David Pollard

List of Publications by Year
in descending order

117 papers	12,622 citations	31949 53 h-index	26591 107 g-index
136 all docs	136 docs citations	136 times ranked	8237 citing authors

#	Article	IF	Citations
1	Contribution of Antarctica to past and future sea-level rise. Nature, 2016, 531, 591-597.	13.7	1,444
2	Rapid Cenozoic glaciation of Antarctica induced by declining atmospheric CO2. Nature, 2003, 421, 245-249.	13.7	998
3	Modelling West Antarctic ice sheet growth and collapse through the past five million years. Nature, 2009, 458, 329-332.	13.7	830
4	Obliquity-paced Pliocene West Antarctic ice sheet oscillations. Nature, 2009, 458, 322-328.	13.7	564
5	Potential Antarctic Ice Sheet retreat driven by hydrofracturing and ice cliff failure. Earth and Planetary Science Letters, 2015, 412, 112-121.	1.8	362
6	Thresholds for Cenozoic bipolar glaciation. Nature, 2008, 455, 652-656.	13.7	361
7	Use of a land-surface-transfer scheme (LSX) in a global climate model: the response to doubling stomatal resistance. Global and Planetary Change, 1995, 10, 129-161.	1.6	288
8	Origin of the Middle Pleistocene Transition by ice sheet erosion of regolith. Paleoceanography, 1998, 13, 1-9.	3.0	280
9	Evolving Understanding of Antarctic Iceâ€Sheet Physics and Ambiguity in Probabilistic Seaâ€Level Projections. Earth's Future, 2017, 5, 1217-1233.	2.4	269
10	Greenland and Antarctic Mass Balances for Present and Doubled Atmospheric CO2from the GENESIS Version-2 Global Climate Model. Journal of Climate, 1997, 10, 871-900.	1.2	264
11	Earth-like worlds on eccentric orbits: excursions beyond the habitable zone. International Journal of Astrobiology, 2002, 1, 61-69.	0.9	228
12	The multimillennial sea-level commitment of global warming. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 13745-13750.	3.3	227
13	Benchmark experiments for higher-order and full-Stokes ice sheet models (ISMIPâ€"HOM). Cryosphere, 2008, 2, 95-108.	1.5	221
14	The Paris Climate Agreement and future sea-level rise from Antarctica. Nature, 2021, 593, 83-89.	13.7	219
15	Description of a hybrid ice sheet-shelf model, and application to Antarctica. Geoscientific Model Development, 2012, 5, 1273-1295.	1.3	192
16	Results of the Marine Ice Sheet Model Intercomparison Project, MISMIP. Cryosphere, 2012, 6, 573-588.	1.5	191
17	Grounding-line migration in plan-view marine ice-sheet models: results of the ice2sea MISMIP3d intercomparison. Journal of Glaciology, 2013, 59, 410-422.	1.1	179
18	Effect of Sedimentation on Ice-Sheet Grounding-Line Stability. Science, 2007, 315, 1838-1841.	6.0	176

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19	Retreat of the East Antarctic ice sheet during the last glacial termination. Nature Geoscience, 2011, 4, 195-202.	5.4	169
20	Hysteresis in Cenozoic Antarctic ice-sheet variations. Global and Planetary Change, 2005, 45, 9-21.	1.6	164
21	A simple ice sheet model yields realistic 100 kyr glacial cycles. Nature, 1982, 296, 334-338.	13.7	153
22	Atmospheric circulations of terrestrial planets orbiting low-mass stars. Icarus, 2011, 212, 1-13.	1.1	151
23	A coupled climateâ€“ice sheet modeling approach to the Early Cenozoic history of the Antarctic ice sheet. Palaeogeography, Palaeoclimatology, Palaeoecology, 2003, 198, 39-52.	1.0	150
24	Antarctic ice sheet sensitivity to atmospheric CO ₂ variations in the early to mid-Miocene. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3453-3458.	3.3	133
25	A comparison of the present and last interglacial periods in six Antarctic ice cores. Climate of the Past, 2011, 7, 397-423.	1.3	131
26	Dynamic Antarctic ice sheet during the early to mid-Miocene. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3459-3464.	3.3	128
27	Sea ice feedback and Cenozoic evolution of Antarctic climate and ice sheets. Paleoceanography, 2007, 22, .	3.0	127
28	How much, how fast?: A science review and outlook for research on the instability of Antarctica's Thwaites Glacier in the 21st century. Global and Planetary Change, 2017, 153, 16-34.	1.6	118
29	Antarctic Ice Sheet variability across the Eocene-Oligocene boundary climate transition. Science, 2016, 352, 76-80.	6.0	116
30	A data-constrained large ensemble analysis of Antarctic evolution since the Eemian. Quaternary Science Reviews, 2014, 103, 91-115.	1.4	111
31	Snowball Earth: A thin-ice solution with flowing sea glaciers. Journal of Geophysical Research, 2005, 110, .	3.3	108
32	A coupled climateâ€ice sheet model applied to the Quaternary Ice Ages. Journal of Geophysical Research, 1983, 88, 7705-7718.	3.3	103
33	Projecting Antarctic ice discharge using response functions from SeaRISE ice-sheet models. Earth System Dynamics, 2014, 5, 271-293.	2.7	103
34	A simple inverse method for the distribution of basal sliding coefficients under ice sheets, applied to Antarctica. Cryosphere, 2012, 6, 953-971.	1.5	97
35	Extraordinary climates of Earth-like planets: three-dimensional climate simulations at extreme obliquity. International Journal of Astrobiology, 2003, 2, 1-19.	0.9	92
36	Projecting Antarctica's contribution to future sea level rise from basal ice shelf melt using linear response functions of 16 ice sheet models (LARMIP-2). Earth System Dynamics, 2020, 11, 35-76.	2.7	92

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37	A 3-D coupled ice sheet â€“ sea level model applied to Antarctica through the last 40 ky. Earth and Planetary Science Letters, 2013, 384, 88-99.	1.8	91
38	Oceanic Forcing of Ice-Sheet Retreat: West Antarctica and More. Annual Review of Earth and Planetary Sciences, 2015, 43, 207-231.	4.6	83
39	Sea-level feedback lowers projections of future Antarctic Ice-Sheet mass loss. Nature Communications, 2015, 6, 8798.	5.8	82
40	Climate and ice-sheet mass balance at the last glacial maximum from the GENESIS version 2 global climate model. Quaternary Science Reviews, 1997, 16, 841-863.	1.4	80
41	Initiation of the West Antarctic Ice Sheet and estimates of total Antarctic ice volume in the earliest Oligocene. Geophysical Research Letters, 2013, 40, 4305-4309.	1.5	80
42	Influence of high-latitude vegetation feedbacks on late Palaeozoic glacial cycles. Nature Geoscience, 2010, 3, 572-577.	5.4	78
43	An investigation of the astronomical theory of the ice ages using a simple climate-ice sheet model. Nature, 1978, 272, 233-235.	13.7	77
44	Seaâ€ice dynamics and CO₂sensitivity in a global climate model. Atmosphere - Ocean, 1994, 32, 449-467.	0.6	77
45	A new coupled ice sheet/climate model: description and sensitivity to model physics under Eemian, Last Glacial Maximum, late Holocene and modern climate conditions. Geoscientific Model Development, 2011, 4, 117-136.	1.3	76
46	Sensitivity of Cenozoic Antarctic ice sheet variations to geothermal heat flux. Global and Planetary Change, 2005, 49, 63-74.	1.6	73
47	The Carbonate-Silicate Cycle and CO₂/Climate Feedbacks on Tidally Locked Terrestrial Planets. Astrobiology, 2012, 12, 562-571.	1.5	71
48	The impact of dynamic topography change on Antarctic ice sheet stability during the mid-Pliocene warm period. Geology, 2015, 43, 927-930.	2.0	70
49	Large ensemble modeling of the last deglacial retreat of the West Antarctic Ice Sheet: comparison of simple and advanced statistical techniques. Geoscientific Model Development, 2016, 9, 1697-1723.	1.3	69
50	On the stability of the high-latitude climate-vegetation system in a coupled atmosphere-biosphere model. Global Ecology and Biogeography, 1999, 8, 489-500.	2.7	63
51	Insights into spatial sensitivities of ice mass response to environmental change from the SeaRISE ice sheet modeling project I: Antarctica. Journal of Geophysical Research F: Earth Surface, 2013, 118, 1002-1024.	1.0	63
52	Relative sea-level rise around East Antarctica during Oligocene glaciation. Nature Geoscience, 2013, 6, 380-384.	5.4	63
53	Comparisons of ice-sheet surface mass budgets from Paleoclimate Modeling Intercomparison Project (PMIP) simulations. Global and Planetary Change, 2000, 24, 79-106.	1.6	61
54	Clouds and Snowball Earth deglaciation. Geophysical Research Letters, 2012, 39, .	1.5	60

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55	Uncertainties in the modelled CO₂ threshold for Antarctic glaciation. Climate of the Past, 2014, 10, 451-466.	1.3	59
56	Anatomy of a meltwater drainage system beneath the ancestral East Antarctic ice sheet. Nature Geoscience, 2017, 10, 691-697.	5.4	58
57	A retrospective look at coupled ice sheetâ€"climate modeling. Climatic Change, 2010, 100, 173-194.	1.7	55
58	The impact of paleogeography, pCO2, poleward ocean heat transport and sea level change on global cooling during the Late Ordovician. Palaeogeography, Palaeoclimatology, Palaeoecology, 2004, 206, 59-74.	1.0	54
59	A Coupled Ice Sheetâ€"Sea Level Model Incorporating 3D Earth Structure: Variations in Antarctica during the Last Deglacial Retreat. Journal of Climate, 2018, 31, 4041-4054.	1.2	54
60	Results of the third Marine Ice Sheet Model Intercomparison Project (MISMIP+). Cryosphere, 2020, 14, 2283-2301.	1.5	53
61	Antarctic glacio-eustatic contributions to late Miocene Mediterranean desiccation and reflooding. Nature Communications, 2015, 6, 8765.	5.8	52
62	Driving a high-resolution dynamic ice-sheet model with GCM climate: ice-sheet initiation at 116 000 BP. Annals of Glaciology, 1997, 25, 296-304.	2.8	50
63	Potential of the solid-Earth response for limiting long-term West Antarctic Ice Sheet retreat in a warming climate. Earth and Planetary Science Letters, 2015, 432, 254-264.	1.8	49
64	Orbital and CO₂ forcing of late Paleozoic continental ice sheets. Geophysical Research Letters, 2007, 34, .	1.5	46
65	Late Pliocene to Pleistocene sensitivity of the Greenland Ice Sheet in response to external forcing and internal feedbacks. Climate Dynamics, 2011, 37, 1247-1268.	1.7	43
66	Evaluation of a present-day climate simulation with a new coupled atmosphere-ocean model GENMOM. Geoscientific Model Development, 2011, 4, 69-83.	1.3	43
67	Variations of the Antarctic Ice Sheet in a Coupled Ice Sheetâ€Earthâ€Sea Level Model: Sensitivity to Viscoelastic Earth Properties. Journal of Geophysical Research F: Earth Surface, 2017, 122, 2124-2138.	1.0	43
68	Windblown Pliocene diatoms and East Antarctic Ice Sheet retreat. Nature Communications, 2016, 7, 12957.	5.8	42
69	A low threshold for North Atlantic ice rafting from â€œlow-slung slipperyâ€• late Pliocene ice sheets. Paleoceanography, 2010, 25, .	3.0	41
70	Evolution of a coupled marine ice sheetâ€"sea level model. Journal of Geophysical Research, 2012, 117, .	3.3	41
71	Continental constriction and oceanic iceâ€cover thickness in a Snowballâ€Earth scenario. Journal of Geophysical Research, 2012, 117, .	3.3	39
72	Robust elements of Snowball Earth atmospheric circulation and oases for life. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6017-6027.	1.2	39

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73	Antarctic ice and sediment flux in the Oligocene simulated by a climateâ€"ice sheetâ€"sediment model. Palaeogeography, Palaeoclimatology, Palaeoecology, 2003, 198, 53-67.	1.0	38
74	Ice sheet model dependency of the simulated Greenland Ice Sheet in the mid-Pliocene. Climate of the Past, 2015, 11, 369-381.	1.3	38
75	Calibrating an Ice Sheet Model Using High-Dimensional Binary Spatial Data. Journal of the American Statistical Association, 2016, 111, 57-72.	1.8	37
76	Ice-Age Simulations with a Calving Ice-Sheet Model. Quaternary Research, 1983, 20, 30-48.	1.0	36
77	Evidence for large century time-scale changes in solar activity in the past 32 Kyr, based on in-situ cosmogenic C in ice at Summit, Greenland. Earth and Planetary Science Letters, 2005, 234, 335-349.	1.8	33
78	Exploring uncertainties in the relationship between temperature, ice volume, and sea level over the past 50 million years. Reviews of Geophysics, 2012, 50, .	9.0	33
79	Modeling Antarctic ice sheet and climate variations during Marine Isotope Stage 31. Global and Planetary Change, 2012, 88-89, 45-52.	1.6	33
80	A glacial systems model configured for large ensemble analysis of Antarctic deglaciation. Cryosphere, 2013, 7, 1949-1970.	1.5	31
81	West Antarctic Ice Sheet elevations in the Ohio Range: Geologic constraints and ice sheet modeling prior to the last highstand. Earth and Planetary Science Letters, 2011, 307, 83-93.	1.8	27
82	Neogene tectonic and climatic evolution of the Western Ross Sea, Antarctica â€" Chronology of events from the AND-1B drill hole. Global and Planetary Change, 2012, 96-97, 189-203.	1.6	27
83	Modeling the oxygen isotope composition of the Antarctic ice sheet and its significance to Pliocene sea level. Geology, 2016, 44, 827-830.	2.0	27
84	Numerical simulations of a kilometre-thick Arctic ice shelf consistent with ice grounding observations. Nature Communications, 2018, 9, 1510.	5.8	22
85	Controls on interior West Antarctic Ice Sheet Elevations: inferences from geologic constraints and ice sheet modeling. Quaternary Science Reviews, 2013, 65, 26-38.	1.4	21
86	Climate-Ice Sheet Simulations of Neoproterozoic Glaciation Before and After Collapse to Snowball Earth. Geophysical Monograph Series, 0, , 91-105.	0.1	21
87	Impact of reduced Arctic sea ice on Greenland ice sheet variability in a warmer than present climate. Geophysical Research Letters, 2014, 41, 3933-3942.	1.5	21
88	Continuous simulations over the last 40 million years with a coupled Antarctic ice sheet-sediment model. Palaeogeography, Palaeoclimatology, Palaeoecology, 2020, 537, 109374.	1.0	20
89	Could the Last Interglacial Constrain Projections of Future Antarctic Ice Mass Loss and Seaâ€Level Rise?. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005418.	1.0	20
90	Deglaciation of Pope Glacier implies widespread early Holocene ice sheet thinning in the Amundsen Sea sector of Antarctica. Earth and Planetary Science Letters, 2020, 548, 116501.	1.8	20

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91	Siberian glaciation as a constraint on Permianâ€"Carboniferous CO2 levels. Geology, 2006, 34, 421.	2.0	19
92	Mending Milankovitch's theory: obliquity amplification by surface feedbacks. Climate of the Past, 2014, 10, 41-50.	1.3	19
93	West Antarctic sites for subglacial drilling to test for past ice-sheet collapse. Cryosphere, 2018, 12, 2741-2757.	1.5	19
94	Local insolation changes enhance Antarctic interglacials: Insights from an 800,000-year ice sheet simulation with transient climate forcing. Earth and Planetary Science Letters, 2018, 495, 69-78.	1.8	18
95	Modeling dependence of moraine deposition on climate history: the effect of seasonality. Quaternary Science Reviews, 2009, 28, 639-646.	1.4	17
96	Reply to comment by Stephen G. Warren and Richard E. Brandt on â€œSnowball Earth: A thin-ice solution with flowing sea glaciersâ€. Journal of Geophysical Research, 2006, 111, .	3.3	16
97	Interactions between carbon dioxide, climate, weathering, and the Antarctic ice sheet in the earliest Oligocene. Global and Planetary Change, 2013, 111, 258-267.	1.6	16
98	A fast particle-based approach for calibrating a 3-D model of the Antarctic ice sheet. Annals of Applied Statistics, 2020, 14, .	0.5	16
99	Pliocene Model Intercomparison Project Experiment 1: implementation strategy and mid-Pliocene global climatology using GENESIS v3.0 GCM. Geoscientific Model Development, 2012, 5, 73-85.	1.3	14
100	Reprint of: Modeling Antarctic ice sheet and climate variations during Marine Isotope Stage 31. Global and Planetary Change, 2012, 96-97, 181-188.	1.6	13
101	The role of internal climate variability in projecting Antarcticaâ€™s contribution to future sea-level rise. Climate Dynamics, 2020, 55, 1875-1892.	1.7	13
102	Miocene to recent ice elevation variations from the interior of the West Antarctic ice sheet: Constraints from geologic observations, cosmogenic nuclides and ice sheet modeling. Earth and Planetary Science Letters, 2012, 337-338, 243-251.	1.8	12
103	How obliquity cycles powered early Pleistocene global iceâ€volume variability. Geophysical Research Letters, 2015, 42, 1871-1879.	1.5	12
104	Assessing the contribution of internal climate variability to anthropogenic changes in ice sheet volume. Geophysical Research Letters, 2017, 44, 6261-6268.	1.5	12
105	Possible Role for Tectonics in the Evolving Stability of the Greenland Ice Sheet. Journal of Geophysical Research F: Earth Surface, 2019, 124, 97-115.	1.0	12
106	Improving ice sheet model calibration using paleoclimate and modern data. Annals of Applied Statistics, 2016, 10, .	0.5	11
107	Asynchronous Coupling of Ice-Sheet and Atmospheric Forcing Models. Annals of Glaciology, 1990, 14, 247-251.	2.8	10
108	Evaluating Marie Byrd Land stability using an improved basal topography. Earth and Planetary Science Letters, 2014, 408, 362-369.	1.8	10

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109	A continuum model (PSUMEL1) of ice mÃ©lange and its role during retreat of the Antarctic Ice Sheet. Geoscientific Model Development, 2018, 11, 5149-5172.	1.3	9
110	Comparing Glacialâ€Geological Evidence and Model Simulations of Ice Sheet Change since the Last Glacial Period in the Amundsen Sea Sector of Antarctica. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF005827.	1.0	8
111	Nonlinear response of the Antarctic Ice Sheet to late Quaternary sea level and climate forcing. Cryosphere, 2019, 13, 2615-2631.	1.5	7
112	Snowball Earth: Asynchronous coupling of seaâ€glacier flow with a global climate model. Journal of Geophysical Research D: Atmospheres, 2017, 122, 5157-5171.	1.2	6
113	Estimating Modern Elevations of Pliocene Shorelines Using a Coupled Ice Sheetâ€Earthâ€Sea Level Model. Journal of Geophysical Research F: Earth Surface, 2018, 123, 2279-2291.	1.0	5
114	Coupling ice-sheet and climate models for simulation of former ice sheets. Developments in Quaternary Sciences, 2003, 1, 105-126.	0.1	3
115	Modeling Northern Hemispheric Ice Sheet Dynamics, Sea Level Change, and Solid Earth Deformation Through the Last Glacial Cycle. Journal of Geophysical Research F: Earth Surface, 2021, 126, e2020JF006040.	1.0	3
116	Ice-sheet mass balance at the Last Glacial Maximum from the GENESIS version 2 global climate model. Annals of Glaciology, 1997, 25, 250-258.	2.8	3
117	Improvements in one-dimensional grounding-line parameterizations in an ice-sheet model with lateral variations (PSUICE3D v2.1). Geoscientific Model Development, 2020, 13, 6481-6500.	1.3	3