Sebastian Westermann

List of Publications by Year
in descending order

95 papers	5,747 citations	71061 41 h-index	85498 71 g-index
117 all docs	117 docs citations	117 times ranked	5687 citing authors

#	Article	IF	Citations
1	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. Scientific Data, 2020, 7, 225.	2.4	646
2	Northern Hemisphere permafrost map based on TTOP modelling for 2000â€“2016 at 1â€‰km2 scale. Earth-Science Reviews, 2019, 193, 299-316.	4.0	462
3	Degrading permafrost puts Arctic infrastructure at risk by mid-century. Nature Communications, 2018, 9, 5147.	5.8	327
4	An observation-based constraint on permafrost loss as a function of global warming. Nature Climate Change, 2017, 7, 340-344.	8.1	257
5	Baseline characteristics of climate, permafrost and land cover from a new permafrost observatory in the Lena River Delta, Siberia (1998â€“2011). Biogeosciences, 2013, 10, 2105-2128.	1.3	144
6	Fast response of cold ice-rich permafrost in northeast Siberia to a warming climate. Nature Communications, 2020, 11, 2201.	5.8	134
7	Mechanical Effect of van der Waals Interactions Observed in Real Time in an Ultracold Rydberg Gas. Physical Review Letters, 2007, 98, 023004.	2.9	123
8	Transient thermal modeling of permafrost conditions in Southern Norway. Cryosphere, 2013, 7, 719-739.	1.5	113
9	Climate and environmental change drives Ixodes ricinus geographical expansion at the northern range margin. Parasites and Vectors, 2014, 7, 11.	1.0	107
10	Simulating the thermal regime and thaw processes of ice-rich permafrost ground with the land-surface model CryoGrid 3. Geoscientific Model Development, 2016, 9, 523-546.	1.3	104
11	The annual surface energy budget of a high-arctic permafrost site on Svalbard, Norway. Cryosphere, 2009, 3, 245-263.	1.5	104
12	Spatial and temporal variations of summer surface temperatures of high-arctic tundra on Svalbard â€" Implications for MODIS LST based permafrost monitoring. Remote Sensing of Environment, 2011, 115, 908-922.	4.6	97
13	Modeling the impact of wintertime rain events on the thermal regime of permafrost. Cryosphere, 2011, 5, 945-959.	1.5	95
14	Subpixel heterogeneity of ice-wedge polygonal tundra: a multi-scale analysis of land cover and evapotranspiration in the Lena River Delta, Siberia. Tellus, Series B: Chemical and Physical Meteorology, 2022, 64, 17301.	0.8	94
15	Permafrost Map for Norway, Sweden and Finland. Permafrost and Periglacial Processes, 2017, 28, 359-378.	1.5	92
16	Satellite-based modeling of permafrost temperatures in a tundra lowland landscape. Remote Sensing of Environment, 2013, 135, 12-24.	4.6	91
17	A ground temperature map of the North Atlantic permafrost region based on remote sensing and reanalysis data. Cryosphere, 2015, 9, 1303-1319.	1.5	82
18	A statistical approach to represent small-scale variability of permafrost temperatures due to snow cover. Cryosphere, 2014, 8, 2063-2074.	1.5	78

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19	The surface energy balance of a polygonal tundra site in northern Siberia â€“ Part 1: Spring to fall. Cryosphere, 2011, 5, 151-171.	1.5	77
20	Systematic bias of average winter-time land surface temperatures inferred from MODIS at a site on Svalbard, Norway. Remote Sensing of Environment, 2012, 118, 162-167.	4.6	75
21	Spatial and temporal variations of summer surface temperatures of wet polygonal tundra in Siberia - implications for MODIS LST based permafrost monitoring. Remote Sensing of Environment, 2010, 114, 2059-2069.	4.6	74
22	Strong degradation of palsas and peat plateaus in northern Norway during the last 60Âyears. Cryosphere, 2017, 11, 1-16.	1.5	68
23	Sentinel-1 SAR Interferometry for Surface Deformation Monitoring in Low-Land Permafrost Areas. Remote Sensing, 2018, 10, 1360.	1.8	67
24	Dynamics of resonant energy transfer in a cold Rydberg gas. European Physical Journal D, 2006, 40, 37-43.	0.6	65
25	The surface energy balance of a polygonal tundra site in northern Siberia â€“ Part 2: Winter. Cryosphere, 2011, 5, 509-524.	1.5	63
26	CryoGRID 1.0: Permafrost Distribution in Norway estimated by a Spatial Numerical Model. Permafrost and Periglacial Processes, 2013, 24, 2-19.	1.5	63
27	Coherent excitation of Rydberg atoms in an ultracold gas. Optics Communications, 2006, 264, 293-298.	1.0	62
28	Severe cloud contamination of MODIS Land Surface Temperatures over an Arctic ice cap, Svalbard. Remote Sensing of Environment, 2014, 142, 95-102.	4.6	61
29	The Distribution, Thermal Characteristics and Dynamics of Permafrost in TrÃ¶llaskagi, Northern Iceland, as Inferred from the Distribution of Rock Glaciers and Iceâ€Cored Moraines. Permafrost and Periglacial Processes, 2013, 24, 322-335.	1.5	60
30	Frozen ponds: production and storage of methane during the Arctic winter in a lowland tundra landscape in northern Siberia, Lena River delta. Biogeosciences, 2015, 12, 977-990.	1.3	58
31	Modelling past and future peatland carbon dynamics across the panâ€Arctic. Global Change Biology, 2020, 26, 4119-4133.	4.2	58
32	Thaw processes in ice-rich permafrost landscapes represented with laterally coupled tiles in a land surface model. Cryosphere, 2019, 13, 591-609.	1.5	57
33	Monitoring of active layer dynamics at a permafrost site on Svalbard using multi-channel ground-penetrating radar. Cryosphere, 2010, 4, 475-487.	1.5	56
34	Small-scale variation of snow in a regional permafrost model. Cryosphere, 2016, 10, 1201-1215.	1.5	56
35	Submarine Permafrost Map in the Arctic Modeled Using 1â€D Transient Heat Flux (SuPerMAP). Journal of Geophysical Research: Oceans, 2019, 124, 3490-3507.	1.0	55
36	Rapid degradation of permafrost underneath waterbodies in tundra landscapesâ€"Toward a representation of thermokarst in land surface models. Journal of Geophysical Research F: Earth Surface, 2016, 121, 2446-2470.	1.0	54

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37	Future permafrost conditions along environmental gradients in Zackenberg, Greenland. Cryosphere, 2015, 9, 719-735.	1.5	51
38	Circumpolar permafrost maps and geohazard indices for near-future infrastructure risk assessments. Scientific Data, 2019, 6, 190037.	2.4	51
39	Modelling borehole temperatures in Southern Norway â€“ insights into permafrost dynamics during the 20th and 21st century. Cryosphere, 2012, 6, 553-571.	1.5	49
40	A 20-year record (1998â€“2017) of permafrost, active layer and meteorological conditions at a high Arctic permafrost research site (Bayelva, Spitsbergen). Earth System Science Data, 2018, 10, 355-390.	3.7	47
41	Snow control on active layer thickness in steep alpine rock walls (Aiguille du Midi, 3842ma.s.l., Mont) Tj ETQq1 1 0.784314 rgBT /Overlo	2.2	46
42	Pathways of ice-wedge degradation in polygonal tundra under different hydrological conditions. Cryosphere, 2019, 13, 1089-1123.	1.5	46
43	Annual CO₂ budget and seasonal CO₂ exchange signals at a high Arctic permafrost site on Spitsbergen, Svalbard archipelago. Biogeosciences, 2014, 11, 6307-6322.	1.3	43
44	Carbon stocks and fluxes in the high latitudes: using site-level data to evaluate Earth system models. Biogeosciences, 2017, 14, 5143-5169.	1.3	43
45	Consequences of permafrost degradation for Arctic infrastructure â€“ bridging the model gap between regional and engineering scales. Cryosphere, 2021, 15, 2451-2471.	1.5	42
46	Transient modeling of the ground thermal conditions using satellite data in the Lena River delta, Siberia. Cryosphere, 2017, 11, 1441-1463.	1.5	41
47	Contrasting temperature trends across the ice-free part of Greenland. Scientific Reports, 2018, 8, 1586.	1.6	40
48	Ensemble-based assimilation of fractional snow-covered area satellite retrievals to estimate the snow distribution at Arctic sites. Cryosphere, 2018, 12, 247-270.	1.5	40
49	Population living on permafrost in the Arctic. Population and Environment, 2021, 43, 22-38.	1.3	40
50	Permafrost in Alpine Rock Faces from Jotunheimen and Hurrungane, Southern Norway. Permafrost and Periglacial Processes, 2014, 25, 1-13.	1.5	39
51	Evaluating satellite retrieved fractional snow-covered area at a high-Arctic site using terrestrial photography. Remote Sensing of Environment, 2020, 239, 111618.	4.6	39
52	Geoelectric observations of the degradation of nearshore submarine permafrost at Barrow (Alaskan) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	3.3	37
53	Modeled Microbial Dynamics Explain the Apparent Temperature Sensitivity of Wetland Methane Emissions. Global Biogeochemical Cycles, 2020, 34, e2020GB006678.	1.9	34
54	Pan-Antarctic map of near-surface permafrost temperatures at 1â€‰km² scale. Cryosphere, 2020, 14, 497-519.	1.5	34

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55	Subsea permafrost carbon stocks and climate change sensitivity estimated by expert assessment. Environmental Research Letters, 2020, 15, 124075.	2.2	34
56	Monitoring Bedfast Ice and Ice Phenology in Lakes of the Lena River Delta Using TerraSAR-X Backscatter and Coherence Time Series. Remote Sensing, 2016, 8, 903.	1.8	32
57	Stability Conditions of Peat Plateaus and Palsas in Northern Norway. Journal of Geophysical Research F: Earth Surface, 2019, 124, 705-719.	1.0	31
58	Modelled Distribution and Temporal Evolution of Permafrost in Steep Rock Walls Along a Latitudinal Transect in Norway by CryoGrid 2D. Permafrost and Periglacial Processes, 2017, 28, 172-182.	1.5	30
59	Heat and Salt Flow in Subsea Permafrost Modeled with CryoGRID2. Journal of Geophysical Research F: Earth Surface, 2019, 124, 920-937.	1.0	28
60	Permafrost distribution in steep rock slopes in Norway: measurements, statistical modelling and implications for geomorphological processes. Earth Surface Dynamics, 2019, 7, 1019-1040.	1.0	28
61	Hyper-resolution ensemble-based snow reanalysis in mountain regions using clustering. Hydrology and Earth System Sciences, 2019, 23, 4717-4736.	1.9	27
62	Progress in space-borne studies of permafrost for climate science: Towards a multi-ECV approach. Remote Sensing of Environment, 2017, 203, 55-70.	4.6	23
63	Terrestrial Remote Sensing of Snowmelt in a Diverse High-Arctic Tundra Environment Using Time-Lapse Imagery. Remote Sensing, 2017, 9, 733.	1.8	23
64	Improving Permafrost Modeling by Assimilating Remotely Sensed Soil Moisture. Water Resources Research, 2019, 55, 1814-1832.	1.7	22
65	A Tiling Approach to Represent Subgrid Snow Variability in Coupled Land Surfaceâ€"Atmosphere Models. Journal of Hydrometeorology, 2017, 18, 49-63.	0.7	21
66	Permafrost â€" Physical Aspects, Carbon Cycling, Databases and Uncertainties. , 2012, , 159-185.		20
67	Transient Modelling of Permafrost Distribution in Iceland. Frontiers in Earth Science, 2019, 7, .	0.8	20
68	Simulating Snow Redistribution and its Effect on Ground Surface Temperature at a Highâ€Arctic Site on Svalbard. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF005673.	1.0	20
69	Variability of the surface energy balance in permafrost-underlain boreal forest. Biogeosciences, 2021, 18, 343-365.	1.3	19
70	Holocene development of subarctic permafrost peatlands in Finnmark, northern Norway. Holocene, 2018, 28, 1855-1869.	0.9	17
71	Modelling of the thermal regime of permafrost during 1990â€"2014 in Hornsund, Svalbard. Polish Polar Research, 2016, 37, 219-242.	0.9	17
72	A Comparison between Simulated and Observed Surface Energy Balance at the Svalbard Archipelago. Journal of Applied Meteorology and Climatology, 2015, 54, 1102-1119.	0.6	16

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73	Icelandic permafrost dynamics since the Last Glacial Maximum â€“ model results and geomorphological implications. Quaternary Science Reviews, 2020, 233, 106236.	1.4	16
74	Effects of multi-scale heterogeneity on the simulated evolution of ice-rich permafrost lowlands under a warming climate. Cryosphere, 2021, 15, 1399-1422.	1.5	16
75	A strong mitigation scenario maintains climate neutrality of northern peatlands. One Earth, 2022, 5, 86-97.	3.6	14
76	Thermokarst Lake to Lagoon Transitions in Eastern Siberia: Do Submerged Taliks Refreeze?. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005424.	1.0	12
77	Onshore Thermokarst Primes Subsea Permafrost Degradation. Geophysical Research Letters, 2021, 48, e2021GL093881.	1.5	12
78	Lateral thermokarst patterns in permafrost peat plateaus in northern Norway. Cryosphere, 2021, 15, 3423-3442.	1.5	11
79	Sensitivity of ecosystem-protected permafrost under changing boreal forest structures. Environmental Research Letters, 2021, 16, 084045.	2.2	11
80	Permafrost in monitored unstable rock slopes in Norway â€“ new insights from temperature and surface velocity measurements, geophysical surveying, and ground temperature modelling. Earth Surface Dynamics, 2022, 10, 97-129.	1.0	11
81	Prospects of ultracold Rydberg gases for quantum information processing. Fortschritte Der Physik, 2006, 54, 776-787.	1.5	9
82	Standardized monitoring of permafrost thaw: a user-friendly, multiparameter protocol. Arctic Science, 2022, 8, 153-182.	0.9	9
83	Projecting circum-Arctic excess-ground-ice melt with a sub-grid representation in the Community Land Model. Cryosphere, 2020, 14, 4611-4626.	1.5	8
84	Surface temperatures and their influence on the permafrost thermal regime in high-Arctic rock walls on Svalbard. Cryosphere, 2021, 15, 2491-2509.	1.5	7
85	Spatial and Temporal Variations of Freezing and Thawing Indices From 1960 to 2020 in Mongolia. Frontiers in Earth Science, 2021, 9, .	0.8	7
86	Modeling Panâ€Arctic Peatland Carbon Dynamics Under Alternative Warming Scenarios. Geophysical Research Letters, 2022, 49, .	1.5	7
87	Modeling Conductive Heat Flow Between Steep Rock Walls and Talus Slopes â€“ Thermal Processes and Geomorphological Implications. Frontiers in Earth Science, 2019, 7, .	0.8	6
88	A new approach to simulate peat accumulation, degradation and stability in a global land surface scheme (JULES vn5.8_accumulate_soil) for northern and temperate peatlands. Geoscientific Model Development, 2022, 15, 1633-1657.	1.3	6
89	Explicitly modelling microtopography in permafrost landscapes in a land surface model (JULES) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.3	6
90	Modeling few-body phenomena in an ultracold Rydberg gas. Nuclear Physics A, 2007, 790, 728c-732c.	0.6	5

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91	Modelling the permafrost distribution in steep rock walls. , 0, , .		4
92	Low Cost, Mobile Sensor System for Measurement of Carbon Dioxide in Permafrost Areas. Procedia Engineering, 2014, 87, 1318-1321.	1.2	3
93	Thermohydrological Impact of Forest Disturbances on Ecosystemâ€Protected Permafrost. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	1.3	3
94	Reply to the comment: Northern Hemisphere permafrost extent: Drylands, glaciers and sea floor. Earth-Science Reviews, 2020, 203, 103036.	4.0	1
95	Prospects of Ultracold Rydberg Gases for Quantum Information Processing. , 0, , 227-242.		0