climate Change</i> , 2021 , 2021,	21.4	21
86	Investigating the Relationship Between Peak Snow-Water Equivalent and Snow Timing Indices in the Western United States and Alaska. <i>Water Resources Research</i> , 2021 , 57, e2020WR029395	5.4	1
85	Signatures of Hydrologic Function Across the Critical Zone Observatory Network. <i>Water Resources Research</i> , 2021 , 57, e2019WR026635	5.4	9
84	The sensitivity of runoff generation to spatial snowpack uniformity in an alpine watershed: Green Lakes Valley, Niwot Ridge Long-Term Ecological Research station. <i>Hydrological Processes</i> , 2021 , 35, e14331	3.3	1
83	Catchment-scale observations at the Niwot Ridge long-term ecological research site. <i>Hydrological Processes</i> , 2021 , 35, e14320	3.3	1
82	Snowfall Fraction, Cold Content, and Energy Balance Changes Drive Differential Response to Simulated Warming in an Alpine and Subalpine Snowpack. <i>Frontiers in Earth Science</i> , 2020 , 8,	3.5	9
81	Hydrologic connectivity at the hillslope scale through intra-snowpack flow paths during snowmelt. <i>Hydrological Processes</i> , 2020 , 34, 1616-1629	3.3	8
80	. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2020 , 17, 1667-1671	4.1	1
79	Extreme Runoff Generation From Atmospheric River Driven Snowmelt During the 2017 Oroville Dam Spillways Incident. <i>Geophysical Research Letters</i> , 2020 , 47, e2020GL088189	4.9	15
78	From Patch to Catchment: A Statistical Framework to Identify and Map Soil Moisture Patterns Across Complex Alpine Terrain. <i>Frontiers in Water</i> , 2020 , 2,	2.6	3
77	Within-Stand Boundary Effects on Snow Water Equivalent Distribution in Forested Areas. <i>Water Resources Research</i> , 2020 , 56, e2019WR024905	5.4	5
76	The Counteracting Effects of Snowmelt Rate and Timing on Runoff. <i>Water Resources Research</i> , 2020 , 56, e2019WR026634	5.4	10
75	The sensitivity of modeled snow accumulation and melt to precipitation phase methods across a climatic gradient. <i>Hydrology and Earth System Sciences</i> , 2019 , 23, 3765-3786	5.5	17

74	Snowfall interception in a deciduous <i>Nothofagus</i> forest and implications for spatial snowpack distribution. <i>Hydrological Processes</i> , 2019 , 33, 1818	3.3	7
73	Spatially Extensive Ground-Penetrating Radar Snow Depth Observations During NASA's 2017 SnowEx Campaign: Comparison With In Situ, Airborne, and Satellite Observations. <i>Water Resources Research</i> , 2019 , 55, 10026-10036	5.4	16
72	The Role of Frozen Soil in Groundwater Discharge Predictions for Warming Alpine Watersheds. <i>Water Resources Research</i> , 2018 , 54, 1599-1615	5.4	40
71	Snowmelt-Driven Trade-Offs Between Early and Late Season Productivity Negatively Impact Forest Carbon Uptake During Drought. <i>Geophysical Research Letters</i> , 2018 , 45, 3087-3096	4.9	23
70	Spatial variation of the rain-snow temperature threshold across the Northern Hemisphere. <i>Nature Communications</i> , 2018 , 9, 1148	17.4	122
69	Spatial snow water equivalent estimation for mountainous areas using wireless-sensor networks and remote-sensing products. <i>Remote Sensing of Environment</i> , 2018 , 215, 44-56	13.2	14
68	Observations and simulations of the seasonal evolution of snowpack cold content and its relation to snowmelt and the snowpack energy budget. <i>Cryosphere</i> , 2018 , 12, 1595-1614	5.5	19
67	Event-Response Ellipses: A Method to Quantify and Compare the Role of Dynamic Storage at the Catchment Scale in Snowmelt-Dominated Systems. <i>Water (Switzerland)</i> , 2018 , 10, 1824	3	1
66	Topographic heterogeneity explains patterns of vegetation response to climate change (1972-2008) across a mountain landscape, Niwot Ridge, Colorado. <i>Arctic, Antarctic, and Alpine Research</i> , 2018 , 50, e1504492	1.8	21
65	Combining Ground-Penetrating Radar With Terrestrial LiDAR Scanning to Estimate the Spatial Distribution of Liquid Water Content in Seasonal Snowpacks. <i>Water Resources Research</i> , 2018 , 54, 10,339	5.4	10
64	Quantifying insect-related forest mortality with the remote sensing of snow. <i>Remote Sensing of Environment</i> , 2017 , 188, 26-36	13.2	12
63	Sources of streamflow along a headwater catchment elevational gradient. <i>Journal of Hydrology</i> , 2017 , 549, 163-178	6	29
62	Snowmelt response to simulated warming across a large elevation gradient, southern Sierra Nevada, California. <i>Cryosphere</i> , 2017 , 11, 2847-2866	5.5	19
61	Summer and winter drought drive the initiation and spread of spruce beetle outbreak. <i>Ecology</i> , 2017 , 98, 2698-2707	4.6	38
60	Algae Drive Enhanced Darkening of Bare Ice on the Greenland Ice Sheet. <i>Geophysical Research Letters</i> , 2017 , 44, 11,463-11,471	4.9	65
59	GRACE Groundwater Drought Index: Evaluation of California Central Valley groundwater drought. <i>Remote Sensing of Environment</i> , 2017 , 198, 384-392	13.2	127
58	On the use of a snow aridity index to predict remotely sensed forest productivity in the presence of bark beetle disturbance. <i>Water Resources Research</i> , 2017 , 53, 4891-4906	5.4	11
57	Snowmelt rate dictates streamflow. <i>Geophysical Research Letters</i> , 2016 , 43, 8006-8016	4.9	149

56	Real-time estimation of snow water equivalent in the Upper Colorado River Basin using MODIS-based SWE Reconstructions and SNOTEL data. <i>Water Resources Research</i> , 2016 , 52, 7892-7910	5-4	21
55	Measuring spatiotemporal variation in snow optical grain size under a subalpine forest canopy using contact spectroscopy. <i>Water Resources Research</i> , 2016 , 52, 7513-7522	5-4	11
54	Energy budget increases reduce mean streamflow more than snowfall transitions: using integrated modeling to isolate climate change impacts on Rocky Mountain hydrology. <i>Environmental Research Letters</i> , 2016 , 11, 044015	6.2	33
53	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. <i>Cryosphere</i> , 2016 , 10, 1229-1244	5-5	32
52	Spatio-temporal variability of snow water equivalent in the extra-tropical Andes Cordillera from distributed energy balance modeling and remotely sensed snow cover. <i>Hydrology and Earth System Sciences</i> , 2016 , 20, 411-430	5-5	39
51	Earlier snowmelt reduces atmospheric carbon uptake in midlatitude subalpine forests. <i>Geophysical Research Letters</i> , 2016 , 43, 8160-8168	4-9	41
50	Snowpack-climate manipulation using infrared heaters in subalpine forests of the Southern Rocky Mountains, USA. <i>Agricultural and Forest Meteorology</i> , 2015 , 203, 142-157	5-8	16
49	On the characterization of vegetation transmissivity using LAI for application in passive microwave remote sensing of snowpack. <i>Remote Sensing of Environment</i> , 2015 , 156, 310-321	13.2	12
48	Sensitivity of soil water availability to changing snowmelt timing in the western U.S.. <i>Geophysical Research Letters</i> , 2015 , 42, 8011-8020	4-9	57
47	Soil moisture response to snowmelt timing in mixed-conifer subalpine forests. <i>Hydrological Processes</i> , 2015 , 29, 2782-2798	3-3	66
46	Quantifying the effects of vegetation structure on snow accumulation and ablation in mixed-conifer forests. <i>Ecohydrology</i> , 2015 , 8, 1073-1094	2-5	78
45	Laser vision: lidar as a transformative tool to advance critical zone science. <i>Hydrology and Earth System Sciences</i> , 2015 , 19, 2881-2897	5-5	33
44	The Befflon basin myth: hydrology and hydrochemistry of a seasonally snow-covered catchment. <i>Plant Ecology and Diversity</i> , 2015 , 8, 639-661	2.2	20
43	Catchment response to bark beetle outbreak and dust-on-snow in the Colorado Rocky Mountains. <i>Journal of Hydrology</i> , 2015 , 523, 196-210	6	45
42	Filling in the gaps: Inferring spatially distributed precipitation from gauge observations over complex terrain. <i>Water Resources Research</i> , 2014 , 50, 8589-8610	5-4	32
41	Snowpack regimes of the Western United States. <i>Water Resources Research</i> , 2014 , 50, 5611-5623	5-4	76
40	Snow Cover Depletion Curves and Snow Water Equivalent Reconstruction. <i>Geophysical Monograph Series</i> , 2014 , 157-173	1-1	2
39	Physiographic and climatic controls on snow cover persistence in the Sierra Nevada Mountains. <i>Hydrological Processes</i> , 2014 , 28, 4573-4586	3-3	23

38	LiDAR measurement of seasonal snow accumulation along an elevation gradient in the southern Sierra Nevada, California. <i>Hydrology and Earth System Sciences</i> , 2014 , 18, 4261-4275	5.5	57
37	A Vision for Future Observations for Western U.S. Extreme Precipitation and Flooding. <i>Journal of Contemporary Water Research and Education</i> , 2014 , 153, 16-32	1.2	41
36	Modelling the effects of the mountain pine beetle on snowmelt in a subalpine forest. <i>Ecohydrology</i> , 2014 , 7, 226-241	2.5	17
35	Snow Temperature Changes within a Seasonal Snowpack and Their Relationship to Turbulent Fluxes of Sensible and Latent Heat. <i>Journal of Hydrometeorology</i> , 2014 , 15, 117-142	3.7	33
34	LiDAR-derived snowpack data sets from mixed conifer forests across the Western United States. <i>Water Resources Research</i> , 2014 , 50, 2749-2755	5.4	63
33	Relationships between stream nitrate concentration and spatially distributed snowmelt in high-elevation catchments of the western U.S.. <i>Water Resources Research</i> , 2014 , 50, 8694-8713	5.4	10
32	Subgrid variability of snow water equivalent at operational snow stations in the western USA. <i>Hydrological Processes</i> , 2013 , 27, 2383-2400	3.3	81
31	The effect of spatial variability on the sensitivity of passive microwave measurements to snow water equivalent. <i>Remote Sensing of Environment</i> , 2013 , 136, 163-179	13.2	43
30	Estimation of solar direct beam transmittance of conifer canopies from airborne LiDAR. <i>Remote Sensing of Environment</i> , 2013 , 136, 402-415	13.2	61
29	Snow water equivalent in the Sierra Nevada: Blending snow sensor observations with snowmelt model simulations. <i>Water Resources Research</i> , 2013 , 49, 5029-5046	5.4	73
28	Portable spectral profiler probe for rapid snow grain size stratigraphy. <i>Cold Regions Science and Technology</i> , 2013 , 85, 183-190	3.8	8
27	Testing above- and below-canopy representations of turbulent fluxes in an energy balance snowmelt model. <i>Water Resources Research</i> , 2013 , 49, 1107-1122	5.4	69
26	The 2010/2011 snow season in California's Sierra Nevada: Role of atmospheric rivers and modes of large-scale variability. <i>Water Resources Research</i> , 2013 , 49, 6731-6743	5.4	104
25	Influence of canopy structure and direct beam solar irradiance on snowmelt rates in a mixed conifer forest. <i>Agricultural and Forest Meteorology</i> , 2012 , 161, 46-56	5.8	62
24	Interannual variability of snowmelt in the Sierra Nevada and Rocky Mountains, United States: Examples from two alpine watersheds. <i>Water Resources Research</i> , 2012 , 48,	5.4	50
23	Improved snowmelt simulations with a canopy model forced with photo-derived direct beam canopy transmissivity. <i>Water Resources Research</i> , 2012 , 48,	5.4	32
22	Does the Madden-Julian Oscillation Influence Wintertime Atmospheric Rivers and Snowpack in the Sierra Nevada?. <i>Monthly Weather Review</i> , 2012 , 140, 325-342	2.4	112
21	Elevation-dependent influence of snow accumulation on forest greening. <i>Nature Geoscience</i> , 2012 , 5, 705-709	18.3	152

20	. <i>IEEE Geoscience and Remote Sensing Letters</i> , 2011 , 8, 730-734	4.1	35
19	Estimating snow sublimation using natural chemical and isotopic tracers across a gradient of solar radiation. <i>Water Resources Research</i> , 2010 , 46,	5.4	72
18	Extreme snowfall events linked to atmospheric rivers and surface air temperature via satellite measurements. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	208
17	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):1680-1687. <i>Advances in Water Resources</i> , 2010 , 33, 231-239	4.7	8
16	Reconstructing snow water equivalent in the Rio Grande headwaters using remotely sensed snow cover data and a spatially distributed snowmelt model. <i>Hydrological Processes</i> , 2009 , 23, 1076-1089	3.3	70
15	Quantifying the effects of forest canopy cover on net snow accumulation at a continental, mid-latitude site <i>Ecohydrology</i> , 2009 , 2, 115-128	2.5	93
14	Ecohydrological controls on snowmelt partitioning in mixed-conifer sub-alpine forests. <i>Ecohydrology</i> , 2009 , 2, 129-142	2.5	118
13	Estimating stream chemistry during the snowmelt pulse using a spatially distributed, coupled snowmelt and hydrochemical modeling approach. <i>Water Resources Research</i> , 2008 , 44,	5.4	15
12	A Bayesian approach to snow water equivalent reconstruction. <i>Journal of Geophysical Research</i> , 2008 , 113,		46
11	Effects of vegetation on snow accumulation and ablation in a mid-latitude sub-alpine forest. <i>Hydrological Processes</i> , 2008 , 22, 2767-2776	3.3	122
10	Monitoring the timing of snowmelt and the initiation of streamflow using a distributed network of temperature/light sensors. <i>Ecohydrology</i> , 2008 , 1, 215-224	2.5	20
9	Merging complementary remote sensing datasets in the context of snow water equivalent reconstruction. <i>Remote Sensing of Environment</i> , 2008 , 112, 1212-1225	13.2	53
8	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. <i>Advances in Water Resources</i> , 2008 , 31, 1503-1514	4.7	110
7	Estimating sublimation of intercepted and sub-canopy snow using eddy covariance systems. <i>Hydrological Processes</i> , 2007 , 21, 1567-1575	3.3	93
6	Contact spectroscopy for determination of stratigraphy of snow optical grain size. <i>Journal of Glaciology</i> , 2007 , 53, 121-127	3.4	127
5	SNOTEL representativeness in the Rio Grande headwaters on the basis of physiographics and remotely sensed snow cover persistence. <i>Hydrological Processes</i> , 2006 , 20, 723-739	3.3	70
4	Mountain hydrology of the western United States. <i>Water Resources Research</i> , 2006 , 42,	5.4	416
3	Scaling snow observations from the point to the grid element: Implications for observation network design. <i>Water Resources Research</i> , 2005 , 41,	5.4	132

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|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|
| 2 | 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. <i>Hydrological Processes</i> , 2005 , 19, 1459-1479 | 33 | 144 |
| 1 | Estimating the distribution of snow water equivalent and snow extent beneath cloud cover in the Salt Verde River basin, Arizona. <i>Hydrological Processes</i> , 2004 , 18, 1595-1611 | 33 | 50 |