

# Matt A King

## List of Publications by Year in descending order

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138  
papers

9,371  
citations

47409

49  
h-index

48101

92  
g-index

166  
all docs

166  
docs citations

166  
times ranked

6715  
citing authors

#	ARTICLE	IF	CITATIONS
1	GPS-Observed Elastic Deformation Due to Surface Mass Balance Variability in the Southern Antarctic Peninsula. <i>Geophysical Research Letters</i> , 2022, 49, .	1.5	5
2	GPS Rates of Vertical Bedrock Motion Suggest Late Holocene Ice Sheet Readvance in a Critical Sector of East Antarctica. <i>Geophysical Research Letters</i> , 2022, 49, .	1.5	9
3	A global, spherical finite-element model for post-seismic deformation using <i>Abaqus</i> . <i>Geoscientific Model Development</i> , 2022, 15, 2489-2503.	1.3	5
4	The impact of tides on Antarctic ice shelf melting. <i>Cryosphere</i> , 2022, 16, 1409-1429.	1.5	8
5	On the uncertainty associated with validating the global mean sea level climate record. <i>Advances in Space Research</i> , 2021, 68, 487-495.	1.2	5
6	Ice sheets, glaciers, and sea level. , 2021, , 707-740.		2
7	Migratory earthquake precursors are dominant on an ice stream fault. <i>Science Advances</i> , 2021, 7, .	4.7	6
8	Estimating Vertical Land Motion and Residual Altimeter Systematic Errors Using a Kalman-Based Approach. <i>Journal of Geophysical Research: Oceans</i> , 2021, 126, e2020JC017106.	1.0	5
9	Limitations in One-Dimensional (an)Elastic Earth Models for Explaining GPS-Observed $M_2$ Ocean Tide Loading Displacements in New Zealand. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2021JB021992.	1.4	6
10	An iterative process for efficient optimisation of parameters in geoscientific models: a demonstration using the Parallel Ice Sheet Model (PISM) version 0.7.3. <i>Geoscientific Model Development</i> , 2021, 14, 5107-5124.	1.3	2
11	Upper Mantle Viscosity Underneath Northern Marguerite Bay, Antarctic Peninsula Constrained by Bedrock Uplift and Ice Mass Variability. <i>Geophysical Research Letters</i> , 2021, 48, .	1.5	8
12	GNSS/INS-Equipped Buoys for Altimetry Validation: Lessons Learnt and New Directions from the Bass Strait Validation Facility. <i>Remote Sensing</i> , 2020, 12, 3001.	1.8	12
13	The Sensitivity of the Antarctic Ice Sheet to a Changing Climate: Past, Present, and Future. <i>Reviews of Geophysics</i> , 2020, 58, e2019RG000663.	9.0	49
14	Reduced ice mass loss and three-dimensional viscoelastic deformation in northern Antarctic Peninsula inferred from GPS. <i>Geophysical Journal International</i> , 2020, 222, 1013-1022.	1.0	15
15	Separation of tectonic and local components of horizontal GPS station velocities: a case study for glacial isostatic adjustment in East Antarctica. <i>Geophysical Journal International</i> , 2020, 222, 1555-1569.	1.0	6
16	Antarctic Surface Mass Balance: Natural Variability, Noise, and Detecting New Trends. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087493.	1.5	11
17	A new open-source viscoelastic solid earth deformation module implemented in Elmer (v8.4). <i>Geoscientific Model Development</i> , 2020, 13, 1155-1164.	1.3	6
18	Present-Day Vertical Land Motion of Australia From GPS Observations and Geophysical Models. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB018034.	1.4	18

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19	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
20	Estimating ocean tide loading displacements with GPS and GLONASS. <i>Solid Earth</i> , 2020, 11, 1849-1863.	1.2	12
21	Solid Earth change and the evolution of the Antarctic Ice Sheet. <i>Nature Communications</i> , 2019, 10, 503.	5.8	93
22	Antarctica just has this hero factor   Gendered barriers to Australian Antarctic research and remote fieldwork. <i>PLoS ONE</i> , 2019, 14, e0209983.	1.1	33
23	Simulated dynamic regrounding during marine ice sheet retreat. <i>Cryosphere</i> , 2018, 12, 2425-2436.	1.5	1
24	Sea Level Trend Uncertainty With Pacific Climatic Variability and Temporally Correlated Noise. <i>Journal of Geophysical Research: Oceans</i> , 2018, 123, 1978-1993.	1.0	34
25	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
26	Basal friction of Fleming Glacier, Antarctica – Part 1: Sensitivity of inversion to temperature and bedrock uncertainty. <i>Cryosphere</i> , 2018, 12, 2637-2652.	1.5	19
27	Basal friction of Fleming Glacier, Antarctica – Part 2: Evolution from 2008 to 2015. <i>Cryosphere</i> , 2018, 12, 2653-2666.	1.5	5
28	Common mode error in Antarctic GPS coordinate time-series on its effect on bedrock-uplift estimates. <i>Geophysical Journal International</i> , 2018, 214, 1652-1664.	1.0	25
29	A new global GPS data set for testing and improving modelled GIA uplift rates. <i>Geophysical Journal International</i> , 2018, 214, 2164-2176.	1.0	33
30	Uncertainty in geocenter estimates in the context of ITRF2014. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 4020-4032.	1.4	27
31	Ocean Bottom Deformation Due To Present Day Mass Redistribution and Its Impact on Sea Level Observations. <i>Geophysical Research Letters</i> , 2017, 44, 12,306.	1.5	43
32	The increasing rate of global mean sea-level rise during 1993–2014. <i>Nature Climate Change</i> , 2017, 7, 492-495.	8.1	313
33	Rapid ice unloading in the Fleming Glacier region, southern Antarctic Peninsula, and its effect on bedrock uplift rates. <i>Earth and Planetary Science Letters</i> , 2017, 473, 164-176.	1.8	29
34	Analysis of ice shelf flexure and its InSAR representation in the grounding zone of the southern McMurdo Ice Shelf. <i>Cryosphere</i> , 2017, 11, 2481-2490.	1.5	18
35	Brief communication: The global signature of post-1900 land ice wastage on vertical land motion. <i>Cryosphere</i> , 2017, 11, 1327-1332.	1.5	22
36	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

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37	Ongoing deformation of Antarctica following recent Great Earthquakes. <i>Geophysical Research Letters</i> , 2016, 43, 1918-1927.	1.5	27
38	An assessment of forward and inverse GIA solutions for Antarctica. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 6947-6965.	1.4	48
39	Spatial and temporal Antarctic Ice Sheet mass trends, glacioisostatic adjustment, and surface processes from a joint inversion of satellite altimeter, gravity, and GPS data. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016, 121, 182-200.	1.0	94
40	Glacial isostatic adjustment in response to changing Late Holocene behaviour of ice streams on the Siple Coast, West Antarctica. <i>Geophysical Journal International</i> , 2016, 205, 1-21.	1.0	17
41	Incomplete separability of Antarctic plate rotation from glacial isostatic adjustment deformation within geodetic observations. <i>Geophysical Journal International</i> , 2016, 204, 324-330.	1.0	26
42	Seismicity on the western Greenland Ice Sheet: Surface fracture in the vicinity of active moulins. <i>Journal of Geophysical Research F: Earth Surface</i> , 2015, 120, 1082-1106.	1.0	29
43	Greenland supraglacial lake drainages triggered by hydrologically induced basal slip. <i>Nature</i> , 2015, 522, 73-76.	13.7	106
44	Low post-glacial rebound rates in the Weddell Sea due to Late Holocene ice-sheet readvance. <i>Earth and Planetary Science Letters</i> , 2015, 413, 79-89.	1.8	48
45	Unabated global mean sea-level rise over the satellite altimeter era. <i>Nature Climate Change</i> , 2015, 5, 565-568.	8.1	227
46	Ice Sheets, Glaciers, and Sea Level. , 2015, , 713-747.		3
47	Uplift rates from a new high-density GPS network in Palmer Land indicate significant late Holocene ice loss in the southwestern Weddell Sea. <i>Geophysical Journal International</i> , 2015, 203, 737-754.	1.0	40
48	Levelling co-located GNSS and tide gauge stations using GNSS reflectometry. <i>Journal of Geodesy</i> , 2015, 89, 241-258.	1.6	59
49	Late Holocene glacial advance and ice shelf growth in Barilari Bay, Graham Land, west Antarctic Peninsula. <i>Bulletin of the Geological Society of America</i> , 2015, 127, 297-315.	1.6	36
50	On the Rebound: Modeling Earth's Ever-Changing Shape. <i>Eos</i> , 2015, 96, .	0.1	18
51	Accuracy assessment of global barotropic ocean tide models. <i>Reviews of Geophysics</i> , 2014, 52, 243-282.	9.0	338
52	Geodetic vertical velocities affected by recent rapid changes in polar motion. <i>Geophysical Journal International</i> , 2014, 199, 1161-1165.	1.0	29
53	Mass change from GRACE: a simulated comparison of Level-1B analysis techniques. <i>Geophysical Journal International</i> , 2014, 200, 503-518.	1.0	11
54	Rapid bedrock uplift in the Antarctic Peninsula explained by viscoelastic response to recent ice unloading. <i>Earth and Planetary Science Letters</i> , 2014, 397, 32-41.	1.8	122

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55	Revisiting GRACE Antarctic ice mass trends and accelerations considering autocorrelation. <i>Earth and Planetary Science Letters</i> , 2014, 385, 12-21.	1.8	58
56	Empirical modelling of site-specific errors in continuous GPS data. <i>Journal of Geodesy</i> , 2014, 88, 887-900.	1.6	30
57	Variable deceleration of Whillans Ice Stream, West Antarctica. <i>Journal of Geophysical Research F: Earth Surface</i> , 2014, 119, 212-224.	1.0	40
58	Empirical estimation of present-day Antarctic glacial isostatic adjustment and ice mass change. <i>Cryosphere</i> , 2014, 8, 743-760.	1.5	77
59	Detecting offsets in GPS time series: First results from the detection of offsets in GPS experiment. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 2397-2407.	1.4	133
60	Improving Models of Earth's Response to Ice and Ocean Loading Changes. <i>Eos</i> , 2013, 94, 353-353.	0.1	0
61	King Receives 2012 Geodesy Section Award: Response. <i>Eos</i> , 2013, 94, 402-402.	0.1	0
62	Progress in modelling and observing Antarctic glacial isostatic adjustment. <i>Astronomy and Geophysics</i> , 2013, 54, 4.33-4.38.	0.1	3
63	Influence of ice-sheet geometry and supraglacial lakes on seasonal ice-flow variability. <i>Cryosphere</i> , 2013, 7, 1185-1192.	1.5	80
64	Greenland ice sheet motion insensitive to exceptional meltwater forcing. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 19719-19724.	3.3	77
65	Winter motion mediates dynamic response of the Greenland Ice Sheet to warmer summers. <i>Geophysical Research Letters</i> , 2013, 40, 3940-3944.	1.5	125
66	Observations of enhanced thinning in the upper reaches of Svalbard glaciers. <i>Cryosphere</i> , 2012, 6, 1369-1381.	1.5	53
67	Lower satellite-gravimetry estimates of Antarctic sea-level contribution. <i>Nature</i> , 2012, 491, 586-589.	13.7	159
68	Impact of tide-topography interactions on basal melting of Larsen C Ice Shelf, Antarctica. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	61
69	Diurnal and semidiurnal tide-induced lateral movement of Ronne Ice Shelf, Antarctica. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	55
70	A Reconciled Estimate of Ice-Sheet Mass Balance. <i>Science</i> , 2012, 338, 1183-1189.	6.0	1,246
71	Short-term variability in Greenland Ice Sheet motion forced by time-varying meltwater drainage: Implications for the relationship between subglacial drainage system behavior and ice velocity. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	136
72	Regional biases in absolute sea-level estimates from tide gauge data due to residual unmodeled vertical land movement. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	39

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73	Increased ice loading in the Antarctic Peninsula since the 1850s and its effect on glacial isostatic adjustment. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	31
74	Multi-decadal glacier surface lowering in the Antarctic Peninsula. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	36
75	A new glacial isostatic adjustment model for Antarctica: calibrated and tested using observations of relative sea-level change and present-day uplift rates. <i>Geophysical Journal International</i> , 2012, 190, 1464-1482.	1.0	227
76	Monument-antenna effects on GPS coordinate time series with application to vertical rates in Antarctica. <i>Journal of Geodesy</i> , 2012, 86, 53-63.	1.6	15
77	Precipitable water vapor estimates from homogeneously reprocessed GPS data: An intertechnique comparison in Antarctica. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	46
78	Seasonal speedup of a Greenland marine-terminating outlet glacier forced by surface melt-induced changes in subglacial hydrology. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	125
79	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
80	Widespread low rates of Antarctic glacial isostatic adjustment revealed by GPS observations. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	92
81	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
82	Seasonal variations in Greenland Ice Sheet motion: Inland extent and behaviour at higher elevations. <i>Earth and Planetary Science Letters</i> , 2011, 307, 271-278.	1.8	108
83	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
84	A benchmark study for glacial isostatic adjustment codes. <i>Geophysical Journal International</i> , 2011, 185, 106-132.	1.0	97
85	Special section on observation and modeling of glacial isostatic adjustment. <i>Tectonophysics</i> , 2011, 511, 67-68.	0.9	0
86	A Review of Higher Order Ionospheric Refraction Effects on Dual Frequency GPS. <i>Surveys in Geophysics</i> , 2011, 32, 197-253.	2.1	84
87	Effects of azimuthal multipath asymmetry on long GPS coordinate time series. <i>GPS Solutions</i> , 2011, 15, 287-297.	2.2	5
88	GPS in Glaciology, Applications. <i>Encyclopedia of Earth Sciences Series</i> , 2011, , 471-474.	0.1	0
89	Flow of the Ross Ice Shelf, Antarctica, is modulated by the ocean tide. <i>Journal of Glaciology</i> , 2010, 56, 157-161.	1.1	34
90	A first look at the effects of ionospheric signal bending on a globally processed GPS network. <i>Journal of Geodesy</i> , 2010, 84, 491-499.	1.6	16

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91	Improved Constraints on Models of Glacial Isostatic Adjustment: A Review of the Contribution of Ground-Based Geodetic Observations. <i>Surveys in Geophysics</i> , 2010, 31, 465-507.	2.1	97
92	Seasonal evolution of subglacial drainage and acceleration in a Greenland outlet glacier. <i>Nature Geoscience</i> , 2010, 3, 408-411.	5.4	325
93	Non-linear responses of Rutford Ice Stream, Antarctica, to semi-diurnal and diurnal tidal forcing. <i>Journal of Glaciology</i> , 2010, 56, 167-176.	1.1	23
94	Long GPS coordinate time series: Multipath and geometry effects. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	89
95	Higher-order ionospheric effects on the GPS reference frame and velocities. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	74
96	Location for direct access to subglacial Lake Ellsworth: An assessment of geophysical data and modeling. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	45
97	J2: An evaluation of new estimates from GPS, GRACE, and load models compared to SLR. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	17
98	Satellite gravity gradiometry: Secular gravity field change over polar regions. <i>Journal of Geodynamics</i> , 2010, 49, 247-253.	0.7	4
99	Assessment of Glacier Volume Change Using ASTER-Based Surface Matching of Historical Photography. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2009, 47, 1971-1979.	2.7	31
100	The GPS Contribution to the Error Budget of Surface Elevations Derived From Airborne LIDAR. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2009, 47, 874-883.	2.7	14
101	Tidal gravity variations revisited at Vostok Station, Antarctica. <i>Polar Science</i> , 2009, 3, 1-12.	0.5	3
102	Apparent stability of GPS monumentation from short-baseline time series. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	70
103	Basal mechanics of ice streams: Insights from the stick-slip motion of Whillans Ice Stream, West Antarctica. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	110
104	A 4-decade record of elevation change of the Amery Ice Shelf, East Antarctica. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	25
105	Greenland ice sheet motion coupled with daily melting in late summer. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	181
106	Terminus dynamics at an advancing glacier: Taku Glacier, Alaska. <i>Journal of Glaciology</i> , 2009, 55, 1052-1060.	1.1	24
107	Simultaneous teleseismic and geodetic observations of the stick-slip motion of an Antarctic ice stream. <i>Nature</i> , 2008, 453, 770-774.	13.7	141
108	Subdaily signals in GPS observations and their effect at semiannual and annual periods. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	67

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109	Antarctic ice mass balance estimates from GRACE: Tidal aliasing effects. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	17
110	Seasonal Speedup Along the Western Flank of the Greenland Ice Sheet. <i>Science</i> , 2008, 320, 781-783.	6.0	383
111	Fracture Propagation to the Base of the Greenland Ice Sheet During Supraglacial Lake Drainage. <i>Science</i> , 2008, 320, 778-781.	6.0	497
112	Tidal influence on Rutford Ice Stream, West Antarctica: observations of surface flow and basal processes from closely spaced GPS and passive seismic stations. <i>Journal of Glaciology</i> , 2008, 54, 715-724.	1.1	34
113	A Validation of Ocean Tide Models Around Antarctica Using GPS Measurements. , 2008, , 211-235.		7
114	GPS height time series: Short-period origins of spurious long-period signals. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	121
115	Velocity change of the Amery Ice Shelf, East Antarctica, during the period 1968â€“1999. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	24
116	Ice flow modulated by tides at up to annual periods at Rutford Ice Stream, West Antarctica. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	59
117	A comparison of GPS, VLBI and model estimates of ocean tide loading displacements. <i>Journal of Geodesy</i> , 2007, 81, 359-368.	1.6	38
118	Kinematic and static GPS techniques for estimating tidal displacements with application to Antarctica. <i>Journal of Geodynamics</i> , 2006, 41, 77-86.	0.7	34
119	Choice of optimal averaging radii for temporal GRACE gravity solutions, a comparison with GPS and satellite altimetry. <i>Geophysical Journal International</i> , 2006, 166, 1-11.	1.0	43
120	Validation of ocean tide models around Antarctica using onshore GPS and gravity data. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	58
121	Accuracy assessment of ocean tide models around Antarctica. <i>Geophysical Research Letters</i> , 2005, 32, .	1.5	72
122	Continued deceleration of Whillans Ice Stream, West Antarctica. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	1.5	93
123	Rigorous GPS data-processing strategies for glaciological applications. <i>Journal of Glaciology</i> , 2004, 50, 601-607.	1.1	57
124	Assessment of the Jason-1 and TOPEX/Poseidon Microwave Radiometer Performance Using GPS from Offshore Sites in the North Sea. <i>Marine Geodesy</i> , 2004, 27, 717-727.	0.9	8
125	Stability of direct GPS estimates of ocean tide loading. <i>Geophysical Research Letters</i> , 2004, 31, .	1.5	41
126	Spurious periodic horizontal signals in sub-daily GPS position estimates. <i>Journal of Geodesy</i> , 2003, 77, 15-21.	1.6	46



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127	Tidal observations on floating ice using a single GPS receiver. <i>Geophysical Research Letters</i> , 2003, 30, .	1.5	53
128	Ice stream D flow speed is strongly modulated by the tide beneath the Ross Ice Shelf. <i>Geophysical Research Letters</i> , 2003, 30, .	1.5	136
129	Tidally Controlled Stick-Slip Discharge of a West Antarctic Ice. <i>Science</i> , 2003, 301, 1087-1089.	6.0	260
130	Tidally driven stick-slip motion in the mouth of Whillans Ice Stream, Antarctica. <i>Annals of Glaciology</i> , 2003, 36, 263-272.	2.8	84
131	Ice-shelf elevation changes due to atmospheric pressure variations. <i>Journal of Glaciology</i> , 2003, 49, 521-526.	1.1	57
132	Redefinition of the Amery Ice Shelf, East Antarctica, grounding zone. <i>Journal of Geophysical Research</i> , 2002, 107, ECV 1-1.	3.3	52
133	Tide-induced lateral movement of Brunt Ice Shelf, Antarctica. <i>Geophysical Research Letters</i> , 2002, 29, 67-1-67-4.	1.5	56
134	Strategies for High Precision Processing of GPS Measurements with Application to the Amery Ice Shelf, East Antarctica. <i>GPS Solutions</i> , 2000, 4, 2-12.	2.2	20
135	Ice velocities of the Lambert Glacier from static GPS observations. <i>Earth, Planets and Space</i> , 2000, 52, 1031-1036.	0.9	35
136	Treatment of horizontal and vertical tidal signals in GPS data: A case study on a floating ice shelf. <i>Earth, Planets and Space</i> , 2000, 52, 1043-1047.	0.9	17
137	Future Earth and the Cryosphere. , 0, , 91-113.		3
138	APPLICATION OF SURFACE MATCHING FOR IMPROVED MEASUREMENTS OF HISTORIC GLACIER VOLUME CHANGE IN THE ANTARCTIC PENINSULA. <i>International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives</i> , 0, XXXIX-B8, 579-584.	0.2	10