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List of Publications by Year
in descending order

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135 papers	8,115 citations	43973 48 h-index	56606 83 g-index
147 all docs	147 docs citations	147 times ranked	5886 citing authors

#	Article	IF	Citations
1	BedMachine v3: Complete Bed Topography and Ocean Bathymetry Mapping of Greenland From Multibeam Echo Sounding Combined With Mass Conservation. Geophysical Research Letters, 2017, 44, 11051-11061.	1.5	536
2	Seasonal evolution of subglacial drainage and acceleration in a Greenland outlet glacier. Nature Geoscience, 2010, 3, 408-411.	5.4	325
3	Modelling the response of glaciers to climate warming. Climate Dynamics, 1998, 14, 267-274.	1.7	310
4	The northern sector of the last British Ice Sheet: Maximum extent and demise. Earth-Science Reviews, 2008, 88, 207-226.	4.0	276
5	Deglaciation of the Eurasian ice sheet complex. Quaternary Science Reviews, 2017, 169, 148-172.	1.4	253
6	Benchmark experiments for higher-order and full-Stokes ice sheet models (ISMIPâ€“HOM). Cryosphere, 2008, 2, 95-108.	1.5	221
7	Evolution of the subglacial drainage system beneath the Greenland Ice Sheet revealed by tracers. Nature Geoscience, 2013, 6, 195-198.	5.4	219
8	UAV photogrammetry and structure from motion to assess calving dynamics at Store Glacier, a large outlet draining the Greenland ice sheet. Cryosphere, 2015, 9, 1-11.	1.5	215
9	Dynamic cycles, ice streams and their impact on the extent, chronology and deglaciation of the Britishâ€“Irish ice sheet. Quaternary Science Reviews, 2009, 28, 758-776.	1.4	214
10	Greenland ice sheet motion coupled with daily melting in late summer. Geophysical Research Letters, 2009, 36, .	1.5	181
11	Massive blow-out craters formed by hydrate-controlled methane expulsion from the Arctic seafloor. Science, 2017, 356, 948-953.	6.0	177
12	POLYTHERMAL GLACIER HYDROLOGY: A REVIEW. Reviews of Geophysics, 2011, 49, .	9.0	149
13	Deglacial history of the West Antarctic Ice Sheet in the Weddell Sea embayment: Constraints on past ice volume change. Geology, 2010, 38, 411-414.	2.0	138
14	The build-up, configuration, and dynamical sensitivity of the Eurasian ice-sheet complex to Late Weichselian climatic and oceanic forcing. Quaternary Science Reviews, 2016, 153, 97-121.	1.4	138
15	Amplified melt and flow of the Greenland ice sheet driven by late-summer cyclonic rainfall. Nature Geoscience, 2015, 8, 647-653.	5.4	107
16	Ice-sheet-driven methane storage and release in the Arctic. Nature Communications, 2016, 7, 10314.	5.8	105
17	Self-regulation of ice flow varies across the ablation area in south-west Greenland. Cryosphere, 2015, 9, 603-611.	1.5	101
18	Algae Drive Enhanced Darkening of Bare Ice on the Greenland Ice Sheet. Geophysical Research Letters, 2017, 44, 11,463.	1.5	101

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19	A modelling insight into the Icelandic Last Glacial Maximum ice sheet. Quaternary Science Reviews, 2006, 25, 2283-2296.	1.4	97
20	Ice tectonic deformation during the rapid in situ drainage of a supraglacial lake on the Greenland Ice Sheet. Cryosphere, 2013, 7, 129-140.	1.5	97
21	Gas hydrate dissociation off Svalbard induced by isostatic rebound rather than global warming. Nature Communications, 2018, 9, 83.	5.8	97
22	Comparison of a three-dimensional model for glacier flow with field data from Haut Glacier dâ€™Arolla, Switzerland. Journal of Glaciology, 1998, 44, 368-378.	1.1	96
23	Large surface meltwater discharge from the Kangerlussuaq sector of the Greenland ice sheet during the record-warm year 2010 explained by detailed energy balance observations. Cryosphere, 2012, 6, 199-209.	1.5	96
24	A decade (2002â€“2012) of supraglacial lake volume estimates across Russell Glacier, West Greenland. Cryosphere, 2014, 8, 107-121.	1.5	93
25	Greenland Ice Sheet surface melt amplified by snowline migration and bare ice exposure. Science Advances, 2019, 5, eaav3738.	4.7	93
26	Postglacial response of Arctic Ocean gas hydrates to climatic amelioration. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6215-6220.	3.3	92
27	Hydrological controls on patterns of surface, internal and basal motion during three â€œspring eventsâ€• Haut Glacier dâ€™Arolla, Switzerland. Journal of Glaciology, 2003, 49, 555-567.	1.1	91
28	High-resolution numerical simulation of Younger Dryas glaciation in Scotland. Quaternary Science Reviews, 2008, 27, 888-904.	1.4	88
29	Iceâ€“ocean interaction and calving front morphology at two west Greenland tidewater outlet glaciers. Cryosphere, 2014, 8, 1457-1468.	1.5	88
30	Dark zone of the Greenland Ice Sheet controlled by distributed biologically-active impurities. Nature Communications, 2018, 9, 1065.	5.8	88
31	The response of Petermann Glacier, Greenland, to large calving events, and its future stability in the context of atmospheric and oceanic warming. Journal of Glaciology, 2012, 58, 229-239.	1.1	87
32	Persistent flow acceleration within the interior of the Greenland ice sheet. Geophysical Research Letters, 2014, 41, 899-905.	1.5	81
33	A modelling reconstruction of the last glacial maximum ice sheet and its deglaciation in the vicinity of the northern patagonian icefield, south america. Geografiska Annaler, Series A: Physical Geography, 2005, 87, 375-391.	0.6	78
34	Glacier algae accelerate melt rates on the south-western Greenland Ice Sheet. Cryosphere, 2020, 14, 309-330.	1.5	78
35	Can glacial erosion limit the extent of glaciation?. Geomorphology, 2009, 103, 172-179.	1.1	70
36	High-Resolution Modeling of the Advance of the Younger Dryas Ice Sheet and Its Climate in Scotland. Quaternary Research, 1999, 52, 27-43.	1.0	69

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37	Palaeoglaciology of Bayan Har Shan, NE Tibetan Plateau: exposure ages reveal a missing LGM expansion. Quaternary Science Reviews, 2011, 30, 1988-2001.	1.4	68
38	Geophysical constraints on the dynamics and retreat of the Barents Sea ice sheet as a paleobenchmark for models of marine ice sheet deglaciation. Reviews of Geophysics, 2015, 53, 1051-1098.	9.0	68
39	Sensitive response of the Greenland Ice Sheet to surface melt drainage over a soft bed. Nature Communications, 2014, 5, 5052.	5.8	67
40	Subglacial water drainage, storage, and piracy beneath the Greenland ice sheet. Geophysical Research Letters, 2015, 42, 7606-7614.	1.5	66
41	Direct measurements of meltwater runoff on the Greenland ice sheet surface. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10622-E10631.	3.3	66
42	Structure and changing dynamics of a polythermal valley glacier on a centennial timescale: Midre LovÃ©nbreen, Svalbard. Journal of Geophysical Research, 2005, 110, .	3.3	64
43	Evaluation of a numerical model of the Britishâ€“Irish ice sheet using relative seaâ€level data: implications for the interpretation of trimline observations. Journal of Quaternary Science, 2012, 27, 597-605.	1.1	60
44	Modeling of subglacial hydrological development following rapid supraglacial lake drainage. Journal of Geophysical Research F: Earth Surface, 2015, 120, 1127-1147.	1.0	60
45	Glacial isostatic adjustment associated with the Barents Sea ice sheet: A modelling inter-comparison. Quaternary Science Reviews, 2016, 147, 122-135.	1.4	58
46	A Fullâ€Stokes 3â€D Calving Model Applied to a Large Greenlandic Glacier. Journal of Geophysical Research F: Earth Surface, 2018, 123, 410-432.	1.0	54
47	Recent glacier changes and climate trends on South Georgia. Global and Planetary Change, 2008, 60, 72-84.	1.6	53
48	Seismic evidence of mechanically weak sediments underlying Russell Glacier, West Greenland. Annals of Glaciology, 2013, 54, 135-141.	2.8	52
49	Thin-layer effects in glaciological seismic amplitude-versus-angle (AVA) analysis: implications for characterising a subglacial till unit, Russell Glacier, West Greenland. Cryosphere, 2012, 6, 909-922.	1.5	48
50	Cascading lake drainage on the Greenland Ice Sheet triggered by tensile shock and fracture. Nature Communications, 2018, 9, 1064.	5.8	47
51	Ice flow dynamics and surface meltwater flux at a land-terminating sector of the Greenland ice sheet. Journal of Glaciology, 2013, 59, 687-696.	1.1	46
52	The configuration, sensitivity and rapid retreat of the Late Weichselian Icelandic ice sheet. Earth-Science Reviews, 2017, 166, 223-245.	4.0	46
53	Holocene climatic changes in Iceland: evidence from modelling glacier length fluctuations at SÃ³lheimajÃ¶kull. Quaternary International, 2002, 91, 39-52.	0.7	45
54	Hydrological controls on diurnal ice flow variability in valley glaciers. Journal of Geophysical Research, 2005, 110, n/a-n/a.	3.3	45

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55	How robust are in situ observations for validating satelliteâ€derived albedo over the dark zone of the Greenland Ice Sheet?. Geophysical Research Letters, 2017, 44, 6218-6225.	1.5	43
56	Evidence for subglacial ponding across Taylor Glacier, Dry Valleys, Antarctica. Annals of Glaciology, 2004, 39, 79-84.	2.8	42
57	High-resolution ice thickness and bed topography of a land-terminating section of the Greenland Ice Sheet. Earth System Science Data, 2014, 6, 331-338.	3.7	42
58	Physical Conditions of Fast Glacier Flow: 1. Measurements From Boreholes Drilled to the Bed of Store Glacier, West Greenland. Journal of Geophysical Research F: Earth Surface, 2018, 123, 324-348.	1.0	41
59	Glacier mass-balance determination by remote sensing and high-resolution modelling. Journal of Glaciology, 2000, 46, 491-498.	1.1	40
60	Upper bounds on subglacial channel development for interior regions of the Greenland ice sheet. Journal of Glaciology, 2014, 60, 1044-1052.	1.1	40
61	The validation and sensitivity of a model of the Icelandic ice sheet. Quaternary Science Reviews, 2006, 25, 2297-2313.	1.4	39
62	Seismic evidence for complex sedimentary control of Greenland Ice Sheet flow. Science Advances, 2017, 3, e1603071.	4.7	39
63	Arctic sea-ice loss fuels extreme European snowfall. Nature Geoscience, 2021, 14, 283-288.	5.4	39
64	Regulation of ice stream flow through subglacial formation of gas hydrates. Nature Geoscience, 2016, 9, 370-374.	5.4	38
65	Extraordinary runoff from the Greenland ice sheet in 2012 amplified by hypsometry and depleted firn retention. Cryosphere, 2016, 10, 1147-1159.	1.5	37
66	Derivation of High Spatial Resolution Albedo from UAV Digital Imagery: Application over the Greenland Ice Sheet. Frontiers in Earth Science, 2017, 5, .	0.8	37
67	Changing surfaceâ€“atmosphere energy exchange and refreezing capacity of the lower accumulation area, West Greenland. Cryosphere, 2015, 9, 2163-2181.	1.5	36
68	Surface Meltwater Impounded by Seasonal Englacial Storage in West Greenland. Geophysical Research Letters, 2018, 45, 10,474.	1.5	36
69	A Monte Carlo error analysis for basal sliding velocity calculations. Journal of Geophysical Research, 2006, 111, .	3.3	35
70	Seasonal velocities of eight major marine-terminating outlet glaciers of the Greenland ice sheet from continuous in situ GPS instruments. Earth System Science Data, 2013, 5, 277-287.	3.7	35
71	Holocene atmospheric circulation in the central North Pacific: A new terrestrial diatom and Î´18O dataset from the Aleutian Islands. Quaternary Science Reviews, 2018, 194, 27-38.	1.4	35
72	Reconstructing the Last Glacial Maximum ice sheet in the Weddell Sea embayment, Antarctica, using numerical modelling constrained by field evidence. Quaternary Science Reviews, 2011, 30, 2422-2432.	1.4	34

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73	The 2015 Chileno Valley glacial lake outburst flood, Patagonia. Geomorphology, 2019, 332, 51-65.	1.1	34
74	MODELLING CLIMATE, TOPOGRAPHY AND PALAEOGLACIER FLUCTUATIONS IN THE CHILEAN ANDES. Earth Surface Processes and Landforms, 1997, 22, 79-92.	1.2	33
75	Bedrock surface roughness and the distribution of subglacially precipitated carbonate deposits: implications for formation at Glacier de Tsanfleuron, Switzerland. Earth Surface Processes and Landforms, 1998, 23, 261-270.	1.2	32
76	Evaluating Younger Dryas glacier reconstructions in part of the western Scottish Highlands: a combined empirical and theoretical approach. Boreas, 2005, 34, 274-286.	1.2	32
77	An investigation into the mechanisms controlling seasonal speedup events at a High Arctic glacier. Journal of Geophysical Research, 2008, 113, .	3.3	32
78	A revised Little Ice Age chronology of the Franz Josef Glacier, Westland, New Zealand. Journal of the Royal Society of New Zealand, 2004, 34, 381-394.	1.0	31
79	Towards a GIS assessment of numerical ice-sheet model performance using geomorphological data. Journal of Glaciology, 2007, 53, 71-83.	1.1	30
80	Supraglacial Ponds Regulate Runoff From Himalayan Debrisâ€Covered Glaciers. Geophysical Research Letters, 2017, 44, 11,894.	1.5	30
81	Evidence of Isotopic Fractionation During Vapor Exchange Between the Atmosphere and the Snow Surface in Greenland. Journal of Geophysical Research D: Atmospheres, 2019, 124, 2932-2945.	1.2	30
82	A wireless subglacial probe for deep ice applications. Journal of Glaciology, 2012, 58, 841-848.	1.1	29
83	Ice-Dammed Lake Drainage Evolution at Russell Glacier, West Greenland. Frontiers in Earth Science, 2017, 5, .	0.8	29
84	The verification and significance of three approaches to longitudinal stresses in highâ€“resolution models of glacier flow. Geografiska Annaler, Series A: Physical Geography, 2000, 82, 471-487.	0.6	28
85	Spatial variability in the water content and rheology of temperate glaciers: Glacier de Tsanfleuron, Switzerland. Annals of Glaciology, 2003, 37, 1-6.	2.8	28
86	Seasonal variations in ice deformation and basal motion across the tongue of Haut Glacier dâ€™Arolla, Switzerland. Annals of Glaciology, 2003, 36, 157-167.	2.8	27
87	Influence of seasonality on glacier mass balance, and implications for palaeoclimate reconstructions. Climate Dynamics, 2010, 35, 757-770.	1.7	27
88	Biocryomorphology: Integrating Microbial Processes with Ice Surface Hydrology, Topography, and Roughness. Frontiers in Earth Science, 0, 3, .	0.8	27
89	Physical Conditions of Fast Glacier Flow: 2. Variable Extent of Anisotropic Ice and Soft Basal Sediment From Seismic Reflection Data Acquired on Store Glacier, West Greenland. Journal of Geophysical Research F: Earth Surface, 2018, 123, 349-362.	1.0	26
90	Resolving the internal and basal geometry of ice masses using imaging phase-sensitive radar. Journal of Glaciology, 2018, 64, 649-660.	1.1	26

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91	Subglacial topography inferred from ice surface terrain analysis reveals a large unâ€surveyed basin below sea level in East Antarctica. Geophysical Research Letters, 2008, 35, .	1.5	24
92	Subglacial water storage and drainage beneath the Fennoscandian and Barents Sea ice sheets. Quaternary Science Reviews, 2018, 201, 13-28.	1.4	23
93	An automated approach to the location of icequakes using seismic waveform amplitudes. Annals of Glaciology, 2013, 54, 1-9.	2.8	22
94	Former extent of glacier-like forms on Mars. Icarus, 2016, 274, 37-49.	1.1	21
95	Superimposed ice regime of a high Arctic glacier inferred using ground-penetrating radar, flow modeling, and ice cores. Journal of Geophysical Research, 2006, 111, .	3.3	20
96	Mass balance, flow and subglacial processes of a modelled Younger Dryas ice cap in Scotland. Journal of Glaciology, 2009, 55, 32-42.	1.1	20
97	Ice thickness and basal conditions of vestfonna ice cap, eastern svalbard. Geografiska Annaler, Series A: Physical Geography, 2011, 93, 311-322.	0.6	20
98	Automated monitoring of subglacial hydrological processes with groundâ€penetrating radar (GPR) at high temporal resolution: scope and potential pitfalls. Geophysical Research Letters, 2008, 35, .	1.5	19
99	The last <scp>W</scp>elsh <scp>I</scp>ce <scp>C</scp>ap: Part 1 â€“ Modelling its evolution, sensitivity and associated climate. Boreas, 2013, 42, 471-490.	1.2	19
100	Identifying patterns of correspondence between modeled flow directions and field evidence: An automated flow direction analysis. Computers and Geosciences, 2007, 33, 141-150.	2.0	17
101	The last <scp>W</scp>elsh <scp>I</scp>ce <scp>C</scp>ap: Part 2 â€“ Dynamics of a topographically controlled icecap. Boreas, 2013, 42, 491-510.	1.2	17
102	Illuminating the dynamic rare biosphere of the Greenland Ice Sheet's Dark Zone. FEMS Microbiology Ecology, 2019, 95, .	1.3	17
103	Storage and export of microbial biomass across the western Greenland Ice Sheet. Nature Communications, 2021, 12, 3960.	5.8	17
104	Microseismicity Linked to Gas Migration and Leakage on the Western Svalbard Shelf. Geochemistry, Geophysics, Geosystems, 2017, 18, 4623-4645.	1.0	16
105	Area and volume of mid-latitude glacier-like forms on Mars. Earth and Planetary Science Letters, 2019, 507, 10-20.	1.8	16
106	Icelandic permafrost dynamics since the Last Glacial Maximum â€“ model results and geomorphological implications. Quaternary Science Reviews, 2020, 233, 106236.	1.4	16
107	Structural glaciology of Isunguata Sermia, West Greenland. Journal of Maps, 2018, 14, 517-527.	1.0	15
108	Elevation Changes of the Fennoscandian Ice Sheet Interior During the Last Deglaciation. Geophysical Research Letters, 2020, 47, e2020GL088796.	1.5	15

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109	The Geomorphological Evolution of a Dynamic Landscape: the Cairngorm Mountains, Scotland. Botanical Journal of Scotland, 1996, 48, 13-30.	0.3	13
110	Rapid marine deglaciation: asynchronous retreat dynamics between the Irish Sea Ice Stream and terrestrial outlet glaciers. Earth Surface Dynamics, 2013, 1, 53-65.	1.0	13
111	Physical Conditions of Fast Glacier Flow: 3. Seasonallyâ€Evolving Ice Deformation on Store Glacier, West Greenland. Journal of Geophysical Research F: Earth Surface, 2019, 124, 245-267.	1.0	13
112	Attribution of Greenland's ablating ice surfaces on ice sheet albedo using unmanned aerial systems. The Cryosphere Discussions TCD, 0, , 1-23.	0.0	13
113	Modification of bedrock surfaces by glacial abrasion and quarrying: Evidence from North Wales. Geomorphology, 2020, 365, 107283.	1.1	11
114	Rapid development and persistence of efficient subglacial drainage under 900 m-thick ice in Greenland. Earth and Planetary Science Letters, 2021, 566, 116982.	1.8	11
115	Automated mapping of glacial overdeepenings beneath contemporary ice sheets: Approaches and potential applications. Geomorphology, 2015, 232, 209-223.	1.1	10
116	The role of ocean and atmospheric dynamics in the marine-based collapse of the last Eurasian Ice Sheet. Communications Earth & Environment, 2022, 3, .	2.6	9
117	The potential contribution of high-resolution glacier flow modelling to structural glaciology. Geological Society Special Publication, 2000, 176, 135-146.	0.8	8
118	Deglacial history of the West Antarctic Ice Sheet in the Weddell Sea embayment: Constraints on past ice volume change: REPLY. Geology, 2011, 39, e240-e240.	2.0	8
119	Optimising ice flow law parameters using borehole deformation measurements and numerical modelling. Geophysical Research Letters, 2008, 35, .	1.5	7
120	A hardware proof of concept for a remote-controlled glacier-surveying boat. Journal of Field Robotics, 2012, 29, 880-890.	3.2	7
121	The reconstruction and climatic implication of an independent palaeo ice cap within the Andean rain shadow east of the former Patagonian ice sheet, Santa Cruz Province, Argentina. Geomorphology, 2013, 185, 1-15.	1.1	7
122	Glacially Induced Stress Across the Arctic From the Eemian Interglacial to the Presentâ€"Implications for Faulting and Methane Seepage. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	7
123	Evaluating Younger Dryas glacier reconstructions in part of the western Scottish Highlands: a combined empirical and theoretical approach. Boreas, 2005, 34, 274-286.	1.2	6
124	Rock glaciers in central Patagonia. Geografiska Annaler, Series A: Physical Geography, 2019, 101, 1-15.	0.6	6
125	Early and Middle Pleistocene environments, landforms and sediments in Scotland. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 2019, 110, 5-37.	0.3	5
126	Hydrocarbon leakage driven by Quaternary glaciations in the Barents Sea based on 2D basin and petroleum system modeling. Marine and Petroleum Geology, 2022, 138, 105557.	1.5	4

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127	Temporal Variability of Surface Reflectance Supersedes Spatial Resolution in Defining Greenlandâ€™s Bare-Ice Albedo. Remote Sensing, 2022, 14, 62.	1.8	4
128	The Times Atlas and actual Greenland ice loss. Geology Today, 2011, 27, 212-215.	0.3	3
129	A Multidisciplined Approach to the Reconstruction of the Late Weichselian Deglaciation of Iceland. , 0, , 114-120.		2
130	Rapid Surface Lowering of Benito Glacier, Northern Patagonian Icefield. Frontiers in Earth Science, 2018, 6, .	0.8	2
131	Methods for Predicting the Likelihood of Safe Fieldwork Conditions in Harsh Environments. Frontiers in Earth Science, 2020, 8, .	0.8	2
132	Is there a climatic control on Icelandic volcanism?. Quaternary Science Advances, 2020, 1, 100004.	1.1	2
133	Seismic and Electrical Geophysical Characterization of an Incipient Coastal Openâ€System Pingo: Lagoon Pingo, Svalbard. Earth and Space Science, 2022, 9, .	1.1	2
134	Why and How to Write a Highâ€Impact Review Paper: Lessons From Eight Years of Editorial Board Service to Reviews of Geophysics. Reviews of Geophysics, 2017, 55, 860-863.	9.0	1
135	Using Field Data to Constrain Ice-Flow Models: A Study of A Small Alpine Glacier. , 0, , 348-352.		0