

David R Marchant

List of Publications by Year in descending order

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80
papers

6,201
citations

57758

44
h-index

66911

78
g-index

80
all docs

80
docs citations

80
times ranked

3167
citing authors

#	ARTICLE	IF	CITATIONS
1	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.	1.3	10
2	Transient post-glacial processes on Mars: Geomorphologic evidence for a paraglacial period. Icarus, 2018, 309, 187-206.	2.5	15
3	Glacier advance during Marine Isotope Stage 11 in the McMurdo Dry Valleys of Antarctica. Scientific Reports, 2017, 7, 41433.	3.3	10
4	Obliquity-paced climate change recorded in Antarctic debris-covered glaciers. Nature Communications, 2017, 8, 14194.	12.8	13
5	Dating buried glacier ice using cosmogenic ³ He in surface clasts: Theory and application to Mullins Glacier, Antarctica. Quaternary Science Reviews, 2016, 140, 75-100.	3.0	15
6	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.	1.7	14
7	Geochemical analyses of air from an ancient debris-covered glacier, Antarctica. Quaternary Geochronology, 2015, 28, 29-39.	1.4	10
8	Volcanism-induced, local wet-based glacial conditions recorded in the Late Amazonian Arsia Mons tropical mountain glacier deposits. Icarus, 2015, 250, 18-31.	2.5	24
9	Cold-based debris-covered glaciers: Evaluating their potential as climate archives through studies of ground-penetrating radar and surface morphology. Journal of Geophysical Research F: Earth Surface, 2014, 119, 2505-2540.	2.8	31
10	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.	1.7	26
11	Volcano-ice interactions in the Arsia Mons tropical mountain glacier deposits. Icarus, 2014, 237, 315-339.	2.5	40
12	Formation of lobate debris aprons on Mars: Assessment of regional ice sheet collapse and debris-cover armoring. Icarus, 2014, 228, 54-63.	2.5	51
13	The climate history of early Mars: insights from the Antarctic McMurdo Dry Valleys hydrologic system. Antarctic Science, 2014, 26, 774-800.	0.9	84
14	Don Juan Pond, Antarctica: Near-surface CaCl ₂ -brine feeding Earth's most saline lake and implications for Mars. Scientific Reports, 2013, 3, 1166.	3.3	61
15	Accelerated thermokarst formation in the McMurdo Dry Valleys, Antarctica. Scientific Reports, 2013, 3, 2269.	3.3	35
16	A 2D Model for Characterising First-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.	3.4	21
17	Early Mars climate near the Noachian-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.	2.5	84
18	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

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19	Modeling vapor diffusion within cold and dry supraglacial tills of Antarctica: Implications for the preservation of ancient ice. <i>Geomorphology</i> , 2011, 126, 159-173.	2.6	29
20	Elevated East Antarctic outlet glaciers during warmer-than-present climates in southern Victoria Land. <i>Global and Planetary Change</i> , 2011, 79, 61-72.	3.5	27
21	Evidence for Amazonian northern mid-latitude regional glacial landsystems on Mars: Glacial flow models using GCM-driven climate results and comparisons to geological observations. <i>Icarus</i> , 2011, 216, 23-39.	2.5	36
22	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. <i>Icarus</i> , 2011, 211, 347-365.	2.5	21
23	The geomorphic signature of massive subglacial floods in Victoria Land, Antarctica. <i>Geophysical Monograph Series</i> , 2011, , 111-127.	0.1	2
24	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
25	Seismic and GPR surveys of Mullins Glacier, McMurdo Dry Valleys, Antarctica: ice thickness, internal structure and implications for surface ridge formation. <i>Journal of Glaciology</i> , 2010, 56, 48-64.	2.2	50
26	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. <i>Icarus</i> , 2010, 207, 186-209.	2.5	96
27	Thermal contraction crack polygons on Mars: A synthesis from HiRISE, Phoenix, and terrestrial analog studies. <i>Icarus</i> , 2010, 206, 229-252.	2.5	147
28	Supraglacial and proglacial valleys on Amazonian Mars. <i>Icarus</i> , 2010, 208, 86-100.	2.5	90
29	Concentric crater fill in the northern mid-latitudes of Mars: Formation processes and relationships to similar landforms of glacial origin. <i>Icarus</i> , 2010, 209, 390-404.	2.5	111
30	Viscous flow lobes in central Taylor Valley, Antarctica: Origin as remnant buried glacial ice. <i>Geomorphology</i> , 2010, 120, 174-185.	2.6	52
31	Northern mid-latitude glaciation in the Late Amazonian period of Mars: Criteria for the recognition of debris-covered glacier and valley glacier landsystem deposits. <i>Earth and Planetary Science Letters</i> , 2010, 294, 306-320.	4.4	154
32	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. <i>Earth and Planetary Science Letters</i> , 2010, 294, 332-342.	4.4	53
33	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. <i>Icarus</i> , 2009, 202, 22-38.	2.5	92
34	Concentric crater fill in Utopia Planitia: History and interaction between glacial "brain terrain" and proglacial mantle processes. <i>Icarus</i> , 2009, 202, 462-476.	2.5	95
35	Cold and dry processes in the Martian Arctic: Geomorphic observations at the Phoenix landing site and comparisons with terrestrial cold desert landforms. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	29
36	Periods of active permafrost layer formation during the geological history of Mars: Implications for circum-polar and mid-latitude surface processes. <i>Planetary and Space Science</i> , 2008, 56, 289-302.	1.7	108

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37	The Ascræus Mons fan-shaped deposit: Volcano-ice interactions and the climatic implications of cold-based tropical mountain glaciation. <i>Icarus</i> , 2008, 197, 84-109.	2.5	92
38	Tropical mountain glaciers on Mars: Altitude-dependence of ice accumulation, accumulation conditions, formation times, glacier dynamics, and implications for planetary spin-axis/orbital history. <i>Icarus</i> , 2008, 198, 305-317.	2.5	145
39	Identification of sublimation-type thermal contraction crack polygons at the proposed NASA Phoenix landing site: Implications for substrate properties and climate-driven morphological evolution. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	35
40	Two chloride sources in soils of the McMurdo Dry Valleys, Antarctica. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	21
41	Martian pedestal craters: Marginal sublimation pits implicate a climate-related formation mechanism. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	52
42	Late Amazonian glaciation at the dichotomy boundary on Mars: Evidence for glacial thickness maxima and multiple glacial phases. <i>Geology</i> , 2008, 36, 411.	4.4	165
43	Mid-Miocene cooling and the extinction of tundra in continental Antarctica. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 10676-10680.	7.1	241
44	Exceptionally preserved lacustrine ostracods from the Middle Miocene of Antarctica: implications for high-latitude palaeoenvironment at 77°S. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2008, 275, 2449-2454.	2.6	24
45	Formation of gullies on Mars: Link to recent climate history and insolation microenvironments implicate surface water flow origin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 13258-13263.	7.1	137
46	The role of thermal contraction crack polygons in cold-desert fluvial systems. <i>Antarctic Science</i> , 2008, 20, 565-579.	0.9	48
47	Shallow seismic surveys and ice thickness estimates of the Mullins Valley debris-covered glacier, McMurdo Dry Valleys, Antarctica. <i>Antarctic Science</i> , 2007, 19, 485-496.	0.9	22
48	Recent glaciation at high elevations on Arsia Mons, Mars: Implications for the formation and evolution of large tropical mountain glaciers. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	77
49	Sensitivity of ice-cemented Antarctic soils to greenhouse-induced thawing: Are terrestrial archives at risk?. <i>Earth and Planetary Science Letters</i> , 2007, 259, 347-359.	4.4	22
50	Fossil genes and microbes in the oldest ice on Earth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 13455-13460.	7.1	141
51	Lineated valley fill and lobate debris apron stratigraphy in Nilosyrtis Mensae, Mars: Evidence for phases of glacial modification of the dichotomy boundary. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	102
52	Antarctic dry valleys: Microclimate zonation, variable geomorphic processes, and implications for assessing climate change on Mars. <i>Icarus</i> , 2007, 192, 187-222.	2.5	354
53	High-latitude cold-based glacial deposits on Mars: Multiple superposed drop moraines in a crater interior at 70°N latitude. <i>Meteoritics and Planetary Science</i> , 2006, 41, 1659-1674.	1.6	28
54	Modification of the dichotomy boundary on Mars by Amazonian mid-latitude regional glaciation. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	109

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55	Quantifying sulfate components and their variations in soils of the McMurdo Dry Valleys, Antarctica. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	40
56	Distribution and origin of patterned ground on Mullins Valley debris-covered glacier, Antarctica: the roles of ice flow and sublimation. <i>Antarctic Science</i> , 2006, 18, 385-397.	0.9	44
57	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. <i>Icarus</i> , 2006, 181, 388-407.	2.5	76
58	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. <i>Geology</i> , 2006, 34, 513.	4.4	126
59	Origin and evolution of a cold-based tropical mountain glacier on Mars: The Pavonis Mons fan-shaped deposit. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	159
60	Glacial deposits on the rim of a Hesperian-Amazonian outflow channel source trough: Mangala Valles, Mars. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	32
61	Recent ice ages on Mars. <i>Nature</i> , 2003, 426, 797-802.	27.8	705
62	Cold-based mountain glaciers on Mars: Western Arsia Mons. <i>Geology</i> , 2003, 31, 641.	4.4	212
63	The geologic basis for a reconstruction of a grounded ice sheet in mcmurdo sound, antarctica, at the last glacial maximum. <i>Geografiska Annaler, Series A: Physical Geography</i> , 2000, 82, 167-211.	1.5	50
64	The Geologic Basis for a Reconstruction of a Grounded Ice Sheet in McMurdo Sound, Antarctica, at the Last Glacial Maximum. <i>Geografiska Annaler, Series A: Physical Geography</i> , 2000, 82A, 167-211.	1.5	41
65	Landscape development in the Royal Society Range, southern Victoria Land, Antarctica: stability since the mid-Miocene. <i>Geomorphology</i> , 1999, 28, 181-200.	2.6	63
66	Miocene and Pliocene paleoclimate of the Dry Valleys region, Southern Victoria land: a geomorphological approach. <i>Marine Micropaleontology</i> , 1996, 27, 253-271.	1.2	105
67	Late Cenozoic Antarctic paleoclimate reconstructed from volcanic ashes in the Dry Valleys region of southern Victoria Land. <i>Bulletin of the Geological Society of America</i> , 1996, 108, 181-194.	3.3	125
68	Preservation of Miocene glacier ice in East Antarctica. <i>Nature</i> , 1995, 376, 412-414.	27.8	225
69	Quaternary changes in level of the upper Taylor Glacier, Antarctica: implications for paleoclimate and East Antarctic Ice Sheet dynamics. <i>Boreas</i> , 1994, 23, 29-43.	2.4	50
70	East Antarctic Ice Sheet Sensitivity to Pliocene Climatic Change from a Dry Valleys Perspective. <i>Geografiska Annaler, Series A: Physical Geography</i> , 1993, 75, 155-204.	1.5	101
71	Miocene-Pliocene-Pleistocene Glacial History of Arena Valley, Quartermain Mountains, Antarctica. <i>Geografiska Annaler, Series A: Physical Geography</i> , 1993, 75, 269-302.	1.5	51
72	The Case for a Stable East Antarctic Ice Sheet: The Background. <i>Geografiska Annaler, Series A: Physical Geography</i> , 1993, 75, 151-154.	1.5	40

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73	Miocene Glacial Stratigraphy and Landscape Evolution of the Western Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 303-330.	1.5	57
74	The Case for a Stable East Antarctic Ice Sheet: The Background. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 151.	1.5	40
75	East Antarctic Ice Sheet Sensitivity to Pliocene Climatic Change from a Dry Valleys Perspective. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 155.	1.5	96
76	Miocene-Pliocene-Pleistocene Glacial History of Arena Valley, Quartermain Mountains, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 269.	1.5	59
77	Miocene Glacial Stratigraphy and Landscape Evolution of the Western Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1993, 75, 303.	1.5	53
78	Subglacial Meltwater Channel Systems and Ice Sheet Overriding, Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1991, 73, 109-121.	1.5	36
79	Subglacial Meltwater Channel Systems and Ice Sheet Overriding, Asgard Range, Antarctica. Geografiska Annaler, Series A: Physical Geography, 1991, 73, 109.	1.5	33
80	Don Juan Pond, Antarctica: Near-surface CaCl ₂ -brine feeding Earth's most saline lake and implications for Mars. , 0, .		1