

Nicholas G Heavens

List of Publications by Year in descending order

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Version: 2024-02-01

58
papers

2,291
citations

218677

26
h-index

214800

47
g-index

67
all docs

67
docs citations

67
times ranked

2698
citing authors

#	ARTICLE	IF	CITATIONS
1	Improved dust representation in the Community Atmosphere Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2014, 6, 541-570.	3.8	253
2	Aerosol Impacts on Climate and Biogeochemistry. <i>Annual Review of Environment and Resources</i> , 2011, 36, 45-74.	13.4	207
3	Structure and dynamics of the Martian lower and middle atmosphere as observed by the Mars Climate Sounder: Seasonal variations in zonal mean temperature, dust, and water ice aerosols. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	183
4	Hydrogen escape from Mars enhanced by deep convection in dust storms. <i>Nature Astronomy</i> , 2018, 2, 126-132.	10.1	112
5	Twelve thousand years of dust: the Holocene global dust cycle constrained by natural archives. <i>Climate of the Past</i> , 2015, 11, 869-903.	3.4	104
6	Thermal tides in the Martian middle atmosphere as seen by the Mars Climate Sounder. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	94
7	Explosive volcanism as a key driver of the late Paleozoic ice age. <i>Geology</i> , 2019, 47, 600-604.	4.4	83
8	Carbon dioxide snow clouds on Mars: South polar winter observations by the Mars Climate Sounder. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	74
9	Intense polar temperature inversion in the middle atmosphere on Mars. <i>Nature Geoscience</i> , 2008, 1, 745-749.	12.9	71
10	The vertical distribution of dust in the Martian atmosphere during northern spring and summer: Observations by the Mars Climate Sounder and analysis of zonal average vertical dust profiles. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	64
11	Mars Climate Sounder Observation of Mars' 2018 Global Dust Storm. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL083931.	4.0	59
12	Atmospheric Escape Processes and Planetary Atmospheric Evolution. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027639.	2.4	58
13	Vertical distribution of dust in the Martian atmosphere during northern spring and summer: High-altitude tropical dust maximum at northern summer solstice. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	53
14	Structure and dynamics of the Martian lower and middle atmosphere as observed by the Mars Climate Sounder: 2. Implications of the thermal structure and aerosol distributions for the mean meridional circulation. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	52
15	The role of snowfall in forming the seasonal ice caps of Mars: Models and constraints from the Mars Climate Sounder. <i>Icarus</i> , 2014, 231, 122-130.	2.5	52
16	Water ice clouds over the Martian tropics during northern summer. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	51
17	Extensive MRO CRISM observations of 1.27 μm O_2 airglow in Mars polar night and their comparison to MRO MCS temperature profiles and LMD GCM simulations. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	51
18	Discovery of a widespread low-latitude diurnal CO_2 frost cycle on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1174-1189.	3.6	50

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19	Martian water loss to space enhanced by regional dust storms. <i>Nature Astronomy</i> , 2021, 5, 1036-1042.	10.1	40
20	Seasonal and diurnal variability of detached dust layers in the tropical Martian atmosphere. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1748-1774.	3.6	39
21	A solar escalator on Mars: Self-lifting of dust layers by radiative heating. <i>Geophysical Research Letters</i> , 2015, 42, 7319-7326.	4.0	38
22	A model-based evaluation of tropical climate in Pangaea during the late Palaeozoic icehouse. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2015, 425, 109-127.	2.3	38
23	Upland Glaciation in Tropical Pangaea: Geologic Evidence and Implications for Late Paleozoic Climate Modeling. <i>Journal of Geology</i> , 2014, 122, 137-163.	1.4	37
24	Extreme detached dust layers near Martian volcanoes: Evidence for dust transport by mesoscale circulations forced by high topography. <i>Geophysical Research Letters</i> , 2015, 42, 3730-3738.	4.0	36
25	A multiannual record of gravity wave activity in Mars's lower atmosphere from on-planet observations by the Mars Climate Sounder. <i>Icarus</i> , 2020, 341, 113630.	2.5	36
26	Dusty Deep Convection in the Mars Year 34 Planet-Encircling Dust Event. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 2863-2892.	3.6	33
27	An Observational Overview of Dusty Deep Convection in Martian Dust Storms. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 3299-3326.	1.7	26
28	Convective instability in the martian middle atmosphere. <i>Icarus</i> , 2010, 208, 574-589.	2.5	25
29	A paleogeographic approach to aerosol prescription in simulations of deep time climate. <i>Journal of Advances in Modeling Earth Systems</i> , 2012, 4, .	3.8	23
30	High-altitude water ice cloud formation on Mars controlled by interplanetary dust particles. <i>Nature Geoscience</i> , 2019, 12, 516-521.	12.9	23
31	Asymmetries in Snowfall, Emissivity, and Albedo of Mars' Seasonal Polar Caps: Mars Climate Sounder Observations. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006150.	3.6	19
32	Rapid Expansion and Evolution of a Regional Dust Storm in the Acidalia Corridor During the Initial Growth Phase of the Martian Global Dust Storm of 2018. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL084317.	4.0	18
33	Earth-like thermal and dynamical coupling processes in the Martian climate system. <i>Earth-Science Reviews</i> , 2022, 229, 104023.	9.1	18
34	Large Eddy Simulations of the Dusty Martian Convective Boundary Layer With MarsWRF. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006752.	3.6	17
35	Temperatures and aerosol opacities of the Mars atmosphere at aphelion: Validation and inter-comparison of limb sounding profiles from MRO/MCS and MGS/TES. <i>Icarus</i> , 2015, 251, 26-49.	2.5	16
36	Textured Dust Storm Activity in Northeast Amazonia's Southwest Arcadia, Mars: Phenomenology and Dynamical Interpretation. <i>Journals of the Atmospheric Sciences</i> , 2017, 74, 1011-1037.	1.7	16

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37	Coal-derived rates of atmospheric dust deposition during the Permian. <i>Gondwana Research</i> , 2016, 31, 20-29.	6.0	13
38	Two aerodynamic roughness maps derived from Mars Orbiter Laser Altimeter (MOLA) data and their effects on boundary layer properties in a Mars general circulation model (GCM). <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	12
39	Climatological evaporation seasonality in the northern Red Sea. <i>Paleoceanography</i> , 2007, 22, .	3.0	9
40	Reconstructing the Dust Cycle in Deep Time: the Case of the Late Paleozoic Icehouse. <i>The Paleontological Society Papers</i> , 2015, 21, 83-120.	0.6	9
41	Mars perihelion cloud trails as revealed by MARCI: Mesoscale topographically focused updrafts and gravity wave forcing of high altitude clouds. <i>Icarus</i> , 2021, 362, 114411.	2.5	9
42	Mars Climate Sounder Observations of Gravity-wave Activity throughout Mars's Lower Atmosphere. <i>Planetary Science Journal</i> , 2022, 3, 57.	3.6	9
43	The reflectivity of Mars at 1064Ånm: Derivation from Mars Orbiter Laser Altimeter data and application to climatology and meteorology. <i>Icarus</i> , 2017, 289, 1-21.	2.5	8
44	Extreme eolian delivery of reactive iron to late Paleozoic icehouse seas. <i>Geology</i> , 0, , G37226.1.	4.4	6
45	Warm-water carbonates in proximity to Gondwanan ice sheets: A record from the Upper Paleozoic of Iran. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2019, 531, 108914.	2.3	6
46	MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration. <i>Planetary Science Journal</i> , 2021, 2, 211.	3.6	6
47	Report on ICDP Deep Dust workshops: probing continental climate of the late Paleozoic icehouse's "greenhouse transition and beyond. <i>Scientific Drilling</i> , 0, 28, 93-112.	0.6	4
48	Atmospheric dust stimulated marine primary productivity during Earth's penultimate icehouse. <i>Geology</i> , 2019, , .	4.4	3
49	Measuring Mars Atmospheric Winds from Orbit. , 2021, 53, .		3
50	Convective instabilities during Mars Climate Sounder's limb staring mode were overestimated. <i>Icarus</i> , 2014, 237, 415-418.	2.5	1
51	Of kangaroo rats and gypsum gravel: Probing the extremes of aeolian transport in the present and the past. <i>Geology</i> , 2017, 45, 479-480.	4.4	1
52	The case for a multi-channel polarization sensitive LIDAR for investigation of insolation-driven ices and atmospheres. , 2021, 53, .		1
53	Downscaling CESM2 in CLM5 to Hindcast Preindustrial Equilibrium Line Altitudes for Tropical Mountain Glaciers. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL094071.	4.0	1
54	Mind over Magma. By Davis, Young. Princeton, NJ: Princeton University Press, 2003. 686 pages, 58 figures. \$69.95 cloth.. <i>Journal of Geology</i> , 2005, 113, 237-237.	1.4	0

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55	Sunshine on a Cloudy Forecast. <i>Science</i> , 2011, 333, 1832-1833.	12.6	0
56	Atmospheric dust flux in northeastern Gondwana during the peak of the late Paleozoic ice age. <i>Bulletin of the Geological Society of America</i> , 2020, , .	3.3	0
57	InSight searches high to see below. <i>Nature Geoscience</i> , 2020, 13, 180-181.	12.9	0
58	An Urgently Needed Repository for Planetary Atmospheric Model Output. , 2021, 53, .		0