

# Derek Keir

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

118  
papers

4,749  
citations

40  
h-index

66  
g-index

127  
ext. papers

5,521  
ext. citations

5.6  
avg, IF

5.45  
L-index

#	Paper	IF	Citations
118	Across and along-strike crustal structure variations of the western Afar margin and adjacent plateau: Insights from receiver functions analysis. <i>Journal of African Earth Sciences</i> , <b>2022</b> , 192, 104570	2.2	0
117	Comparison of Deep Learning Techniques for the Investigation of a Seismic Sequence: An Application to the 2019, Mw 4.5 Mugello (Italy) Earthquake <b>2021</b> , 126, e2021JB023405		0
116	Lower Crustal Earthquakes in the March 2018 Sequence Along the Western Margin of Afar. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2021</b> , 22, e2020GC009614	3.6	3
115	Plate-Boundary Kinematics of the Afrera Linkage Zone (Afar) From InSAR and Seismicity. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2021</b> , 126, e2020JB021387	3.6	0
114	Evidence of active magmatic rifting at the MaAlalta volcanic field (Afar, Ethiopia). <i>Bulletin of Volcanology</i> , <b>2021</b> , 83, 1	2.4	0
113	Thermo-Rheological Properties of the Ethiopian Lithosphere and Evidence for Transient Fluid Induced Lower Crustal Seismicity Beneath the Ethiopian Rift. <i>Frontiers in Earth Science</i> , <b>2021</b> , 9,	3.5	2
112	Seismic Discontinuities Across the North American Caribbean Plate Boundary From S-to-P Receiver Functions. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2021</b> , 22, e2021GC009723	3.6	2
111	Seismicity and Crustal Structure of the Southern Main Ethiopian Rift: New Evidence From Lake Abaya. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2021</b> , 22, e2021GC009831	3.6	1
110	Revealing 60 years of Earthquake Swarms in the Southern Red Sea, Afar and the Gulf of Aden. <i>Frontiers in Earth Science</i> , <b>2021</b> , 9,	3.5	2
109	Variations in melt emplacement beneath the northern East African Rift from radial anisotropy. <i>Earth and Planetary Science Letters</i> , <b>2021</b> , 573, 117150	5.3	2
108	Spatial Variations in Crustal and Mantle Anisotropy Across the North American-Caribbean Boundary on Haiti. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2020</b> , 125, e2019JB018438	3.6	2
107	Structural Analysis of the Western Afar Margin, East Africa: Evidence for Multiphase Rotational Rifting. <i>Tectonics</i> , <b>2020</b> , 39, e2019TC006043	4.3	11
106	Spatial forecasting of seismicity provided from Earth observation by space satellite technology. <i>Scientific Reports</i> , <b>2020</b> , 10, 9696	4.9	2
105	Tectonics of the Asela-Langano Margin, Main Ethiopian Rift (East Africa). <i>Tectonics</i> , <b>2020</b> , 39, e2020TC006075	4.9	9
104	Mechanism for Deep Crustal Seismicity: Insight From Modeling of Deformation Processes at the Main Ethiopian Rift. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2020</b> , 21, e2020GC008935	3.6	7
103	Quantitative Constraints on Faulting and Fault Slip Rates in the Northern Main Ethiopian Rift. <i>Tectonics</i> , <b>2020</b> , 39, e2019TC006046	4.3	4
102	Evolution of the Alu-Dalafilla and Borale volcanoes, Afar, Ethiopia. <i>Journal of Volcanology and Geothermal Research</i> , <b>2020</b> , 408, 107094	2.8	2

101	3D Extension at Plate Boundaries Accommodated by Interacting Fault Systems. <i>Scientific Reports</i> , <b>2020</b> , 10, 8669	4.9	1
100	Analogue modelling of marginal flexure in Afar, East Africa: Implications for passive margin formation. <i>Tectonophysics</i> , <b>2020</b> , 796, 228595	3.1	1
99	A review of tectonic models for the rifted margin of Afar: Implications for continental break-up and passive margin formation. <i>Journal of African Earth Sciences</i> , <b>2020</b> , 164, 103649	2.2	14
98	Low-frequency earthquakes beneath Tullu Moya volcano, Ethiopia, reveal fluid pulses from shallow magma chamber. <i>Earth and Planetary Science Letters</i> , <b>2019</b> , 526, 115782	5.3	14
97	Local seismicity near the actively deforming Corbetti volcano in the Main Ethiopian Rift. <i>Journal of Volcanology and Geothermal Research</i> , <b>2019</b> , 381, 227-237	2.8	15
96	Aborted propagation of the Ethiopian rift caused by linkage with the Kenyan rift. <i>Nature Communications</i> , <b>2019</b> , 10, 1309	17.4	29
95	The Tectonics and Active Faulting of Haiti from Seismicity and Tomography. <i>Tectonics</i> , <b>2019</b> , 38, 1138-1155	4.5	14
94	Using Ambient Noise to Image the Northern East African Rift. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2019</b> , 20, 2091-2109	3.6	12
93	Strike-slip tectonics during rift linkage. <i>Geology</i> , <b>2019</b> , 47, 31-34	5	18
92	Observing Oblique Slip During Rift Linkage in Northern Afar. <i>Geophysical Research Letters</i> , <b>2019</b> , 46, 10782-10790	4.7	10
91	Depth Extent and Kinematics of Faulting in the Southern Tanganyika Rift, Africa. <i>Tectonics</i> , <b>2019</b> , 38, 842-862	4.3	33
90	Is the local seismicity in western Hispaniola (Haiti) capable of imaging northern Caribbean subduction? <b>2019</b> , 15, 1738-1750		8
89	Seismicity of the Bora-Tullu Moya Volcanic Field, 2016-2017. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2019</b> , 20, 548-570	3.6	13
88	Crustal thickness estimates beneath four seismic stations in Ethiopia inferred from p-wave receiver function studies. <i>Journal of African Earth Sciences</i> , <b>2019</b> , 150, 264-271	2.2	3
87	The Nature of Upper Mantle Upwelling During Initiation of Seafloor Spreading in the Southern Red Sea <b>2019</b> , 113-129		1
86	Seismicity During Continental Breakup in the Red Sea Rift of Northern Afar. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2018</b> , 123, 2345-2362	3.6	22
85	Control of Pre-rift Lithospheric Structure on the Architecture and Evolution of Continental Rifts: Insights From the Main Ethiopian Rift, East Africa. <i>Tectonics</i> , <b>2018</b> , 37, 477-496	4.3	35
84	Geological evolution of the Boset-Bericha Volcanic Complex, Main Ethiopian Rift: <sup>40</sup> Ar/ <sup>39</sup> Ar evidence for episodic Pleistocene to Holocene volcanism. <i>Journal of Volcanology and Geothermal Research</i> , <b>2018</b> , 351, 115-133	2.8	26

83	Constraints on fault and crustal strength of the Main Ethiopian Rift from formal inversion of earthquake focal mechanism data. <i>Tectonophysics</i> , <b>2018</b> , 731-732, 172-180	3.1	11
82	The Development of Late-Stage Continental Breakup: Seismic Reflection and Borehole Evidence from the Danakil Depression, Ethiopia. <i>Tectonics</i> , <b>2018</b> , 37, 2848-2862	4.3	16
81	Seismic Anisotropy of the Upper Mantle Below the Western Rift, East Africa. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2018</b> , 123, 5644-5660	3.6	19
80	Earthquake Clustering and Energy Release of the African-Arabian Rift System. <i>Bulletin of the Seismological Society of America</i> , <b>2018</b> , 108, 155-162	2.3	6
79	What causes subsidence following the 2011 eruption at Nabro (Eritrea)?. <i>Progress in Earth and Planetary Science</i> , <b>2018</b> , 5,	3.9	16
78	Initiation of a Proto-transform Fault Prior to Seafloor Spreading. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2018</b> , 19, 4744	3.6	8
77	Seismicity Associated With the Formation of a New Island in the Southern Red Sea. <i>Frontiers in Earth Science</i> , <b>2018</b> , 6,	3.5	8
76	Seismic Anisotropy Reveals a Dynamic Link Between Adjacent Magmatic Segments Prior to Dyke Intrusion. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2018</b> , 123, 9800-9816	3.6	1
75	Imaging Lithospheric Discontinuities Beneath the Northern East African Rift Using -to- Receiver Functions. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2018</b> , 19, 4048-4062	3.6	16
74	Magma Plumbing Systems: A Geophysical Perspective. <i>Journal of Petrology</i> , <b>2018</b> , 59, 1217-1251	3.9	68
73	Local Earthquake Magnitude Scale and $b$ -Value for the Danakil Region of Northern Afar. <i>Bulletin of the Seismological Society of America</i> , <b>2017</b> , 107, 521-531	2.3	25
72	Crustal structure of western Hispaniola (Haiti) from a teleseismic receiver function study. <i>Tectonophysics</i> , <b>2017</b> , 709, 9-19	3.1	18
71	Probabilistic Seismic-Hazard Assessment for Eritrea. <i>Bulletin of the Seismological Society of America</i> , <b>2017</b> , 107, 1478-1494	2.3	12
70	Surface wave imaging of the weakly extended Malawi Rift from ambient-noise and teleseismic Rayleigh waves from onshore and lake-bottom seismometers. <i>Geophysical Journal International</i> , <b>2017</b> , 209, 1892-1905	2.6	29
69	Extension and stress during continental breakup: Seismic anisotropy of the crust in Northern Afar. <i>Earth and Planetary Science Letters</i> , <b>2017</b> , 477, 41-51	5.3	12
68	Crustal Structure at a Young Continental Rift: A Receiver Function Study From the Tanganyika Rift. <i>Tectonics</i> , <b>2017</b> , 36, 2806-2822	4.3	21
67	Crustal Structure of Active Deformation Zones in Africa: Implications for Global Crustal Processes. <i>Tectonics</i> , <b>2017</b> , 36, 3298-3332	4.3	55
66	The initiation of segmented buoyancy-driven melting during continental breakup. <i>Nature Communications</i> , <b>2016</b> , 7, 13110	17.4	35

65	A multidisciplinary study of the final episode of the Manda Hararo dyke sequence, Ethiopia, and implications for trends in volcanism during the rifting cycle. <i>Geological Society Special Publication</i> , <b>2016</b> , 420, 149-163	1.7	20
64	Use of a high-precision gravity survey to understand the formation of oceanic crust and the role of melt at the southern Red Sea rift in Afar, Ethiopia. <i>Geological Society Special Publication</i> , <b>2016</b> , 420, 165-180	1.7	9
63	Seismicity of the central Afar rift and implications for Tendaho dam hazards. <i>Geological Society Special Publication</i> , <b>2016</b> , 420, 341-354	1.7	9
62	Small-scale thermal upwellings under the northern East African Rift from S travel time tomography. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2016</b> , 121, 7395-7408	3.6	17
61	Seafloor spreading event in western Gulf of Aden during the November 2010-March 2011 period captured by regional seismic networks: evidence for diking events and interactions with a nascent transform zone. <i>Geophysical Journal International</i> , <b>2016</b> , 205, 1244-1266	2.6	14
60	Magmatism at continental passive margins inferred from Ambient-Noise Phase-velocity in the Gulf of Aden. <i>Terra Nova</i> , <b>2016</b> , 28, 19-26	3	10
59	Magma-induced axial subsidence during final-stage rifting: Implications for the development of seaward-dipping reflectors <b>2015</b> , 11, 563-571		25
58	Introduction: Anatomy of rifting: Tectonics and magmatism in continental rifts, oceanic spreading centers, and transforms <b>2015</b> , 11, 1256-1261		6
57	Multiple mantle upwellings in the transition zone beneath the northern East-African Rift system from relative P-wave travel-time tomography. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2015</b> , 16, 2949-2968	3.6	40
56	Diking-induced moderate-magnitude earthquakes on a youthful rift border fault: The 2002 Nyiragongo-Kalehe sequence, D.R. Congo. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2015</b> , 16, 4280-4291	3.6	11
55	Magmatism on rift flanks: Insights from ambient noise phase velocity in Afar region. <i>Geophysical Research Letters</i> , <b>2015</b> , 42, 2179-2188	4.9	14
54	The origin of along-rift variations in faulting and magmatism in the Ethiopian Rift. <i>Tectonics</i> , <b>2015</b> , 34, 464-477	4.3	57
53	First recorded eruption of Nabro volcano, Eritrea, 2011. <i>Bulletin of Volcanology</i> , <b>2015</b> , 77, 85	2.4	40
52	Hydrous upwelling across the mantle transition zone beneath the Afar Triple Junction. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2015</b> , 16, 834-846	3.6	32
51	Upper mantle structure of the southern Arabian margin: Insights from teleseismic tomography <b>2015</b> , 11, 1262-1278		11
50	Rift-Related Morphology of the Afar Depression. <i>World Geomorphological Landscapes</i> , <b>2015</b> , 251-274	0.4	6
49	The development of magmatism along the Cameroon Volcanic Line: Evidence from seismicity and seismic anisotropy. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2014</b> , 119, 4233-4252	3.6	45
48	Thermal models of dyke intrusion during development of continent-ocean transition. <i>Earth and Planetary Science Letters</i> , <b>2014</b> , 385, 145-153	5.3	53

47	The protracted development of focused magmatic intrusion during continental rifting. <i>Tectonics</i> , <b>2014</b> , 33, 875-897	4.3	38
46	Crustal and upper mantle structure beneath south-western margin of the Arabian Peninsula from teleseismic tomography. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2014</b> , 15, 2850-2864	3.6	16
45	Seismicity and subsidence following the 2011 Nabro eruption, Eritrea: Insights into the plumbing system of an off-rift volcano. <i>Journal of Geophysical Research: Solid Earth</i> , <b>2014</b> , 119, 8267-8282	3.6	27
44	Off-rift volcanism in rift zones determined by crustal unloading. <i>Nature Geoscience</i> , <b>2014</b> , 7, 297-300	18.3	81
43	Differentiating flow, melt, or fossil seismic anisotropy beneath Ethiopia. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2014</b> , 15, 1878-1894	3.6	46
42	Magmatism and deformation during continental breakup. <i>Astronomy and Geophysics</i> , <b>2014</b> , 55, 5.18-5.22	0.2	4
41	Uppermost mantle velocity from Pn tomography in the Gulf of Aden <b>2014</b> , 10, 958-968		16
40	Crustal structure of the Gulf of Aden southern margin: Evidence from receiver functions on Socotra Island (Yemen). <i>Tectonophysics</i> , <b>2014</b> , 637, 251-267	3.1	14
39	Re-orientation of the extension direction and pure extensional faulting at oblique rift margins: comparison between the Main Ethiopian Rift and laboratory experiments. <i>Terra Nova</i> , <b>2013</b> , 25, 396-404 <sup>3</sup>		59
38	The development of extension and magmatism in the Red Sea rift of Afar. <i>Tectonophysics</i> , <b>2013</b> , 607, 98-114	3.1	54
37	Spatial relationship between earthquakes and volcanic vents in the central-northern Main Ethiopian Rift. <i>Journal of Volcanology and Geothermal Research</i> , <b>2013</b> , 262, 123-133	2.8	34
36	Uppermost mantle (Pn) velocity model for the Afar region, Ethiopia: an insight into rifting processes. <i>Geophysical Journal International</i> , <b>2013</b> , 193, 321-328	2.6	25
35	Melting during late-stage rifting in Afar is hot and deep. <i>Nature</i> , <b>2013</b> , 499, 70-3	50.4	67
34	The time scales of continental rifting: Implications for global processes <b>2013</b> ,		33
33	Crustal structure of the rifted volcanic margins and uplifted plateau of Western Yemen from receiver function analysis. <i>Geophysical Journal International</i> , <b>2013</b> , 193, 1673-1690	2.6	33
32	Mantle upwelling and initiation of rift segmentation beneath the Afar Depression. <i>Geology</i> , <b>2013</b> , 41, 635-638	5	63
31	Integrated field, satellite and petrological observations of the November 2010 eruption of Erta Ale. <i>Bulletin of Volcanology</i> , <b>2012</b> , 74, 2251-2271	2.4	51
30	Geophysical constraints on the dynamics of spreading centres from rifting episodes on land. <i>Nature Geoscience</i> , <b>2012</b> , 5, 242-250	18.3	181

29	Volcanism in the Afar Rift sustained by decompression melting with minimal plume influence. <i>Nature Geoscience</i> , <b>2012</b> , 5, 406-409	18.3	81
28	Dike-fault interaction during the 2004 Dallol intrusion at the northern edge of the Erta Ale Ridge (Afar, Ethiopia). <i>Geophysical Research Letters</i> , <b>2012</b> , 39, n/a-n/a	4.9	73
27	Seismicity during lateral dike propagation: Insights from new data in the recent Manda Hararo-Dabbahu rifting episode (Afar, Ethiopia). <i>Geochemistry, Geophysics, Geosystems</i> , <b>2011</b> , 12, n/a-n/a	3.6	57
26	Comparison of dike intrusions in an incipient seafloor-spreading segment in Afar, Ethiopia: Seismicity perspectives. <i>Journal of Geophysical Research</i> , <b>2011</b> , 116,		90
25	The magma-assisted removal of Arabia in Afar: Evidence from dike injection in the Ethiopian rift captured using InSAR and seismicity. <i>Tectonics</i> , <b>2011</b> , 30, n/a-n/a	4.3	55
24	Pulses of deformation reveal frequently recurring shallow magmatic activity beneath the Main Ethiopian Rift. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2011</b> , 12, n/a-n/a	3.6	106
23	The nature of the crust beneath the Afar triple junction: Evidence from receiver functions. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2011</b> , 12, n/a-n/a	3.6	114
22	The protracted development of the continental-ocean transition in Afar. <i>Nature Geoscience</i> , <b>2011</b> , 4, 248-258	3	113
21	Insights into extensional processes during magma assisted rifting: Evidence from aligned scoria cones. <i>Journal of Volcanology and Geothermal Research</i> , <b>2011</b> , 201, 83-96	2.8	69
20	Mapping the evolving strain field during continental breakup from crustal anisotropy in the Afar Depression. <i>Nature Communications</i> , <b>2011</b> , 2, 285	17.4	54
19	The Ethiopia Afar Geoscientific Lithospheric Experiment (EAGLE): Probing the transition from continental rifting to incipient seafloor spreading <b>2011</b> ,		30
18	Length and Timescales of Rift Faulting and Magma Intrusion: The Afar Rifting Cycle from 2005 to Present. <i>Annual Review of Earth and Planetary Sciences</i> , <b>2010</b> , 38, 439-466	15.3	136
17	Formation and stability of magmatic segments in the Main Ethiopian and Afar rifts. <i>Earth and Planetary Science Letters</i> , <b>2010</b> , 293, 225-235	5.3	62
16	Low-Frequency Hybrid Earthquakes near a Magma Chamber in Afar: Quantifying Path Effects. <i>Bulletin of the Seismological Society of America</i> , <b>2010</b> , 100, 1892-1903	2.3	10
15	Evidence for focused magmatic accretion at segment centers from lateral dike injections captured beneath the Red Sea rift in Afar. <i>Geology</i> , <b>2009</b> , 37, 59-62	5	129
14	Geodetic observations of the ongoing Dabbahu rifting episode: new dyke intrusions in 2006 and 2007. <i>Geophysical Journal International</i> , <b>2009</b> , 178, 989-1003	2.6	86
13	Lower crustal earthquakes near the Ethiopian rift induced by magmatic processes. <i>Geochemistry, Geophysics, Geosystems</i> , <b>2009</b> , 10, n/a-n/a	3.6	72
12	September 2005 mega-dike emplacement in the Manda-Harraro nascent oceanic rift (Afar depression). <i>Geophysical Research Letters</i> , <b>2009</b> , 36,	4.9	85

11	Crustal tomographic imaging of a transitional continental rift: the Ethiopian rift. <i>Geophysical Journal International</i> , <b>2008</b> , 172, 1033-1048	2.6	70
10	Capturing magma intrusion and faulting processes during continental rupture: seismicity of the Dabbahu (Afar) rift. <i>Geophysical Journal International</i> , <b>2008</b> , 174, 1138-1152	2.6	102
9	The August 2002 earthquake sequence in north Afar: Insights into the neotectonics of the Danakil microplate. <i>Journal of African Earth Sciences</i> , <b>2007</b> , 48, 70-79	2.2	43
8	Fault growth at a nascent slow-spreading ridge: 2005 Dabbahu rifting episode, Afar. <i>Geophysical Journal International</i> , <b>2007</b> , 171, 1226-1246	2.6	124
7	Strain accommodation in transitional rifts: extension by magma intrusion and faulting in Ethiopian rift magmatic segments. <i>Geological Society Special Publication</i> , <b>2006</b> , 259, 143-163	1.7	55
6	Mantle upwellings, melt migration and the rifting of Africa: insights from seismic anisotropy. <i>Geological Society Special Publication</i> , <b>2006</b> , 259, 55-72	1.7	55
5	Strain accommodation by magmatism and faulting as rifting proceeds to breakup: Seismicity of the northern Ethiopian rift. <i>Journal of Geophysical Research</i> , <b>2006</b> , 111, n/a-n/a		145
4	Local Earthquake Magnitude Scale and Seismicity Rate for the Ethiopian Rift. <i>Bulletin of the Seismological Society of America</i> , <b>2006</b> , 96, 2221-2230	2.3	61
3	Magma-maintained rift segmentation at continental rupture in the 2005 Afar dyking episode. <i>Nature</i> , <b>2006</b> , 442, 291-4	50.4	404
2	Magma-assisted rifting in Ethiopia. <i>Nature</i> , <b>2005</b> , 433, 146-8	50.4	263
1	Variations in late syn-rift melt alignment inferred from shear-wave splitting in crustal earthquakes beneath the Ethiopian rift. <i>Geophysical Research Letters</i> , <b>2005</b> , 32,	4.9	50