Norman H Sleep

List of Publications by Citations

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99 papers	6,217 citations	38 h-index	78 g-index
106 ext. papers	6,704 ext. citations	10.2 avg, IF	6.27 L-index

#	Paper	IF	Citations
99	Annihilation of ecosystems by large asteroid impacts on the early Earth. *Nature*, **1989**, 342, 139-42	50.4	413
98	Carbon dioxide cycling and implications for climate on ancient Earth. *Journal of Geophysical Research*, **2001**, 106, 1373-1399		390
97	Formation of oceanic crust: Some thermal constraints. *Journal of Geophysical Research*, **1975**, 80, 4037-4042		353
96	Creep, compaction and the weak rheology of major faults. *Nature*, **1992**, 359, 687-692	50.4	348
95	Archean Plate Tectonics: Constraints and Inferences. *Journal of Geology*, **1982**, 90, 363-379	2	301
94	Martian plate tectonics. *Journal of Geophysical Research*, **1994**, 99, 5639		276
93	Emergence of a Habitable Planet. *Space Science Reviews*, **2007**, 129, 35-78	7.5	269
92	Sensitivity of heat flow and gravity to the mechanism of sea-floor spreading. *Journal of Geophysical Research*, **1969**, 74, 542-549		213
91	Habitable zone limits for dry planets. *Astrobiology*, **2011**, 11, 443-60	3.7	196
90	Dynamically supported geoid highs over hotspots: Observation and theory. *Journal of Geophysical Research*, **1988**, 93, 7690		193
89	No climate paradox under the faint early Sun. *Nature*, **2010**, 464, 744-7	50.4	190
88	A Mid-Ocean Ridge Thermal Model: Constraints on the volume of axial hydrothermal heat flux. *Journal of Geophysical Research*, **1985**, 90, 11345		187
87	Segregation of Magma from a Mostly Crystalline Mush. *Bulletin of the Geological Society of America*, **1974**, 85, 1225	3.9	169
86	Lateral flow and ponding of starting plume material. *Journal of Geophysical Research*, **1997**, 102, 10001-10012		144
85	The Hadean-Archaean environment. *Cold Spring Harbor Perspectives in Biology*, **2010**, 2, a002527	10.2	137
84	EVOLUTION OF THE CONTINENTAL LITHOSPHERE. *Annual Review of Earth and Planetary Sciences*, **2005**, 33, 369-393	15.3	130
83	Serpentinite and the dawn of life. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2011**, 366, 2857-69	5.8	121

82	Application of a unified rate and state friction theory to the mechanics of fault zones with strain localization. *Journal of Geophysical Research*, **1997**, 102, 2875-2895		117
81	Gradual entrainment of a chemical layer at the base of the mantle by overlying convection. *Geophysical Journal International*, **1988**, 95, 437-447	2.6	108
80	Mantle plumes from top to bottom. *Earth-Science Reviews*, **2006**, 77, 231-271	10.2	106
79	Refugia from asteroid impacts on early Mars and the early Earth. *Journal of Geophysical Research*, **1998**, 103, 28529-28544		104
78	Hotspot Volcanism and Mantle Plumes. *Annual Review of Earth and Planetary Sciences*, **1992**, 20, 19-43	15.3	101
77	Survival of Archean cratonal lithosphere. *Journal of Geophysical Research*, **2003**, 108,		92
76	Niches of the pre-photosynthetic biosphere and geologic preservation of Earth's earliest ecology. *Geobiology*, **2007**, 5, 101-117	4.3	86
75	The rise of continents—An essay on the geologic consequences of photosynthesis. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **2006**, 232, 99-113	2.9	77
74	Gravity and lithospheric stress on the terrestrial planets with reference to the Tharsis Region of Mars. *Journal of Geophysical Research*, **1985**, 90, 4469-4489		77
73	Stress and Flow beneath Island Arcs. *Geophysical Journal of the Royal Astronomical Society*, **2007**, 42, 827-857		65
72	Long lasting epeirogenic uplift from mantle plumes and the origin of the Southern African Plateau. *Geochemistry, Geophysics, Geosystems*, **2003**, 4,	3.6	58
71	Physics of friction and strain rate localization in synthetic fault gouge. *Journal of Geophysical Research*, **2000**, 105, 25875-25890		55
70	Evolutionary ecology during the rise of dioxygen in the Earth's atmosphere. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2008**, 363, 2651-64	5.8	54
69	Thermal contraction and flexure of intracratonal basins: a three-dimensional study of the Michigan basin. *Geophysical Journal International*, **1984**, 76, 587-635	2.6	52
68	Geological and Geochemical Constraints on the Origin and Evolution of Life. *Astrobiology*, **2018**, 18, 1199-1219	3.7	48
67	Weathering of quartz as an Archean climatic indicator. *Earth and Planetary Science Letters*, **2006**, 241, 594-602	5.3	45
66	Stagnant lid convection and carbonate metasomatism of the deep continental lithosphere. *Geochemistry, Geophysics, Geosystems*, **2009**, 10, n/a-n/a	3.6	42
65	A deep borehole in the Michigan Basin. *Journal of Geophysical Research*, **1978**, 83, 5815-5819		42

64	The tethered Moon. *Earth and Planetary Science Letters*, **2015**, 427, 74-82	5.3	40
63	Geodynamic implications of xenolith geotherms. *Geochemistry, Geophysics, Geosystems*, **2003**, 4, n/a-n/a	3.6	39
62	Paleontology of Earth's Mantle. *Annual Review of Earth and Planetary Sciences*, **2012**, 40, 277-300	15.3	38
61	Ridge-crossing mantle plumes and gaps in tracks. *Geochemistry, Geophysics, Geosystems*, **2002**, 3, 1-33	3.6	35
60	Local lithospheric relief associated with fracture zones and ponded plume material. *Geochemistry, Geophysics, Geosystems*, **2002**, 3, 1-17	3.6	34
59	Terrestrial aftermath of the Moon-forming impact. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2014**, 372, 20130172	3	32
58	Osmium isotopic compositions of Os-rich platinum group element alloys from the Klamath and Siskiyou Mountains. *Journal of Geophysical Research*, **2004**, 109,		32
57	More about the moment of inertia of Mars. *Geophysical Research Letters*, **1989**, 16, 1333-1336	4.9	31
56	Did earthquakes keep the early crust habitable?. *Astrobiology*, **2007**, 7, 1023-32	3.7	30
55	Real contacts and evolution laws for rate and state friction. *Geochemistry, Geophysics, Geosystems*, **2006**, 7, n/a-n/a	3.6	29
54	Channeling at the base of the lithosphere during the lateral flow of plume material beneath flow line hot spots. *Geochemistry, Geophysics, Geosystems*, **2008**, 9, n/a-n/a	3.6	28
53	Plate-tectonic evolution of the Earth: bottom-up and top-down mantle circulation. *Canadian Journal of Earth Sciences*, **2016**, 53, 1103-1120	1.5	27
52	Edge-modulated stagnant-lid convection and volcanic passive margins. *Geochemistry, Geophysics, Geosystems*, **2007**, 8, n/a-n/a	3.6	25
51	Frictional heating and the stability of rate and state dependent frictional sliding. *Geophysical Research Letters*, **1995**, 22, 2785-2788	4.9	24
50	Physical basis of evolution laws for rate and state friction. *Geochemistry, Geophysics, Geosystems*, **2005**, 6, n/a-n/a	3.6	21
49	Physics of crustal fracturing and chert dike formation triggered by asteroid impact, ~3.26 Ga, Barberton greenstone belt, South Africa. *Geochemistry, Geophysics, Geosystems*, **2014**, 15, 1054-1070	3.6	19
48	Rosing, Bird, Sleep & Bjerrum reply. *Nature*, **2011**, 474, E1-E1	50.4	19
47	Effect of latent heat of freezing on crustal generation at low spreading rates. *Geochemistry, Geophysics, Geosystems*, **2014**, 15, 3161-3174	3.6	17

46	Fate of mantle plume material trapped within a lithospheric catchment with reference to Brazil. *Geochemistry, Geophysics, Geosystems*, **2003**, 4,	3.6	17
45	Rate- and state-dependent friction of intact rock and gouge. *Journal of Geophysical Research*, **1999**, 104, 17847-17855		17
44	Production of brief extreme ground acceleration pulses by nonlinear mechanisms in the shallow subsurface. *Geochemistry, Geophysics, Geosystems*, **2008**, 9, n/a-n/a	3.6	16
43	Impacts and the Early Evolution of Life **2006**, 207-251		16
42	Asteroid bombardment and the core of Theia as possible sources for the Earth's late veneer component.. *Geochemistry, Geophysics, Geosystems*, **2016**, 17, 2623-2642	3.6	15
41	Small-scale convection beneath oceans and continents. *Science Bulletin*, **2011**, 56, 1292-1317		14
40	Stagnant lid convection and the thermal subsidence of sedimentary basins with reference to Michigan. *Geochemistry, Geophysics, Geosystems*, **2009**, 10, n/a-n/a	3.6	14
39	Carbon dioxide cycling through the mantle and implications for the climate of ancient Earth. *Geological Society Special Publication*, **2002**, 199, 231-257	1.7	14
38	Maintenance of permeable habitable subsurface environments by earthquakes and tidal stresses. *International Journal of Astrobiology*, **2012**, 11, 257-268	1.4	13
37	Seismically damaged regolith as self-organized fragile geological feature. *Geochemistry, Geophysics, Geosystems*, **2011**, 12, n/a-n/a	3.6	12
36	Nonlinear attenuation and rock damage during strong seismic ground motions. *Geochemistry, Geophysics, Geosystems*, **2008**, 9, n/a-n/a	3.6	12
35	Nonlinear attenuation of S-waves and Love waves within ambient rock. *Geochemistry, Geophysics, Geosystems*, **2014**, 15, 1419-1440	3.6	11
34	The Michigan Basin. *Geodynamic Series*, **2013**, 93-98		11
33	Deep-seated downslope slip during strong seismic shaking. *Geochemistry, Geophysics, Geosystems*, **2011**, 12, n/a-n/a	3.6	11
32	Scaling relationships for chemical lid convection with applications to cratonal lithosphere. *Geochemistry, Geophysics, Geosystems*, **2008**, 9, n/a-n/a	3.6	11
31	Microscopic elasticity and rate and state friction evolution laws. *Geochemistry, Geophysics, Geosystems*, **2012**, 13,	3.6	10
30	Frictional dilatancy. *Geochemistry, Geophysics, Geosystems*, **2006**, 7, n/a-n/a	3.6	10
29	BIOLOGICAL EFFECTS ON THE SOURCE OF GEONEUTRINOS. *International Journal of Modern Physics A*, **2013**, 28, 1330047	1.2	9

28	Strong seismic shaking of randomly prestressed brittle rocks, rock damage, and nonlinear attenuation. *Geochemistry, Geophysics, Geosystems*, **2010**, 11, n/a-n/a	3.6	9
27	Thermal Weakening of Asperity Tips on Fault Planes at High Sliding Velocities. *Geochemistry, Geophysics, Geosystems*, **2019**, 20, 1164-1188	3.6	8
26	Palaeoclimatology: Archaean palaeosols and Archaean air. *Nature*, **2004**, 432, 2 p following 460; discussion following 460	50.4	7
25	Ambient tectonic stress as fragile geological feature. *Geochemistry, Geophysics, Geosystems*, **2014**, 15, 3628-3644	3.6	6
24	Seismically observable features of mature stagnant-lid convection at the base of the lithosphere: Some scaling relationships. *Geochemistry, Geophysics, Geosystems*, **2011**, 12, n/a-n/a	3.6	6
23	Application of rate and state friction formalism and flash melting to thin permanent slip zones of major faults. *Geochemistry, Geophysics, Geosystems*, **2010**, 11, n/a-n/a	3.6	6
22	Sudden and gradual compaction of shallow brittle porous rocks. *Journal of Geophysical Research*, **2010**, 115,		5
21	Cratonic basins with reference to the Michigan basin. *Geological Society Special Publication*, **2018**, 472, 17-35	1.7	4
20	Nonlinear attenuation from the interaction between different types of seismic waves and interaction of seismic waves with shallow ambient tectonic stress. *Geochemistry, Geophysics, Geosystems*, **2015**, 16, 2336-2363	3.6	4
19	Long-term deformation driven by small ambient tectonic stresses and strong oscillating tidal within Enceladus with analogy to rock behavior near the San Andreas Fault. *Geochemistry, Geophysics, Geosystems*, **2015**, 16, 1670-1686	3.6	4
18	Evaluation of Seismic Hazard Models with Fragile Geologic Features. *Seismological Research Letters*, **2021**, 92, 314-324	3	4
17	Remote Faulting Triggered by Strong Seismic Waves from the Cretaceous–Paleogene Asteroid Impact. *Seismological Research Letters*, **2018**, 89, 570-576	3	4
16	Application of rate-and-state friction laws to creep compaction of unconsolidated sand under hydrostatic loading conditions. *Journal of Geophysical Research*, **2007**, 112,		3
15	Weak thermal convection within tilted plume conduits. *Geochemistry, Geophysics, Geosystems*, **2007**, 8, n/a-n/a	3.6	3
14	Heat flow, strong near-fault seismic waves, and near-fault tectonics on the central San Andreas Fault. *Geochemistry, Geophysics, Geosystems*, **2016**, 17, 1778-1798	3.6	2
13	Strategy for Applying Neutrino Geophysics to the Earth Sciences Including Planetary Habitability. *Earth, Moon and Planets*, **2007**, 99, 343-358	0.6	2
12	Shallow Sedimentary Rock as a Fragile Geological Feature: Effects of Clay Content and Hydrology on Frictional Strength. *Bulletin of the Seismological Society of America*, **2016**, 106, 2777-2783	2.3	2
11	Mild Displacements of Boulders during the 2019 Ridgecrest Earthquakes. *Bulletin of the Seismological Society of America*, **2020**, 110, 1579-1588	2.3	1

List of Publications

10	Planetary Interior-Atmosphere Interaction and Habitability **2018**, 1-22		1
9	Self-organization of elastic moduli in the rock above blind faults. *Geochemistry, Geophysics, Geosystems*, **2013**, 14, 733-750	3.6	1
8	Planetary Interior-Atmosphere Interaction and Habitability **2018**, 2937-2958		1
7	Friction in Cold Ice Within Outer Solar System Satellites With Reference to Thermal Weakening at High Sliding Velocities. *Journal of Geophysical Research E: Planets*, **2019**, 124, 2397-2413	4.1	0
6	Are We Alone? An Interview with Dr. Norman Sleep. *Astrobiology*, **2020**, 20, 563-571	3.7	
5	Nonlinear Interaction of High-Frequency Seismic Waves With Sliding Fault Planes. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 11748-11770	3.6	
4	Life: asteroid target, witness from the early Earth, and ubiquitous effect on global geology. *Astrobiology*, **2012**, 12, 1163-4	3.7	
3	Processes within the Mantle: Seismic Tomography and Mantie Circulation . R. K. ORNions and B. Parsons, Eds. Royal Society, London, 1989. viii, 152 pp., illus. £37.50. Reprinted from Philosophical Transactions of the Royal Society A, vol. 328 (1989). From a meeting, London, U.K., April 1988.. *Science*, **1990**, 248, 1141-1141	33.3	
2	Nonlinear Suppression of High-Frequency S Waves by the Near-Field Velocity Pulse With Reference to the 2002 Denali Earthquake. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2019JB018386	3.6	
1	Mars as a time machine to Precambrian Earth. *Journal of the Geological Society*,jgs2022-047	2.7	