

# Norman H Sleep

## List of Publications by Year in descending order

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105  
papers

7,308  
citations

81900

39  
h-index

56724

83  
g-index

106  
all docs

106  
docs citations

106  
times ranked

4471  
citing authors

#	ARTICLE	IF	CITATIONS
1	Annihilation of ecosystems by large asteroid impacts on the early Earth. <i>Nature</i> , 1989, 342, 139-142.	27.8	508
2	Carbon dioxide cycling and implications for climate on ancient Earth. <i>Journal of Geophysical Research</i> , 2001, 106, 1373-1399.	3.3	474
3	Creep, compaction and the weak rheology of major faults. <i>Nature</i> , 1992, 359, 687-692.	27.8	394
4	Formation of oceanic crust: Some thermal constraints. <i>Journal of Geophysical Research</i> , 1975, 80, 4037-4042.	3.3	389
5	Archean Plate Tectonics: Constraints and Inferences. <i>Journal of Geology</i> , 1982, 90, 363-379.	1.4	348
6	Emergence of a Habitable Planet. <i>Space Science Reviews</i> , 2007, 129, 35-78.	8.1	334
7	Martian plate tectonics. <i>Journal of Geophysical Research</i> , 1994, 99, 5639.	3.3	321
8	Habitable Zone Limits for Dry Planets. <i>Astrobiology</i> , 2011, 11, 443-460.	3.0	240
9	Sensitivity of heat flow and gravity to the mechanism of sea-floor spreading. <i>Journal of Geophysical Research</i> , 1969, 74, 542-549.	3.3	229
10	No climate paradox under the faint early Sun. <i>Nature</i> , 2010, 464, 744-747.	27.8	226
11	Dynamically supported geoid highs over hotspots: Observation and theory. <i>Journal of Geophysical Research</i> , 1988, 93, 7690-7708.	3.3	209
12	A Mid-Ocean Ridge Thermal Model: Constraints on the volume of axial hydrothermal heat flux. <i>Journal of Geophysical Research</i> , 1985, 90, 11345-11353.	3.3	199
13	Segregation of Magma from a Mostly Crystalline Mush. <i>Bulletin of the Geological Society of America</i> , 1974, 85, 1225.	3.3	191
14	Lateral flow and ponding of starting plume material. <i>Journal of Geophysical Research</i> , 1997, 102, 10001-10012.	3.3	177
15	Serpentinite and the dawn of life. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2011, 366, 2857-2869.	4.0	176
16	The Hadean-Archaean Environment. <i>Cold Spring Harbor Perspectives in Biology</i> , 2010, 2, a002527-a002527.	5.5	173
17	EVOLUTION OF THE CONTINENTAL LITHOSPHERE. <i>Annual Review of Earth and Planetary Sciences</i> , 2005, 33, 369-393.	11.0	153
18	Application of a unified rate and state friction theory to the mechanics of fault zones with strain localization. <i>Journal of Geophysical Research</i> , 1997, 102, 2875-2895.	3.3	144

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19	Mantle plumes from top to bottom. <i>Earth-Science Reviews</i> , 2006, 77, 231-271.	9.1	125
20	Refugia from asteroid impacts on early Mars and the early Earth. <i>Journal of Geophysical Research</i> , 1998, 103, 28529-28544.	3.3	122
21	Gradual entrainment of a chemical layer at the base of the mantle by overlying convection. <i>Geophysical Journal International</i> , 1988, 95, 437-447.	2.4	119
22	Hotspot Volcanism and Mantle Plumes. <i>Annual Review of Earth and Planetary Sciences</i> , 1992, 20, 19-43.	11.0	114
23	Survival of Archean cratonic lithosphere. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	105
24	Niches of the pre-photosynthetic biosphere and geologic preservation of Earth's earliest ecology. <i>Geobiology</i> , 2007, 5, 101-117.	2.4	102
25	The rise of continents—An essay on the geologic consequences of photosynthesis. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2006, 232, 99-113.	2.3	96
26	Gravity and lithospheric stress on the terrestrial planets with reference to the Tharsis Region of Mars. <i>Journal of Geophysical Research</i> , 1985, 90, 4469-4489.	3.3	83
27	Stress and Flow beneath Island Arcs. <i>Geophysical Journal of the Royal Astronomical Society</i> , 2007, 42, 827-857.	0.2	72
28	Long lasting epeirogenic uplift from mantle plumes and the origin of the Southern African Plateau. <i>Geochemistry, Geophysics, Geosystems</i> , 2003, 4, .	2.5	67
29	Geological and Geochemical Constraints on the Origin and Evolution of Life. <i>Astrobiology</i> , 2018, 18, 1199-1219.	3.0	64
30	Thermal contraction and flexure of intracratonic basins: a three-dimensional study of the Michigan basin. <i>Geophysical Journal International</i> , 1984, 76, 587-635.	2.4	60
31	Physics of friction and strain rate localization in synthetic fault gouge. <i>Journal of Geophysical Research</i> , 2000, 105, 25875-25890.	3.3	60
32	Evolutionary ecology during the rise of dioxygen in the Earth's atmosphere. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2008, 363, 2651-2664.	4.0	57
33	Weathering of quartz as an Archean climatic indicator. <i>Earth and Planetary Science Letters</i> , 2006, 241, 594-602.	4.4	53
34	The tethered Moon. <i>Earth and Planetary Science Letters</i> , 2015, 427, 74-82.	4.4	52
35	A deep borehole in the Michigan Basin. <i>Journal of Geophysical Research</i> , 1978, 83, 5815-5819.	3.3	48
36	Stagnant lid convection and carbonate metasomatism of the deep continental lithosphere. <i>Geochemistry, Geophysics, Geosystems</i> , 2009, 10, .	2.5	46

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37	Paleontology of Earth's Mantle. Annual Review of Earth and Planetary Sciences, 2012, 40, 277-300.	11.0	44
38	Geodynamic implications of xenolith geotherms. Geochemistry, Geophysics, Geosystems, 2003, 4, n/a-n/a.	2.5	42
39	Ridge-crossing mantle plumes and gaps in tracks. Geochemistry, Geophysics, Geosystems, 2002, 3, 1-33.	2.5	41
40	Terrestrial aftermath of the Moon-forming impact. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130172.	3.4	40
41	Plate-tectonic evolution of the Earth: bottom-up and top-down mantle circulation. Canadian Journal of Earth Sciences, 2016, 53, 1103-1120.	1.3	38
42	Osmium isotopic compositions of Os-rich platinum group element alloys from the Klamath and Siskiyou Mountains. Journal of Geophysical Research, 2004, 109, .	3.3	37
43	Local lithospheric relief associated with fracture zones and ponded plume material. Geochemistry, Geophysics, Geosystems, 2002, 3, 1-17.	2.5	35
44	Did Earthquakes Keep the Early Crust Habitable?. Astrobiology, 2007, 7, 1023-1032.	3.0	34
45	Real contacts and evolution laws for rate and state friction. Geochemistry, Geophysics, Geosystems, 2006, 7, n/a-n/a.	2.5	33
46	More about the moment of inertia of Mars. Geophysical Research Letters, 1989, 16, 1333-1336.	4.0	32
47	Channeling at the base of the lithosphere during the lateral flow of plume material beneath flow line hot spots. Geochemistry, Geophysics, Geosystems, 2008, 9, .	2.5	32
48	Impacts and the Early Evolution of Life. , 2006, , 207-251.		30
49	Effect of latent heat of freezing on crustal generation at low spreading rates. Geochemistry, Geophysics, Geosystems, 2014, 15, 3161-3174.	2.5	28
50	Edge-modulated stagnant-lid convection and volcanic passive margins. Geochemistry, Geophysics, Geosystems, 2007, 8, .	2.5	27
51	Frictional heating and the stability of rate and state dependent frictional sliding. Geophysical Research Letters, 1995, 22, 2785-2788.	4.0	26
52	Physical basis of evolution laws for rate and state friction. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	2.5	23
53	Rate- and state-dependent friction of intact rock and gouge. Journal of Geophysical Research, 1999, 104, 17847-17855.	3.3	21
54	Physics of crustal fracturing and chert dike formation triggered by asteroid impact, $\sim 4.26$ Ga, Barberton greenstone belt, South Africa. Geochemistry, Geophysics, Geosystems, 2014, 15, 1054-1070.	2.5	21

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55	Asteroid bombardment and the core of Theia as possible sources for the Earth's late veneer component. <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 2623-2642.	2.5	21
56	Production of brief extreme ground acceleration pulses by nonlinear mechanisms in the shallow subsurface. <i>Geochemistry, Geophysics, Geosystems</i> , 2008, 9, .	2.5	20
57	Rosing, Bird, Sleep & Bjerrum reply. <i>Nature</i> , 2011, 474, E1-E1.	27.8	20
58	Fate of mantle plume material trapped within a lithospheric catchment with reference to Brazil. <i>Geochemistry, Geophysics, Geosystems</i> , 2003, 4, .	2.5	19
59	Carbon dioxide cycling through the mantle and implications for the climate of ancient Earth. <i>Geological Society Special Publication</i> , 2002, 199, 231-257.	1.3	18
60	Small-scale convection beneath oceans and continents. <i>Science Bulletin</i> , 2011, 56, 1292-1317.	1.7	16
61	Nonlinear attenuation of S-waves and Love waves within ambient rock. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 1419-1440.	2.5	16
62	Nonlinear attenuation and rock damage during strong seismic ground motions. <i>Geochemistry, Geophysics, Geosystems</i> , 2008, 9, .	2.5	15
63	Seismically damaged regolith as self-organized fragile geological feature. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	2.5	15
64	Stagnant lid convection and the thermal subsidence of sedimentary basins with reference to Michigan. <i>Geochemistry, Geophysics, Geosystems</i> , 2009, 10, .	2.5	14
65	Maintenance of permeable habitable subsurface environments by earthquakes and tidal stresses. <i>International Journal of Astrobiology</i> , 2012, 11, 257-268.	1.6	14
66	Deep-seated downslope slip during strong seismic shaking. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	2.5	13
67	Oxygenating the atmosphere. <i>Nature</i> , 2001, 410, 317-318.	27.8	12
68	The Michigan Basin. <i>Geodynamic Series</i> , 2013, , 93-98.	0.1	12
69	Thermal Weakening of Asperity Tips on Fault Planes at High Sliding Velocities. <i>Geochemistry, Geophysics, Geosystems</i> , 2019, 20, 1164-1188.	2.5	12
70	Frictional dilatancy. <i>Geochemistry, Geophysics, Geosystems</i> , 2006, 7, n/a-n/a.	2.5	11
71	Scaling relationships for chemical lid convection with applications to cratonal lithosphere. <i>Geochemistry, Geophysics, Geosystems</i> , 2008, 9, .	2.5	11
72	Strong seismic shaking of randomly prestressed brittle rocks, rock damage, and nonlinear attenuation. <i>Geochemistry, Geophysics, Geosystems</i> , 2010, 11, .	2.5	11

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73	Microscopic elasticity and rate and state friction evolution laws. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	10
74	BIOLOGICAL EFFECTS ON THE SOURCE OF GEONEUTRINOS. <i>International Journal of Modern Physics A</i> , 2013, 28, 1330047.	1.5	9
75	Ambient tectonic stress as fragile geological feature. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 3628-3644.	2.5	9
76	Remote Faulting Triggered by Strong Seismic Waves from the Cretaceousâ€“Paleogene Asteroid Impact. <i>Seismological Research Letters</i> , 2018, 89, 570-576.	1.9	9
77	A wayward plume?. <i>Nature</i> , 1995, 378, 19-20.	27.8	7
78	Archaean palaeosols and Archaean air. <i>Nature</i> , 2004, 432, 1-1.	27.8	7
79	Application of rate and state friction formalism and flash melting to thin permanent slip zones of major faults. <i>Geochemistry, Geophysics, Geosystems</i> , 2010, 11, .	2.5	7
80	Evaluation of Seismic Hazard Models with Fragile Geologic Features. <i>Seismological Research Letters</i> , 2021, 92, 314-324.	1.9	7
81	Seismically observable features of mature stagnant-lid convection at the base of the lithosphere: Some scaling relationships. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	2.5	6
82	Nonlinear attenuation from the interaction between different types of seismic waves and interaction of seismic waves with shallow ambient tectonic stress. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 2336-2363.	2.5	6
83	Sudden and gradual compaction of shallow brittle porous rocks. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	5
84	The puzzle of the South Pacific. <i>Nature</i> , 1997, 389, 439-440.	27.8	4
85	Application of rate-and-state friction laws to creep compaction of unconsolidated sand under hydrostatic loading conditions. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	4
86	Strategy for Applying Neutrino Geophysics to the Earth Sciences Including Planetary Habitability. <i>Earth, Moon and Planets</i> , 2007, 99, 343-358.	0.6	4
87	Longâ€“term deformation driven by small ambient tectonic stresses and strong oscillating tidal within Enceladus with analogy to rock behavior near the San Andreas Fault. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 1670-1686.	2.5	4
88	Cratonic basins with reference to the Michigan basin. <i>Geological Society Special Publication</i> , 2018, 472, 17-35.	1.3	4
89	Weak thermal convection within tilted plume conduits. <i>Geochemistry, Geophysics, Geosystems</i> , 2007, 8, .	2.5	3
90	A reprieve for ocean crust. <i>Nature</i> , 1990, 347, 518-519.	27.8	2

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91	Top-down convection. <i>Nature</i> , 1993, 366, 410-411.	27.8	2
92	Shallow Sedimentary Rock as a Fragile Geological Feature: Effects of Clay Content and Hydrology on Frictional Strength. <i>Bulletin of the Seismological Society of America</i> , 2016, 106, 2777-2783.	2.3	2
93	Heat flow, strong near-fault seismic waves, and near-fault tectonics on the central San Andreas Fault. <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 1778-1798.	2.5	2
94	Planetary Interior-Atmosphere Interaction and Habitability. , 2018, , 1-22.		2
95	Friction in Cold Ice Within Outer Solar System Satellites With Reference to Thermal Weakening at High Sliding Velocities. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 2397-2413.	3.6	2
96	Mild Displacements of Boulders during the 2019 Ridgecrest Earthquakes. <i>Bulletin of the Seismological Society of America</i> , 2020, 110, 1579-1588.	2.3	2
97	Upwelling beneath ocean ridges. <i>Nature</i> , 1993, 366, 635-636.	27.8	1
98	Self-Organization of elastic moduli in the rock above blind faults. <i>Geochemistry, Geophysics, Geosystems</i> , 2013, 14, 733-750.	2.5	1
99	Planetary Interior-Atmosphere Interaction and Habitability. , 2018, , 2937-2958.		1
100	Mars as a time machine to Precambrian Earth. <i>Journal of the Geological Society</i> , 2022, 179, .	2.1	1
101	Life: Asteroid Target, Witness from the Early Earth, and Ubiquitous Effect on Global Geology. <i>Astrobiology</i> , 2012, 12, 1163-1164.	3.0	0
102	Nonlinear Interaction of High-Frequency Seismic Waves With Sliding Fault Planes. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 11748-11770.	3.4	0
103	Nonlinear Suppression of High-Frequency S Waves by the Near-Field Velocity Pulse With Reference to the 2002 Denali Earthquake. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB018386.	3.4	0
104	Are We Alone? An Interview with Dr. Norman Sleep. <i>Astrobiology</i> , 2020, 20, 563-571.	3.0	0
105	Processes within the Mantle: <i>Seismic Tomography and Mantle Circulation</i> . R. K. O'Nions and B. Parsons, Eds. Royal Society, London, 1989. viii, 152 pp., illus. £37.50. Reprinted from <i>Philosophical Transactions of the Royal Society</i> A, vol. 328 (1989). From a meeting, London, U.K., April 1988.. <i>Science</i> , 1990, 248, 1141-1141.	12.6	0