Peter H Molnar

List of Publications by Year
in descending order

118 papers	27,182 citations	16411 64 h-index	20900 115 g-index
118 all docs	118 docs citations	118 times ranked	11081 citing authors

#	Article	IF	Citations
1	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, 419-426.	6.0	3,792
2	Mantle dynamics, uplift of the Tibetan Plateau, and the Indian Monsoon. Reviews of Geophysics, 1993, 31, 357.	9.0	1,633
3	Continuous deformation of the Tibetan Plateau from global positioning system data. Geology, 2004, 32, 809.	2.0	1,289
4	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.	3.3	957
5	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.	3.3	928
6	Distribution of stresses in the descending lithosphere from a global survey of focalâ€mechanism solutions of mantle earthquakes. Reviews of Geophysics, 1971, 9, 103-174.	9.0	916
7	Increased sedimentation rates and grain sizes 2â€“4â€‰Myr ago due to the influence of climate change on erosion rates. Nature, 2001, 410, 891-897.	13.7	746
8	Active faulting and cenozoic tectonics of the Tien Shan, Mongolia, and Baykal Regions. Journal of Geophysical Research, 1979, 84, 3425-3459.	3.3	731
9	Surface uplift, uplift of rocks, and exhumation of rocks. Geology, 1990, 18, 1173.	2.0	701
10	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.	4.6	644
11	Active tectonics of Tibet. Journal of Geophysical Research, 1978, 83, 5361-5375.	3.3	632
12	EARTHQUAKES: Himalayan Seismic Hazard. Science, 2001, 293, 1442-1444.	6.0	549
13	Slowing of India's convergence with Eurasia since 20 Ma and its implications for Tibetan mantle dynamics. Tectonics, 2009, 28, .	1.3	514
14	Fault plane solutions of earthquakes and active tectonics of the Tibetan Plateau and its margins. Geophysical Journal International, 1989, 99, 123-154.	1.0	493
15	Closing of the Indonesian seaway as a precursor to east African aridification around 3–4‰million years ago. Nature, 2001, 411, 157-162.	13.7	466
16	Relatively recent construction of the Tien Shan inferred from GPS measurements of present-day crustal deformation rates. Nature, 1996, 384, 450-453.	13.7	442
17	Active Deformation of Asia: From Kinematics to Dynamics. Science, 1997, 278, 647-650.	6.0	429
18	Faulting associated with large earthquakes and the average rate of deformation in central and eastern Asia. Journal of Geophysical Research, 1984, 89, 6203-6227.	3.3	426

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19	Gravity anomalies, flexure of the Indian Plate, and the structure, support and evolution of the Himalaya and Ganga Basin. Tectonics, 1985, 4, 513-538.	1.3	358
20	Gravitational (Rayleigh-Taylor) instability of a layer with non-linear viscosity and convective thinning of continental lithosphere. Geophysical Journal International, 1997, 128, 125-150.	1.0	355
21	Some simple physical aspects of the support, structure, and evolution of mountain belts. Special Paper of the Geological Society of America, 1988, , 179-208.	0.5	351
22	The growth of northeastern Tibet and its relevance to largeâ€scale continental geodynamics: A review of recent studies. Tectonics, 2013, 32, 1358-1370.	1.3	350
23	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.	4.6	349
24	Rapid late Miocene rise of the Bolivian Altiplano: Evidence for removal of mantle lithosphere. Earth and Planetary Science Letters, 2006, 241, 543-556.	1.8	336
25	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, 8171-8191.	3.3	334
26	Lateral variations of attenuation in the upper mantle and discontinuities in the lithosphere. Journal of Geophysical Research, 1969, 74, 2648-2682.	3.3	332
27	Mantle Earthquake Mechanisms and the Sinking of the Lithosphere. Nature, 1969, 223, 1121-1124.	13.7	320
28	GPS velocity field for the Tien Shan and surrounding regions. Tectonics, 2010, 29, n/a-n/a.	1.3	306
29	Thinning and Flow of Tibetan Crust Constrained by Seismic Anisotropy. Science, 2004, 305, 233-236.	6.0	278
30	Focal depths and fault plane solutions of earthquakes under the Tibetan Plateau. Journal of Geophysical Research, 1983, 88, 1180-1196.	3.3	274
31	Active faulting and tectonics of Burma and surrounding regions. Journal of Geophysical Research, 1984, 89, 453-472.	3.3	274
32	Earthquake recurrence intervals and plate tectonics. Bulletin of the Seismological Society of America, 1979, 69, 115-133.	1.1	267
33	Parallel thrust and normal faulting in Peru and constraints on the state of stress. Earth and Planetary Science Letters, 1981, 55, 473-481.	1.8	253
34	Preliminary conclusions of the Royal Society and Academia Sinica 1985 geotraverse of Tibet. Nature, 1986, 323, 501-507.	13.7	247
35	Geological and Geophysical Evidence for Deep Subduction of Continental Crust Beneath the Pamir. Special Paper of the Geological Society of America, 1993, , 1-76.	0.5	245
36	The field of crustal velocity in Asia calculated from Quaternary rates of slip on faults. Geophysical Journal International, 1997, 130, 551-582.	1.0	223

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37	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.	1.8	217
38	Late Quaternary and presentâ€day rates of slip along the Altyn Tagh Fault, northern margin of the Tibetan Plateau. Tectonics, 2007, 26, .	1.3	215
39	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, .	9.0	215
40	Source parameters of earthquakes and intraplate deformation beneath the Shillong Plateau and the Northern Indoburman Ranges. Journal of Geophysical Research, 1990, 95, 12527-12552.	3.3	205
41	Subduction of continental lithosphere: Some constraints and uncertainties. Geology, 1979, 7, 58.	2.0	200
42	Focal depths and fault plane solutions of earthquakes and active tectonics of the Himalaya. Journal of Geophysical Research, 1984, 89, 6918-6928.	3.3	171
43	Late Quaternary to decadal velocity fields in Asia. Journal of Geophysical Research, 2005, 110, .	3.3	166
44	Microearthquake seismicity and fault plane solutions in the Hindu Kush Region and their tectonic implications. Journal of Geophysical Research, 1980, 85, 1365-1387.	3.3	163
45	The growth of Rayleigh-Taylor-type instabilities in the lithosphere for various rheological and density structures. Geophysical Journal International, 1997, 129, 95-112.	1.0	160
46	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.	1.6	147
47	A possible dependence of tectonic strength on the age of the crust in Asia. Earth and Planetary Science Letters, 1981, 52, 107-114.	1.8	145
48	Constraints on the seismic wave velocity structure beneath the Tibetan Plateau and their tectonic implications. Journal of Geophysical Research, 1981, 86, 5937-5962.	3.3	136
49	El NiÃ±o's tropical climate and teleconnections as a blueprint for pre-Ice Age climates. Paleoceanography, 2002, 17, 11-1-11-11.	3.0	133
50	Closing of the Central American Seaway and the Ice Age: A critical review. Paleoceanography, 2008, 23, .	3.0	132
51	Source parameters for 11 earthquakes in the Tien Shan, central Asia, determined by P and SH waveform inversion. Journal of Geophysical Research, 1987, 92, 12629-12648.	3.3	131
52	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.	1.0	131
53	Continuous Deformation Versus Faulting Through the Continental Lithosphere of New Zealand. Science, 1999, 286, 516-519.	6.0	131
54	Average regional strain due to slip on numerous faults of different orientations. Journal of Geophysical Research, 1983, 88, 6430-6432.	3.3	113

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55	Farâ€field lithospheric deformation in Tibet during continental collision. Tectonics, 2009, 28, .	1.3	110
56	Partitioning of Indiaâ€Eurasia convergence in the Pamirâ€Hindu Kush from GPS measurements. Geophysical Research Letters, 2010, 37, .	1.5	110
57	Kinematics of the Pamir and Hindu Kush regions from GPS geodesy. Journal of Geophysical Research: Solid Earth, 2013, 118, 2408-2416.	1.4	109
58	Mantle dynamics, isostasy, and the support of high terrain. Journal of Geophysical Research: Solid Earth, 2015, 120, 1932-1957.	1.4	105
59	Gravity anomalies, the deep structure, and dynamic processes beneath the Tien Shan. Earth and Planetary Science Letters, 1990, 96, 367-383.	1.8	102
60	Magnetostratigraphy of the Neogene Chaka basin and its implications for mountain building processes in the northâ€eastern Tibetan Plateau. Basin Research, 2012, 24, 31-50.	1.3	98
61	TeleseismicPwave delays and modes of shortening the mantle lithosphere beneath South Island, New Zealand. Journal of Geophysical Research, 2000, 105, 21615-21631.	3.3	89
62	Pn anisotropy and distributed upper mantle deformation associated with a continental transform fault. Geophysical Research Letters, 2002, 29, 16-1-16-4.	1.5	87
63	Presentâ€day crustal thinning in the southern and northern Tibetan Plateau revealed by GPS measurements. Geophysical Research Letters, 2015, 42, 5227-5235.	1.5	68
64	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.	1.8	67
65	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.	1.0	67
66	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.	3.3	63
67	Signatures of Tibetan Plateau heating on Indian summer monsoon rainfall variability. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1170-1178.	1.2	63
68	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.	1.3	62
69	Growth of the Maritime Continent and its possible contribution to recurring Ice Ages. Paleoceanography, 2015, 30, 196-225.	3.0	58
70	Seismicity and fault plane solutions of intermediate depth earthquakes in the Pamirâ€Hindu Kush Region. Journal of Geophysical Research, 1980, 85, 1358-1364.	3.3	57
71	Quaternary glaciation and the Great American Biotic Interchange. Geology, 2016, 44, 375-378.	2.0	57
72	Early Pliocene (preâ€“Ice Age) El NiÃ±oâ€“like global climate: Which El NiÃ±o?. , 2007, 3, 337.		56

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73	Island precipitation enhancement and the diurnal cycle in radiativeâ€convective equilibrium. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 1017-1034.	1.0	55
74	Detachment of part of the downgoing slab and uplift of the New Hebrides (Vanuatu) Islands. Geophysical Research Letters, 1992, 19, 1507-1510.	1.5	54
75	Sâ€P wave travel time residuals and lateral inhomogeneity in the mantle beneath Tibet and the Himalaya. Journal of Geophysical Research, 1984, 89, 6911-6917.	3.3	52
76	An intermediate depth earthquake beneath Tibet: Source characteristics of the event of September 14, 1976. Journal of Geophysical Research, 1981, 86, 2863-2876.	3.3	50
77	Differences in the Indonesian seaway in a coupled climate model and their relevance to Pliocene climate and El NiÃ±o. Paleoceanography, 2009, 24, .	3.0	48
78	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, .	1.3	47
79	A modeling study of the response of Asian summertime climate to the largest geologic forcings of the past 50ÂMa. Journal of Geophysical Research D: Atmospheres, 2016, 121, 5453-5470.	1.2	45
80	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.	3.3	44
81	Tropical cooling and the onset of North American glaciation. Climate of the Past, 2007, 3, 549-557.	1.3	39
82	Late Miocene upward and outward growth of eastern Tibet and decreasing monsoon rainfall over the northwestern Indian subcontinent since â^¼10 Ma. Geophysical Research Letters, 2012, 39, .	1.5	39
83	Tropical western Pacific warm pool and maritime continent precipitation rates and their contrasting relationships with the Walker Circulation. Journal of Geophysical Research, 2007, 112, .	3.3	36
84	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.	1.4	35
85	Comment (2) on â€œFormation of the Isthmus of Panamaâ€•by Oâ€™Dea et al .. Science Advances, 2017, 3, e1602320.	4.7	34
86	GPS velocities and the construction of the Eastern Cordillera of the Colombian Andes. Geophysical Research Letters, 2016, 43, 8407-8416.	1.5	33
87	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.	1.2	31
88	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, 2022, 134, 1129-1142.	1.6	30
89	Rheology of the lithosphere beneath the central and western Tien Shan. Journal of Geophysical Research: Solid Earth, 2015, 120, 3803-3823.	1.4	29
90	Little Geodetic Evidence for Localized Indian Subduction in the Pamirâ€Hindu Kush of Central Asia. Geophysical Research Letters, 2019, 46, 109-118.	1.5	26

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91	Upper mantle seismic anisotropy at a strike-slip boundary: South Island, New Zealand. Journal of Geophysical Research: Solid Earth, 2014, 119, 1020-1040.	1.4	25
92	Rayleighâ€Taylor instability, lithospheric dynamics, surface topography at convergent mountain belts, and gravity anomalies. Journal of Geophysical Research: Solid Earth, 2013, 118, 2544-2557.	1.4	23
93	The Brittleâ€Plastic Transition, Earthquakes, Temperatures, and Strain Rates. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB019335.	1.4	23
94	Pâ€wave residuals at stations in nepal: Evidence for a high velocity region beneath the Karakorum. Geophysical Research Letters, 1991, 18, 1909-1912.	1.5	22
95	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.	1.8	21
96	Reducedâ€dimension reconstruction of the equatorial Pacific SST and zonal wind fields over the past 10,000Âyears using Mg/Ca and alkenone records. Paleoceanography, 2016, 31, 928-952.	3.0	21
97	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.	3.3	20
98	The uppermost mantle P wave velocities beneath Turkey and Iran. Geophysical Research Letters, 1980, 7, 77-80.	1.5	20
99	Seismic Moments of Intermediateâ€Depth Earthquakes Beneath the Hindu Kush: Active Stretching of a Blob of Sinking Thickened Mantle Lithosphere?. Tectonics, 2019, 38, 1651-1665.	1.3	18
100	Widespread and Persistent Deposition of Iron Formations for Two Billion Years. Geophysical Research Letters, 2019, 46, 3327-3339.	1.5	18
101	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.	3.0	17
102	Soil and Air Temperature Calibrations Using Branched GDGTs for the Tropical Andes of Colombia: Toward a Panâ€Tropical Calibration. Geochemistry, Geophysics, Geosystems, 2020, 21, e2020GC008941.	1.0	17
103	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.	1.4	16
104	Lithospheric thinning and localization of deformation during Rayleighâ€Taylor instability with nonlinear rheology and implications for intracontinental magmatism. Journal of Geophysical Research, 2010, 115, .	3.3	15
105	Gravitational instability of mantle lithosphere and core complexes. Tectonics, 2015, 34, 478-487.	1.3	15
106	Rayleighâ€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, .	1.3	11
107	Sea Surface Temperatures in the Eastern Equatorial Pacific and Surface Temperatures in the Eastern Cordillera of Colombia During El NiÃ±o: Implications for Pliocene Conditions. Paleoceanography, 2017, 32, 1309-1314.	3.0	9
108	Multiproxy Reducedâ€Dimension Reconstruction of Pliocene Equatorial Pacific Sea Surface Temperatures. Paleoceanography and Paleoclimatology, 2020, 35, e2019PA003685.	1.3	9

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109	A mechanism for freshening the Caribbean Sea in preâ€ice Age time. Paleoceanography, 2014, 29, 508-517.	3.0	8
110	Strain and Velocity Across the Great Basin Derived From 15â€ka Fault Slip Rates: Implications for Continuous Deformation and Seismic Hazard in the Walker Lane, Californiaâ€Nevada, USA. Tectonics, 2021, 40, e2020TC006389.	1.3	8
111	Wetter Subtropics Lead to Reduced Pliocene Coastal Upwelling. Paleoceanography and Paleoclimatology, 2021, 36, e2021PA004243.	1.3	7
112	Effects of a lowâ€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.	1.4	6
113	Warmer Pliocene Upwelling Site SST Leads to Wetter Subtropical Coastal Areas: A Positive Feedback on SST. Paleoceanography and Paleoclimatology, 2022, 37, .	1.3	6
114	Differences between soil and air temperatures: Implications for geological reconstructions of past climate. , 2022, 18, 800-824.		6
115	An assessment of the mean annual precipitation needed to sustain Lake Sambhar in Rajasthan, India, during mid-Holocene time. Holocene, 2015, 25, 1923-1934.	0.9	4
116	Lower Mantle Dynamics Perceived With 50 Years of Hindsight From Plate Tectonics. Geochemistry, Geophysics, Geosystems, 2019, 20, 5619-5649.	1.0	4
117	Constraints on the paleoelevation history of the Eastern Cordillera of Colombia from its palynological record. , 2021, 17, 1333-1352.		4
118	Gravitational Potential Energy per Unit Area as a Constraint on Archean Sea Level. Geochemistry, Geophysics, Geosystems, 2018, 19, 4063-4095.	1.0	3