Nicholas G Heavens

List of Publications by Year
in descending order

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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	Mars Climate Sounder Observations of Gravity-wave Activity throughout Marsâ€™s Lower Atmosphere. Planetary Science Journal, 2022, 3, 57.	3.6	9
2	Earth-like thermal and dynamical coupling processes in the Martian climate system. Earth-Science Reviews, 2022, 229, 104023.	9.1	18
3	The case for a multi-channel polarization sensitive LIDAR for investigation of insolation-driven ices and atmospheres. , 2021, 53, .		1
4	An Urgently Needed Repository for Planetary Atmospheric Model Output. , 2021, 53, .		0
5	Measuring Mars Atmospheric Winds from Orbit. , 2021, 53, .		3
6	Mars perihelion cloud trails as revealed by MARCI: Mesoscale topographically focused updrafts and gravity wave forcing of high altitude clouds. Icarus, 2021, 362, 114411.	2.5	9
7	Martian water loss to space enhanced by regional dust storms. Nature Astronomy, 2021, 5, 1036-1042.	10.1	40
8	Downscaling CESM2 in CLM5 to Hindcast Preindustrial Equilibrium Line Altitudes for Tropical Mountain Glaciers. Geophysical Research Letters, 2021, 48, e2021GL094071.	4.0	1
9	Large Eddy Simulations of the Dusty Martian Convective Boundary Layer With MarsWRF. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006752.	3.6	17
10	MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration. Planetary Science Journal, 2021, 2, 211.	3.6	6
11	Mars Climate Sounder Observation of Mars' 2018 Global Dust Storm. Geophysical Research Letters, 2020, 47, e2019GL083931.	4.0	59
12	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. Geophysical Research Letters, 2020, 47, e2019GL084317.	4.0	18
13	Atmospheric dust flux in northeastern Gondwana during the peak of the late Paleozoic ice age. Bulletin of the Geological Society of America, 2020, , .	3.3	0
14	Asymmetries in Snowfall, Emissivity, and Albedo of Mars' Seasonal Polar Caps: Mars Climate Sounder Observations. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006150.	3.6	19
15	Atmospheric Escape Processes and Planetary Atmospheric Evolution. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027639.	2.4	58
16	InSight searches high to see below. Nature Geoscience, 2020, 13, 180-181.	12.9	0
17	A multiannual record of gravity wave activity in Marsâ€™s lower atmosphere from on-planet observations by the Mars Climate Sounder. Icarus, 2020, 341, 113630.	2.5	36
18	Explosive volcanism as a key driver of the late Paleozoic ice age. Geology, 2019, 47, 600-604.	4.4	83

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19	Dusty Deep Convection in the Mars Year 34 Planetâ€Encircling Dust Event. Journal of Geophysical Research E: Planets, 2019, 124, 2863-2892.	3.6	33
20	An Observational Overview of Dusty Deep Convection in Martian Dust Storms. Journals of the Atmospheric Sciences, 2019, 76, 3299-3326.	1.7	26
21	High-altitude water ice cloud formation on Mars controlled by interplanetary dust particles. Nature Geoscience, 2019, 12, 516-521.	12.9	23
22	Atmospheric dust stimulated marine primary productivity during Earthâ€™s penultimate icehouse. Geology, 2019, , .	4.4	3
23	Warm-water carbonates in proximity to Gondwanan iceâ€“sheets: A record from the Upper Paleozoic of Iran. Palaeogeography, Palaeoclimatology, Palaeoecology, 2019, 531, 108914.	2.3	6
24	Hydrogen escape from Mars enhanced by deep convection in dust storms. Nature Astronomy, 2018, 2, 126-132.	10.1	112
25	The reflectivity of Mars at 1064Ânm: Derivation from Mars Orbiter Laser Altimeter data and application to climatology and meteorology. Icarus, 2017, 289, 1-21.	2.5	8
26	Textured Dust Storm Activity in Northeast Amazonisâ€“Southwest Arcadia, Mars: Phenomenology and Dynamical Interpretation. Journals of the Atmospheric Sciences, 2017, 74, 1011-1037.	1.7	16
27	Of kangaroo rats and gypsum gravel: Probing the extremes of aeolian transport in the present and the past. Geology, 2017, 45, 479-480.	4.4	1
28	Discovery of a widespread lowâ€latitude diurnal CO₂ frost cycle on Mars. Journal of Geophysical Research E: Planets, 2016, 121, 1174-1189.	3.6	50
29	Coal-derived rates of atmospheric dust deposition during the Permian. Gondwana Research, 2016, 31, 20-29.	6.0	13
30	A solar escalator on Mars: Selfâ€lifting of dust layers by radiative heating. Geophysical Research Letters, 2015, 42, 7319-7326.	4.0	38
31	Extreme detached dust layers near Martian volcanoes: Evidence for dust transport by mesoscale circulations forced by high topography. Geophysical Research Letters, 2015, 42, 3730-3738.	4.0	36
32	Reconstructing the Dust Cycle in Deep Time: the Case of the Late Paleozoic Icehouse. The Paleontological Society Papers, 2015, 21, 83-120.	0.6	9
33	Twelve thousand years of dust: the Holocene global dust cycle constrained by natural archives. Climate of the Past, 2015, 11, 869-903.	3.4	104
34	A model-based evaluation of tropical climate in Pangaea during the late Palaeozoic icehouse. Palaeogeography, Palaeoclimatology, Palaeoecology, 2015, 425, 109-127.	2.3	38
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. Icarus, 2015, 251, 26-49.	2.5	16
36	Upland Glaciation in Tropical Pangaea: Geologic Evidence and Implications for Late Paleozoic Climate Modeling. Journal of Geology, 2014, 122, 137-163.	1.4	37

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37	Improved dust representation in the Community Atmosphere Model. Journal of Advances in Modeling Earth Systems, 2014, 6, 541-570.	3.8	253
38	The role of snowfall in forming the seasonal ice caps of Mars: Models and constraints from the Mars Climate Sounder. Icarus, 2014, 231, 122-130.	2.5	52
39	Convective instabilities during Mars Climate Sounderâ€™s limb staring mode were overestimated. Icarus, 2014, 237, 415-418.	2.5	1
40	Seasonal and diurnal variability of detached dust layers in the tropical Martian atmosphere. Journal of Geophysical Research E: Planets, 2014, 119, 1748-1774.	3.6	39
41	Extensive MRO CRISM observations of 1.27 Î¼m O₂ airglow in Mars polar night and their comparison to MRO MCS temperature profiles and LMD GCM simulations. Journal of Geophysical Research, 2012, 117, .	3.3	51
42	Carbon dioxide snow clouds on Mars: South polar winter observations by the Mars Climate Sounder. Journal of Geophysical Research, 2012, 117, .	3.3	74
43	A paleogeographic approach to aerosol prescription in simulations of deep time climate. Journal of Advances in Modeling Earth Systems, 2012, 4, .	3.8	23
44	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. Journal of Geophysical Research, 2011, 116, .	3.3	64
45	Vertical distribution of dust in the Martian atmosphere during northern spring and summer: High-altitude tropical dust maximum at northern summer solstice. Journal of Geophysical Research, 2011, 116, .	3.3	53
46	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. Journal of Geophysical Research, 2011, 116, .	3.3	52
47	Aerosol Impacts on Climate and Biogeochemistry. Annual Review of Environment and Resources, 2011, 36, 45-74.	13.4	207
48	Sunshine on a Cloudy Forecast. Science, 2011, 333, 1832-1833.	12.6	0
49	Convective instability in the martian middle atmosphere. Icarus, 2010, 208, 574-589.	2.5	25
50	Water ice clouds over the Martian tropics during northern summer. Geophysical Research Letters, 2010, 37, .	4.0	51
51	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. Journal of Geophysical Research, 2010, 115, .	3.3	183
52	Thermal tides in the Martian middle atmosphere as seen by the Mars Climate Sounder. Journal of Geophysical Research, 2009, 114, .	3.3	94
53	Intense polar temperature inversion in the middle atmosphere on Mars. Nature Geoscience, 2008, 1, 745-749.	12.9	71
54	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). Journal of Geophysical Research, 2008, 113, .	3.3	12

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55	Climatological evaporation seasonality in the northern Red Sea. Paleoceanography, 2007, 22, .	3.0	9
56	Mind over Magma. By DavisÂA.Â Young. Princeton, NJ: Princeton University Press, 2003. 686 pages, 58 figures. $69.95 cloth.. Journal of Geology, 2005, 113, 237-237.	1.4	0
57	Extreme eolian delivery of reactive iron to late Paleozoic icehouse seas. Geology, 0, , G37226.1.	4.4	6
58	Report on ICDP Deep Dust workshops: probing continental climate of the late Paleozoic icehouseâ€“greenhouse transition and beyond. Scientific Drilling, 0, 28, 93-112.	0.6	4