Steven Fassnacht

List of Publications by Year
in descending order

87 papers	2,332 citations	218592 26 h-index	243529 44 g-index
111 all docs	111 docs citations	111 times ranked	2358 citing authors

#	Article	IF	Citations
1	Fractal Distribution of Snow Depth from Lidar Data. Journal of Hydrometeorology, 2006, 7, 285-297.	0.7	178
2	Small scale spatial variability of snow density and depth over complex alpine terrain: Implications for estimating snow water equivalent. Advances in Water Resources, 2013, 55, 40-52.	1.7	136
3	Snow water equivalent interpolation for the Colorado River Basin from snow telemetry (SNOTEL) data. Water Resources Research, 2003, 39, .	1.7	131
4	Subgrid variability of snow water equivalent at operational snow stations in the western USA. Hydrological Processes, 2013, 27, 2383-2400.	1.1	99
5	Interannual Consistency in Fractal Snow Depth Patterns at Two Colorado Mountain Sites. Journal of Hydrometeorology, 2008, 9, 977-988.	0.7	95
6	Exploring linked ecological and cultural tipping points in Mongolia. Anthropocene, 2017, 17, 46-69.	1.6	83
7	Evaluation of gridded snow water equivalent and satellite snow cover products for mountain basins in a hydrologic model. Hydrological Processes, 2006, 20, 673-688.	1.1	81
8	Vegetation response to climate conditions based on NDVI simulations using stepwise cluster analysis for the Three-River Headwaters region of China. Ecological Indicators, 2018, 92, 18-29.	2.6	71
9	Evaluation of Ultrasonic Snow Depth Sensors for U.S. Snow Measurements. Journal of Atmospheric and Oceanic Technology, 2008, 25, 667-684.	0.5	69
10	Snow Sublimation in Mountain Environments and Its Sensitivity to Forest Disturbance and Climate Warming. Water Resources Research, 2018, 54, 1191-1211.	1.7	68
11	Changes in Andes snow cover from MODISÂdata,Â2000â€“2016. Cryosphere, 2018, 12, 1027-1046.	1.5	68
12	Variability of snow depth at the plot scale: implications for mean depth estimation and sampling strategies. Cryosphere, 2011, 5, 617-629.	1.5	63
13	Estimating the distribution of snow water equivalent and snow extent beneath cloud cover in the Saltâ€“Verde River basin, Arizona. Hydrological Processes, 2004, 18, 1595-1611.	1.1	56
14	Estimating Alter-shielded gauge snowfall undercatch, snowpack sublimation, and blowing snow transport at six sites in the coterminous USA. Hydrological Processes, 2004, 18, 3481-3492.	1.1	53
15	A Comparison of Snow Telemetry and Snow Course Measurements in the Colorado River Basin. Journal of Hydrometeorology, 2006, 7, 705-712.	0.7	43
16	What drives basin scale spatial variability of snowpack properties in northern Colorado?. Cryosphere, 2014, 8, 329-344.	1.5	43
17	Measurement sampling and scaling for deep montane snow depth data. Hydrological Processes, 2006, 20, 829-838.	1.1	40
18	Spatiotemporal index for analyzing controls on snow climatology: application in the Colorado Front Range. Physical Geography, 2013, 34, 85-107.	0.6	39

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19	Implications during transitional periods of improvements to the snow processes in the land surface scheme â€•hydrological model WATCLASS. Atmosphere - Ocean, 2002, 40, 389-403.	0.6	38
20	A snow climatology of the Andes Mountains from <scp>MODIS</scp> snow cover data. International Journal of Climatology, 2017, 37, 1526-1539.	1.5	38
21	Snowpack variability across various spatioâ€temporal resolutions. Hydrological Processes, 2015, 29, 1213-1224.	1.1	37
22	Comparison of methods for quantifying surface sublimation over seasonally snowâ€covered terrain. Hydrological Processes, 2016, 30, 3373-3389.	1.1	36
23	Snow and albedo climate change impacts across the United States Northern Great Plains. Cryosphere, 2016, 10, 329-339.	1.5	35
24	Changes in the surface roughness of snow from millimetre to metre scales. Ecological Complexity, 2009, 6, 221-229.	1.4	33
25	Defining similar regions of snow in the Colorado River Basin using selfâ€organizing maps. Water Resources Research, 2010, 46, .	1.7	28
26	Using very long-range terrestrial laser scanner to analyze the temporal consistency of the snowpack distribution in a high mountain environment. Journal of Mountain Science, 2017, 14, 823-842.	0.8	28
27	Large snowmelt versus rainfall events in the mountains. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2375-2381.	1.2	27
28	Intercomparison of measurements of bulk snow density and water equivalent of snow cover with snow core samplers: Instrumental bias and variability induced by observers. Hydrological Processes, 2020, 34, 3120-3133.	1.1	27
29	Climate change and wetland loss impacts on a western river's water quality. Hydrology and Earth System Sciences, 2014, 18, 4509-4527.	1.9	25
30	Metrics for assessing snow surface roughness from digital imagery. Water Resources Research, 2009, 45, .	1.7	24
31	Hydrologic flow path development varies by aspect during spring snowmelt in complex subalpine terrain. Cryosphere, 2018, 12, 287-300.	1.5	24
32	Uncertainty analysis of hydrological modeling in a tropical area using different algorithms. Frontiers of Earth Science, 2018, 12, 661-671.	0.9	23
33	Sub-Seasonal Snowpack Trends in the Rocky Mountain National Park Area, Colorado, USA. Water (Switzerland), 2018, 10, 562.	1.2	23
34	Spatio-temporal snowmelt variability across the headwaters of the Southern Rocky Mountains. Frontiers of Earth Science, 2017, 11, 505-514.	0.9	22
35	Variability of snow density measurements in the RÃo Esera Valley, Pyrenees Mountains, Spain. Cuadernos De Investigacion Geografica, 2010, 36, 59.	0.6	21
36	Fractional snow cover in the Colorado and Rio Grande basins, 1995â€“2002. Water Resources Research, 2008, 44, .	1.7	20

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37	Deriving snow-cover depletion curves for different spatial scales from remote sensing and snow telemetry data. Hydrological Processes, 2016, 30, 1708-1717.	1.1	19
38	The Presence of Hydraulic Barriers in Layered Snowpacks: TOUGH2 Simulations and Estimated Diversion Lengths. Transport in Porous Media, 2018, 123, 457-476.	1.2	19
39	Hydro-Meteorological Characterization of Major Floods in Spanish Mountain Rivers. Water (Switzerland), 2019, 11, 2641.	1.2	18
40	Surface temperature adjustments to improve weather radar representation of multi-temporal winter precipitation accumulations. Journal of Hydrology, 2001, 253, 148-168.	2.3	17
41	Upper versus lower Colorado River sub-basin streamflow: characteristics, runoff estimation and model simulation. Hydrological Processes, 2006, 20, 2187-2205.	1.1	17
42	Mapping snow cover and snow depth across the Lake Limnopolar watershed on Byers Peninsula, Livingston Island, Maritime Antarctica. Antarctic Science, 2013, 25, 157-166.	0.5	17
43	How Temperature Sensor Change Affects Warming Trends and Modeling: An Evaluation Across the State of Colorado. Water Resources Research, 2019, 55, 9748-9764.	1.7	17
44	Wetting and Drying Variability of the Shallow Subsurface Beneath a Snowpack in California's Southern Sierra Nevada. Vadose Zone Journal, 2015, 14, 1-10.	1.3	16
45	The specific surface area of fresh dendritic snow crystals. Hydrological Processes, 1999, 13, 2945-2962.	1.1	15
46	Intraâ€day variability of temperature and its nearâ€surface gradient with elevation over mountainous terrain: Comparing MODIS land surface temperature data with coarse and fine scale nearâ€surface measurements. International Journal of Climatology, 2021, 41, E1435.	1.5	14
47	Snowpack variability and trends at long-term stations in northern Colorado, USA. Proceedings of the International Association of Hydrological Sciences, 0, 371, 131-136.	1.0	14
48	Preliminary results of ultrasonic snow depth sensor testing for National Weather Service (NWS) snow measurements in the US. Hydrological Processes, 2008, 22, 2748-2757.	1.1	13
49	Distribution of snow depth variability. Frontiers of Earth Science, 2018, 12, 683-692.	0.9	13
50	A comparison of snowmeltâ€derived streamflow from temperatureâ€index and modifiedâ€temperatureâ€index snow models. Hydrological Processes, 2019, 33, 3030-3045.	1.1	12
51	A multi-channel suspended sediment transport model for the Mackenzie Delta, Northwest Territories. Journal of Hydrology, 1997, 197, 128-145.	2.3	11
52	Defining the Diurnal Pattern of Snowmelt Using a Beta Distribution Function. Journal of the American Water Resources Association, 2017, 53, 684-696.	1.0	11
53	Algorithm application to improve weather radar snowfall estimates for winter hydrologic modelling. Hydrological Processes, 1999, 13, 3017-3039.	1.1	10
54	Capitalizing on the daily time step of snow telemetry data to model the snowmelt components of the hydrograph for small watersheds. Hydrological Processes, 2014, 28, 4654-4668.	1.1	10

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55	Two-dimensional liquid water flow through snow at the plot scale in continental snowpacks: simulations and field data comparisons. Cryosphere, 2021, 15, 1423-1434.	1.5	10
56	Effects of Averaging and Separating Soil Moisture and Temperature in the Presence of Snow Cover in a SVAT and Hydrological Model for a Southern Ontario, Canada, Watershed. Journal of Hydrometeorology, 2006, 7, 298-304.	0.7	9
57	Scales of snow depth variability in high elevation rangeland sagebrush. Frontiers of Earth Science, 2017, 11, 469-481.	0.9	9
58	Merging Indigenous Knowledge Systems and Station Observations to Estimate the Uncertainty of Precipitation Change in Central Mongolia. Hydrology, 2018, 5, 46.	1.3	9
59	Persistence of a scour hole on the East Channel of the Mackenzie Delta, N.W.T.. Canadian Journal of Civil Engineering, 2000, 27, 798-804.	0.7	8
60	Assessment of High Resolution Air Temperature Fields at Rocky Mountain National Park by Combining Scarce Point Measurements with Elevation and Remote Sensing Data. Remote Sensing, 2021, 13, 113.	1.8	7
61	A Call for More Snow Sampling. Geosciences (Switzerland), 2021, 11, 435.	1.0	7
62	Sustaining Interdisciplinary Collaboration Across Continents and Cultures: Lessons from the Mongolian Rangelands and Resilience Project. , 2019, , 185-225.		6
63	Patterns of trends in niveograph characteristics across the western United States from snow telemetry data. Frontiers of Earth Science, 2020, 14, 315-325.	0.9	6
64	Variability and change of climate extremes from indigenous herder knowledge and at meteorological stations across central Mongolia. Frontiers of Earth Science, 2020, 14, 286-297.	0.9	6
65	Spatiotemporal Variations in Liquid Water Content in a Seasonal Snowpack: Implications for Radar Remote Sensing. Remote Sensing, 2021, 13, 4223.	1.8	6
66	The sensitivity of snowpack sublimation estimates to instrument and measurement uncertainty perturbed in a Monte Carlo framework. Frontiers of Earth Science, 2018, 12, 728-738.	0.9	5
67	How Do We Define Climate Change? Considering the Temporal Resolution of Niveo-Meteorological Data. Hydrology, 2020, 7, 38.	1.3	5
68	Flow modelling to estimate suspended sediment travel times for two Canadian Deltas. Hydrology and Earth System Sciences, 2000, 4, 425-438.	1.9	4
69	Data time step to estimate snowpack accumulation at select United States meteorological stations. Hydrological Processes, 2007, 21, 1608-1615.	1.1	4
70	Headwater regions â€" Physical, ecological, and social approaches to understand these areas: introduction to the special issue. Frontiers of Earth Science, 2017, 11, 443-446.	0.9	4
71	Snowmobile impacts on snowpack physical and mechanical properties. Cryosphere, 2018, 12, 1121-1135.	1.5	4
72	Extreme Climate Event and Its Impact on Landscape Resilience in Gobi Region of Mongolia. Remote Sensing, 2020, 12, 2881.	1.8	4

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73	The effect of aeolian deposition on the surface roughness of melting snow, Byers Peninsula, Antarctica. Hydrological Processes, 2010, 24, 2007-2013.	1.1	3
74	Geometric Versus Anemometric Surface Roughness for a Shallow Accumulating Snowpack. Geosciences (Switzerland), 2018, 8, 463.	1.0	3
75	Extent Changes in the Perennial Snowfields of Gates of the Arctic National Park and Preserve, Alaska. Hydrology, 2019, 6, 53.	1.3	3
76	Snow Density. Encyclopedia of Earth Sciences Series, 2011, , 1045-1045.	0.1	3
77	Combined influence of maximum accumulation and melt rates on the duration of the seasonal snowpack over temperate mountains. Journal of Hydrology, 2022, 608, 127574.	2.3	3
78	Uncertainty in water resources: introduction to the special column. Frontiers of Earth Science, 2018, 12, 649-652.	0.9	2
79	Drivers of Dust-Enhanced Snowpack Melt-Out and Streamflow Timing. Hydrology, 2022, 9, 47.	1.3	2
80	Snowpack Distribution Using Topographical, Climatological and Winter Season Index Inputs. Atmosphere, 2022, 13, 3.	1.0	2
81	Spatio-temporal variability of snowpack properties: Comparing operational, field, and ICESat remote sensing data over Northern Colorado, United States. , 2012, , .		1
82	Snow Water Equivalent Accumulation Patterns from a Trajectory Approach over the U.S. Southern Rocky Mountains. Hydrology, 2021, 8, 124.	1.3	1
83	Subgrid snow depth coefficient of variation spanning alpine to sub-alpine mountainous terrain. Cuadernos De Investigacion Geografica, 2022, 48, 79-96.	0.6	1
84	Comparing AVHRR and hydrologically modelled discontinuous alpine snow-covered area estimates. , 0, , .		0
85	Discussion of â€œSimple Snowdrift Model for Distributed Hydrological Modelingâ€•by M. Todd Walter, Donald K. McCool, Larry G. King, Myron Molnau, and Gaylon S. Campbell. Journal of Hydrologic Engineering - ASCE, 2005, 10, 522-524.	0.8	0
86	Multi-disciplinary approaches to water systems: introduction to the special column. Frontiers of Earth Science, 2020, 14, 251-255.	0.9	0
87	Linking Hydrologic and Hydraulic Data with Models to Assess Flow and Channel Alteration at Hog Park, Wyoming USA. Hydrology, 2020, 7, 29.	1.3	0