

G Hilmar Gudmundsson

List of Publications by Year in descending order

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129
papers

6,750
citations

66234

42
h-index

76769

74
g-index

212
all docs

212
docs citations

212
times ranked

3604
citing authors

#	ARTICLE	IF	CITATIONS
1	The sensitivity of Cook Glacier, East Antarctica, to changes in ice-shelf extent and grounding-line position. <i>Journal of Glaciology</i> , 2022, 68, 473-485.	1.1	1
2	The instantaneous impact of calving and thinning on the Larsen-Å Ice Shelf. <i>Cryosphere</i> , 2022, 16, 883-901.	1.5	13
3	High spatial and temporal variability in Antarctic ice discharge linked to ice shelf buttressing and bed geometry. <i>Scientific Reports</i> , 2022, 12, .	1.6	6
4	Drivers of Pine Island Glacier speed-up between 1996 and 2016. <i>Cryosphere</i> , 2021, 15, 113-132.	1.5	33
5	Recent acceleration of Denman Glacier (1972-2017), East Antarctica, driven by grounding line retreat and changes in ice tongue configuration. <i>Cryosphere</i> , 2021, 15, 663-676.	1.5	14
6	The tipping points and early warning indicators for Pine Island Glacier, West Antarctica. <i>Cryosphere</i> , 2021, 15, 1501-1516.	1.5	42
7	Ocean-Driven and Topography-Controlled Nonlinear Glacier Retreat During the Holocene: Southwestern Ross Sea, Antarctica. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091454.	1.5	9
8	The transferability of adjoint inversion products between different ice flow models. <i>Cryosphere</i> , 2021, 15, 1975-2000.	1.5	12
9	Drivers of Change of Thwaites Glacier, West Antarctica, Between 1995 and 2015. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093102.	1.5	6
10	A new approach to inferring basal drag and ice rheology in ice streams, with applications to West Antarctic Ice Streams. <i>Journal of Glaciology</i> , 2021, 67, 229-242.	1.1	15
11	Twenty-first century response of Petermann Glacier, northwest Greenland to ice shelf loss. <i>Journal of Glaciology</i> , 2021, 67, 147-157.	1.1	10
12	Quantifying the potential future contribution to global mean sea level from the Filchner-Ronne basin, Antarctica. <i>Cryosphere</i> , 2021, 15, 4675-4702.	1.5	10
13	Deep glacial troughs and stabilizing ridges unveiled beneath the margins of the Antarctic ice sheet. <i>Nature Geoscience</i> , 2020, 13, 132-137.	5.4	431
14	Impact of marine processes on flow dynamics of northern Antarctic Peninsula outlet glaciers. <i>Nature Communications</i> , 2020, 11, 2969.	5.8	7
15	Exploring mechanisms responsible for tidal modulation in flow of the Filchner-Ronne Ice Shelf. <i>Cryosphere</i> , 2020, 14, 17-37.	1.5	17
16	Intermittent structural weakening and acceleration of the Thwaites Glacier Tongue between 2000 and 2018. <i>Journal of Glaciology</i> , 2020, 66, 485-495.	1.1	33
17	Projecting Antarctica's contribution to future sea level rise from basal ice shelf melt using linear response functions of 16 ice sheet models (LARMIP-2). <i>Earth System Dynamics</i> , 2020, 11, 35-76.	2.7	92
18	Results of the third Marine Ice Sheet Model Intercomparison Project (MISMIP+). <i>Cryosphere</i> , 2020, 14, 2283-2301.	1.5	53

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19	Subglacial topography and ice flux along the English Coast of Palmer Land, Antarctic Peninsula. <i>Earth System Science Data</i> , 2020, 12, 3453-3467.	3.7	1
20	Comment on "Friction at the bed does not control fast glacier flow". <i>Science</i> , 2019, 363, .	6.0	13
21	Calving cycle of the Brunt Ice Shelf, Antarctica, driven by changes in ice shelf geometry. <i>Cryosphere</i> , 2019, 13, 2771-2787.	1.5	11
22	Instantaneous Antarctic ice sheet mass loss driven by thinning ice shelves. <i>Geophysical Research Letters</i> , 2019, 46, 13903-13909.	1.5	106
23	Modeling the dynamic response of outlet glaciers to observed ice-shelf thinning in the Bellingshausen Sea Sector, West Antarctica. <i>Journal of Glaciology</i> , 2018, 64, 333-342.	1.1	14
24	Accurate coastal DEM generation by merging ASTER GDEM and ICESat/GLAS data over Mertz Glacier, Antarctica. <i>Remote Sensing of Environment</i> , 2018, 206, 218-230.	4.6	23
25	The far reach of ice-shelf thinning in Antarctica. <i>Nature Climate Change</i> , 2018, 8, 53-57.	8.1	161
26	Tidal bending of ice shelves as a mechanism for large-scale temporal variations in ice flow. <i>Cryosphere</i> , 2018, 12, 1699-1713.	1.5	14
27	Dynamic changes in outlet glaciers in northern Greenland from 1948 to 2015. <i>Cryosphere</i> , 2018, 12, 3243-3263.	1.5	54
28	The internal structure of the Brunt Ice Shelf from ice-penetrating radar analysis and implications for ice shelf fracture. <i>Cryosphere</i> , 2018, 12, 3361-3372.	1.5	19
29	Grounding-line flux formula applied as a flux condition in numerical simulations fails for buttressed Antarctic ice streams. <i>Cryosphere</i> , 2018, 12, 3229-3242.	1.5	21
30	Velocity response of Petermann Glacier, northwest Greenland, to past and future calving events. <i>Cryosphere</i> , 2018, 12, 3907-3921.	1.5	24
31	Differential Geometry of Ice Flow. <i>Frontiers in Earth Science</i> , 2018, 6, .	0.8	1
32	Processes controlling the downstream evolution of ice rheology in glacier shear margins: case study on Rutford Ice Stream, West Antarctica. <i>Journal of Glaciology</i> , 2018, 64, 583-594.	1.1	63
33	Recent rift formation and impact on the structural integrity of the Brunt Ice Shelf, East Antarctica. <i>Cryosphere</i> , 2018, 12, 505-520.	1.5	24
34	Modelling present-day basal melt rates for Antarctic ice shelves using a parametrization of buoyant meltwater plumes. <i>Cryosphere</i> , 2018, 12, 49-70.	1.5	58
35	Relevance of Detail in Basal Topography for Basal Slipperiness Inversions: A Case Study on Pine Island Glacier, Antarctica. <i>Frontiers in Earth Science</i> , 2018, 6, .	0.8	16
36	Atmosphere-ocean-ice interactions in the Amundsen Sea Embayment, West Antarctica. <i>Reviews of Geophysics</i> , 2017, 55, 235-276.	9.0	92

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37	Five decades of strong temporal variability in the flow of Brunt Ice Shelf, Antarctica. <i>Journal of Glaciology</i> , 2017, 63, 164-175.	1.1	22
38	Highly temporally resolved response to seasonal surface melt of the Zachariae and 79N outlet glaciers in northeast Greenland. <i>Geophysical Research Letters</i> , 2017, 44, 9805-9814.	1.5	30
39	Impacts of the Larsen-C Ice Shelf calving event. <i>Nature Climate Change</i> , 2017, 7, 540-542.	8.1	111
40	Can Seismic Observations of Bed Conditions on Ice Streams Help Constrain Parameters in Ice Flow Models?. <i>Journal of Geophysical Research F: Earth Surface</i> , 2017, 122, 2269-2282.	1.0	9
41	On the interpretation of ice-shelf flexure measurements. <i>Journal of Glaciology</i> , 2017, 63, 783-791.	1.1	17
42	How accurate are estimates of glacier ice thickness? Results from ITMIX, the Ice Thickness Models Intercomparison eXperiment. <i>Cryosphere</i> , 2017, 11, 949-970.	1.5	173
43	Strong tidal variations in ice flow observed across the entire Ronne Ice Shelf and adjoining ice streams. <i>Earth System Science Data</i> , 2017, 9, 849-860.	3.7	8
44	A new high-precision and low-power GNSS receiver for long-term installations in remote areas. <i>Geoscientific Instrumentation, Methods and Data Systems</i> , 2016, 5, 65-73.	0.6	4
45	Decadal Ocean Forcing and Antarctic Ice Sheet Response: Lessons from the Amundsen Sea. , 2016, 29, 106-117.		122
46	Experimental design for three interrelated marine ice sheet and ocean model intercomparison projects: MISMIP v. 3 (MISMIP +), ISOMIP v. 2 (ISOMIP +) and MISOMIP v. 1 (MISOMIP1). <i>Geoscientific Model Development</i> , 2016, 9, 2471-2497.	1.3	106
47	Changes in ice-shelf buttressing following the collapse of Larsen A Ice Shelf, Antarctica, and the resulting impact on tributaries. <i>Journal of Glaciology</i> , 2016, 62, 905-911.	1.1	12
48	Coupled ice shelfâ€œcean modeling and complex grounding line retreat from a seabed ridge. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016, 121, 865-880.	1.0	59
49	Tidal controls on the flow of ice streams. <i>Geophysical Research Letters</i> , 2016, 43, 4433-4440.	1.5	14
50	Modeling the instantaneous response of glaciers after the collapse of the Larsen B Ice Shelf. <i>Geophysical Research Letters</i> , 2015, 42, 5355-5363.	1.5	41
51	An improved model for tidally modulated grounding-line migration. <i>Journal of Glaciology</i> , 2015, 61, 216-222.	1.1	26
52	Evolution of surface velocities and ice discharge of Larsen B outlet glaciers from 1995 to 2013. <i>Cryosphere</i> , 2015, 9, 957-969.	1.5	61
53	Tracking B-31 iceberg with two aircraft-deployed sensors. <i>Natural Hazards and Earth System Sciences</i> , 2015, 15, 1243-1250.	1.5	4
54	Temporal variations in the flow of a large Antarctic ice stream controlled by tidally induced changes in the subglacial water system. <i>Cryosphere</i> , 2015, 9, 1649-1661.	1.5	56

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55	Inferring palaeo-accumulation records from ice-core data by an adjoint-based method: application to James Ross Island's ice core. <i>Climate of the Past</i> , 2015, 11, 547-557.	1.3	4
56	Insights into ice stream dynamics through modelling their response to tidal forcing. <i>Cryosphere</i> , 2014, 8, 1763-1775.	1.5	33
57	Halley Research Station, Antarctica: calving risks and monitoring strategies. <i>Natural Hazards and Earth System Sciences</i> , 2014, 14, 917-927.	1.5	15
58	Retreat of Pine Island Glacier controlled by marine ice-sheet instability. <i>Nature Climate Change</i> , 2014, 4, 117-121.	8.1	366
59	The bedrock topography of Starbuck Glacier, Antarctic Peninsula, as determined by radio-echo soundings and flow modeling. <i>Annals of Glaciology</i> , 2014, 55, 22-28.	2.8	23
60	Modelling of Kealey Ice Rise, Antarctica, reveals stable ice-flow conditions in East Ellsworth Land over millennia. <i>Journal of Glaciology</i> , 2014, 60, 139-146.	1.1	18
61	Surface undulations of Antarctic ice streams tightly controlled by bedrock topography. <i>Cryosphere</i> , 2013, 7, 407-417.	1.5	25
62	Ice-shelf buttressing and the stability of marine ice sheets. <i>Cryosphere</i> , 2013, 7, 647-655.	1.5	204
63	Grounding-line migration in plan-view marine ice-sheet models: results of the ice2sea MISIMIP3d intercomparison. <i>Journal of Glaciology</i> , 2013, 59, 410-422.	1.1	179
64	The ice thickness distribution of Flask Glacier, Antarctic Peninsula, determined by combining radio-echo soundings, surface velocity data and flow modelling. <i>Annals of Glaciology</i> , 2013, 54, 18-24.	2.8	24
65	Aircraft-Deployable Ice Observation System (ADIOS) for instrumenting inaccessible glaciers. <i>Journal of Glaciology</i> , 2013, 59, 1129-1134.	1.1	6
66	Results of the Marine Ice Sheet Model Intercomparison Project, MISIMIP. <i>Cryosphere</i> , 2012, 6, 573-588.	1.5	191
67	Longitudinal surface structures (flowstripes) on Antarctic glaciers. <i>Cryosphere</i> , 2012, 6, 383-391.	1.5	46
68	Effects of nonlinear rheology, temperature and anisotropy on the relationship between age and depth at ice divides. <i>Cryosphere</i> , 2012, 6, 1221-1229.	1.5	36
69	The stability of grounding lines on retrograde slopes. <i>Cryosphere</i> , 2012, 6, 1497-1505.	1.5	203
70	Diurnal and semidiurnal tide-induced lateral movement of Ronne Ice Shelf, Antarctica. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	55
71	Subglacial melt channels and fracture in the floating part of Pine Island Glacier, Antarctica. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	105
72	Nonlinear interaction between ocean tides and the Larsen C Ice Shelf system. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	27

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73	Ocean tides in the Weddell Sea: New observations on the Filchner-Ronne and Larsen C ice shelves and model validation. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	29
74	Bayesian estimation of basal conditions on Rutford Ice Stream, West Antarctica, from surface data. <i>Journal of Glaciology</i> , 2011, 57, 315-324.	1.1	43
75	Correction to "Ocean tides in the Weddell Sea: New observations on the Filchner-Ronne and Larsen C ice shelves and model validation". <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	4
76	Ice-stream response to ocean tides and the form of the basal sliding law. <i>Cryosphere</i> , 2011, 5, 259-270.	1.5	103
77	Inverse Methods in Glaciology. <i>Encyclopedia of Earth Sciences Series</i> , 2011, , 653-656.	0.1	4
78	Initialization of ice-sheet forecasts viewed as an inverse Robin problem. <i>Journal of Glaciology</i> , 2010, 56, 527-533.	1.1	115
79	A numerical study of glacier advance over deforming till. <i>Cryosphere</i> , 2010, 4, 359-372.	1.5	18
80	Estimating basal properties of ice streams from surface measurements: a non-linear Bayesian inverse approach applied to synthetic data. <i>Cryosphere</i> , 2009, 3, 265-278.	1.5	55
81	On the effects of anisotropic rheology on ice flow, internal structure, and the age-depth relationship at ice divides. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	95
82	Ice-flow velocities on Rutford Ice Stream, West Antarctica, are stable over decadal timescales. <i>Journal of Glaciology</i> , 2009, 55, 339-344.	1.1	17
83	Analysis of GPS Data from An Antarctic Ice Stream. <i>International Association of Geodesy Symposia</i> , 2009, , 569-579.	0.2	9
84	Increased rate of acceleration on Pine Island Glacier strongly coupled to changes in gravitational driving stress. <i>Cryosphere</i> , 2009, 3, 125-131.	1.5	82
85	On the limit to resolution and information on basal properties obtainable from surface data on ice streams. <i>Cryosphere</i> , 2008, 2, 167-178.	1.5	56
86	Analytical solutions for the surface response to small amplitude perturbations in boundary data in the shallow-ice-stream approximation. <i>Cryosphere</i> , 2008, 2, 77-93.	1.5	34
87	Benchmark experiments for higher-order and full-Stokes ice sheet models (ISMIP-HOM). <i>Cryosphere</i> , 2008, 2, 95-108.	1.5	221
88	Tides and the flow of Rutford Ice Stream, West Antarctica. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	101
89	Draping or overriding: The effect of horizontal stress gradients on internal layer architecture in ice sheets. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	43
90	Fortnightly variations in the flow velocity of Rutford Ice Stream, West Antarctica. <i>Nature</i> , 2006, 444, 1063-1064.	13.7	114

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91	On the relationship between surface and basal properties on glaciers, ice sheets, and ice streams. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	58
92	Volume sensitivity of Vatnajökull Ice Cap, Iceland, to perturbations in equilibrium line altitude. <i>Journal of Geophysical Research</i> , 2005, 110, n/a-n/a.	3.3	17
93	On estimating length fluctuations of glaciers caused by changes in climatic forcing. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	84
94	Diurnal variability of subglacial drainage conditions as revealed by tracer experiments. <i>Journal of Geophysical Research</i> , 2004, 109, n/a-n/a.	3.3	41
95	Short-term variations in glacier flow controlled by subglacial water pressure at Lauteraargletscher, Bernese Alps, Switzerland. <i>Journal of Glaciology</i> , 2004, 50, 353-362.	1.1	77
96	Diurnal variations in vertical strain observed in a temperate valley glacier. <i>Geophysical Research Letters</i> , 2003, 30, .	1.5	19
97	Transmission of basal variability to a glacier surface. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	206
98	Bed topography and lubrication inferred from surface measurements on fast-flowing ice streams. <i>Journal of Glaciology</i> , 2003, 49, 481-490.	1.1	46
99	Observational verification of predicted increase in bedrock-to-surface amplitude transfer during a glacier surge. <i>Annals of Glaciology</i> , 2003, 36, 91-96.	2.8	8
100	The ice-thickness distribution of Unteraargletscher, Switzerland. <i>Annals of Glaciology</i> , 2003, 37, 331-336.	2.8	34
101	Numerical investigation of the effects of temporal variations in basal lubrication on englacial strain-rate distribution. <i>Annals of Glaciology</i> , 2003, 37, 49-54.	2.8	14
102	A regression model for the mass-balance distribution of the Vatnajökull ice cap, Iceland. <i>Annals of Glaciology</i> , 2003, 37, 189-193.	2.8	11
103	Observations of a reversal in vertical and horizontal strain-rate regime during a motion event on Unteraargletscher, Bernese Alps, Switzerland. <i>Journal of Glaciology</i> , 2002, 48, 566-574.	1.1	20
104	Comparison of Modeled Water Input and Measured Discharge Prior to a Release Event: Unteraargletscher, Bernese Alps, Switzerland. <i>Hydrology Research</i> , 2002, 33, 27-46.	1.1	15
105	Hydraulic and mechanical properties of glacial sediments beneath Unteraargletscher, Switzerland: implications for glacier basal motion. <i>Hydrological Processes</i> , 2001, 15, 3525-3540.	1.1	44
106	The response of a glacier to a surface disturbance: a case study on Vatnajökull ice cap, Iceland. <i>Annals of Glaciology</i> , 2000, 31, 104-110.	2.8	33
107	High-resolution measurements of spatial and temporal variations in surface velocities of Unteraargletscher, Bernese Alps, Switzerland. <i>Annals of Glaciology</i> , 2000, 31, 63-68.	2.8	27
108	Evidence for deep icequakes in an Alpine glacier. <i>Annals of Glaciology</i> , 2000, 31, 85-90.	2.8	67

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109	A three-dimensional numerical model of the confluence area of Unteraargletscher, Bernese Alps, Switzerland. <i>Journal of Glaciology</i> , 1999, 45, 219-230.	1.1	12
110	Thermally induced temporal strain variations in rock walls observed at subzero temperatures. , 1999, , 511-518.		20
111	A three-dimensional numerical model of the confluence area of Unteraargletscher, Bernese Alps, Switzerland. <i>Journal of Glaciology</i> , 1999, 45, 219-230.	1.1	55
112	A three-dimensional numerical model of the confluence area of Unteraargletscher, Bernese Alps, Switzerland. <i>Journal of Glaciology</i> , 1999, 45, 219-230.	1.1	69
113	Estimating rates of basal motion and internal ice deformation from continuous tilt measurements. <i>Annals of Glaciology</i> , 1999, 28, 247-252.	2.8	25
114	Evaluating the Potential of an Airborne Laser-scanning System for Measuring Volume Changes of Glaciers. <i>Geografiska Annaler, Series A: Physical Geography</i> , 1999, 81, 555-561.	0.6	26
115	Towards an Indirect Determination of the Mass-balance Distribution of Glaciers using the Kinematic Boundary Condition. <i>Geografiska Annaler, Series A: Physical Geography</i> , 1999, 81, 575-583.	0.6	22
116	Permafrost changes in rock walls and the retreat of alpine glaciers: a thermal modelling approach. <i>Permafrost and Periglacial Processes</i> , 1998, 9, 23-33.	1.5	110
117	The origin and longevity of flow stripes on Antarctic ice streams. <i>Annals of Glaciology</i> , 1998, 27, 145-152.	2.8	99
118	Permafrost changes in rock walls and the retreat of alpine glaciers: a thermal modelling approach. , 1998, 9, 23.		1
119	Basal-flow characteristics of a linear medium sliding frictionless over small bedrock undulations. <i>Journal of Glaciology</i> , 1997, 43, 71-79.	1.1	1
120	Basal-flow characteristics of a non-linear flow sliding frictionless over strongly undulating bedrock. <i>Journal of Glaciology</i> , 1997, 43, 80-89.	1.1	6
121	Measurements of ice deformation at the confluence area of Unteraargletscher Bernese Alps, Switzerland. <i>Journal of Glaciology</i> , 1997, 43, 548-556.	1.1	5
122	Ice deformation at the confluence of two glaciers investigated with conceptual map-plane and flowline models. <i>Journal of Glaciology</i> , 1997, 43, 537-547.	1.1	18
123	Basal-flow characteristics of a linear medium sliding frictionless over small bedrock undulations. <i>Journal of Glaciology</i> , 1997, 43, 71-79.	1.1	27
124	Basal-flow characteristics of a non-linear flow sliding frictionless over strongly undulating bedrock. <i>Journal of Glaciology</i> , 1997, 43, 80-89.	1.1	56
125	Measurements of ice deformation at the confluence area of Unteraargletscher Bernese Alps, Switzerland. <i>Journal of Glaciology</i> , 1997, 43, 548-556.	1.1	24
126	Analysing the creep of mountain permafrost using high precision aerial photogrammetry: 25 years of monitoring Gruben rock glacier, Swiss Alps. <i>Permafrost and Periglacial Processes</i> , 1997, 8, 409-426.	1.5	133

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127	Ice deformation at the confluence of two glaciers investigated with conceptual map-plane and flowline models. <i>Journal of Glaciology</i> , 1997, 43, 537-547.	1.1	4
128	Estimating Basal Properties of Glaciers from Surface Measurements. , 0, , 415-417.		4
129	On the validity of the stress-flow angle as a metric for ice-shelf stability. <i>Journal of Glaciology</i> , 0, , 1-3.	1.1	0