Peter H Molnar

List of Publications by Citations

117 papers	22,535 citations	61 h-index	118 g-index
118 ext. papers	24,590 ext. citations	9.6 avg, IF	6.85 L-index

#	Paper	IF	Citations
117	Cenozoic Tectonics of Asia: Effects of a Continental Collision: Features of recent continental tectonics in Asia can be interpreted as results of the India-Eurasia collision. *Science*, **1975**, 189, 419-26	33.3	3202
116	Mantle dynamics, uplift of the Tibetan Plateau, and the Indian Monsoon. *Reviews of Geophysics*, **1993**, 31, 357	23.1	1321
115	Continuous deformation of the Tibetan Plateau from global positioning system data. *Geology*, **2004**, 32, 809	5	1013
114	Convective instability of a thickened boundary layer and its relevance for the thermal evolution of continental convergent belts. *Journal of Geophysical Research*, **1981**, 86, 6115-6132		823
113	Focal depths of intracontinental and intraplate earthquakes and their implications for the thermal and mechanical properties of the lithosphere. *Journal of Geophysical Research*, **1983**, 88, 4183-4214		811
112	Distribution of stresses in the descending lithosphere from a global survey of focal-mechanism solutions of mantle earthquakes. *Reviews of Geophysics*, **1971**, 9, 103	23.1	807
111	Active faulting and cenozoic tectonics of the Tien Shan, Mongolia, and Baykal Regions. *Journal of Geophysical Research*, **1979**, 84, 3425-3459		631
110	Increased sedimentation rates and grain sizes 2-4 Myr ago due to the influence of climate change on erosion rates. *Nature*, **2001**, 410, 891-7	50.4	626
109	Surface uplift, uplift of rocks, and exhumation of rocks. *Geology*, **1990**, 18, 1173	5	566
108	Active tectonics of Tibet. *Journal of Geophysical Research*, **1978**, 83, 5361		533
107	Orographic Controls on Climate and Paleoclimate of Asia: Thermal and Mechanical Roles for the Tibetan Plateau. *Annual Review of Earth and Planetary Sciences*, **2010**, 38, 77-102	15.3	501
106	Fault plane solutions of earthquakes and active tectonics of the Tibetan Plateau and its margins. *Geophysical Journal International*, **1989**, 99, 123-154	2.6	440
105	Earthquakes. Himalayan seismic hazard. *Science*, **2001**, 293, 1442-4	33.3	437
104	Slowing of India's convergence with Eurasia since 20 Ma and its implications for Tibetan mantle dynamics. *Tectonics*, **2009**, 28, n/a-n/a	4.3	398
103	Closing of the Indonesian seaway as a precursor to east African aridification around 3-4 million years ago. *Nature*, **2001**, 411, 157-62	50.4	387
102	Relatively recent construction of the Tien Shan inferred from GPS measurements of present-day crustal deformation rates. *Nature*, **1996**, 384, 450-453	50.4	383
101	Active Deformation of Asia: From Kinematics to Dynamics. *Science*, **1997**, 278, 647-650	33.3	379

100	Faulting associated with large earthquakes and the average rate of deformation in central and eastern Asia. *Journal of Geophysical Research*, **1984**, 89, 6203-6227		344
99	Gravitational (Rayleigh-Taylor) instability of a layer with non-linear viscosity and convective thinning of continental lithosphere. *Geophysical Journal International*, **1997**, 128, 125-150	2.6	309
98	Gravity anomalies, flexure of the Indian Plate, and the structure, support and evolution of the Himalaya and Ganga Basin. *Tectonics*, **1985**, 4, 513-538	4.3	307
97	Constraints on the structure of the Himalaya from an analysis of gravity anomalies and a flexural model of the lithosphere. *Journal of Geophysical Research*, **1983**, 88, 8171		300
96	LATE CENOZOIC INCREASE IN ACCUMULATION RATES OF TERRESTRIAL SEDIMENT: How Might Climate Change Have Affected Erosion Rates?. *Annual Review of Earth and Planetary Sciences*, **2004**, 32, 67-89	15.3	296
95	Lateral variations of attenuation in the upper mantle and discontinuities in the lithosphere. *Journal of Geophysical Research*, **1969**, 74, 2648-2682		285
94	Rapid late Miocene rise of the Bolivian Altiplano: Evidence for removal of mantle lithosphere. *Earth and Planetary Science Letters*, **2006**, 241, 543-556	5.3	282
93	Some simple physical aspects of the support, structure, and evolution of mountain belts. *Special Paper of the Geological Society of America*, **1988**, 179-208		270
92	Mantle Earthquake Mechanisms and the Sinking of the Lithosphere. *Nature*, **1969**, 223, 1121-1124	50.4	256
91	Focal depths and fault plane solutions of earthquakes under the Tibetan Plateau. *Journal of Geophysical Research*, **1983**, 88, 1180		247
90	The growth of northeastern Tibet and its relevance to large-scale continental geodynamics: A review of recent studies. *Tectonics*, **2013**, 32, 1358-1370	4.3	245
89	Parallel thrust and normal faulting in Peru and constraints on the state of stress. *Earth and Planetary Science Letters*, **1981**, 55, 473-481	5.3	236
88	GPS velocity field for the Tien Shan and surrounding regions. *Tectonics*, **2010**, 29, n/a-n/a	4.3	235
87	Thinning and flow of Tibetan crust constrained by seismic anisotropy. *Science*, **2004**, 305, 233-6	33.3	234
86	Preliminary conclusions of the Royal Society and Academia Sinica 1985 geotraverse of Tibet. *Nature* , **1986**, 323, 501-507	50.4	221
85	Active faulting and tectonics of Burma and surrounding regions. *Journal of Geophysical Research*, **1984**, 89, 453		217
84	The field of crustal velocity in Asia calculated from Quaternary rates of slip on faults. *Geophysical Journal International*, **1997**, 130, 551-582	2.6	201
83	Lessons learned from oxygen isotopes in modern precipitation applied to interpretation of speleothem records of paleoclimate from eastern Asia. *Earth and Planetary Science Letters*, **2010**, 295, 219-230	5.3	185

82	Subduction of continental lithosphere: Some constraints and uncertainties. *Geology*, **1979**, 7, 58	5	185
81	Geological and Geophysical Evidence for Deep Subduction of Continental Crust Beneath the Pamir. *Special Paper of the Geological Society of America*, **1993**, 1-76		183
80	Earthquake recurrence intervals and plate tectonics. *Bulletin of the Seismological Society of America*, **1979**, 69, 115-133	2.3	179
79	Comparisons of the kinematics and deep structures of the Zagros and Himalaya and of the Iranian and Tibetan plateaus and geodynamic implications. *Reviews of Geophysics*, **2010**, 48,	23.1	174
78	Late Quaternary and present-day rates of slip along the Altyn Tagh Fault, northern margin of the Tibetan Plateau. *Tectonics*, **2007**, 26, n/a-n/a	4.3	169
77	Source parameters of earthquakes and intraplate deformation beneath the Shillong Plateau and the Northern Indoburman Ranges. *Journal of Geophysical Research*, **1990**, 95, 12527		157
76	Focal depths and fault plane solutions of earthquakes and active tectonics of the Himalaya. *Journal of Geophysical Research*, **1984**, 89, 6918-6928		150
75	Microearthquake seismicity and fault plane solutions in the Hindu Kush Region and their tectonic implications. *Journal of Geophysical Research*, **1980**, 85, 1365-1387		142
74	Late Quaternary to decadal velocity fields in Asia. *Journal of Geophysical Research*, **2005**, 110,		141
73	The growth of Rayleigh-Taylor-type instabilities in the lithosphere for various rheological and density structures. *Geophysical Journal International*, **1997**, 129, 95-112	2.6	137
72	A possible dependence of tectonic strength on the age of the crust in Asia. *Earth and Planetary Science Letters*, **1981**, 52, 107-114	5.3	129
71	GPS measurements from the Ladakh Himalaya, India: Preliminary tests of plate-like or continuous deformation in Tibet. *Bulletin of the Geological Society of America*, **2004**, 116, 1385-1391	3.9	125
70	Constraints on the seismic wave velocity structure beneath the Tibetan Plateau and their tectonic implications. *Journal of Geophysical Research*, **1981**, 86, 5937-5962		121
69	Continuous deformation versus faulting through the continental lithosphere of new zealand. *Science*, **1999**, 286, 516-9	33.3	120
68	Source parameters for 11 earthquakes in the Tien Shan, central Asia, determined by P and SH waveform inversion. *Journal of Geophysical Research*, **1987**, 92, 12629		115
67	Rayleigh-Taylor instability and convective thinning of mechanically thickened lithosphere: effects of non-linear viscosity decreasing exponentially with depth and of horizontal shortening of the layer. *Geophysical Journal International*, **1998**, 133, 568-584	2.6	113
66	El Niño tropical climate and teleconnections as a blueprint for pre-Ice Age climates. *Paleoceanography*, **2002**, 17, 11-1-11-11		113
65	Closing of the Central American Seaway and the Ice Age: A critical review. *Paleoceanography*, **2008**, 23, n/a-n/a		101

64	Gravity anomalies, the deep structure, and dynamic processes beneath the Tien Shan. *Earth and Planetary Science Letters*, **1990**, 96, 367-383	5.3	98
63	Average regional strain due to slip on numerous faults of different orientations. *Journal of Geophysical Research*, **1983**, 88, 6430		94
62	Partitioning of India-Eurasia convergence in the Pamir-Hindu Kush from GPS measurements. *Geophysical Research Letters*, **2010**, 37,	4.9	93
61	Teleseismic P wave delays and modes of shortening the mantle lithosphere beneath South Island, New Zealand. *Journal of Geophysical Research*, **2000**, 105, 21615-21631		86
60	Far-field lithospheric deformation in Tibet during continental collision. *Tectonics*, **2009**, 28, n/a-n/a	4.3	84
59	Kinematics of the Pamir and Hindu Kush regions from GPS geodesy. *Journal of Geophysical Research: Solid Earth*, **2013**, 118, 2408-2416	3.6	82
58	Mantle dynamics, isostasy, and the support of high terrain. *Journal of Geophysical Research: Solid Earth*, **2015**, 120, 1932-1957	3.6	81
57	Magnetostratigraphy of the Neogene Chaka basin and its implications for mountain building processes in the north-eastern Tibetan Plateau. *Basin Research*, **2012**, 24, 31-50	3.2	72
56	S-wave residuals from earthquakes in the Tibetan region and lateral variations in the upper mantle. *Earth and Planetary Science Letters*, **1990**, 101, 68-77	5.3	61
55	The effects of buoyant crust on the gravitational instability of thickened mantle lithosphere at zones of intracontinental convergence. *Geophysical Journal International*, **2004**, 158, 1134-1150	2.6	55
54	Seismicity and fault plane solutions of intermediate depth earthquakes in the Pamir-Hindu Kush Region. *Journal of Geophysical Research*, **1980**, 85, 1358-1364		55
53	The Cenozoic and Late Cretaceous evolution of the Indian Ocean Basin: uncertainties in the reconstructed positions of the Indian, African and Antarctic plates. *Basin Research*, **1988**, 1, 23-40	3.2	54
52	A constraint on the shear stress at the Pacific-Australian plate boundary from heat flow and seismicity at the Kermadec forearc. *Journal of Geophysical Research*, **2001**, 106, 6817-6833		50
51	S-P wave travel time residuals and lateral inhomogeneity in the mantle beneath Tibet and the Himalaya. *Journal of Geophysical Research*, **1984**, 89, 6911-6917		50
50	Signatures of Tibetan Plateau heating on Indian summer monsoon rainfall variability. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 1170-1178	4.4	47
49	Pn anisotropy and distributed upper mantle deformation associated with a continental transform fault. *Geophysical Research Letters*, **2002**, 29, 16-1-16-4	4.9	47
48	An intermediate depth earthquake beneath Tibet: Source characteristics of the event of September 14, 1976. *Journal of Geophysical Research*, **1981**, 86, 2863-2876		46
47	Early Pliocene (pre□□e Age) El Ni□□ke global climate: Which El Ni□? **2007**, 3, 337		45

46	Detachment of part of the downgoing slab and uplift of the New Hebrides (Vanuatu) Islands. *Geophysical Research Letters*, **1992**, 19, 1507-1510	4.9	45
45	Present-day crustal thinning in the southern and northern Tibetan Plateau revealed by GPS measurements. *Geophysical Research Letters*, **2015**, 42, 5227-5235	4.9	44
44	Island precipitation enhancement and the diurnal cycle in radiative-convective equilibrium. *Quarterly Journal of the Royal Meteorological Society*, **2015**, 141, 1017-1034	6.4	42
43	Growth of the Maritime Continent and its possible contribution to recurring Ice Ages. *Paleoceanography*, **2015**, 30, 196-225		40
42	Differences in the Indonesian seaway in a coupled climate model and their relevance to Pliocene climate and El Niño. *Paleoceanography*, **2009**, 24, n/a-n/a		40
41	Quaternary glaciation and the Great American Biotic Interchange. *Geology*, **2016**, 44, 375-378	5	39
40	A bound on the rheology of continental lithosphere using very long baseline interferometry: The velocity of south China with respect to Eurasia. *Journal of Geophysical Research*, **1996**, 101, 545-553		38
39	Localization of shear along a lithospheric strength discontinuity: Application of a continuous deformation model to the boundary between Tibet and the Tarim Basin. *Tectonics*, **2009**, 28, n/a-n/a	4.3	36
38	Instability of a chemically dense layer heated from below and overlain by a deep less viscous fluid. *Journal of Fluid Mechanics*, **2007**, 572, 433-469	3.7	31
37	Tropical cooling and the onset of North American glaciation. *Climate of the Past*, **2007**, 3, 549-557	3.9	31
36	A modeling study of the response of Asian summertime climate to the largest geologic forcings of the past 50 Ma. *Journal of Geophysical Research D: Atmospheres*, **2016**, 121, 5453-5470	4.4	29
35	Late Miocene upward and outward growth of eastern Tibet and decreasing monsoon rainfall over the northwestern Indian subcontinent since ~10 Ma. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	29
34	Subseasonal variations in spatial signatures of ENSO on the Indian summer monsoon from 1901 to 2009. *Journal of Geophysical Research D: Atmospheres*, **2015**, 120, 8165-8185	4.4	26
33	Tropical western Pacific warm pool and maritime continent precipitation rates and their contrasting relationships with the Walker Circulation. *Journal of Geophysical Research*, **2007**, 112,		26
32	GPS velocities and the construction of the Eastern Cordillera of the Colombian Andes. *Geophysical Research Letters*, **2016**, 43, 8407-8416	4.9	25
31	Upper mantle seismic anisotropy at a strike-slip boundary: South Island, New Zealand. *Journal of Geophysical Research: Solid Earth*, **2014**, 119, 1020-1040	3.6	24
30	Comment (2) on "Formation of the Isthmus of Panama" by O'Dea. *Science Advances*, **2017**, 3, e1602320	14.3	21
29	Lateral heterogeneity in the upper mantle and SS - S traveltime intervals for SS rays reflected from the Tibetan Plateau and its surroundings. *Earth and Planetary Science Letters*, **1995**, 135, 139-148	5.3	21

28	P-wave residuals at stations in nepal: Evidence for a high velocity region beneath the Karakorum. *Geophysical Research Letters*, **1991**, 18, 1909-1912	4.9	21
27	Rheology of the lithosphere beneath the central and western Tien Shan. *Journal of Geophysical Research: Solid Earth*, **2015**, 120, 3803-3823	3.6	18
26	Little Geodetic Evidence for Localized Indian Subduction in the Pamir-Hindu Kush of Central Asia. *Geophysical Research Letters*, **2019**, 46, 109-118	4.9	18
25	The uppermost mantle P wave velocities beneath Turkey and Iran. *Geophysical Research Letters*, **1980**, 7, 77-80	4.9	17
24	The spectral content of Pamir-Hindu Kush intermediate depth earthquakes: Evidence for a high-Q zone in the upper mantle. *Journal of Geophysical Research*, **1977**, 82, 2931-2943		17
23	Rayleigh-Taylor instability, lithospheric dynamics, surface topography at convergent mountain belts, and gravity anomalies. *Journal of Geophysical Research: Solid Earth*, **2013**, 118, 2544-2557	3.6	16
22	Seismic Moments of Intermediate-Depth Earthquakes Beneath the Hindu Kush: Active Stretching of a Blob of Sinking Thickened Mantle Lithosphere?. *Tectonics*, **2019**, 38, 1651-1665	4.3	15
21	Reduced-dimension reconstruction of the equatorial Pacific SST and zonal wind fields over the past 10,000 years using Mg/Ca and alkenone records. *Paleoceanography*, **2016**, 31, 928-952		15
20	Lithospheric thinning and localization of deformation during Rayleigh-Taylor instability with nonlinear rheology and implications for intracontinental magmatism. *Journal of Geophysical Research*, **2010**, 115,		15
19	Reconstruction of Indian summer monsoon winds and precipitation over the past 10,000 years using equatorial pacific SST proxy records. *Paleoceanography*, **2017**, 32, 195-216		14
18	Pn anisotropy beneath the South Island of New Zealand and implications for distributed deformation in continental lithosphere. *Journal of Geophysical Research: Solid Earth*, **2014**, 119, 7745-7767	3.6	14
17	The Brittle-Plastic Transition, Earthquakes, Temperatures, and Strain Rates. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2019JB019335	3.6	11
16	Rayleigh-Taylor instability under a shear stress free top boundary condition and its relevance to removal of mantle lithosphere from beneath the Sierra Nevada. *Tectonics*, **2008**, 27, n/a-n/a	4.3	10
15	A mechanism for freshening the Caribbean Sea in pre-Ice Age time. *Paleoceanography*, **2014**, 29, 508-517		8
14	Soil and Air Temperature Calibrations Using Branched GDGTs for the Tropical Andes of Colombia: Toward a Pan-Tropical Calibration. *Geochemistry, Geophysics, Geosystems*, **2020**, 21, e2020GC008941	3.6	8
13	Sea Surface Temperatures in the Eastern Equatorial Pacific and Surface Temperatures in the Eastern Cordillera of Colombia During El Niño: Implications for Pliocene Conditions. *Paleoceanography*, **2017**, 32, 1309-1314		7
12	Gravitational instability of mantle lithosphere and core complexes. *Tectonics*, **2015**, 34, 478-487	4.3	7
11	Multiproxy Reduced-Dimension Reconstruction of Pliocene Equatorial Pacific Sea Surface Temperatures. *Paleoceanography and Paleoclimatology*, **2020**, 35, e2019PA003685	3.3	5

10	Initiation of Clockwise Rotation and Eastward Transport of Southeastern Tibet Inferred from Deflected Fault Traces and GPS Observations. *Bulletin of the Geological Society of America*,	3.9	5
9	Widespread and Persistent Deposition of Iron Formations for Two Billion Years. *Geophysical Research Letters*, **2019**, 46, 3327-3339	4.9	4
8	Lower Mantle Dynamics Perceived With 50 Years of Hindsight From Plate Tectonics. *Geochemistry, Geophysics, Geosystems*, **2019**, 20, 5619-5649	3.6	4
7	Effects of a low-viscosity lower crust on topography and gravity at convergent mountain belts during gravitational instability of mantle lithosphere. *Journal of Geophysical Research: Solid Earth*, **2015**, 120, 537-551	3.6	4
6	An assessment of the mean annual precipitation needed to sustain Lake Sambhar in Rajasthan, India, during mid-Holocene time. *Holocene*, **2015**, 25, 1923-1934	2.6	3
5	Gravitational Potential Energy per Unit Area as a Constraint on Archean Sea Level. *Geochemistry, Geophysics, Geosystems*, **2018**, 19, 4063-4095	3.6	3
4	Differences between soil and air temperatures: Implications for geological reconstructions of past climate		1
3	Wetter Subtropics Lead to Reduced Pliocene Coastal Upwelling. *Paleoceanography and Paleoclimatology*, **2021**, 36, e2021PA004243	3.3	1
2	Constraints on the paleoelevation history of the Eastern Cordillera of Colombia from its palynological record **2021**, 17, 1333-1352		1
1	Strain and Velocity Across the Great Basin Derived From 15-ka Fault Slip Rates: Implications for Continuous Deformation and Seismic Hazard in the Walker Lane, California-Nevada, USA. *Tectonics*, **2021**, 40, e2020TC006389	4.3	1