

Douglas Benn

List of Publications by Year in descending order

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130
papers

10,385
citations

34016

52
h-index

35952

97
g-index

137
all docs

137
docs citations

137
times ranked

5460
citing authors

#	ARTICLE	IF	CITATIONS
1	Calving processes and the dynamics of calving glaciers. <i>Earth-Science Reviews</i> , 2007, 82, 143-179.	4.0	513
2	Response of debris-covered glaciers in the Mount Everest region to recent warming, and implications for outburst flood hazards. <i>Earth-Science Reviews</i> , 2012, 114, 156-174.	4.0	449
3	Mass balance and equilibrium-line altitudes of glaciers in high-mountain environments. <i>Quaternary International</i> , 2000, 65-66, 15-29.	0.7	426
4	Snowball Earth climate dynamics and Cryogenian geology-geobiology. <i>Science Advances</i> , 2017, 3, e1600983.	4.7	424
5	The role of the Indian summer monsoon and the mid-latitude westerlies in Himalayan glaciation: review and speculative discussion. <i>Journal of the Geological Society</i> , 1998, 155, 353-363.	0.9	412
6	Multi-decadal mass loss of glaciers in the Everest area (Nepal Himalaya) derived from stereo imagery. <i>Cryosphere</i> , 2011, 5, 349-358.	1.5	384
7	The interpretation and classification of subglacially-deformed materials. <i>Quaternary Science Reviews</i> , 1996, 15, 23-52.	1.4	353
8	Calculating ice melt beneath a debris layer using meteorological data. <i>Journal of Glaciology</i> , 2006, 52, 463-470.	1.1	295
9	A physically based calving model applied to marine outlet glaciers and implications for the glacier dynamics. <i>Journal of Glaciology</i> , 2010, 56, 781-794.	1.1	222
10	Climatic and geometric controls on the global distribution of surge-type glaciers: implications for a unifying model of surging. <i>Journal of Glaciology</i> , 2015, 61, 646-662.	1.1	215
11	Calving rates at tidewater glaciers vary strongly with ocean temperature. <i>Nature Communications</i> , 2015, 6, 8566.	5.8	214
12	Reconstructing the transport history of glacial sediments: a new approach based on the co-variance of clast form indices. <i>Sedimentary Geology</i> , 1994, 91, 215-227.	1.0	204
13	Reconstruction of equilibrium-line altitudes for tropical and sub-tropical glaciers. <i>Quaternary International</i> , 2005, 138-139, 8-21.	0.7	188
14	Himalayan glacial sedimentary environments: a framework for reconstructing and dating the former extent of glaciers in high mountains. <i>Quaternary International</i> , 2002, 97-98, 3-25.	0.7	183
15	Fabric signature of subglacial till deformation, Breidamerkurjokull, Iceland. <i>Sedimentology</i> , 1995, 42, 735-747.	1.6	170
16	Fluted moraine formation and till genesis below a temperate valley glacier: Slettmarkbreen, Jotunheimen, southern Norway. <i>Sedimentology</i> , 1994, 41, 279-292.	1.6	168
17	Growth and drainage of supraglacial lakes on debris-mantled Ngozumpa Glacier, Khumbu Himal, Nepal. <i>Journal of Glaciology</i> , 2001, 47, 626-638.	1.1	167
18	Calving laws™, sliding laws™ and the stability of tidewater glaciers. <i>Annals of Glaciology</i> , 2007, 46, 123-130.	2.8	160

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19	Glacial geomorphological mapping: A review of approaches and frameworks for best practice. <i>Earth-Science Reviews</i> , 2018, 185, 806-846.	4.0	157
20	Equilibrium-line altitudes of the Last Glacial Maximum for the Himalaya and Tibet: an assessment and evaluation of results. <i>Quaternary International</i> , 2005, 138-139, 55-78.	0.7	151
21	Paraglacial Slope Adjustment and Resedimentation Following Recent Glacier Retreat, Fabergstolsdalen, Norway. <i>Arctic and Alpine Research</i> , 1994, 26, 255.	1.3	147
22	The genesis and significance of "hummocky moraine"™: Evidence from the Isle of Skye, Scotland. <i>Quaternary Science Reviews</i> , 1992, 11, 781-799.	1.4	146
23	The description and representation of particle shape. <i>Earth Surface Processes and Landforms</i> , 1993, 18, 665-672.	1.2	145
24	An Excel™ spreadsheet program for reconstructing the surface profile of former mountain glaciers and ice caps. <i>Computers and Geosciences</i> , 2010, 36, 605-610.	2.0	141
25	Timing of late Quaternary glaciations south of Mount Everest in the Khumbu Himal, Nepal. <i>Bulletin of the Geological Society of America</i> , 2000, 112, 1621-1632.	1.6	128
26	Submarine landforms characteristic of glacier surges in two Spitsbergen fjords. <i>Quaternary Science Reviews</i> , 2008, 27, 1583-1599.	1.4	126
27	Quaternary glaciation of Mount Everest. <i>Quaternary Science Reviews</i> , 2009, 28, 1412-1433.	1.4	111
28	Palaeoclimatic reconstruction from Loch Lomond Readvance glaciers in the West Drumochter Hills, Scotland. <i>Journal of Quaternary Science</i> , 2005, 20, 577-592.	1.1	110
29	<i>Glaciers and Glaciation</i> , 2nd edition. , 0, , .		110
30	Stagnation and mass loss on a Himalayan debris-covered glacier: processes, patterns and rates. <i>Journal of Glaciology</i> , 2016, 62, 467-485.	1.1	109
31	Fjords as Aquatic Critical Zones (ACZs). <i>Earth-Science Reviews</i> , 2020, 203, 103145.	4.0	104
32	Neoproterozoic glacial-rainout intervals: Observations and implications. <i>Geology</i> , 2002, 30, 35.	2.0	97
33	Properties of natural supraglacial debris in relation to modelling sub-debris ice ablation. <i>Earth Surface Processes and Landforms</i> , 2013, 38, 490-501.	1.2	97
34	Younger Dryas glacial landsystems in North West Scotland: an assessment of modern analogues and palaeoclimatic implications. <i>Quaternary Science Reviews</i> , 2006, 25, 2390-2408.	1.4	94
35	Glacier response to climatic change during the Loch Lomond Stadial and early Flandrian: Geomorphological and palynological evidence from the Isle of Skye, Scotland. <i>Journal of Quaternary Science</i> , 1992, 7, 125-144.	1.1	90
36	Mechanisms of englacial conduit formation and their implications for subglacial recharge. <i>Quaternary Science Reviews</i> , 2009, 28, 1984-1999.	1.4	89

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37	The evolution of a submarine landform record following recent and multiple surges of Tunabreen glacier, Svalbard. <i>Quaternary Science Reviews</i> , 2015, 108, 37-50.	1.4	87
38	Clast shape analysis and clast transport paths in glacial environments: A critical review of methods and the role of lithology. <i>Earth-Science Reviews</i> , 2013, 121, 96-116.	4.0	86
39	Structural control of englacial drainage systems in Himalayan debris-covered glaciers. <i>Journal of Glaciology</i> , 2007, 53, 399-412.	1.1	85
40	Englacial drainage systems formed by hydrologically driven crevasse propagation. <i>Journal of Glaciology</i> , 2009, 55, 513-523.	1.1	85
41	Melt-under-cutting and buoyancy-driven calving from tidewater glaciers: new insights from discrete element and continuum model simulations. <i>Journal of Glaciology</i> , 2017, 63, 691-702.	1.1	79
42	Problems associated with luminescence dating of Late Quaternary glacial sediments in the NW Scottish Highlands. <i>Quaternary Geochronology</i> , 2007, 2, 243-248.	0.6	78
43	A cut-and-closure origin for englacial conduits in uncrevassed regions of polythermal glaciers. <i>Journal of Glaciology</i> , 2009, 55, 66-80.	1.1	75
44	A rapidly growing moraine-dammed glacial lake on Ngozumpa Glacier, Nepal. <i>Geomorphology</i> , 2012, 145-146, 1-11.	1.1	75
45	A general theory of glacier surges. <i>Journal of Glaciology</i> , 2019, 65, 701-716.	1.1	71
46	Glaciological constraints on proglacial rampart development. <i>Permafrost and Periglacial Processes</i> , 1994, 5, 145-153.	1.5	70
47	Thermal structure and drainage system of a small valley glacier (Tellbreen, Svalbard), investigated by ground penetrating radar. <i>Cryosphere</i> , 2011, 5, 139-149.	1.5	65
48	Basal crevasses in Larsen C Ice Shelf and implications for their global abundance. <i>Cryosphere</i> , 2012, 6, 113-123.	1.5	65
49	Thermal structure of Svalbard glaciers and implications for thermal switch models of glacier surging. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015, 120, 2220-2236.	1.0	63
50	Subglacial and subaqueous processes near a glacier grounding line: sedimentological evidence from a former ice-dammed lake, Achnasheen Scotland. <i>Boreas</i> , 1996, 25, 23-36.	1.2	62
51	Orbitally forced ice sheet fluctuations during the Marinoan Snowball Earth glaciation. <i>Nature Geoscience</i> , 2015, 8, 704-707.	5.4	59
52	Mud aprons in front of Svalbard surge moraines: Evidence of subglacial deforming layers or proglacial glaciotectionics?. <i>Geomorphology</i> , 2009, 111, 206-221.	1.1	58
53	Structure and evolution of the drainage system of a Himalayan debris-covered glacier, and its relationship with patterns of mass loss. <i>Cryosphere</i> , 2017, 11, 2247-2264.	1.5	58
54	Debris transport by Loch Lomond Readvance glaciers in Northern Scotland: Basin form and the within-valley asymmetry of lateral moraines. <i>Journal of Quaternary Science</i> , 2010, 4, 243-254.	1.1	55

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55	Pleistocene glacial tectonic landforms and sediments around central Magellan Strait, southernmost Chile: evidence for fast outlet glaciers with cold-based margins. <i>Quaternary Science Reviews</i> , 2000, 19, 591-612.	1.4	52
56	Geochemical characterization of supraglacial debris via in situ and optical remote sensing methods: a case study in Khumbu Himalaya, Nepal. <i>Cryosphere</i> , 2012, 6, 85-100.	1.5	52
57	Glacier fluctuations in western Scotland. <i>Quaternary International</i> , 1997, 38-39, 137-147.	0.7	49
58	Testing crevasse-depth models: a field study at Breiðamerkurjökull, Iceland. <i>Journal of Glaciology</i> , 2009, 55, 746-752.	1.1	49
59	Rapidly changing subglacial hydrological pathways at a tidewater glacier revealed through simultaneous observations of water pressure, supraglacial lakes, meltwater plumes and surface velocities. <i>Cryosphere</i> , 2017, 11, 2691-2710.	1.5	49
60	Calving controlled by melt-under-cutting: detailed calving styles revealed through time-lapse observations. <i>Annals of Glaciology</i> , 2019, 60, 20-31.	2.8	49
61	Using structure-from-motion to create glacier DEMs and orthoimagery from historical terrestrial and oblique aerial imagery. <i>Earth Surface Processes and Landforms</i> , 2017, 42, 2350-2364.	1.2	46
62	Pleistocene lake outburst floods and fan formation along the eastern Sierra Nevada, California: implications for the interpretation of intermontane lacustrine records. <i>Quaternary Science Reviews</i> , 2006, 25, 2729-2748.	1.4	45
63	Former dynamic behaviour of a cold-based valley glacier on Svalbard revealed by basal ice and structural glaciology investigations. <i>Journal of Glaciology</i> , 2015, 61, 309-328.	1.1	44
64	Glacier Calving in Greenland. <i>Current Climate Change Reports</i> , 2017, 3, 282-290.	2.8	42
65	Retreat dynamics of Younger Dryas glaciers in the far NW Scottish Highlands reconstructed from moraine sequences. <i>Scottish Geographical Journal</i> , 2006, 122, 308-325.	0.4	37
66	Continental carbonate facies of a Neoproterozoic panglaciation, north-east Svalbard. <i>Sedimentology</i> , 2016, 63, 443-497.	1.6	37
67	A conceptual model of supra-glacial lake formation on debris-covered glaciers based on GPR facies analysis. <i>Earth Surface Processes and Landforms</i> , 2017, 42, 903-914.	1.2	36
68	Tidewater Glacier Surges Initiated at the Terminus. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018, 123, 1035-1051.	1.0	36
69	Rapid fragmentation of Thwaites Eastern Ice Shelf. <i>Cryosphere</i> , 2022, 16, 2545-2564.	1.5	36
70	Transition to marine ice cliff instability controlled by ice thickness gradients and velocity. <i>Science</i> , 2021, 372, 1342-1344.	6.0	35
71	Random variation of fabric eigenvalues: implications for the use of a-axis fabric data to differentiate till facies. <i>Earth Surface Processes and Landforms</i> , 2001, 26, 295-306.	1.2	34
72	A first constraint on basal melt-water production of the Greenland ice sheet. <i>Nature Communications</i> , 2021, 12, 3461.	5.8	33

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73	Glacial Sedimentâ€“Landform Associations and Paleoclimate during the Last Glaciation, Strait of Magellan, Chile. <i>Quaternary Research</i> , 2000, 54, 13-23.	1.0	32
74	The Iceâ€“Free Topography of Svalbard. <i>Geophysical Research Letters</i> , 2018, 45, 11,760.	1.5	32
75	Debris entrainment and landform genesis during tidewater glacier surges. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015, 120, 1574-1595.	1.0	31
76	Calving Behavior at Rink IsbrÃ¸, West Greenland, from Time-Lapse Photos. <i>Arctic, Antarctic, and Alpine Research</i> , 2016, 48, 263-277.	0.4	31
77	Basal dynamics of Kronebreen, a fast-flowing tidewater glacier in Svalbard: non-local spatio-temporal response to water input. <i>Journal of Glaciology</i> , 2017, 63, 1012-1024.	1.1	31
78	A regionally resolved inventory of High Mountain Asia surge-type glaciers, derived from a multi-factor remote sensing approach. <i>Cryosphere</i> , 2022, 16, 603-623.	1.5	31
79	Controls on sedimentation in a late Devensian iceâ€“dammed lake, Achnasheen, Scotland. <i>Boreas</i> , 1989, 18, 31-42.	1.2	30
80	Calving glaciers and ice shelves. <i>Advances in Physics: X</i> , 2018, 3, 1513819.	1.5	30
81	Subglacial and proglacial glacetectonic deformation in the Neoproterozoic Port Askaig Formation, Scotland. <i>Geomorphology</i> , 2006, 75, 266-280.	1.1	29
82	Effects of undercutting and sliding on calving: a global approach applied to Kronebreen, Svalbard. <i>Cryosphere</i> , 2018, 12, 609-625.	1.5	29
83	Contrasting surface velocities between lake- and land-terminating glaciers in the Himalayan region. <i>Cryosphere</i> , 2021, 15, 5577-5599.	1.5	28
84	Surge propagation constrained by a persistent subglacial conduit, Bakaninbreenâ€“Paulabreen, Svalbard. <i>Annals of Glaciology</i> , 2009, 50, 81-86.	2.8	27
85	Subaqueous calving margin morphology at Mueller, Hooker and Tasman glaciers in Aoraki/Mount Cook National Park, New Zealand. <i>Journal of Glaciology</i> , 2012, 58, 1037-1046.	1.1	27
86	Glaciomarine deltaic deposition and ice-marginal tectonics: The â€“Loch Don Sand Moraineâ€“™, Isle of Mull, Scotland. <i>Journal of Quaternary Science</i> , 1993, 8, 279-291.	1.1	26
87	Calving processes and lake evolution at Miage glacier, Mont Blanc, Italian Alps. <i>Annals of Glaciology</i> , 2005, 40, 207-214.	2.8	26
88	Glacier Calving Rates Due to Subglacial Discharge, Fjord Circulation, and Free Convection. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018, 123, 2189-2204.	1.0	26
89	Impact of warming shelf waters on ice mÃlange and terminus retreat at a large SE Greenland glacier. <i>Cryosphere</i> , 2019, 13, 2303-2315.	1.5	26
90	Marine ice-cliff instability modeling shows mixed-mode ice-cliff failure and yields calving rate parameterization. <i>Nature Communications</i> , 2021, 12, 2701.	5.8	26

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91	Evidence for rapid ice flow and proglacial lake evolution around the central Strait of Magellan region, southernmost Patagonia. <i>Journal of Quaternary Science</i> , 2012, 27, 625-638.	1.1	25
92	Structure and Debris Characteristics of Medial Moraines in Jotunheimen, Norway: Implications for Moraine Classification. <i>Journal of Glaciology</i> , 1989, 35, 276-280.	1.1	23
93	Confidence regions for fabric shape diagrams. <i>Journal of Structural Geology</i> , 1997, 19, 1527-1536.	1.0	23
94	Conduit roughness and dye-trace breakthrough curves: why slow velocity and high dispersivity may not reflect flow in distributed systems. <i>Journal of Glaciology</i> , 2012, 58, 915-925.	1.1	23
95	Sensitivity of a calving glacier to ice-ocean interactions under climate change: new insights from a 3-D full-Stokes model. <i>Cryosphere</i> , 2019, 13, 1681-1694.	1.5	23
96	Mass and enthalpy budget evolution during the surge of a polythermal glacier: a test of theory. <i>Journal of Glaciology</i> , 2019, 65, 717-731.	1.1	23
97	Sensitivity of Tidewater Glaciers to Submarine Melting Governed by Plume Locations. <i>Geophysical Research Letters</i> , 2019, 46, 11219-11227.	1.5	22
98	Quantifying suspended sediment concentration in subglacial sediment plumes discharging from two Svalbard tidewater glaciers using Landsat-8 and in situ measurements. <i>International Journal of Remote Sensing</i> , 2017, 38, 6865-6881.	1.3	20
99	Large values of hydraulic roughness in subglacial conduits during conduit enlargement: implications for modeling conduit evolution. <i>Earth Surface Processes and Landforms</i> , 2014, 39, 296-310.	1.2	19
100	Glacitectonism, subglacial and glaciallacustrine processes during a Neoproterozoic panglaciation, north-east Svalbard. <i>Sedimentology</i> , 2016, 63, 411-442.	1.6	19
101	Magnetic fabrics in the basal ice of a surge-type glacier. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 2263-2278.	1.0	18
102	Implications of ³⁶ Cl exposure ages from Skye, northwest Scotland for the timing of ice stream deglaciation and deglacial ice dynamics. <i>Quaternary Science Reviews</i> , 2016, 150, 130-145.	1.4	17
103	Multiple Late Holocene surges of a High-Arctic tidewater glacier system in Svalbard. <i>Quaternary Science Reviews</i> , 2018, 201, 162-185.	1.4	17
104	Fractal dimensions of diamictic particle-size distributions: Simulations and evaluation. <i>Bulletin of the Geological Society of America</i> , 2002, 114, 528-532.	1.6	15
105	Anatomy of terminal moraine segments and implied lake stability on Ngozumpa Glacier, Nepal, from electrical resistivity tomography (ERT). <i>Scientific Reports</i> , 2017, 7, 46766.	1.6	15
106	Calving Multiplier Effect Controlled by Melt Undercut Geometry. <i>Journal of Geophysical Research F: Earth Surface</i> , 2021, 126, e2021JF006191.	1.0	14
107	Physical Conditions of Fast Glacier Flow: 3. Seasonally-Evolving Ice Deformation on Store Glacier, West Greenland. <i>Journal of Geophysical Research F: Earth Surface</i> , 2019, 124, 245-267.	1.0	13
108	Roughness of a subglacial conduit under Hansbreen, Svalbard. <i>Journal of Glaciology</i> , 2017, 63, 423-435.	1.1	12

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109	A cross-validated three-dimensional model of an englacial and subglacial drainage system in a High-Arctic glacier. <i>Journal of Glaciology</i> , 2020, 66, 278-290.	1.1	12
110	Subaqueous melt rates at calving termini: a laboratory approach. <i>Annals of Glaciology</i> , 2003, 36, 179-183.	2.8	12
111	Numerical Modeling Shows Increased Fracturing Due to Melt-Undercutting Prior to Major Calving at Bowdoin Glacier. <i>Frontiers in Earth Science</i> , 2020, 8, .	0.8	11
112	A Loch Lomond Readvance Glacier in Duirinish, NW Skye. <i>Scottish Journal of Geology</i> , 1994, 30, 183-186.	0.1	10
113	Thinning leads to calving-style changes at Bowdoin Glacier, Greenland. <i>Cryosphere</i> , 2021, 15, 485-500.	1.5	10
114	Surging glaciers in Scotland. <i>Scottish Geographical Journal</i> , 2021, 137, 1-40.	0.4	10
115	Geomorphological investigation of multiphase glacetectonic composite ridge systems in Svalbard. <i>Geomorphology</i> , 2018, 300, 176-188.	1.1	9
116	Characterization of the englacial and subglacial drainage system in a high Arctic cold glacier by speleological mapping and ground-penetrating radar. <i>Geografiska Annaler, Series A: Physical Geography</i> , 2019, 101, 98-117.	0.6	9
117	PyTrx: A Python-Based Monoscopic Terrestrial Photogrammetry Toolset for Glaciology. <i>Frontiers in Earth Science</i> , 2020, 8, .	0.8	9
118	Scottish landform examples â€” 5: The Achnasheen terraces. <i>Scottish Geographical Journal</i> , 1992, 108, 128-131.	0.4	8
119	Scottish landform examples â€” 9: Moraines in Coire na Creiche, Isle of Skye. <i>Scottish Geographical Journal</i> , 1993, 109, 187-191.	0.4	8
120	Dendritic Subglacial Drainage Systems in Cold Glaciers Formed by Cut-and-Closure Processes. <i>Geografiska Annaler, Series A: Physical Geography</i> , 2014, 96, n/a-n/a.	0.6	8
121	Brief communication: Thwaites Glacier cavity evolution. <i>Cryosphere</i> , 2021, 15, 3317-3328.	1.5	8
122	Calving retreat and proglacial lake growth at Hooker Glacier, Southern Alps, New Zealand. <i>New Zealand Geographer</i> , 2013, 69, 14-25.	0.4	7
123	Automatic detection of calving events from time-lapse imagery at Tunabreen, Svalbard. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2019, 8, 113-127.	0.6	6
124	Effective Rheology Across the Fragmentation Transition for Sea Ice and Ice Shelves. <i>Geophysical Research Letters</i> , 2019, 46, 13099-13106.	1.5	6
125	Buoyant calving and ice-contact lake evolution at Pasterze Glacier (Austria) in the period 1998â€“2019. <i>Cryosphere</i> , 2021, 15, 1237-1258.	1.5	6
126	Glacial sedimentological research in Scotland. <i>Scottish Geographical Journal</i> , 1996, 112, 57-61.	0.4	4

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127	West Antarctic ice sheet and CO2 greenhouse effect: a threat of disaster. Scottish Geographical Journal, 2020, 136, 13-23.	0.4	3
128	Something for all spectators? Postgraduate training, self-paced undergraduate fieldwork, reducing staff boredom. Journal of Geography in Higher Education, 1987, 11, 72-78.	1.4	1
129	Random variation of fabric eigenvalues: implications for the use of axis fabric data to differentiate till facies. Earth Surface Processes and Landforms, 2001, 26, 295-306.	1.2	1
130	GLACIAL LANDFORMS Introduction. , 2013, , 755-768.		0