

Slawek M Tulaczyk

List of Publications by Year in descending order

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130
papers

8,619
citations

41258

49
h-index

51492

86
g-index

143
all docs

143
docs citations

143
times ranked

5438
citing authors

#	ARTICLE	IF	CITATIONS
1	Basal mechanics of Ice Stream B, west Antarctica: 1. Till mechanics. <i>Journal of Geophysical Research</i> , 2000, 105, 463-481.	3.3	408
2	An inventory of active subglacial lakes in Antarctica detected by ICESat (2003–2008). <i>Journal of Glaciology</i> , 2009, 55, 573-595.	1.1	291
3	Basal mechanics of Ice Stream B, west Antarctica: 2. Undrained plastic bed model. <i>Journal of Geophysical Research</i> , 2000, 105, 483-494.	3.3	282
4	A microbial ecosystem beneath the West Antarctic ice sheet. <i>Nature</i> , 2014, 512, 310-313.	13.7	255
5	Ice-sheet mass balance and climate change. <i>Nature</i> , 2013, 498, 51-59.	13.7	253
6	Pleistocene Collapse of the West Antarctic Ice Sheet. , 1998, 281, 82-85.		247
7	Rapid retreat and acceleration of Helheim Glacier, east Greenland. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	1.5	246
8	Sedimentary processes at the base of a West Antarctic ice stream; constraints from textural and compositional properties of subglacial debris. <i>Journal of Sedimentary Research</i> , 1998, 68, 487-496.	0.8	220
9	Evidence for subglacial water transport in the West Antarctic Ice Sheet through three-dimensional satellite radar interferometry. <i>Geophysical Research Letters</i> , 2005, 32, .	1.5	198
10	Bioavailable iron in the Southern Ocean: the significance of the iceberg conveyor belt. <i>Geochemical Transactions</i> , 2008, 9, 7.	1.8	194
11	Potential methane reservoirs beneath Antarctica. <i>Nature</i> , 2012, 488, 633-637.	13.7	184
12	Basal conditions for Pine Island and Thwaites Glaciers, West Antarctica, determined using satellite and airborne data. <i>Journal of Glaciology</i> , 2009, 55, 245-257.	1.1	181
13	Positive Mass Balance of the Ross Ice Streams, West Antarctica. <i>Science</i> , 2002, 295, 476-480.	6.0	177
14	Basal shear stress of the Ross ice streams from control method inversions. <i>Journal of Geophysical Research</i> , 2004, 109, n/a-n/a.	3.3	173
15	Changes in west Antarctic ice stream velocities: Observation and analysis. <i>Journal of Geophysical Research</i> , 2002, 107, EPM 3-1-EPM 3-22.	3.3	169
16	A ploughing model for the origin of weak tills beneath ice streams: a qualitative treatment. <i>Quaternary International</i> , 2001, 86, 59-70.	0.7	159
17	Were deforming subglacial beds beneath past ice sheets really widespread?. <i>Quaternary International</i> , 2001, 86, 139-150.	0.7	154
18	A groove-ploughing theory for the production of mega-scale glacial lineations, and implications for ice-stream mechanics. <i>Journal of Glaciology</i> , 2003, 49, 240-256.	1.1	148

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19	A Mini-Surge on the Ryder Glacier, Greenland, Observed by Satellite Radar Interferometry. <i>Science</i> , 1996, 274, 228-230.	6.0	146
20	Subglacial conditions under the last ice sheet in northwest Germany: ice-bed separation and enhanced basal sliding?. <i>Quaternary Science Reviews</i> , 1999, 18, 737-751.	1.4	139
21	Bacteria beneath the West Antarctic Ice Sheet. <i>Environmental Microbiology</i> , 2009, 11, 609-615.	1.8	135
22	Deep groundwater and potential subsurface habitats beneath an Antarctic dry valley. <i>Nature Communications</i> , 2015, 6, 6831.	5.8	130
23	Ice stream sticky spots: A review of their identification and influence beneath contemporary and palaeo-ice streams. <i>Earth-Science Reviews</i> , 2007, 81, 217-249.	4.0	127
24	High geothermal heat flux measured below the West Antarctic Ice Sheet. <i>Science Advances</i> , 2015, 1, e1500093.	4.7	126
25	WISSARD at Subglacial Lake Whillans, West Antarctica: scientific operations and initial observations. <i>Annals of Glaciology</i> , 2014, 55, 51-58.	2.8	121
26	Extensive retreat and re-advance of the West Antarctic Ice Sheet during the Holocene. <i>Nature</i> , 2018, 558, 430-434.	13.7	113
27	Estimates of effective stress beneath a modern West Antarctic ice stream from till preconsolidation and void ratio. <i>Boreas</i> , 2001, 30, 101-114.	1.2	99
28	Response of subglacial sediments to basal freeze-on 1. Theory and comparison to observations from beneath the West Antarctic Ice Sheet. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	95
29	Melting and freezing beneath the Ross ice streams, Antarctica. <i>Journal of Glaciology</i> , 2004, 50, 96-108.	1.1	89
30	Significant groundwater contribution to Antarctic ice streams hydrologic budget. <i>Geophysical Research Letters</i> , 2014, 41, 2003-2010.	1.5	87
31	Antarctic subglacial water: origin, evolution, and ecology. , 2008, , 119-136.		87
32	Superimposition of ribbed moraines on a palaeo-ice stream bed: implications for ice stream dynamics and shutdown. <i>Earth Surface Processes and Landforms</i> , 2008, 33, 593-609.	1.2	83
33	Subglacial methanogenesis: A potential climatic amplifier?. <i>Global Biogeochemical Cycles</i> , 2008, 22, n/a-n/a.	1.9	81
34	Episodic ice velocity fluctuations triggered by a subglacial flood in West Antarctica. <i>Geophysical Research Letters</i> , 2016, 43, 2640-2648.	1.5	78
35	Subglacial conditions during and after stoppage of an Antarctic Ice Stream: Is reactivation imminent?. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	1.5	77
36	A decade of West Antarctic subglacial lake interactions from combined ICESat and CryoSat-2 altimetry. <i>Geophysical Research Letters</i> , 2014, 41, 891-898.	1.5	77

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37	A microbiologically clean strategy for access to the Whillans Ice Stream subglacial environment. <i>Antarctic Science</i> , 2013, 25, 637-647.	0.5	74
38	Microbial Community Structure of Subglacial Lake Whillans, West Antarctica. <i>Frontiers in Microbiology</i> , 2016, 7, 1457.	1.5	74
39	Oceanic mechanical forcing of a marine-terminating Greenland glacier. <i>Annals of Glaciology</i> , 2012, 53, 181-192.	2.8	69
40	Integrating satellite observations with modelling: basal shear stress of the Filcher-Ronne ice streams, Antarctica. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2006, 364, 1795-1814.	1.6	66
41	Response of subglacial sediments to basal freeze-on 2. Application in numerical modeling of the recent stoppage of Ice Stream C, West Antarctica. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	65
42	The potential role of the Antarctic Ice Sheet in global biogeochemical cycles. <i>Earth and Environmental Science Transactions of the Royal Society of Edinburgh</i> , 2013, 104, 55-67.	0.3	65
43	Subglacial Lake Whillans microbial biogeochemistry: a synthesis of current knowledge. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20140290.	1.6	64
44	Ocean Stratification and Low Melt Rates at the Ross Ice Shelf Grounding Zone. <i>Journal of Geophysical Research: Oceans</i> , 2018, 123, 7438-7452.	1.0	61
45	Ice sliding over weak, fine-grained tills: Dependence of ice-till interactions on till granulometry. , 1999, , .		60
46	The role of Pine Island Glacier ice shelf basal channels in deep-water upwelling, polynyas and ocean circulation in Pine Island Bay, Antarctica. <i>Annals of Glaciology</i> , 2012, 53, 123-128.	2.8	58
47	Thermodynamics of basal freeze-on: predicting basal and subglacial signatures of stopped ice streams and interstream ridges. <i>Annals of Glaciology</i> , 2003, 36, 233-243.	2.8	55
48	Methane transport from the active layer to lakes in the Arctic using Toolik Lake, Alaska, as a case study. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 3636-3640.	3.3	55
49	Signature of palaeo-ice stream stagnation: till consolidation induced by basal freeze-on. <i>Boreas</i> , 2003, 32, 114-129.	1.2	52
50	Basal ice sequences in Antarctic ice stream: Exposure of past hydrologic conditions and a principal mode of sediment transfer. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	51
51	IceMole: a maneuverable probe for clean in situ analysis and sampling of subsurface ice and subglacial aquatic ecosystems. <i>Annals of Glaciology</i> , 2014, 55, 14-22.	2.8	51
52	Subglacial drilling at Black Rapids Glacier, Alaska, U.S.A.: drilling method and sample descriptions. <i>Journal of Glaciology</i> , 1999, 45, 495-505.	1.1	50
53	Ice flow dynamics forced by water pressure variations in subglacial granular beds. <i>Geophysical Research Letters</i> , 2016, 43, 12,165.	1.5	50
54	Basal melt beneath Whillans Ice Stream and Ice Streams A and C, West Antarctica. <i>Annals of Glaciology</i> , 2003, 36, 257-262.	2.8	49

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55	Late Quaternary glaciation of the Upper SoÅ River Region (Southern Julian Alps, NW Slovenia). <i>Sedimentary Geology</i> , 2004, 165, 265-283.	1.0	49
56	Transient slip events from near-field seismic and geodetic data on a glacier fault, Whillans Ice Plain, West Antarctica. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	48
57	Climate sensitivity of spring snowpack in the Sierra Nevada. <i>Journal of Geophysical Research</i> , 2005, 110, n/a-n/a.	3.3	47
58	Schwertmannite in wet, acid, and oxic microenvironments beneath polar and polythermal glaciers. <i>Geology</i> , 2009, 37, 431-434.	2.0	46
59	Navigation technology for exploration of glacier ice with maneuverable melting probes. <i>Cold Regions Science and Technology</i> , 2016, 123, 53-70.	1.6	46
60	Methane transport through submarine groundwater discharge to the <sc>N</sc>orth <sc>P</sc>acific and <sc>A</sc>rtic Ocean at two <sc>A</sc>askan sites. <i>Limnology and Oceanography</i> , 2016, 61, S344.	1.6	43
61	Trans-dimensional Bayesian inversion of airborne transient EM data from Taylor Glacier, Antarctica. <i>Geophysical Journal International</i> , 2018, 214, 1919-1936.	1.0	43
62	Numerical investigations of the slow-down of Whillans Ice Stream, West Antarctica: is it shutting down like Ice Stream C?. <i>Annals of Glaciology</i> , 2003, 37, 239-246.	2.8	42
63	Formation of mega-scale glacial lineations on the Dubawnt Lake Ice Stream bed: 2. Sedimentology and stratigraphy. <i>Quaternary Science Reviews</i> , 2013, 77, 210-227.	1.4	42
64	Scale independence of till rheology. <i>Journal of Glaciology</i> , 2006, 52, 377-380.	1.1	40
65	Dynamic controls on glacier basal motion inferred from surface ice motion. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	40
66	Large subglacial lake beneath the Laurentide Ice Sheet inferred from sedimentary sequences. <i>Geology</i> , 2008, 36, 563.	2.0	40
67	Variable deceleration of Whillans Ice Stream, West Antarctica. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014, 119, 212-224.	1.0	40
68	Microstructural interpretations of modern and Pleistocene subglacially deformed sediments: the relative role of parent material and subglacial processes. <i>Journal of Quaternary Science</i> , 2001, 16, 507-517.	1.1	39
69	Physical processes in Subglacial Lake Whillans, West Antarctica: Inferences from sediment cores. <i>Earth and Planetary Science Letters</i> , 2016, 444, 56-63.	1.8	37
70	Ice retreat in Wilkes Basin of East Antarctica during a warm interglacial. <i>Nature</i> , 2020, 583, 554-559.	13.7	36
71	Rupture speed dependence on initial stress profiles: Insights from glacier and laboratory stick-slip. <i>Earth and Planetary Science Letters</i> , 2015, 411, 112-120.	1.8	34
72	Current Magnitude and Mechanisms of Groundwater Discharge in the Arctic: Case Study from Alaska. <i>Environmental Science & Technology</i> , 2015, 49, 12036-12043.	4.6	34

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73	Helicopter-borne transient electromagnetics in high-latitude environments: An application in the McMurdo Dry Valleys, Antarctica. <i>Geophysics</i> , 2016, 81, WA87-WA99.	1.4	34
74	Distribution of basal melting and freezing beneath tributaries of Ice Stream C: implication for the Holocene decay of the West Antarctic ice sheet. <i>Annals of Glaciology</i> , 2003, 36, 273-282.	2.8	33
75	The paradox of a long grounding during West Antarctic Ice Sheet retreat in Ross Sea. <i>Scientific Reports</i> , 2017, 7, 1262.	1.6	33
76	An englacial hydrologic system of brine within a cold glacier: Blood Falls, McMurdo Dry Valleys, Antarctica. <i>Journal of Glaciology</i> , 2017, 63, 387-400.	1.1	33
77	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
78	A quantitative framework for interpretation of basal ice facies formed by ice accretion over subglacial sediment. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	32
79	Discrete element modeling of subglacial sediment deformation. <i>Journal of Geophysical Research F: Earth Surface</i> , 2013, 118, 2230-2242.	1.0	31
80	Subsurface imaging reveals a confined aquifer beneath an ice-sealed Antarctic lake. <i>Geophysical Research Letters</i> , 2015, 42, 96-103.	1.5	31
81	The Geochemistry of Englacial Brine From Taylor Glacier, Antarctica. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2019, 124, 633-648.	1.3	31
82	Strong MARSIS Radar Reflections From the Base of Martian South Polar Cap May Be Due to Conductive Ice or Minerals. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093880.	1.5	28
83	Glacial erosion beneath ice streams and ice stream tributaries: constraints on temporal and spatial distribution of erosion from numerical simulations of a West Antarctic ice stream. <i>Boreas</i> , 2003, 32, 178-190.	1.2	27
84	Spatially Variable Geothermal Heat Flux in West Antarctica: Evidence and Implications. <i>Geophysical Research Letters</i> , 2017, 44, 9823-9832.	1.5	27
85	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.	1.5	24
86	Technologies for retrieving sediment cores in Antarctic subglacial settings. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20150056.	1.6	24
87	Siple Coast subglacial aquatic environments: The Whillans Ice Stream Subglacial Access Research Drilling Project. <i>Geophysical Monograph Series</i> , 2011, , 199-219.	0.1	24
88	Geophysical evidence for Holocene lake-level change in southern California (Dry Lake). <i>Boreas</i> , 2010, 39, 131-144.	1.2	23
89	Snow accumulation variability on a West Antarctic ice stream observed with GPS reflectometry, 2007-2017. <i>Geophysical Research Letters</i> , 2017, 44, 7808-7816.	1.5	23
90	Reply to the comments by G.S. Boulton, K.E. Dobbie, S. Zatsepin on: Deforming soft beds under ice sheets: how extensive were they?. <i>Quaternary International</i> , 2002, 97-98, 173-177.	0.7	22

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91	A new methodology to simulate subglacial deformation of water-saturated granular material. <i>Cryosphere</i> , 2015, 9, 2183-2200.	1.5	21
92	Breaking All the Rules: The First Recorded Hard Substrate Sessile Benthic Community Far Beneath an Antarctic Ice Shelf. <i>Frontiers in Marine Science</i> , 2021, 8, .	1.2	21
93	Implications of basal micro-earthquakes and tremor for ice stream mechanics: Stick-slip basal sliding and till erosion. <i>Earth and Planetary Science Letters</i> , 2018, 486, 54-60.	1.8	20
94	Microbial diversity of an Antarctic subglacial community and high-resolution replicate sampling inform hydrological connectivity in a polar desert. <i>Environmental Microbiology</i> , 2019, 21, 2290-2306.	1.8	20
95	Geomorphological Map of Ribbed Moraines on the Dubawnt Lake Palaeo-Ice Stream Bed: A Signature of Ice Stream Shut-down?. <i>Journal of Maps</i> , 2006, 2, 1-9.	1.0	19
96	Hydrochemistry of ice stream beds – evaporitic or microbial effects?. <i>Hydrological Processes</i> , 2010, 24, 517-523.	1.1	19
97	Inferring Ice Fabric From Birefringence Loss in Airborne Radargrams: Application to the Eastern Shear Margin of Thwaites Glacier, West Antarctica. <i>Journal of Geophysical Research F: Earth Surface</i> , 2021, 126, e2020JF006023.	1.0	19
98	Ice-dynamical constraints on the existence and impact of subglacial volcanism on West Antarctic ice sheet stability. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	18
99	The role of electrical conductivity in radar wave reflection from glacier beds. <i>Cryosphere</i> , 2020, 14, 4495-4506.	1.5	18
100	The past, present, and future viscous heat dissipation available for Greenland subglacial conduit formation. <i>Cryosphere</i> , 2017, 11, 303-317.	1.5	17
101	Microbial processes in the weathering crust aquifer of a temperate glacier. <i>Cryosphere</i> , 2018, 12, 3653-3669.	1.5	17
102	Evidence for Pathways of Concentrated Submarine Groundwater Discharge in East Antarctica from Helicopter-Borne Electrical Resistivity Measurements. <i>Hydrology</i> , 2019, 6, 54.	1.3	17
103	Did Holocene climate changes drive West Antarctic grounding line retreat and readvance?. <i>Cryosphere</i> , 2021, 15, 4655-4673.	1.5	15
104	A precipitation-dominated, mid-latitude glacier system: Mount Shasta, California. <i>Climate Dynamics</i> , 2006, 28, 85-98.	1.7	14
105	Subglacial lake sediments and sedimentary processes: Potential archives of ice sheet evolution, past environmental change, and the presence of life. <i>Geophysical Monograph Series</i> , 2011, , 83-110.	0.1	14
106	Geologic constraints on the existence and distribution of West Antarctic subglacial volcanism. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	13
107	Analysis of the microbial community and geochemistry of a sediment core from Great Slave Lake, Canada. <i>Antonie Van Leeuwenhoek</i> , 2011, 99, 423-430.	0.7	13
108	Estimates of effective stress beneath a modern West Antarctic ice stream from till preconsolidation and void ratio. <i>Boreas</i> , 2001, 30, 101-114.	1.2	12

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109	Roughness of a subglacial conduit under Hansbreen, Svalbard. <i>Journal of Glaciology</i> , 2017, 63, 423-435.	1.1	12
110	A significant acceleration of ice volume discharge preceded a major retreat of a West Antarctic paleo-ice stream. <i>Geology</i> , 2020, 48, 313-317.	2.0	12
111	Icequake streaks linked to potential mega-scale glacial lineations beneath an Antarctic ice stream. <i>Geology</i> , 2020, 48, 99-102.	2.0	12
112	Tidal Pressurization of the Ocean Cavity Near an Antarctic Ice Shelf Grounding Line. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2019JC015562.	1.0	12
113	Signature of palaeo-ice-stream stagnation: till consolidation induced by basal freeze-on. <i>Boreas</i> , 2003, 32, 114-129.	1.2	12
114	Probing Subglacial Environments Under the Whillans Ice Stream. <i>Eos</i> , 2010, 91, 253-254.	0.1	11
115	Subglacial drilling at Black Rapids Glacier, Alaska, U.S.A.: drilling method and sample descriptions. <i>Journal of Glaciology</i> , 1999, 45, 495-505.	1.1	10
116	Rapid basal melting of the Greenland Ice Sheet from surface meltwater drainage. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	10
117	Antarctica's Deep Frozen "Lakes". <i>Science</i> , 2011, 331, 1524-1525.	6.0	8
118	Rapid and accurate polarimetric radar measurements of ice crystal fabric orientation at the Western Antarctic Ice Sheet (WAIS) Divide ice core site. <i>Cryosphere</i> , 2021, 15, 4117-4133.	1.5	8
119	Spatiotemporal distributions of icebergs in a temperate fjord: Columbia Fjord, Alaska. <i>Cryosphere</i> , 2019, 13, 1785-1799.	1.5	6
120	Migratory earthquake precursors are dominant on an ice stream fault. <i>Science Advances</i> , 2021, 7, .	4.7	6
121	Induced polarization effects in airborne transient electromagnetic data collected in the McMurdo Dry Valleys, Antarctica. <i>Geophysical Journal International</i> , 2021, 226, 1574-1583.	1.0	6
122	Sensitivity of ocean circulation and sea-ice conditions to loss of West Antarctic ice shelves and ice sheet. <i>Journal of Glaciology</i> , 2007, 53, 490-498.	1.1	4
123	Thermal legacy of a large paleolake in Taylor Valley, East Antarctica, as evidenced by an airborne electromagnetic survey. <i>Cryosphere</i> , 2021, 15, 3577-3593.	1.5	4
124	Glacial erosion beneath ice streams and ice-stream tributaries: constraints on temporal and spatial distribution of erosion from numerical simulations of a West Antarctic ice stream. <i>Boreas</i> , 2003, 32, 178-190.	1.2	4
125	Comparison of ground-based and airborne transient electromagnetic methods for mapping glacial and permafrost environments: Cases from McMurdo Dry Valleys, Antarctica. <i>Cold Regions Science and Technology</i> , 2022, 199, 103578.	1.6	4
126	Reply to comment by A. W. Rempel et al. on "A quantitative framework for interpretation of basal ice facies formed by ice accretion over subglacial sediment". <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	3

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127	Fast Glacier Flow and Ice Streaming. , 0, , 353-359.		2
128	First Airborne Transient EM Survey in Antarctica: Mapping of Saline Ground Water System. , 2012, , .		2
129	Workshop advances interdisciplinary polar science and fast ice sheet drilling. Eos, 2003, 84, 111.	0.1	1
130	Roger LeB. Hooke. 2005. Principles of glacier mechanics. Second edition. Cambridge, etc., Cambridge University Press, 429pp. ISBN 0-521-83609-3, hardback, £75/US\$120; ISBN 0-521-54416-5, paperback, £35/US\$65.. Journal of Glaciology, 2005, 51, 336-336.	1.1	0