Douglas MacAyeal

List of Publications by Year
in descending order

106	6,171	61945	74108
papers	citations	43 h-index	75 g-index

106	106	106	2965
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Binge/purge oscillations of the Laurentide Ice Sheet as a cause of the North Atlantic's Heinrich events. Paleoceanography, 1993, 8, 775-784.	3.0	745
2	Largeâ€scale ice flow over a viscous basal sediment: Theory and application to ice stream B, Antarctica. Journal of Geophysical Research, 1989, 94, 4071-4087.	3.3	589
3	Irregular oscillations of the West Antarctic ice sheet. Nature, 1992, 359, 29-32.	13.7	206
4	Catastrophic ice-shelf break-up by an ice-shelf-fragment-capsize mechanism. Journal of Glaciology, 2003, 49, 22-36.	1.1	185
5	Breakup of the Larsen B Ice Shelf triggered by chain reaction drainage of supraglacial lakes. Geophysical Research Letters, 2013, 40, 5872-5876.	1.5	177
6	Basal shear stress of the Ross ice streams from control method inversions. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	173
7	The basal stress distribution of Ice Stream E, Antarctica, inferred by control methods. Journal of Geophysical Research, 1992, 97, 595-603.	3.3	167
8	A tutorial on the use of control methods in ice-sheet modeling. Journal of Glaciology, 1993, 39, 91-98.	1.1	148
9	Basal friction of Ice Stream E, West Antarctica. Journal of Glaciology, 1995, 41, 247-262.	1.1	144
10	A numerical investigation of ice-lobeâ€“permafrost interaction around the southern Laurentide ice sheet. Journal of Glaciology, 2000, 46, 311-325.	1.1	144
11	Catastrophic ice shelf breakup as the source of Heinrich event icebergs. Paleoceanography, 2004, 19, n/a-n/a.	3.0	140
12	DEGLACIATION OF A SOFT-BEDDED LAURENTIDE ICE SHEET. Quaternary Science Reviews, 1998, 17, 427-448.	1.4	128
13	Numerical reconstruction of a soft-bedded Laurentide Ice Sheet during the last glacial maximum. Geology, 1996, 24, 679.	2.0	101
14	Transoceanic wave propagation links iceberg calving margins of Antarctica with storms in tropics and Northern Hemisphere. Geophysical Research Letters, 2006, 33, .	1.5	101
15	Derived Characteristics of the Ross Ice Shelf, Antarctica. Journal of Glaciology, 1982, 28, 397-412.	1.1	100
16	Transoceanic infragravity waves impacting Antarctic ice shelves. Geophysical Research Letters, 2010, 37, .	1.5	92
17	Melting and freezing beneath the Ross ice streams, Antarctica. Journal of Glaciology, 2004, 50, 96-108.	1.1	89
18	On the recent calving of icebergs from the Ross Ice Shelf¹. Polar Geography, 1999, 23, 201-212.	0.8	86

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19	The flexural dynamics of melting ice shelves. Annals of Glaciology, 2013, 54, 1-10.	2.8	75
20	Seismic and hydroacoustic tremor generated by colliding icebergs. Journal of Geophysical Research, 2008, 113, .	3.3	74
21	Numerical simulations of the Ross Sea tides. Journal of Geophysical Research, 1984, 89, 607-615.	3.3	69
22	Ice-shelf dynamics near the front of the Filchnerâ€"Ronne Ice Shelf, Antarctica, revealed by SAR interferometry. Journal of Glaciology, 1998, 44, 405-418.	1.1	66
23	Integrating satellite observations with modelling: basal shear stress of the Filcher-Ronne ice streams, Antarctica. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1795-1814.	1.6	66
24	A new numerical model of coupled inland ice sheet, ice stream, and ice shelf flow and its application to the West Antarctic Ice Sheet. Journal of Geophysical Research, 1999, 104, 25349-25366.	3.3	63
25	Paleothermometry by control methods. Journal of Glaciology, 1991, 37, 326-338.	1.1	62
26	Antarctic ice-shelf calving triggered by the Honshu (Japan) earthquake and tsunami, March 2011. Journal of Glaciology, 2011, 57, 785-788.	1.1	61
27	Sensitivity of Pine Island Glacier, West Antarctica, to changes in ice-shelf and basal conditions: a model study. Journal of Glaciology, 2002, 48, 552-558.	1.1	60
28	Calving of large tabular icebergs from ice shelf rift systems. Geophysical Research Letters, 2005, 32, .	1.5	58
29	Seismic observations of glaciogenic ocean waves (micro-tsunamis) on icebergs and ice shelves. Journal of Glaciology, 2009, 55, 193-206.	1.1	58
30	Ocean tides and Heinrich events. Nature, 2004, 432, 460-460.	13.7	57
31	Supraglacial lakes on the Larsen B ice shelf, Antarctica, and at Paakitsoq, West Greenland: a comparative study. Annals of Glaciology, 2014, 55, 1-8.	2.8	57
32	The Effects of Basal Melting on the Present Flow of the Ross Ice Shelf, Antarctica. Journal of Glaciology, 1986, 32, 72-86.	1.1	56
33	On the factors behind large Labrador Sea tides during the last glacial cycle and the potential implications for Heinrich events. Paleoceanography, 2008, 23, .	3.0	56
34	Steady flow of a viscous ice stream across a no-slip/free-slip transition at the bed. Journal of Glaciology, 1993, 39, 167-185.	1.1	54
35	Tabular iceberg collisions within the coastal regime. Journal of Glaciology, 2008, 54, 371-386.	1.1	54
36	Stickâ€"slip behavior of ice streams: modeling investigations. Annals of Glaciology, 2009, 50, 87-94.	2.8	53

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37	Iceberg-capsize tsunamigenesis. Annals of Glaciology, 2011, 52, 51-56.	2.8	51
38	Numerical modeling of advective transport of saturated deforming sediment beneath the Lake Michigan Lobe, Laurentide Ice Sheet. Geomorphology, 1995, 14, 157-166.	1.1	50
39	ICESat profiles of tabular iceberg margins and iceberg breakup at low latitudes. Geophysical Research Letters, 2005, 32, .	1.5	50
40	Seismic observations of sea swell on the floating Ross Ice Shelf, Antarctica. Journal of Geophysical Research, 2009, 114, .	3.3	49
41	Ice-shelf dynamics near the front of the Filchnerâ€"Ronne Ice Shelf, Antarctica, revealed by SAR interferometry. Journal of Glaciology, 1998, 44, 405-418.	1.1	48
42	Direct measurements of ice-shelf flexure caused by surface meltwater ponding and drainage. Nature Communications, 2019, 10, 730.	5.8	48
43	The Recent Advance of the Ross Ice Shelf Antarctica. Journal of Glaciology, 1986, 32, 464-474.	1.1	46
44	Laboratory investigations of iceberg capsize dynamics, energy dissipation and tsunamigenesis. Journal of Geophysical Research, 2012, 117, .	3.3	45
45	Ice-shelf fracture due to viscoelastic flexure stress induced by fill/drain cycles of supraglacial lakes. Antarctic Science, 2015, 27, 587-597.	0.5	41
46	Ice-shelf dynamics near the front of the Filchner-Ronne Ice Shelf, Antaretica, revealed by SAR interferometry: model/interferogram comparison. Journal of Glaciology, 1998, 44, 419-428.	1.1	40
47	Numerical Modeling of Ice-Shelf Motion. Annals of Glaciology, 1982, 3, 189-194.	2.8	39
48	Causes of sudden, shortâ€term changes in iceâ€stream surface elevation. Geophysical Research Letters, 2007, 34, .	1.5	39
49	On the recent calving of icebergs from the Ross ice shelf. Polar Geography, 2008, 31, 15-26.	0.8	39
50	Ice-shelf dynamics near the front of the Filchner-Ronne Ice Shelf, Antaretica, revealed by SAR interferometry: model/interferogram comparison. Journal of Glaciology, 1998, 44, 419-428.	1.1	37
51	Tidal rectification below the Ross Ice Shelf, Antarctica. Antarctic Research Series, 1985, , 109-132.	0.2	36
52	Influence of the Great Lakes on the dynamics of the southern Laurentide ice sheet: Numerical experiments. Geology, 2001, 29, 1039.	2.0	36
53	Modeling surface-roughness/solar-ablation feedback: application to small-scale surface channels and crevasses of the Greenland ice sheet. Annals of Glaciology, 2011, 52, 99-108.	2.8	36
54	Tidal modulation of ice-shelf flow: a viscous model of the Ross Ice Shelf. Journal of Glaciology, 2014, 60, 500-508.	1.1	36

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55	Dynamic/thermodynamic simulations of Laurentide ice-sheet instability. Annals of Glaciology, 1996, 23, 328-335.	2.8	35
56	Glaciological Studies on the Ross Ice Shelf, Antarctica, 1973-1978. Antarctic Research Series, 0, , 21-53.	0.2	35
57	Flow of the Ross Ice Shelf, Antarctica, is modulated by the ocean tide. Journal of Glaciology, 2010, 56, 157-161.	1.1	34
58	Ephemeral grounding as a signal of ice-shelf change. Journal of Glaciology, 2001, 47, 71-77.	1.1	33
59	Kinematic and seismic analysis of giant tabular iceberg breakup at Cape Adare, Antarctica. Journal of Geophysical Research, 2010, 115, .	3.3	32
60	Seasonal evolution of supraglacial lakes on a floating ice tongue, Petermann Glacier, Greenland. Annals of Glaciology, 2018, 59, 56-65.	2.8	30
61	A model of viscoelastic ice-shelf flexure. Journal of Glaciology, 2015, 61, 635-645.	1.1	29
62	Ice-Shelf Backpressure: Form Drag Versus Dynamic Drag. Glaciology and Quaternary Geology, 1987, , 141-160.	0.5	29
63	ICESat's new perspective on ice shelf rifts: The vertical dimension. Geophysical Research Letters, 2005, 32, .	1.5	27
64	The Creep of Ice, Geothermal Heat Flow, and Roosevelt Island, Antarctica. Journal of Glaciology, 1980, 25, 47-60.	1.1	26
65	Surface melting on Larsen Ice Shelf, Antarctica. Annals of Glaciology, 2005, 40, 215-218.	2.8	26
66	Observations of unusual fast-ice conditions in the southwest Ross Sea, Antarctica: preliminary analysis of iceberg and storminess effects. Annals of Glaciology, 2006, 44, 183-187.	2.8	26
67	Ice stream basal conditions from blockâ€wise surface data inversion and simple regression models of ice stream flow: Application to Bindschadler Ice Stream. Journal of Geophysical Research, 2008, 113, .	3.3	26
68	Seismic Recording on Drifting Icebergs: Catching Seismic Waves, Tsunamis and Storms from Sumatra and Elsewhere. Seismological Research Letters, 2006, 77, 659-671.	0.8	24
69	Calving and rifting on the McMurdo Ice Shelf, Antarctica. Annals of Glaciology, 2017, 58, 78-87.	2.8	24
70	Numerical Modeling of Ice-Shelf Motion. Annals of Glaciology, 1982, 3, 189-194.	2.8	23
71	Intra-surface radiative transfer limits the geographic extent of snow penitents on horizontal snowfields. Journal of Glaciology, 2014, 60, 147-154.	1.1	22
72	Ice-shelf Response to Ice-stream Discharge Fluctuations: II. Ideal Rectangular Ice Shelf. Journal of Glaciology, 1988, 34, 128-135.	1.1	21

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73	Drifting snow threshold measurements near McMurdo station, Antarctica: A sensor comparison study. Cold Regions Science and Technology, 2012, 70, 71-80.	1.6	21
74	Diurnal seismicity cycle linked to subsurface melting on an ice shelf. Annals of Glaciology, 2019, 60, 137-157.	2.8	19
75	Ross Ice Shelf temperatures support a history of ice-shelf thickening. Nature, 1979, 282, 703-705.	13.7	18
76	Can Relict Crevasse Plumes on Antarctic Ice Shelves Reveal a History of Ice-Stream Fluctuation?. Annals of Glaciology, 1988, 11, 77-82.	2.8	18
77	Interactions of windâ€transported snow with a rift in the Ross Ice Shelf, Antarctica. Geophysical Research Letters, 2008, 35, .	1.5	16
78	Traveling supraglacial lakes on George VI Ice Shelf, Antarctica. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	16
79	An investigation of lowâ€stress ice rheology on the Wardâ€Hunt Ice Shelf. Journal of Geophysical Research, 1986, 91, 6347-6358.	3.3	14
80	Reconstruction of snow/firn thermal diffusivities from observed temperature variation: application to iceberg C16, Ross Sea, Antarctica, 2004â€“07. Annals of Glaciology, 2008, 49, 91-95.	2.8	14
81	The influence of ice melange on fjord seiches. Annals of Glaciology, 2012, 53, 45-49.	2.8	13
82	Ambient seismic, hydroacoustic, and flexural gravity wave noise on a tabular iceberg. Journal of Geophysical Research F: Earth Surface, 2015, 120, 200-211.	1.0	12
83	Bedforms of Thwaites Glacier, West Antarctica: Character and Origin. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2021JF006339.	1.0	12
84	Comparison of ice-shelf creep flow simulations with ice-front motion of Filchner-Ronne Ice Shelf, Antarctica, detected by SAR interferometry. Annals of Glaciology, 1998, 27, 182-186.	2.8	11
85	Derived Characteristics of the Ross Ice Shelf, Antarctica. Journal of Glaciology, 1982, 28, 397-412.	1.1	11
86	The PSU/UofC finite-element thermomechanical flowline model of ice-sheet evolution. Cold Regions Science and Technology, 2005, 42, 145-168.	1.6	10
87	A computational investigation of iceberg capsize as a driver of explosive ice-shelf disintegration. Annals of Glaciology, 2011, 52, 51-59.	2.8	10
88	A camera and multisensor automated station design for polar physical and biological systems monitoring: AMIGOS. Journal of Glaciology, 2013, 59, 303-314.	1.1	10
89	Blocking a wave: frequency band gaps in ice shelves with periodic crevasses. Annals of Glaciology, 2012, 53, 85-89.	2.8	9
90	Formation of pedestalled, relict lakes on the McMurdo Ice Shelf, Antarctica. Journal of Glaciology, 2019, 65, 337-343.	1.1	8

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91	The morphology of supraglacial lake ogives. Journal of Glaciology, 2013, 59, 533-544.	1.1	7
92	Seismology Gets Under the Skin of the Antarctic Ice Sheet. Geophysical Research Letters, 2018, 45, 11,173.	1.5	7
93	Interannual climate variability helps define the mean state of glaciers. Journal of Glaciology, 2019, 65, 508-517.	1.1	6
94	Treatment of ice-shelf evolution combining flow and flexure. Journal of Glaciology, 2021, 67, 885-902.	1.1	5
95	Revisiting Weertman's tombstone bed. Annals of Glaciology, 2019, 60, 21-29.	2.8	4
96	Diurnal lake-level cycles on ice shelves driven by meltwater input and ocean tidal tilt. Journal of Glaciology, 2020, 66, 231-247.	1.1	3
97	Derived Characteristics of the Ross Ice Shelf, Antarctica (Abstract only). Annals of Glaciology, 1982, 3, 349.	2.8	2
98	Preventing a Collapse of the West Antarctic Ice Sheet: Civil Engineering on a Continental Scale (Abstract only). Annals of Glaciology, 1983, 4, 302.	2.8	2
99	Tides, Tidally Driven Barotropic Circulation and the Formation of Tidal Fronts Below the Ross Ice Shelf, Antarctica (Abstract). Annals of Glaciology, 1984, 5, 216-217.	2.8	2
100	A Time-Dependent Simulation of the Ross Ice Shelf Flow (Abstract). Annals of Glaciology, 1984, 5, 217-219.	2.8	2
101	The Effects of Basal Melting on the Present Flow of the Ross Ice Shelf, Antarctica. Journal of Glaciology, 1986, 32, 72-86.	1.1	2
102	Derived Characteristics of the Ross Ice Shelf, Antarctica (Abstract only). Annals of Glaciology, 1982, 3, 349-349.	2.8	2
103	Preventing a Collapse of the West Antarctic Ice Sheet: Civil Engineering on a Continental Scale (Abstract only). Annals of Glaciology, 1983, 4, 302-302.	2.8	2
104	A Time-Dependent Simulation of the Ross Ice Shelf Flow (Abstract). Annals of Glaciology, 1984, 5, 217-219.	2.8	1
105	Tides, Tidally Driven Barotropic Circulation and the Formation of Tidal Fronts Below the Ross Ice Shelf, Antarctica (Abstract). Annals of Glaciology, 1984, 5, 216-217.	2.8	0
106	Enigmatic surface rolls of the Ellesmere Ice Shelf. Journal of Glaciology, 0, , 1-12.	1.1	0