David R Marchant

List of Publications by Year
in descending order

80 papers	6,201 citations	57631 44 h-index	66788 78 g-index
80 all docs	80 docs citations	80 times ranked	3167 citing authors

#	Article	IF	Citations
1	Recent ice ages on Mars. Nature, 2003, 426, 797-802.	13.7	705
2	Antarctic dry valleys: Microclimate zonation, variable geomorphic processes, and implications for assessing climate change on Mars. Icarus, 2007, 192, 187-222.	1.1	354
3	Mid-Miocene cooling and the extinction of tundra in continental Antarctica. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 10676-10680.	3.3	241
4	Preservation of Miocene glacier ice in East Antarctica. Nature, 1995, 376, 412-414.	13.7	225
5	Cold-based mountain glaciers on Mars: Western Arsia Mons. Geology, 2003, 31, 641.	2.0	212
6	Late Amazonian glaciation at the dichotomy boundary on Mars: Evidence for glacial thickness maxima and multiple glacial phases. Geology, 2008, 36, 411.	2.0	165
7	Origin and evolution of a cold-based tropical mountain glacier on Mars: The Pavonis Mons fan-shaped deposit. Journal of Geophysical Research, 2005, 110, .	3.3	159
8	Northern mid-latitude glaciation in the Late Amazonian period of Mars: Criteria for the recognition of debris-covered glacier and valley glacier landsystem deposits. Earth and Planetary Science Letters, 2010, 294, 306-320.	1.8	154
9	Thermal contraction crack polygons on Mars: A synthesis from HiRISE, Phoenix, and terrestrial analog studies. Icarus, 2010, 206, 229-252.	1.1	147
10	Tropical mountain glaciers on Mars: Altitude-dependence of ice accumulation, accumulation conditions, formation times, glacier dynamics, and implications for planetary spin-axis/orbital history. Icarus, 2008, 198, 305-317.	1.1	145
11	Fossil genes and microbes in the oldest ice on Earth. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13455-13460.	3.3	141
12	Formation of gullies on Mars: Link to recent climate history and insolation microenvironments implicate surface water flow origin. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 13258-13263.	3.3	137
13	The age and origin of the Labyrinth, western Dry Valleys, Antarctica: Evidence for extensive middle Miocene subglacial floods and freshwater discharge to the Southern Ocean. Geology, 2006, 34, 513.	2.0	126
14	Late Cenozoic Antarctic paleoclimate reconstructed from volcanic ashes in the Dry Valleys region of southern Victoria Land. Bulletin of the Geological Society of America, 1996, 108, 181-194.	1.6	125
15	Concentric crater fill in the northern mid-latitudes of Mars: Formation processes and relationships to similar landforms of glacial origin. Icarus, 2010, 209, 390-404.	1.1	111
16	Modification of the dichotomy boundary on Mars by Amazonian mid-latitude regional glaciation. Geophysical Research Letters, 2006, 33, .	1.5	109
17	Periods of active permafrost layer formation during the geological history of Mars: Implications for circum-polar and mid-latitude surface processes. Planetary and Space Science, 2008, 56, 289-302.	0.9	108
18	Miocene and Pliocene paleoclimate of the Dry Valleys region, Southern Victoria land: a geomorphological approach. Marine Micropaleontology, 1996, 27, 253-271.	0.5	105

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19	Lineated valley fill and lobate debris apron stratigraphy in Nilosyrtis Mensae, Mars: Evidence for phases of glacial modification of the dichotomy boundary. Journal of Geophysical Research, 2007, 112, .	3.3	102
20	East Antarctic Ice Sheet Sensitivity to Pliocene Climatic Change from a Dry Valleys Perspective. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 155-204.	0.6	101
21	Flow patterns of lobate debris aprons and lineated valley fill north of Ismeniae Fossae, Mars: Evidence for extensive mid-latitude glaciation in the Late Amazonian. Icarus, 2010, 207, 186-209.	1.1	96
22	East Antarctic Ice Sheet Sensitivity to Pliocene Climatic Change from a Dry Valleys Perspective. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 155.	0.6	96
23	Concentric crater fill in Utopia Planitia: History and interaction between glacial â€œbrain terrainâ€•and periglacial mantle processes. Icarus, 2009, 202, 462-476.	1.1	95
24	The Ascraeus Mons fan-shaped deposit: Volcanoâ€“ice interactions and the climatic implications of cold-based tropical mountain glaciation. Icarus, 2008, 197, 84-109.	1.1	92
25	Lineated valley fill (LVF) and lobate debris aprons (LDA) in the Deuteronilus Mensae northern dichotomy boundary region, Mars: Constraints on the extent, age and episodicity of Amazonian glacial events. Icarus, 2009, 202, 22-38.	1.1	92
26	Supraglacial and proglacial valleys on Amazonian Mars. Icarus, 2010, 208, 86-100.	1.1	90
27	Early Mars climate near the Noachianâ€“Hesperian boundary: Independent evidence for cold conditions from basal melting of the south polar ice sheet (Dorsa Argentea Formation) and implications for valley network formation. Icarus, 2012, 219, 25-40.	1.1	84
28	The climate history of early Mars: insights from the Antarctic McMurdo Dry Valleys hydrologic system. Antarctic Science, 2014, 26, 774-800.	0.5	84
29	Recent glaciation at high elevations on Arsia Mons, Mars: Implications for the formation and evolution of large tropical mountain glaciers. Journal of Geophysical Research, 2007, 112, .	3.3	77
30	Debris-covered piedmont glaciers along the northwest flank of the Olympus Mons scarp: Evidence for low-latitude ice accumulation during the Late Amazonian of Mars. Icarus, 2006, 181, 388-407.	1.1	76
31	Landscape development in the Royal Society Range, southern Victoria Land, Antarctica: stability since the mid-Miocene. Geomorphology, 1999, 28, 181-200.	1.1	63
32	Don Juan Pond, Antarctica: Near-surface CaCl2-brine feeding Earth's most saline lake and implications for Mars. Scientific Reports, 2013, 3, 1166.	1.6	61
33	Miocene-Pliocene-Pleistocene Glacial History of Arena Valley, Quartermain Mountains, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 269.	0.6	59
34	Miocene Glacial Stratigraphy and Landscape Evolution of the Western Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 303-330.	0.6	57
35	Kilometer-thick ice accumulation and glaciation in the northern mid-latitudes of Mars: Evidence for crater-filling events in the Late Amazonian at the Phlegra Montes. Earth and Planetary Science Letters, 2010, 294, 332-342.	1.8	53
36	Miocene Glacial Stratigraphy and Landscape Evolution of the Western Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 303.	0.6	53

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37	Martian pedestal craters: Marginal sublimation pits implicate a climateâ€related formation mechanism. Geophysical Research Letters, 2008, 35, .	1.5	52
38	Viscous flow lobes in central Taylor Valley, Antarctica: Origin as remnant buried glacial ice. Geomorphology, 2010, 120, 174-185.	1.1	52
39	Miocene-Pliocene-Pleistocene Glacial History of Arena Valley, Quartermain Mountains, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 269-302.	0.6	51
40	Formation of lobate debris aprons on Mars: Assessment of regional ice sheet collapse and debris-cover armoring. Icarus, 2014, 228, 54-63.	1.1	51
41	The geologic basis for a reconstruction of a grounded ice sheet in mcmurdo sound, antarctica, at the last glacial maximum. Geografiska Annaler, Series A: Physical Geography, 2000, 82, 167-211.	0.6	50
42	Quaternary changes in level of the upper Taylor Glacier, Antarctica: implications for paleoclimate and East Antarctic Ice Sheet dynamics. Boreas, 1994, 23, 29-43.	1.2	50
43	Seismic and GPR surveys of Mullins Glacier, McMurdo Dry Valleys, Antarctica: ice thickness, internal structure and implications for surface ridge formation. Journal of Glaciology, 2010, 56, 48-64.	1.1	50
44	The role of thermal contraction crack polygons in cold-desert fluvial systems. Antarctic Science, 2008, 20, 565-579.	0.5	48
45	Distribution and origin of patterned ground on Mullins Valley debris-covered glacier, Antarctica: the roles of ice flow and sublimation. Antarctic Science, 2006, 18, 385-397.	0.5	44
46	The Geologic Basis for a Reconstruction of a Grounded Ice Sheet in McMurdo Sound, Antarctica, at the Last Glacial Maximum. Geografiska Annaler, Series A: Physical Geography, 2000, 82A, 167-211.	0.6	41
47	The Case for a Stable East Antarctic Ice Sheet: The Background. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 151-154.	0.6	40
48	Quantifying sulfate components and their variations in soils of the McMurdo Dry Valleys, Antarctica. Journal of Geophysical Research, 2006, 111, .	3.3	40
49	Volcanoâ€“ice interactions in the Arsia Mons tropical mountain glacier deposits. Icarus, 2014, 237, 315-339.	1.1	40
50	The Case for a Stable East Antarctic Ice Sheet: The Background. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 151.	0.6	40
51	Subglacial Meltwater Channel Systems and Ice Sheet Overriding, Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1991, 73, 109-121.	0.6	36
52	Evidence for Amazonian northern mid-latitude regional glacial landsystems on Mars: Glacial flow models using GCM-driven climate results and comparisons to geological observations. Icarus, 2011, 216, 23-39.	1.1	36
53	Identification of sublimationâ€type thermal contraction crack polygons at the proposed NASA Phoenix landing site: Implications for substrate properties and climateâ€driven morphological evolution. Geophysical Research Letters, 2008, 35, .	1.5	35
54	Accelerated thermokarst formation in the McMurdo Dry Valleys, Antarctica. Scientific Reports, 2013, 3, 2269.	1.6	35

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55	Subglacial Meltwater Channel Systems and Ice Sheet Overriding, Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1991, 73, 109.	0.6	33
56	Glacial deposits on the rim of a Hesperian-Amazonian outflow channel source trough: Mangala Valles, Mars. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	32
57	Coldâ€based debrisâ€covered glaciers: Evaluating their potential as climate archives through studies of groundâ€penetrating radar and surface morphology. Journal of Geophysical Research F: Earth Surface, 2014, 119, 2505-2540.	1.0	31
58	Cold and dry processes in the Martian Arctic: Geomorphic observations at the Phoenix landing site and comparisons with terrestrial cold desert landforms. Geophysical Research Letters, 2009, 36, .	1.5	29
59	Modeling vapor diffusion within cold and dry supraglacial tills of Antarctica: Implications for the preservation of ancient ice. Geomorphology, 2011, 126, 159-173.	1.1	29
60	Highâ€latitude coldâ€based glacial deposits on Mars: Multiple superposed drop moraines in a crater interior at 70Â°N latitude. Meteoritics and Planetary Science, 2006, 41, 1659-1674.	0.7	28
61	Elevated East Antarctic outlet glaciers during warmer-than-present climates in southern Victoria Land. Global and Planetary Change, 2011, 79, 61-72.	1.6	27
62	Middle to Late Amazonian tropical mountain glaciers on Mars: The ages of the Tharsis Montes fan-shaped deposits. Planetary and Space Science, 2014, 91, 52-59.	0.9	26
63	Pitted rock surfaces on Mars: A mechanism of formation by transient melting of snow and ice. Journal of Geophysical Research, 2011, 116, .	3.3	25
64	Exceptionally preserved lacustrine ostracods from the Middle Miocene of Antarctica: implications for high-latitude palaeoenvironment at 77Â°â€Šsouth. Proceedings of the Royal Society B: Biological Sciences, 2008, 275, 2449-2454.	1.2	24
65	Volcanism-induced, local wet-based glacial conditions recorded in the Late Amazonian Arsia Mons tropical mountain glacier deposits. Icarus, 2015, 250, 18-31.	1.1	24
66	Shallow seismic surveys and ice thickness estimates of the Mullins Valley debris-covered glacier, McMurdo Dry Valleys, Antarctica. Antarctic Science, 2007, 19, 485-496.	0.5	22
67	Sensitivity of ice-cemented Antarctic soils to greenhouse-induced thawing: Are terrestrial archives at risk?. Earth and Planetary Science Letters, 2007, 259, 347-359.	1.8	22
68	Two chloride sources in soils of the McMurdo Dry Valleys, Antarctica. Journal of Geophysical Research, 2008, 113, .	3.3	21
69	Preservation of Late Amazonian Mars ice and water-related deposits in a unique crater environment in Noachis Terra: Age relationships between lobate debris tongues and gullies. Icarus, 2011, 211, 347-365.	1.1	21
70	A 2D Model for Characterising Firstâ€order Variability in Sublimation of Buried Glacier Ice, Antarctica: Assessing the Influence of Polygon Troughs, Desert Pavements and Shallow Subsurface Salts. Permafrost and Periglacial Processes, 2012, 23, 1-14.	1.5	21
71	Dating buried glacier ice using cosmogenic 3He in surface clasts: Theory and application to Mullins Glacier, Antarctica. Quaternary Science Reviews, 2016, 140, 75-100.	1.4	15
72	Transient post-glacial processes on Mars: Geomorphologic evidence for a paraglacial period. Icarus, 2018, 309, 187-206.	1.1	15

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73	Remnant buried ice in the equatorial regions of Mars: Morphological indicators associated with the Arsia Mons tropical mountain glacier deposits. Planetary and Space Science, 2015, 111, 144-154.	0.9	14
74	Obliquity-paced climate change recorded in Antarctic debris-covered glaciers. Nature Communications, 2017, 8, 14194.	5.8	13
75	Geochemical analyses of air from an ancient debris-covered glacier, Antarctica. Quaternary Geochronology, 2015, 28, 29-39.	0.6	10
76	Glacier advance during Marine Isotope Stage 11 in the McMurdo Dry Valleys of Antarctica. Scientific Reports, 2017, 7, 41433.	1.6	10
77	Gully formation in the McMurdo Dry Valleys, Antarctica: multiple sources of water, temporal sequence and relative importance in gully erosion and deposition processes. Geological Society Special Publication, 2019, 467, 289-314.	0.8	10
78	Geologic analogies between the surface of Mars and the McMurdo Dry Valleys: microclimate-related geomorphic features and evidence for climate change. , 2010, , 9-77.		5
79	The geomorphic signature of massive subglacial floods in Victoria Land, Antarctica. Geophysical Monograph Series, 2011, , 111-127.	0.1	2
80	Don Juan Pond, Antarctica: Near-surface CaCl2-brine feeding Earth's most saline lake and implications for Mars. , 0, .		1