

Helen A Fricker

List of Publications by Citations

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103
papers

6,599
citations

44
h-index

80
g-index

115
ext. papers

7,720
ext. citations

8.6
avg, IF

6.09
L-index

#	Paper	IF	Citations
103	Antarctic ice-sheet loss driven by basal melting of ice shelves. <i>Nature</i> , 2012 , 484, 502-5	50.4	859
102	Ice sheets. Volume loss from Antarctic ice shelves is accelerating. <i>Science</i> , 2015 , 348, 327-31	33.3	423
101	An active subglacial water system in West Antarctica mapped from space. <i>Science</i> , 2007 , 315, 1544-8	33.3	340
100	A new tide model for the Antarctic ice shelves and seas. <i>Annals of Glaciology</i> , 2002 , 34, 247-254	2.5	285
99	An inventory of active subglacial lakes in Antarctica detected by ICESat (2003-2008). <i>Journal of Glaciology</i> , 2009 , 55, 573-595	3.4	254
98	The ICESat-2 Laser Altimetry Mission. <i>Proceedings of the IEEE</i> , 2010 , 98, 735-751	14.3	236
97	A microbial ecosystem beneath the West Antarctic ice sheet. <i>Nature</i> , 2014 , 512, 310-3	50.4	191
96	Ice shelf disintegration by plate bending and hydro-fracture: Satellite observations and model results of the 2008 Wilkins ice shelf break-ups. <i>Earth and Planetary Science Letters</i> , 2009 , 280, 51-60	5.3	177
95	Connected subglacial lake activity on lower Mercer and Whillans Ice Streams, West Antarctica, 2003-2008. <i>Journal of Glaciology</i> , 2009 , 55, 303-315	3.4	133
94	Choosing the future of Antarctica. <i>Nature</i> , 2018 , 558, 233-241	50.4	125
93	ICESat Antarctic elevation data: Preliminary precision and accuracy assessment. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	125
92	Assessment of ICESat performance at the salar de Uyuni, Bolivia. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	122
91	Ice shelf grounding zone structure from ICESat laser altimetry. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	113
90	Distribution of marine ice beneath the Amery Ice Shelf. <i>Geophysical Research Letters</i> , 2001 , 28, 2241-2244.	4.9	108
89	Pervasive ice sheet mass loss reflects competing ocean and atmosphere processes. <i>Science</i> , 2020 , 368, 1239-1242	33.3	105
88	Mapping the grounding zone of the Amery Ice Shelf, East Antarctica using InSAR, MODIS and ICESat. <i>Antarctic Science</i> , 2009 , 21, 515-532	1.7	95
87	WISSARD at Subglacial Lake Whillans, West Antarctica: scientific operations and initial observations. <i>Annals of Glaciology</i> , 2014 , 55, 51-58	2.5	90

86	Trends and connections across the Antarctic cryosphere. <i>Nature</i> , 2018 , 558, 223-232	50.4	89
85	Mapping the grounding zone of the Ross Ice Shelf, Antarctica, using ICESat laser altimetry. <i>Annals of Glaciology</i> , 2010 , 51, 71-79	2.5	85
84	Ocean Tide Influences on the Antarctic and Greenland Ice Sheets. <i>Reviews of Geophysics</i> , 2018 , 56, 142-184	18.1	81
83	Transoceanic wave propagation links iceberg calving margins of Antarctica with storms in tropics and Northern Hemisphere. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	79
82	Response of Pacific-sector Antarctic ice shelves to the El Niño/Southern Oscillation. <i>Nature Geoscience</i> , 2018 , 11, 121-126	18.3	78
81	Properties of a marine ice layer under the Amery Ice Shelf, East Antarctica. <i>Journal of Glaciology</i> , 2009 , 55, 717-728	3.4	76
80	Impacts of warm water on Antarctic ice shelf stability through basal channel formation. <i>Nature Geoscience</i> , 2016 , 9, 290-293	18.3	73
79	Significant groundwater contribution to Antarctic ice streams hydrologic budget. <i>Geophysical Research Letters</i> , 2014 , 41, 2003-2010	4.9	72
78	Iceberg calving during transition from grounded to floating ice: Columbia Glacier, Alaska. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	65
77	A decade of West Antarctic subglacial lake interactions from combined ICESat and CryoSat-2 altimetry. <i>Geophysical Research Letters</i> , 2014 , 41, 891-898	4.9	64
76	A range correction for ICESat and its potential impact on ice-sheet mass balance studies. <i>Cryosphere</i> , 2014 , 8, 345-357	5.5	63
75	Improving Antarctic tide models by assimilation of ICESat laser altimetry over ice shelves. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	63
74	Iceberg calving from the Amery Ice Shelf, East Antarctica. <i>Annals of Glaciology</i> , 2002 , 34, 241-246	2.5	63
73	Land ice height-retrieval algorithm for NASA's ICESat-2 photon-counting laser altimeter. <i>Remote Sensing of Environment</i> , 2019 , 233, 111352	13.2	62
72	Basal mass budget of Ross and Filchner-Ronne ice shelves, Antarctica, derived from Lagrangian analysis of ICESat altimetry. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014 , 119, 2361-2380	3.8	62
71	An investigation into the forces that drive ice-shelf rift propagation on the Amery Ice Shelf, East Antarctica. <i>Journal of Glaciology</i> , 2008 , 54, 17-27	3.4	62
70	Interannual changes of the floating ice shelf of Petermann Gletscher, North Greenland, from 2000 to 2012. <i>Journal of Glaciology</i> , 2014 , 60, 489-499	3.4	57
69	Interannual variations in meltwater input to the Southern Ocean from Antarctic ice shelves. <i>Nature Geoscience</i> , 2020 , 13, 616-620	18.3	56

68	Episodic ice velocity fluctuations triggered by a subglacial flood in West Antarctica. <i>Geophysical Research Letters</i> , 2016 , 43, 2640-2648	4.9	55
67	Oceanic controls on the mass balance of Wilkins Ice Shelf, Antarctica. <i>Journal of Geophysical Research</i> , 2012 , 117,		55
66	Ross Ice Shelf response to climate driven by the tectonic imprint on seafloor bathymetry. <i>Nature Geoscience</i> , 2019 , 12, 441-449	18.3	51
65	Impact of tide-topography interactions on basal melting of Larsen C Ice Shelf, Antarctica. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		51
64	High basal melting forming a channel at the grounding line of Ross Ice Shelf, Antarctica. <i>Geophysical Research Letters</i> , 2016 , 43, 250-255	4.9	48
63	Episodic propagation of a rift on the Amery Ice Shelf, East Antarctica. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	48
62	Examining the interaction between multi-year landfast sea ice and the Mertz Glacier Tongue, East Antarctica: Another factor in ice sheet stability?. <i>Journal of Geophysical Research</i> , 2010 , 115,		47
61	A decade of progress in observing and modelling Antarctic subglacial water systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016 , 374,	3	47
60	Instantaneous Antarctic ice sheet mass loss driven by thinning ice shelves. <i>Geophysical Research Letters</i> , 2019 , 46, 13903-13909	4.9	46
59	Subglacial Lake Whillans microbial biogeochemistry: a synthesis of current knowledge. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016 , 374,	3	43
58	Seismicity and deformation associated with ice-shelf rift propagation. <i>Journal of Glaciology</i> , 2007 , 53, 523-536	3.4	43
57	Thirty years of elevation change on Antarctic Peninsula ice shelves from multimission satellite radar altimetry. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		43
56	Redefinition of the Amery Ice Shelf, East Antarctica, grounding zone. <i>Journal of Geophysical Research</i> , 2002 , 107, ECV 1-1		41
55	Synthesizing multiple remote-sensing techniques for subglacial hydrologic mapping: application to a lake system beneath MacAyeal Ice Stream, West Antarctica. <i>Journal of Glaciology</i> , 2010 , 56, 187-199	3.4	40
54	Digital elevation models for the Lambert Glacier-Amery Ice Shelf system, East Antarctica, from ERS-1 satellite radar altimetry. <i>Journal of Glaciology</i> , 2000 , 46, 553-560	3.4	40
53	Multi-year monitoring of rift propagation on the Amery Ice Shelf, East Antarctica. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	39
52	Variable deceleration of Whillans Ice Stream, West Antarctica. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014 , 119, 212-224	3.8	38
51	Variable Basal Melt Rates of Antarctic Peninsula Ice Shelves, 1994-2016. <i>Geophysical Research Letters</i> , 2018 , 45, 4086-4095	4.9	37

50	Oceanic and atmospheric forcing of Larsen C Ice-Shelf thinning. <i>Cryosphere</i> , 2015 , 9, 1005-1024	5.5	37
49	Analysis of ice plains of the Filchner-Ronne Ice Shelf, Antarctica, using ICESat laser altimetry. <i>Journal of Glaciology</i> , 2011 , 57, 965-975	3.4	37
48	Analysis of low-frequency seismic signals generated during a multiple-iceberg calving event at Jakobshavn Isbr� Greenland. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		34
47	Antarctic subglacial lakes drain through sediment-floored canals: theory and model testing on real and idealized domains. <i>Cryosphere</i> , 2017 , 11, 381-405	5.5	31
46	Flow of the Ross Ice Shelf, Antarctica, is modulated by the ocean tide. <i>Journal of Glaciology</i> , 2010 , 56, 157-161	3.4	31
45	Structural and environmental controls on Antarctic ice shelf rift propagation inferred from satellite monitoring. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013 , 118, 2354-2364	3.8	27
44	Tides on Filchner-Ronne Ice Shelf from ERS radar altimetry. <i>Geophysical Research Letters</i> , 2002 , 29, 60-1	4.9	27
43	Thirteen years of subglacial lake activity in Antarctica from multi-mission satellite altimetry. <i>Annals of Glaciology</i> , 2018 , 59, 42-55	2.5	25
42	Constructing improved decadal records of Antarctic ice shelf height change from multiple satellite radar altimeters. <i>Remote Sensing of Environment</i> , 2016 , 177, 192-205	13.2	25
41	Active lakes of Recovery Ice Stream, East Antarctica: a bedrock-controlled subglacial hydrological system. <i>Journal of Glaciology</i> , 2014 , 60, 1015-1030	3.4	25
40	Modeling 5 years of subglacial lake activity in the MacAyeal Ice Stream (Antarctica) catchment through assimilation of ICESat laser altimetry. <i>Journal of Glaciology</i> , 2011 , 57, 1098-1112	3.4	25
39	ICESat's new perspective on ice shelf rifts: The vertical dimension. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	24
38	A 4-decade record of elevation change of the Amery Ice Shelf, East Antarctica. <i>Journal of Geophysical Research</i> , 2009 , 114,		21
37	Tides on the Ross Ice Shelf observed with ICESat. <i>Geophysical Research Letters</i> , 2005 , 32, n/a-n/a	4.9	21
36	Siple Coast subglacial aquatic environments: The Whillans Ice Stream Subglacial Access Research Drilling Project. <i>Geophysical Monograph Series</i> , 2011 , 199-219	1.1	21
35	External influences on the Mertz Glacier Tongue (East Antarctica) in the decade leading up to its calving in 2010. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015 , 120, 490-506	3.8	20
34	Seventeen Antarctic seismic events detected by global surface waves and a possible link to calving events from satellite images. <i>Journal of Geophysical Research</i> , 2011 , 116,		20
33	Ocean forced variability of Totten Glacier mass loss. <i>Geological Society Special Publication</i> , 2018 , 461, 175-186	1.7	20

32	Observations of interannual and spatial variability in rift propagation in the Amery Ice Shelf, Antarctica, 2002-14. <i>Journal of Glaciology</i> , 2015 , 61, 243-252	3.4	19
31	Variability of upper firn processes in West Antarctica observed with GPS reflectometry, 2007-2017. <i>Geophysical Research Letters</i> , 2017 , 44, 7808-7816	4.9	18
30	ICESat/GLAS Altimetry Measurements: Received Signal Dynamic Range and Saturation Correction. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2017 , 55, 5440-5454	8.1	18
29	Reactivation of Kamb Ice Stream tributaries triggers century-scale reorganization of Siple Coast ice flow in West Antarctica. <i>Geophysical Research Letters</i> , 2015 , 42, 8471-8480	4.9	18
28	Evolution of the Seasonal Surface Mixed Layer of the Ross Sea, Antarctica, Observed With Autonomous Profiling Floats. <i>Journal of Geophysical Research: Oceans</i> , 2019 , 124, 4934-4953	3.3	16
27	Seismicity within a propagating ice shelf rift: The relationship between icequake locations and ice shelf structure. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014 , 119, 731-744	3.8	15
26	Topography of the salar de Uyuni, Bolivia from kinematic GPS. <i>Geophysical Journal International</i> , 2008 , 172, 31-40	2.6	14
25	Modeling long-period noise in kinematic GPS applications. <i>Journal of Geodesy</i> , 2007 , 81, 157-170	4.5	12
24	Scientific access into Mercer Subglacial Lake: scientific objectives, drilling operations and initial observations. <i>Annals of Glaciology</i> , 1-13	2.5	12
23	ICESat-2 Meltwater Depth Estimates: Application to Surface Melt on Amery Ice Shelf, East Antarctica. <i>Geophysical Research Letters</i> , 2021 , 48, e2020GL090550	4.9	12
22	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	3.4	10
21	A range correction for ICESat and its potential impact on ice sheet mass balance studies		10
20	Mid-Holocene Grounding Line Retreat and Readvance at Whillans Ice Stream, West Antarctica. <i>Geophysical Research Letters</i> , 2020 , 47, e2020GL088476	4.9	10
19	A Terrestrial Validation of ICESat Elevation Measurements and Implications for Global Reanalyses. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2019 , 57, 6946-6959	8.1	9
18	Surface meltwater drainage and ponding on Amery Ice Shelf, East Antarctica, 1973-2019. <i>Journal of Glaciology</i> , 1-14	3.4	9
17	Using ICESat-2 and Operation IceBridge altimetry for supraglacial lake depth retrievals. <i>Cryosphere</i> , 2020 , 14, 4253-4263	5.5	8
16	Atmospheric River Precipitation Contributed to Rapid Increases in Surface Height of the West Antarctic Ice Sheet in 2019. <i>Geophysical Research Letters</i> , 2021 , 48, e2020GL091076	4.9	8
15	Multidecadal Basal Melt Rates and Structure of the Ross Ice Shelf, Antarctica, Using Airborne Ice Penetrating Radar. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020 , 125, e2019JF005241	3.8	7

14	Viscous and elastic buoyancy stresses as drivers of ice-shelf calving. <i>Journal of Glaciology</i> , 2020 , 66, 643-657	7
13	Antarctica and the Southern Ocean. <i>Bulletin of the American Meteorological Society</i> , 2020 , 101, S287-S326.	6
12	Illuminating Active Subglacial Lake Processes With ICESat-2 Laser Altimetry. <i>Geophysical Research Letters</i> , 2021 , 48, e2020GL091089	4-9 6
11	Sediment behavior controls equilibrium width of subglacial channels. <i>Journal of Glaciology</i> , 2017 , 63, 1034-1048	3-4 5
10	Active lakes in Antarctica survive on a sedimentary substrate [Part 1: Theory	5
9	Atmospheric and oceanic forcing of Larsen C Ice Shelf thinning	5
8	A High Resolution, Three-Dimensional View of the D-28 Calving Event From Amery Ice Shelf With ICESat-2 and Satellite Imagery. <i>Geophysical Research Letters</i> , 2021 , 48, e2020GL091200	4-9 4
7	Tidal Pressurization of the Ocean Cavity Near an Antarctic Ice Shelf Grounding Line. <i>Journal of Geophysical Research: Oceans</i> , 2020 , 125, e2019JC015562	3-3 3
6	Subglacial lakes and their changing role in a warming climate. <i>Nature Reviews Earth & Environment</i> ,	30.2 3
5	Annual cycle in flow of Ross Ice Shelf, Antarctica: contribution of variable basal melting. <i>Journal of Glaciology</i> , 2020 , 66, 861-875	3-4 3
4	Rapid Formation of an Ice Doline on Amery Ice Shelf, East Antarctica. <i>Geophysical Research Letters</i> , 2021 , 48, e2020GL091095	4-9 3
3	A dynamic saline groundwater system mapped beneath an Antarctic ice stream.. <i>Science</i> , 2022 , 376, 640-644	3-3 3
2	Using ICESat-2 and Operation IceBridge altimetry for supraglacial lake depth retrievals	2
1	Buoyancy-Driven Flexure at the Front of Ross Ice Shelf, Antarctica, Observed With ICESat-2 Laser Altimetry. <i>Geophysical Research Letters</i> , 2021 , 48, e2020GL091207	4-9