

# Jeroen van Hunen

## List of Publications by Citations

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96  
papers

4,540  
citations

39  
h-index

66  
g-index

116  
ext. papers

5,261  
ext. citations

5.7  
avg, IF

5.91  
L-index

#	Paper	IF	Citations
96	Continental collision and slab break-off: A comparison of 3-D numerical models with observations. <i>Earth and Planetary Science Letters</i> , <b>2011</b> , 302, 27-37	5.3	334
95	A benchmark comparison of spontaneous subduction models towards a free surface. <i>Physics of the Earth and Planetary Interiors</i> , <b>2008</b> , 171, 198-223	2.3	294
94	Archean Subduction: Fact or Fiction?. <i>Annual Review of Earth and Planetary Sciences</i> , <b>2012</b> , 40, 195-219	15.3	249
93	On the role of subducting oceanic plateaus in the development of shallow flat subduction. <i>Tectonophysics</i> , <b>2002</b> , 352, 317-333	3.1	206
92	Plate tectonics on the early Earth: Limitations imposed by strength and buoyancy of subducted lithosphere. <i>Lithos</i> , <b>2008</b> , 103, 217-235	2.9	197
91	Geochemical and numerical constraints on Neoproterozoic plate tectonics. <i>Precambrian Research</i> , <b>2009</b> , 174, 155-162	3.9	154
90	Various mechanisms to induce present-day shallow flat subduction and implications for the younger Earth: a numerical parameter study. <i>Physics of the Earth and Planetary Interiors</i> , <b>2004</b> , 146, 179-194	2.3	147
89	Short-term episodicity of Archean plate tectonics. <i>Geology</i> , <b>2012</b> , 40, 451-454	5	142
88	Small-scale convection at the edge of the Colorado Plateau: Implications for topography, magmatism, and evolution of Proterozoic lithosphere. <i>Geology</i> , <b>2010</b> , 38, 611-614	5	117
87	Subduction-transition zone interaction: A review <b>2017</b> , 13, 644-664		111
86	The influence of rheological weakening and yield stress on the interaction of slabs with the 670 km discontinuity. <i>Earth and Planetary Science Letters</i> , <b>2002</b> , 199, 447-457	5.3	103
85	A thermo-mechanical model of horizontal subduction below an overriding plate. <i>Earth and Planetary Science Letters</i> , <b>2000</b> , 182, 157-169	5.3	101
84	A great thermal divergence in the mantle beginning 2.5 Ga: Geochemical constraints from greenstone basalts and komatiites. <i>Geoscience Frontiers</i> , <b>2016</b> , 7, 543-553	6	99
83	Slab stiffness control of trench motion: Insights from numerical models. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2008</b> , 9, n/a-n/a	3.6	99
82	Controls on sublithospheric small-scale convection. <i>Journal of Geophysical Research</i> , <b>2003</b> , 108,		93
81	Spatial and temporal variability in Hawaiian hotspot volcanism induced by small-scale convection. <i>Nature Geoscience</i> , <b>2011</b> , 4, 457-460	18.3	86
80	New evidence for dislocation creep from 3-D geodynamic modeling of the Pacific upper mantle structure. <i>Earth and Planetary Science Letters</i> , <b>2005</b> , 238, 146-155	5.3	84

79	Non-hotspot volcano chains originating from small-scale sublithospheric convection. <i>Geophysical Research Letters</i> , <b>2007</b> , 34, n/a-n/a	4.9	78
78	Subducting-slab transition-zone interaction: Stagnation, penetration and mode switches. <i>Earth and Planetary Science Letters</i> , <b>2017</b> , 464, 10-23	5.3	63
77	Dynamics of lithospheric thinning and mantle melting by edge-driven convection: Application to Moroccan Atlas mountains. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2014</b> , 15, 3175-3189	3.6	62
76	Seasonality of westerly moisture transport in the East Asian summer monsoon and its implications for interpreting precipitation $\delta^{18}O$ . <i>Journal of Geophysical Research D: Atmospheres</i> , <b>2015</b> , 120, 5850-5862	4.4	62
75	No evidence for thermogenic methane release in coal from the Karoo-Ferrar large igneous province. <i>Earth and Planetary Science Letters</i> , <b>2009</b> , 277, 204-212	5.3	60
74	Small-scale convection during continental rifting: Evidence from the Rio Grande rift. <i>Geology</i> , <b>2008</b> , 36, 575	5	57
73	How collision triggers backarc extension: Insight into Mediterranean style of extension from 3-D numerical models. <i>Geology</i> , <b>2014</b> , 42, 511-514	5	55
72	Craton stability and longevity: The roles of composition-dependent rheology and buoyancy. <i>Earth and Planetary Science Letters</i> , <b>2014</b> , 391, 224-233	5.3	54
71	Sublithospheric small-scale convection: A mechanism for collision zone magmatism. <i>Geology</i> , <b>2014</b> , 42, 291-294	5	54
70	Intraplate volcanism with complex age-distance patterns: A case for small-scale sublithospheric convection. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2009</b> , 10, n/a-n/a	3.6	54
69	Stress distribution within subducting slabs and their deformation in the transition zone. <i>Physics of the Earth and Planetary Interiors</i> , <b>2007</b> , 161, 202-214	2.3	54
68	The thinning of subcontinental lithosphere: The roles of plume impact and metasomatic weakening. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2015</b> , 16, 1156-1171	3.6	50
67	The role of pre-existing structures during rifting, continental breakup and transform system development, offshore West Greenland. <i>Basin Research</i> , <b>2018</b> , 30, 373-394	3.2	46
66	Delamination vs. break-off: the fate of continental collision. <i>Geophysical Research Letters</i> , <b>2013</b> , 40, 285-289	4.9	46
65	Deep water recycling through time. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2014</b> , 15, 4203-4216	3.6	45
64	Advantages of a conservative velocity interpolation (CVI) scheme for particle-in-cell methods with application in geodynamic modeling. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2015</b> , 16, 2015-2023	3.6	45
63	A numerical approach to melting in warm subduction zones. <i>Earth and Planetary Science Letters</i> , <b>2015</b> , 411, 37-44	5.3	43
62	Repeat ridge jumps associated with plume-ridge interaction, melt transport, and ridge migration. <i>Journal of Geophysical Research</i> , <b>2011</b> , 116,		42

61	Small-scale sublithospheric convection reconciles geochemistry and geochronology of Superplume volcanism in the western and south Pacific. <i>Earth and Planetary Science Letters</i> , <b>2010</b> , 290, 224-232	5.3	42
60	Numerical models of slab migration in continental collision zones. <i>Solid Earth</i> , <b>2012</b> , 3, 293-306	3.3	41
59	Control of seafloor aging on the migration of the Izu Bonin Mariana trench. <i>Earth and Planetary Science Letters</i> , <b>2009</b> , 288, 386-398	5.3	40
58	Madagascar's escape from Africa: A high-resolution plate reconstruction for the Western Somali Basin and implications for supercontinent dispersal. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2016</b> , 17, 5036-5055	3.6	40
57	Continental underplating after slab break-off. <i>Earth and Planetary Science Letters</i> , <b>2017</b> , 474, 59-67	5.3	38
56	The effect of shearing on the onset and vigor of small-scale convection in a Newtonian rheology. <i>Geophysical Research Letters</i> , <b>2003</b> , 30,	4.9	38
55	Numerical models of the magmatic processes induced by slab breakoff. <i>Earth and Planetary Science Letters</i> , <b>2017</b> , 478, 203-213	5.3	37
54	The impact of the South-American plate motion and the Nazca Ridge subduction on the flat subduction below South Peru. <i>Geophysical Research Letters</i> , <b>2002</b> , 29, 35-1-35-4	4.9	37
53	The effect of metastable pyroxene on the slab dynamics. <i>Geophysical Research Letters</i> , <b>2014</b> , 41, 8800-8808	4.9	36
52	Variable water input controls evolution of the Lesser Antilles volcanic arc. <i>Nature</i> , <b>2020</b> , 582, 525-529	5.0	31
51	Latent heat effects of the major mantle phase transitions on low-angle subduction. <i>Earth and Planetary Science Letters</i> , <b>2001</b> , 190, 125-135	5.3	31
50	Geochemical variation at the Hawaiian hot spot caused by upper mantle dynamics and melting of a heterogeneous plume. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2008</b> , 9, n/a-n/a	3.6	29
49	Segmentation of Rifts Through Structural Inheritance: Creation of the Davis Strait. <i>Tectonics</i> , <b>2019</b> , 38, 2411-2430	4.3	28
48	Insight into collision zone dynamics from topography: numerical modelling results and observations. <i>Solid Earth</i> , <b>2012</b> , 3, 387-399	3.3	27
47	Making Archean cratonic roots by lateral compression: A two-stage thickening and stabilization model. <i>Tectonophysics</i> , <b>2018</b> , 746, 562-571	3.1	26
46	On the relation between trench migration, seafloor age, and the strength of the subducting lithosphere. <i>Lithosphere</i> , <b>2009</b> , 1, 121-128	2.7	26
45	Quantifying the influence of sill intrusion on the thermal evolution of organic-rich sedimentary rocks in nonvolcanic passive margins: an example from ODP 210-1276, offshore Newfoundland, Canada. <i>Basin Research</i> , <b>2017</b> , 29, 249-265	3.2	25
44	Relamination of mafic subducting crust throughout Earth's history. <i>Earth and Planetary Science Letters</i> , <b>2016</b> , 449, 206-216	5.3	23

43	Lithospheric cooling and thickening as a basin forming mechanism. <i>Tectonophysics</i> , <b>2010</b> , 495, 184-194	3.1	23
42	Collisional Processes and Links to Episodic Changes in Subduction Zones. <i>Elements</i> , <b>2015</b> , 11, 119-124	3.8	22
41	Plate rotation during continental collision and its relationship with the exhumation of UHP metamorphic terranes: Application to the Norwegian Caledonides. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2014</b> , 15, 1766-1782	3.6	19
40	Geochemical variations at intraplate hot spots caused by variable melting of a veined mantle plume. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2011</b> , 12, n/a-n/a	3.6	18
39	Deep continental roots and cratons. <i>Nature</i> , <b>2021</b> , 596, 199-210	50.4	17
38	Strong plates enhance mantle mixing in early Earth. <i>Nature Communications</i> , <b>2018</b> , 9, 2708	17.4	16
37	Along-Arc Heterogeneity in Local Seismicity across the Lesser Antilles Subduction Zone from a Dense Ocean-Bottom Seismometer Network. <i>Seismological Research Letters</i> , <b>2020</b> , 91, 237-247	3	15
36	The end of continental growth by TTG magmatism. <i>Terra Nova</i> , <b>2013</b> , 25, 130-136	3	14
35	Basin formation by thermal subsidence of accretionary orogens. <i>Tectonophysics</i> , <b>2015</b> , 639, 132-143	3.1	13
34	Wide-Angle Seismic Imaging of Two Modes of Crustal Accretion in Mature Atlantic Ocean Crust. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2020</b> , 125, e2019JB019100	3.6	12
33	Subsidence of the West Siberian Basin: Effects of a mantle plume impact. <i>Geology</i> , <b>2012</b> , 40, 703-706	5	12
32	Tectonics of early Earth: Some geodynamic considerations <b>2008</b> , 157-171		12
31	New insight in the Hawaiian plume swell dynamics from scaling laws. <i>Geophysical Research Letters</i> , <b>2003</b> , 30,	4.9	12
30	Modeling Slab Temperature: A Reevaluation of the Thermal Parameter. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2019</b> , 20, 673-687	3.6	12
29	Reduced oceanic seismic anisotropy by small-scale convection. <i>Earth and Planetary Science Letters</i> , <b>2009</b> , 284, 622-629	5.3	11
28	Influence of rheology on realignment of mantle convective structure with plate motion after a plate reorganization. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2006</b> , 7, n/a-n/a	3.6	11
27	Analogue Modeling of Plate Rotation Effects in Transform Margins and Rift-Transform Intersections. <i>Tectonics</i> , <b>2019</b> , 38, 823-841	4.3	10
26	Interaction between small-scale mantle diapirs and a continental root. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2003</b> , 4,	3.6	10

25	Mapping geologic features onto subducted slabs. <i>Geophysical Journal International</i> , <b>2019</b> , 219, 725-733	2.6	8
24	Dissolution of CO <sub>2</sub> From Leaking Fractures in Saline Formations. <i>Transport in Porous Media</i> , <b>2012</b> , 94, 729-745	3.1	7
23	Project VoiLA: Volatile Recycling in the Lesser Antilles. <i>Eos</i> , <b>2019</b> , 100,	1.5	7
22	Thermal state and evolving geodynamic regimes of the Meso- to Neoproterozoic North China Craton. <i>Nature Communications</i> , <b>2021</b> , 12, 3888	17.4	7
21	Subduction history of the Caribbean from upper-mantle seismic imaging and plate reconstruction. <i>Nature Communications</i> , <b>2021</b> , 12, 4211	17.4	7
20	Deformation driven by deep and distant structures: Influence of a mantle lithosphere suture in the Ouachita orogeny, southeastern United States. <i>Geology</i> , <b>2019</b> , 47, 147-150	5	6
19	Why does plate tectonics occur only on Earth?. <i>Physics Education</i> , <b>2008</b> , 43, 144-150	0.8	6
18	Detecting and quantifying palaeoseasonality in stalagmites using geochemical and modelling approaches. <i>Quaternary Science Reviews</i> , <b>2021</b> , 254, 106784	3.9	6
17	Influence of the Thickness of the Overriding Plate on Convergence Zone Dynamics. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2020</b> , 21, e2019GC008678	3.6	5
16	Dynamic modelling of a UK North Sea saline formation for CO <sub>2</sub> sequestration. <i>Petroleum Geoscience</i> , <b>2014</b> , 20, 169-185	1.9	5
15	The impact of oblique inheritance and changes in relative plate motion on the development of rift-transform systems. <i>Earth and Planetary Science Letters</i> , <b>2020</b> , 541, 116277	5.3	4
14	Geochemical variations at ridge-centered hotspots caused by variable melting of a veined mantle plume. <i>Earth and Planetary Science Letters</i> , <b>2013</b> , 371-372, 191-202	5.3	4
13	Topographic Fingerprint of Deep Mantle Subduction. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2020</b> , 125, e2019JB017962	3.6	4
12	Interaction between mantle-derived magma and lower arc crust: quantitative reactive melt flow modelling using STyx. <i>Geological Society Special Publication</i> , <b>2019</b> , 478, 65-87	1.7	4
11	Modelling fluid flow in complex natural fault zones: Implications for natural and human-induced earthquake nucleation. <i>Earth and Planetary Science Letters</i> , <b>2020</b> , 530, 115869	5.3	3
10	The structural evolution of pull-apart basins in response to changes in plate motion. <i>Basin Research</i> , <b>2021</b> , 33, 1603-1625	3.2	3
9	Lithosphere Destabilization by Melt Weakening and Crust-Mantle Interactions: Implications for Generation of Granite-Migmatite Belts. <i>Tectonics</i> , <b>2018</b> , 37, 3102-3116	4.3	3
8	On the origin of the Canary Islands: Insights from mantle convection modelling. <i>Earth and Planetary Science Letters</i> , <b>2022</b> , 584, 117506	5.3	3

7	The Role of Crustal Buoyancy in the Generation and Emplacement of Magmatism During Continental Collision. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2019</b> , 20, 4693-4709	3.6	2
6	Application of material balance methods to CO2 storage capacity estimation within selected depleted gas reservoirs. <i>Petroleum Geoscience</i> , <b>2017</b> , 23, 339-352	1.9	2
5	Numerical models of trench migration in continental collision zones <b>2012</b> ,		2
4	Insight into collision zone dynamics from topography: numerical modelling results and observations <b>2012</b> ,		1
3	Episodic back-arc spreading centre jumps controlled by transform fault to overriding plate strength ratio.. <i>Nature Communications</i> , <b>2022</b> , 13, 582	17.4	1
2	Introduction to the special issue on "Subduction Zones". <i>Solid Earth</i> , <b>2013</b> , 4, 129-133	3.3	0
1	Onset and Evolution of Plate Tectonics: Geodynamical Constraints <b>2019</b> ,		