I M Howat

List of Publications by Citations

104 papers	8,813 citations	42 h-index	93 g-index
116 ext. papers	10,235 ext. citations	7.4 avg, IF	6.28 L-index

#	Paper	IF	Citations
104	The Randolph Glacier Inventory: a globally complete inventory of glaciers. *Journal of Glaciology*, **2014**, 60, 537-552	3.4	669
103	Greenland flow variability from ice-sheet-wide velocity mapping. *Journal of Glaciology*, **2010**, 56, 415-430	3.4	451
102	An improved mass budget for the Greenland ice sheet. *Geophysical Research Letters*, **2014**, 41, 866-872	4.9	416
101	Fracture propagation to the base of the Greenland Ice Sheet during supraglacial lake drainage. *Science*, **2008**, 320, 778-81	33.3	408
100	Rapid changes in ice discharge from Greenland outlet glaciers. *Science*, **2007**, 315, 1559-61	33.3	373
99	Large-scale changes in Greenland outlet glacier dynamics triggered at the terminus. *Nature Geoscience*, **2009**, 2, 110-114	18.3	370
98	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	4.9	343
97	Seasonal speedup along the western flank of the Greenland Ice Sheet. *Science*, **2008**, 320, 781-3	33.3	332
96	The Greenland Ice Mapping Project (GIMP) land classification and surface elevation data sets. *Cryosphere*, **2014**, 8, 1509-1518	5.5	317
95	A new bed elevation dataset for Greenland. *Cryosphere*, **2013**, 7, 499-510	5.5	291
94	On the recent contribution of the Greenland ice sheet to sea level change. *Cryosphere*, **2016**, 10, 1933-1946	5.5	283
93	21st-century evolution of Greenland outlet glacier velocities. *Science*, **2012**, 336, 576-8	33.3	267
92	Rapid retreat and acceleration of Helheim Glacier, east Greenland. *Geophysical Research Letters*, **2005**, 32, n/a-n/a	4.9	219
91	Deep glacial troughs and stabilizing ridges unveiled beneath the margins of the Antarctic ice sheet. *Nature Geoscience*, **2020**, 13, 132-137	18.3	205
90	The Reference Elevation Model of Antarctica. *Cryosphere*, **2019**, 13, 665-674	5.5	199
89	Synchronous retreat and acceleration of southeast Greenland outlet glaciers 2000–06: ice dynamics and coupling to climate. *Journal of Glaciology*, **2008**, 54, 646-660	3.4	183
88	Continued evolution of Jakobshavn Isbrae following its rapid speedup. *Journal of Geophysical Research*, **2008**, 113,		175

87	Committed sea-level rise for the next century from Greenland ice sheet dynamics during the past decade. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 8978-83	11.5	168
86	Annually resolved ice core records of tropical climate variability over the past ~1800 years. *Science*, **2013**, 340, 945-50	33.3	166
85	Seasonal variability in the dynamics of marine-terminating outlet glaciers in Greenland. *Journal of Glaciology*, **2010**, 56, 601-613	3.4	162
84	Submarine melting of the 1985 Jakobshavn Isbr floating tongue and the triggering of the current retreat. *Journal of Geophysical Research*, **2011**, 116, n/a-n/a		154
83	Automated stereo-photogrammetric DEM generation at high latitudes: Surface Extraction with TIN-based Search-space Minimization (SETSM) validation and demonstration over glaciated regions. *GIScience and Remote Sensing*, **2015**, 52, 198-217	4.8	150
82	Ice-front variation and tidewater behavior on Helheim and Kangerdlugssuaq Glaciers, Greenland. *Journal of Geophysical Research*, **2008**, 113,		132
81	Multi-decadal retreat of Greenland marine-terminating glaciers. *Journal of Glaciology*, **2011**, 57, 389-396	3.4	124
80	Rates of southeast Greenland ice volume loss from combined ICESat and ASTER observations. *Geophysical Research Letters*, **2008**, 35,	4.9	117
79	Seasonal to decadal scale variations in the surface velocity of Jakobshavn Isbrae, Greenland: Observation and model-based analysis. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		114
78	A daily, 1 km resolution data set of downscaled Greenland ice sheet surface mass balance (1958–2015). *Cryosphere*, **2016**, 10, 2361-2377	5.5	102
77	Mass balance of Greenland's three largest outlet glaciers, 2000–2010. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	100
76	Supraglacial lakes on the Greenland ice sheet advance inland under warming climate. *Nature Climate Change*, **2015**, 5, 51-55	21.4	73
75	Land Ice Freshwater Budget of the Arctic and North Atlantic Oceans: 1. Data, Methods, and Results. *Journal of Geophysical Research: Oceans*, **2018**, 123, 1827-1837	3.3	72
74	Changes in the dynamics of marine terminating outlet glaciers in west Greenland (2000–2009). *Journal of Geophysical Research*, **2011**, 116,		72
73	High sensitivity of tidewater outlet glacier dynamics to shape. *Cryosphere*, **2013**, 7, 1007-1015	5.5	69
72	A Complete Map of Greenland Ice Velocity Derived from Satellite Data Collected over 20 Years. *Journal of Glaciology*, **2018**, 64, 1-11	3.4	65
71	Dynamic ice loss from the Greenland Ice Sheet driven by sustained glacier retreat. *Communications Earth & Environment*, **2020**, 1,	6.1	62
70	Submarine melt rate estimates for floating termini of Greenland outlet glaciers (2000–2010). *Journal of Glaciology*, **2013**, 59, 67-75	3.4	61

69	Oceanic mechanical forcing of a marine-terminating Greenland glacier. *Annals of Glaciology*, **2012**, 53, 181-192	2.5	60
68	<i>Brief Communication</i> "Expansion of meltwater lakes on the Greenland Ice Sheet". *Cryosphere*, **2013**, 7, 201-204	5.5	57
67	Seasonal to decadal variability in ice discharge from the Greenland Ice Sheet. *Cryosphere*, **2018**, 12, 3813-3825	5.5	53
66	A tipping point in refreezing accelerates mass loss of Greenland's glaciers and ice caps. *Nature Communications*, **2017**, 8, 14730	17.4	49
65	Elevation change of the Greenland Ice Sheet due to surface mass balance and firn processes, 1960–2014. *Cryosphere*, **2015**, 9, 2009-2025	5.5	49
64	Changes in the marine-terminating glaciers of central east Greenland, 2000–2010. *Cryosphere*, **2012**, 6, 211-220	5.5	47
63	Efficient Automated Glacier Surface Velocity Measurement From Repeat Images Using Multi-Image/Multichip and Null Exclusion Feature Tracking. *IEEE Transactions on Geoscience and Remote Sensing*, **2011**, 49, 2838-2846	8.1	45
62	Heterogeneous Changes in Western North American Glaciers Linked to Decadal Variability in Zonal Wind Strength. *Geophysical Research Letters*, **2019**, 46, 200-209	4.9	42
61	Greenland Ice Mapping Project: Ice Flow Velocity Variation at sub-monthly to decadal time scales. *Cryosphere*, **2018**, 12, 2211-2227	5.5	42
60	Climate sensitivity of spring snowpack in the Sierra Nevada. *Journal of Geophysical Research*, **2005**, 110, n/a-n/a		41
59	Reconstructions of western Ross Sea palaeo-ice-stream grounding zones from high-resolution acoustic stratigraphy. *Boreas*, **2003**, 32, 56-75	2.4	41
58	GPS measurements of crustal uplift near Jakobshavn Isbræ due to glacial ice mass loss. *Journal of Geophysical Research*, **2010**, 115,		40
57	The Surface Extraction from TIN based Search-space Minimization (SETSM) algorithm. *ISPRS Journal of Photogrammetry and Remote Sensing*, **2017**, 129, 55-76	11.8	39
56	Dynamic controls on glacier basal motion inferred from surface ice motion. *Journal of Geophysical Research*, **2008**, 113,		37
55	Comparison of Methods to Estimate Snow Water Equivalent at the Mountain Range Scale: A Case Study of the California Sierra Nevada. *Journal of Hydrometeorology*, **2017**, 18, 1101-1119	3.7	36
54	Changes in the firn structure of the western Greenland Ice Sheet caused by recent warming. *Cryosphere*, **2015**, 9, 1203-1211	5.5	36
53	Accelerated ice shelf rifting and retreat at Pine Island Glacier, West Antarctica. *Geophysical Research Letters*, **2016**, 43, 11,720	4.9	35
52	Asynchronous behavior of outlet glaciers feeding Godthåbsfjord (Nuup Kangerlua) and the triggering of Narsap Sermia's retreat in SW Greenland. *Journal of Glaciology*, **2017**, 63, 288-308	3.4	32

51	Freshwater flux to Sermilik Fjord, SE Greenland. *Cryosphere*, **2010**, 4, 453-465	5.5	31
50	Trends in spring snowpack over a half-century of climate warming in California, USA. *Annals of Glaciology*, **2005**, 40, 151-156	2.5	30
49	The Greenland Ice Mapping Project (GIMP) land classification and surface elevation datasets		28
48	Multi-year observations of Breiðamerkurjökull, a marine-terminating glacier in southeastern Iceland, using terrestrial radar interferometry. *Journal of Glaciology*, **2015**, 61, 42-54	3.4	26
47	Continuously accelerating ice loss over Amundsen Sea catchment, West Antarctica, revealed by integrating altimetry and GRACE data. *Earth and Planetary Science Letters*, **2012**, 321-322, 74-80	5.3	25
46	A SAR Record of Early 21 Century Change in Greenland. *Journal of Glaciology*, **2016**, 62, 62-71	3.4	22
45	Coastline extraction from repeat high resolution satellite imagery. *Remote Sensing of Environment*, **2019**, 229, 260-270	13.2	21
44	Winter mass balance of Drangajökull ice cap (NW Iceland) derived from satellite sub-meter stereo images. *Cryosphere*, **2017**, 11, 1501-1517	5.5	21
43	Performance of Landsat 8 Operational Land Imager for Mapping Ice Sheet Velocity. *Remote Sensing of Environment*, **2015**, 170, 90-101	13.2	20
42	Brief Communication: Sudden drainage of a subglacial lake beneath the Greenland Ice Sheet. *Cryosphere*, **2015**, 9, 103-108	5.5	20
41	Automated Coregistration of Repeat Digital Elevation Models for Surface Elevation Change Measurement Using Geometric Constraints. *IEEE Transactions on Geoscience and Remote Sensing*, **2014**, 52, 2247-2260	8.1	19
40	Terminus dynamics at an advancing glacier: Taku Glacier, Alaska. *Journal of Glaciology*, **2009**, 55, 1052-1060	3.4	19
39	Automatic relative RPC image model bias compensation through hierarchical image matching for improving DEM quality. *ISPRS Journal of Photogrammetry and Remote Sensing*, **2018**, 136, 120-133	11.8	17
38	Improved Multiple Matching Method for Observing Glacier Motion with Repeat Image Feature Tracking. *IEEE Transactions on Geoscience and Remote Sensing*, **2017**, 55, 2431-2441	8.1	16
37	Estimating River Surface Elevation From ArcticDEM. *Geophysical Research Letters*, **2018**, 45, 3107-3114	4.9	16
36	Measuring Lava Flows With ArcticDEM: Application to the 2012–2013 Eruption of Tolbachik, Kamchatka. *Geophysical Research Letters*, **2017**, 44, 12,133	4.9	16
35	Geophysical evidence for Holocene lake-level change in southern California (Dry Lake). *Boreas*, **2010**, 39, 131-144	2.4	16
34	An ice sheet model validation framework for the Greenland ice sheet. *Geoscientific Model Development*, **2017**, 10, 255-270	6.3	14

33	High resolution Greenland ice sheet inter-annual mass variations combining GRACE gravimetry and Envisat altimetry. *Earth and Planetary Science Letters*, **2015**, 422, 11-17	5.3	13
32	A precipitation-dominated, mid-latitude glacier system: Mount Shasta, California. *Climate Dynamics*, **2006**, 28, 85-98	4.2	13
31	Observations of inertial currents in a lagoon in southeastern Iceland using terrestrial radar interferometry and automated iceberg tracking. *Computers and Geosciences*, **2015**, 82, 23-30	4.5	12
30	Emerging technology monitors ice-sea interface at outlet glaciers. *Eos*, **2012**, 93, 497-498	1.5	12
29	The sensitivity of flowline models of tidewater glaciers to parameter uncertainty. *Cryosphere*, **2013**, 7, 1579-1590	5.5	12
28	Non-linear glacier response to calving events, Jakobshavn Isbr□Greenland. *Journal of Glaciology*, **2019**, 65, 39-54	3.4	12
27	Detection and Assessment of a Large and Potentially Tsunamigenic Periglacial Landslide in Barry Arm, Alaska. *Geophysical Research Letters*, **2020**, 47, e2020GL089800	4.9	11
26	Ice flow variations at Polar Record Glacier, East Antarctica. *Journal of Glaciology*, **2019**, 65, 279-287	3.4	11
25	Acquisition of a 3 min, two-dimensional glacier velocity field with terrestrial radar interferometry. *Journal of Glaciology*, **2017**, 63, 629-636	3.4	10
24	Constraining ice mass loss from Jakobshavn Isbr□(Greenland) using InSAR-measured crustal uplift. *Geophysical Journal International*, **2012**, 188, 994-1006	2.6	9
23	Rift in Antarctic Glacier: A Unique Chance to Study Ice Shelf Retreat. *Eos*, **2012**, 93, 77-78	1.5	9
22	Improving maps of ice-sheet surface elevation change using combined laser altimeter and stereoscopic elevation model data. *Journal of Glaciology*, **2013**, 59, 524-532	3.4	9
21	Autonomous ice sheet surface mass balance measurements from cosmic rays. *Cryosphere*, **2018**, 12, 2099-2108	5.5	9
20	Reconstructions of western Ross Sea palaeo-ice-stream grounding zones from high-resolution acoustic stratigraphy **2003**, 32, 56		8
19	Monitoring a glacier in southeastern Iceland with the portable Terrestrial Radar Interferometer **2012**,		6
18	A new bed elevation dataset for Greenland		5
17	Elevation change of the Greenland ice sheet due to surface mass balance and firn processes, 1960□2013		5
16	High sensitivity of tidewater outlet glacier dynamics to shape		3

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15	High-Resolution Interannual Mass Anomalies of the Antarctic Ice Sheet by Combining GRACE Gravimetry and ENVISAT Altimetry. *IEEE Transactions on Geoscience and Remote Sensing*, **2018**, 56, 539-546	8.1	3
14	Formation and development of supraglacial lakes in the percolation zone of the Greenland ice sheet. *Journal of Glaciology*, **2017**, 63, 847-853	3.4	2
13	A daily, 1-km resolution dataset of downscaled Greenland ice sheet surface mass balance (1958–2015)		2
12	<i>Brief Communication</i> "Expansion of meltwater lakes on the Greenland ice sheet"		2
11	Complex Patterns of Antarctic Ice Sheet Mass Change Resolved by Time-Dependent Rate Modeling of GRACE and GRACE Follow-On Observations. *Geophysical Research Letters*, **2021**, 48,	4.9	2
10	Detection of Saturation in High-Resolution Pushbroom Satellite Imagery. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **2018**, 11, 1684-1693	4.7	2
9	Greenland ice-sheet wide glacier classification based on two distinct seasonal ice velocity behaviors. *Journal of Glaciology*,1-8	3.4	2
8	Characterization of the 2008 Phreatomagmatic Eruption of Okmok From ArcticDEM and InSAR: Deposition, Erosion, and Deformation. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2019JB018977	3.6	1
7	Freshwater flux to Sermilik Fjord, SE Greenland		1
6	Changes in the firn structure of the Greenland Ice Sheet caused by recent warming		1
5	Basal Channel Evolution on the Getz Ice Shelf, West Antarctica. *Journal of Geophysical Research F: Earth Surface*, **2020**, 125, e2019JF005293	3.8	1
4	Applications of High-Resolution, Cross-Track, Pushbroom Satellite Images With the SETSM Algorithm. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **2019**, 12, 3885-3899	4.7	0
3	Journal club. A glaciologist ponders iceberg calving from a safe distance. *Nature*, **2010**, 466, 799	50.4	
2	Tidewater Glaciers. *Springer Textbooks in Earth Sciences, Geography and Environment*, **2021**, 79-91	0.5	
1	Temporal variability in snow accumulation and density at Summit Camp, Greenland ice sheet. *Journal of Glaciology*,1-9	3.4	