

I M Howat

List of Publications by Year in descending order

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100
papers

11,325
citations

46984

47
h-index

37183

96
g-index

116
all docs

116
docs citations

116
times ranked

6802
citing authors

#	ARTICLE	IF	CITATIONS
1	The Randolph Glacier Inventory: a globally complete inventory of glaciers. <i>Journal of Glaciology</i> , 2014, 60, 537-552.	1.1	895
2	BedMachine v3: Complete Bed Topography and Ocean Bathymetry Mapping of Greenland From Multibeam Echo Sounding Combined With Mass Conservation. <i>Geophysical Research Letters</i> , 2017, 44, 11051-11061.	1.5	536
3	Greenland flow variability from ice-sheet-wide velocity mapping. <i>Journal of Glaciology</i> , 2010, 56, 415-430.	1.1	511
4	An improved mass budget for the Greenland ice sheet. <i>Geophysical Research Letters</i> , 2014, 41, 866-872.	1.5	500
5	Fracture Propagation to the Base of the Greenland Ice Sheet During Supraglacial Lake Drainage. <i>Science</i> , 2008, 320, 778-781.	6.0	497
6	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
7	Large-scale changes in Greenland outlet glacier dynamics triggered at the terminus. <i>Nature Geoscience</i> , 2009, 2, 110-114.	5.4	427
8	Rapid Changes in Ice Discharge from Greenland Outlet Glaciers. <i>Science</i> , 2007, 315, 1559-1561.	6.0	420
9	The Greenland Ice Mapping Project (GIMP) land classification and surface elevation data sets. <i>Cryosphere</i> , 2014, 8, 1509-1518.	1.5	401
10	Seasonal Speedup Along the Western Flank of the Greenland Ice Sheet. <i>Science</i> , 2008, 320, 781-783.	6.0	383
11	On the recent contribution of the Greenland ice sheet to sea level change. <i>Cryosphere</i> , 2016, 10, 1933-1946.	1.5	358
12	The Reference Elevation Model of Antarctica. <i>Cryosphere</i> , 2019, 13, 665-674.	1.5	357
13	A new bed elevation dataset for Greenland. <i>Cryosphere</i> , 2013, 7, 499-510.	1.5	341
14	21st-Century Evolution of Greenland Outlet Glacier Velocities. <i>Science</i> , 2012, 336, 576-578.	6.0	295
15	Rapid retreat and acceleration of Helheim Glacier, east Greenland. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	1.5	246
16	Synchronous retreat and acceleration of southeast Greenland outlet glaciers 2000-2006: ice dynamics and coupling to climate. <i>Journal of Glaciology</i> , 2008, 54, 646-660.	1.1	228
17	Annually Resolved Ice Core Records of Tropical Climate Variability over the Past ~1800 Years. <i>Science</i> , 2013, 340, 945-950.	6.0	216
18	Continued evolution of Jakobshavn Isbrae following its rapid speedup. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	202

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19	Automated stereo-photogrammetric DEM generation at high latitudes: Surface Extraction with TIN-based Search-space Minimization (SETSM) validation and demonstration over glaciated regions. <i>GIScience and Remote Sensing</i> , 2015, 52, 198-217.	2.4	195
20	Committed sea-level rise for the next century from Greenland ice sheet dynamics during the past decade. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 8978-8983.	3.3	189
21	Seasonal variability in the dynamics of marine-terminating outlet glaciers in Greenland. <i>Journal of Glaciology</i> , 2010, 56, 601-613.	1.1	184
22	Submarine melting of the 1985 Jakobshavn Isbrae floating tongue and the triggering of the current retreat. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	183
23	Dynamic ice loss from the Greenland Ice Sheet driven by sustained glacier retreat. <i>Communications Earth & Environment</i> , 2020, 1, .	2.6	153
24	Iceâ€front variation and tidewater behavior on Helheim and Kangerdlugssuaq Glaciers, Greenland. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	147
25	Multi-decadal retreat of Greenlandâ€™s marine-terminating glaciers. <i>Journal of Glaciology</i> , 2011, 57, 389-396.	1.1	145
26	Seasonal to decadal scale variations in the surface velocity of Jakobshavn Isbrae, Greenland: Observation and modelâ€based analysis. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	134
27	Rates of southeast Greenland ice volume loss from combined ICESat and ASTER observations. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	129
28	Aâ€daily, 1â€km resolution data set of downscaled Greenland ice sheet surface mass balance (1958â€2015). <i>Cryosphere</i> , 2016, 10, 2361-2377.	1.5	126
29	Mass balance of Greenland's three largest outlet glaciers, 2000-2010. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	116
30	A complete map of Greenland ice velocity derived from satellite data collected over 20 years. <i>Journal of Glaciology</i> , 2018, 64, 1-11.	1.1	114
31	Land Ice Freshwater Budget of the Arctic and North Atlantic Oceans: 1. Data, Methods, and Results. <i>Journal of Geophysical Research: Oceans</i> , 2018, 123, 1827-1837.	1.0	110
32	Supraglacial lakes on the Greenland ice sheet advance inland under warming climate. <i>Nature Climate Change</i> , 2015, 5, 51-55.	8.1	95
33	High sensitivity of tidewater outlet glacier dynamics to shape. <i>Cryosphere</i> , 2013, 7, 1007-1015.	1.5	89
34	Seasonal to decadal variability in ice discharge from the Greenland Ice Sheet. <i>Cryosphere</i> , 2018, 12, 3813-3825.	1.5	83
35	Changes in the dynamics of marine terminating outlet glaciers in west Greenland (2000â€2009). <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	82
36	Elevation change of the Greenland Ice Sheet due to surface mass balance and firn processes, 1960â€2014. <i>Cryosphere</i> , 2015, 9, 2009-2025.	1.5	73

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37	A tipping point in refreezing accelerates mass loss of Greenland's glaciers and ice caps. <i>Nature Communications</i> , 2017, 8, 14730.	5.8	72
38	Heterogeneous Changes in Western North American Glaciers Linked to Decadal Variability in Zonal Wind Strength. <i>Geophysical Research Letters</i> , 2019, 46, 200-209.	1.5	70
39	Oceanic mechanical forcing of a marine-terminating Greenland glacier. <i>Annals of Glaciology</i> , 2012, 53, 181-192.	2.8	69
40	Submarine melt rate estimates for floating termini of Greenland outlet glaciers (2000–2010). <i>Journal of Glaciology</i> , 2013, 59, 67-75.	1.1	69
41	Expansion of meltwater lakes on the Greenland Ice Sheet. <i>Cryosphere</i> , 2013, 7, 201-204.	1.5	68
42	The Surface Extraction from TIN based Search-space Minimization (SETSM) algorithm. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , 2017, 129, 55-76.	4.9	64
43	Greenland Ice Mapping Project: ice flow velocity variation at sub-monthly to decadal timescales. <i>Cryosphere</i> , 2018, 12, 2211-2227.	1.5	63
44	Efficient Automated Glacier Surface Velocity Measurement From Repeat Images Using Multi-Image/Multichip and Null Exclusion Feature Tracking. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2011, 49, 2838-2846.	2.7	55
45	Comparison of Methods to Estimate Snow Water Equivalent at the Mountain Range Scale: A Case Study of the California Sierra Nevada. <i>Journal of Hydrometeorology</i> , 2017, 18, 1101-1119.	0.7	54
46	Changes in the marine-terminating glaciers of central east Greenland, 2000–2010. <i>Cryosphere</i> , 2012, 6, 211-220.	1.5	53
47	Accelerated ice shelf rifting and retreat at Pine Island Glacier, West Antarctica. <i>Geophysical Research Letters</i> , 2016, 43, 11,720.	1.5	48
48	Climate sensitivity of spring snowpack in the Sierra Nevada. <i>Journal of Geophysical Research</i> , 2005, 110, n/a-n/a.	3.3	47
49	Reconstructions of western Ross Sea palaeo-ice stream grounding zones from high-resolution acoustic stratigraphy. <i>Boreas</i> , 2003, 32, 56-75.	1.2	46
50	Changes in the firn structure of the western Greenland Ice Sheet caused by recent warming. <i>Cryosphere</i> , 2015, 9, 1203-1211.	1.5	46
51	Coastline extraction from repeat high resolution satellite imagery. <i>Remote Sensing of Environment</i> , 2019, 229, 260-270.	4.6	43
52	GPS measurements of crustal uplift near Jakobshavn Isbr� due to glacial ice mass loss. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	42
53	Winter mass balance of Drangaj�kull ice cap (NW Iceland) derived from satellite sub-meter stereo images. <i>Cryosphere</i> , 2017, 11, 1501-1517.	1.5	41
54	Dynamic controls on glacier basal motion inferred from surface ice motion. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	40

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55	Asynchronous behavior of outlet glaciers feeding Godthåbsfjord (Nuup Kangerlua) and the triggering of Narsap Sermia's retreat in SW Greenland. <i>Journal of Glaciology</i> , 2017, 63, 288-308.	1.1	40
56	Freshwater flux to Sermilik Fjord, SE Greenland. <i>Cryosphere</i> , 2010, 4, 453-465.	1.5	33
57	Trends in spring snowpack over a half-century of climate warming in California, USA. <i>Annals of Glaciology</i> , 2005, 40, 151-156.	2.8	32
58	Detection and Assessment of a Large and Potentially Tsunamigenic Periglacial Landslide in Barry Arm, Alaska. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089800.	1.5	30
59	Continuously accelerating ice loss over Amundsen Sea catchment, West Antarctica, revealed by integrating altimetry and GRACE data. <i>Earth and Planetary Science Letters</i> , 2012, 321-322, 74-80.	1.8	28
60	Multi-year observations of Breiðamerkurjökull, a marine-terminating glacier in southeastern Iceland, using terrestrial radar interferometry. <i>Journal of Glaciology</i> , 2015, 61, 42-54.	1.1	28
61	A SAR record of early 21st century change in Greenland. <i>Journal of Glaciology</i> , 2016, 62, 62-71.	1.1	26
62	Automatic relative RPC image model bias compensation through hierarchical image matching for improving DEM quality. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , 2018, 136, 120-133.	4.9	26
63	Automated Coregistration of Repeat Digital Elevation Models for Surface Elevation Change Measurement Using Geometric Constraints. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2014, 52, 2247-2260.	2.7	25
64	Measuring Lava Flows With ArcticDEM: Application to the 2012–2013 Eruption of Tolbachik, Kamchatka. <i>Geophysical Research Letters</i> , 2017, 44, 12,133.	1.5	25
65	Terminus dynamics at an advancing glacier: Taku Glacier, Alaska. <i>Journal of Glaciology</i> , 2009, 55, 1052-1060.	1.1	24
66	Brief Communication: Sudden drainage of a subglacial lake beneath the Greenland Ice Sheet. <i>Cryosphere</i> , 2015, 9, 103-108.	1.5	24
67	Geophysical evidence for Holocene lake-level change in southern California (Dry Lake). <i>Boreas</i> , 2010, 39, 131-144.	1.2	23
68	Estimating River Surface Elevation From ArcticDEM. <i>Geophysical Research Letters</i> , 2018, 45, 3107-3114.	1.5	23
69	Improved Multiple Matching Method for Observing Glacier Motion With Repeat Image Feature Tracking. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017, 55, 2431-2441.	2.7	22
70	Performance of Landsat 8 Operational Land Imager for mapping ice sheet velocity. <i>Remote Sensing of Environment</i> , 2015, 170, 90-101.	4.6	20
71	High resolution Greenland ice sheet inter-annual mass variations combining GRACE gravimetry and Envisat altimetry. <i>Earth and Planetary Science Letters</i> , 2015, 422, 11-17.	1.8	19
72	An ice sheet model validation framework for the Greenland ice sheet. <i>Geoscientific Model Development</i> , 2017, 10, 255-270.	1.3	18

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73	Non-linear glacier response to calving events, Jakobshavn Isbr�, Greenland. <i>Journal of Glaciology</i> , 2019, 65, 39-54.	1.1	17
74	Basal Channel Evolution on the Getz Ice Shelf, West Antarctica. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020, 125, e2019JF005293.	1.0	16
75	The sensitivity of flowline models of tidewater glaciers to parameter uncertainty. <i>Cryosphere</i> , 2013, 7, 1579-1590.	1.5	15
76	A precipitation-dominated, mid-latitude glacier system: Mount Shasta, California. <i>Climate Dynamics</i> , 2006, 28, 85-98.	1.7	14
77	Observations of inertial currents in a lagoon in southeastern Iceland using terrestrial radar interferometry and automated iceberg tracking. <i>Computers and Geosciences</i> , 2015, 82, 23-30.	2.0	14
78	Autonomous ice sheet surface mass balance measurements from cosmic rays. <i>Cryosphere</i> , 2018, 12, 2099-2108.	1.5	14
79	Ice flow variations at Polar Record Glacier, East Antarctica. <i>Journal of Glaciology</i> , 2019, 65, 279-287.	1.1	14
80	Emerging technology monitors ice-sea interface at outlet glaciers. <i>Eos</i> , 2012, 93, 497-498.	0.1	13
81	Improving maps of ice-sheet surface elevation change using combined laser altimeter and stereoscopic elevation model data. <i>Journal of Glaciology</i> , 2013, 59, 524-532.	1.1	13
82	Greenland ice-sheet wide glacier classification based on two distinct seasonal ice velocity behaviors. <i>Journal of Glaciology</i> , 2021, 67, 1241-1248.	1.1	12
83	Constraining ice mass loss from Jakobshavn Isbrae (Greenland) using InSAR-measured crustal uplift. <i>Geophysical Journal International</i> , 2012, 188, 994-1006.	1.0	11
84	Acquisition of a 3 min, two-dimensional glacier velocity field with terrestrial radar interferometry. <i>Journal of Glaciology</i> , 2017, 63, 629-636.	1.1	11
85	Rift in Antarctic Glacier: A Unique Chance to Study Ice Shelf Retreat. <i>Eos</i> , 2012, 93, 77-78.	0.1	9
86	Reconstructions of western Ross Sea palaeo-ice-stream grounding zones from high-resolution acoustic stratigraphy. <i>Boreas</i> , 2003, 32, 56-75.	1.2	9
87	Monitoring a glacier in southeastern Iceland with the portable Terrestrial Radar Interferometer. , 2012, , .		7
88	Complex Patterns of Antarctic Ice Sheet Mass Change Resolved by Time-Dependent Rate Modeling of GRACE and GRACE Follow-On Observations. <i>Geophysical Research Letters</i> , 2021, 48, .	1.5	7
89	High-Resolution Interannual Mass Anomalies of the Antarctic Ice Sheet by Combining GRACE Gravimetry and ENVISAT Altimetry. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2018, 56, 539-546.	2.7	5
90	Applications of High-Resolution, Cross-Track, Pushbroom Satellite Images With the SETSM Algorithm. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , 2019, 12, 3885-3899.	2.3	5

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91	Filling and drainage of a subglacial lake beneath the Flade Isblink ice cap, northeast Greenland. <i>Cryosphere</i> , 2022, 16, 2671-2681.	1.5	5
92	Formation and development of supraglacial lakes in the percolation zone of the Greenland ice sheet. <i>Journal of Glaciology</i> , 2017, 63, 847-853.	1.1	4
93	Detection of Saturation in High-Resolution Pushbroom Satellite Imagery. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> , 2018, 11, 1684-1693.	2.3	4
94	Characterization of the 2008 Phreatomagmatic Eruption of Okmok From ArcticDEM and InSAR: Deposition, Erosion, and Deformation. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB018977.	1.4	3
95	Empirical correction of systematic orthorectification error in Sentinel-2 velocity fields for Greenlandic outlet glaciers. <i>Cryosphere</i> , 2022, 16, 2629-2642.	1.5	2
96	Quantifying mass flows at Mt. Cleveland, Alaska between 2001 and 2020 using satellite photogrammetry. <i>Journal of Volcanology and Geothermal Research</i> , 2022, 429, 107614.	0.8	1
97	Journal club. <i>Nature</i> , 2010, 466, 799-799.	13.7	0
98	Code Optimization and Stabilization for a High-Resolution Terrain Generation Application. , 2018, , .		0
99	Tidewater Glaciers. <i>Springer Textbooks in Earth Sciences, Geography and Environment</i> , 2021, , 79-91.	0.1	0
100	Temporal variability in snow accumulation and density at Summit Camp, Greenland ice sheet. <i>Journal of Glaciology</i> , 0, , 1-9.	1.1	0