

Derek Keir

List of Publications by Year in descending order

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Version: 2024-02-01

125
papers

6,222
citations

53660

45
h-index

76769

74
g-index

127
all docs

127
docs citations

127
times ranked

2868
citing authors

#	ARTICLE	IF	CITATIONS
1	Magma-maintained rift segmentation at continental rupture in the 2005 Afar dyking episode. <i>Nature</i> , 2006, 442, 291-294.	13.7	508
2	Magma-assisted rifting in Ethiopia. <i>Nature</i> , 2005, 433, 146-148.	13.7	302
3	Geophysical constraints on the dynamics of spreading centres from rifting episodes on land. <i>Nature Geoscience</i> , 2012, 5, 242-250.	5.4	231
4	Strain accommodation by magmatism and faulting as rifting proceeds to breakup: Seismicity of the northern Ethiopian rift. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	180
5	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> , 2010, 38, 439-466.	4.6	167
6	Evidence for focused magmatic accretion at segment centers from lateral dike injections captured beneath the Red Sea rift in Afar. <i>Geology</i> , 2009, 37, 59-62.	2.0	154
7	The nature of the crust beneath the Afar triple junction: Evidence from receiver functions. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	1.0	152
8	Fault growth at a nascent slow-spreading ridge: 2005 Dabbahu rifting episode, Afar. <i>Geophysical Journal International</i> , 0, 171, 1226-1246.	1.0	150
9	Pulses of deformation reveal frequently recurring shallow magmatic activity beneath the Main Ethiopian Rift. <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, n/a-n/a.	1.0	135
10	The protracted development of the continent-ocean transition in Afar. <i>Nature Geoscience</i> , 2011, 4, 248-250.	5.4	134
11	Magma Plumbing Systems: A Geophysical Perspective. <i>Journal of Petrology</i> , 2018, 59, 1217-1251.	1.1	134
12	Capturing magma intrusion and faulting processes during continental rupture: seismicity of the Dabbahu (Afar) rift. <i>Geophysical Journal International</i> , 2008, 174, 1138-1152.	1.0	123
13	Dike-fault interaction during the 2004 Dallol intrusion at the northern edge of the Erta Ale Ridge (Afar, Ethiopia). <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	112
14	Comparison of dike intrusions in an incipient seafloor-spreading segment in Afar, Ethiopia: Seismicity perspectives. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	104
15	Geodetic observations of the ongoing Dabbahu rifting episode: new dyke intrusions in 2006 and 2007. <i>Geophysical Journal International</i> , 2009, 178, 989-1003.	1.0	101
16	September 2005 mega-dike emplacement in the Manda-Harraro nascent oceanic rift (Afar depression). <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	101
17	Volcanism in the Afar Rift sustained by decompression melting with minimal plume influence. <i>Nature Geoscience</i> , 2012, 5, 406-409.	5.4	100
18	Off-rift volcanism in rift zones determined by crustal unloading. <i>Nature Geoscience</i> , 2014, 7, 297-300.	5.4	98

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19	Reorientation 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> , 2013, 25, 396-404.	0.9	88
20	Lower crustal earthquakes near the Ethiopian rift induced by magmatic processes. <i>Geochemistry, Geophysics, Geosystems</i> , 2009, 10, .	1.0	85
21	Melting during late-stage rifting in Afar is hot and deep. <i>Nature</i> , 2013, 499, 70-73.	13.7	85
22	Strain accommodation in transitional rifts: extension by magma intrusion and faulting in Ethiopian rift magmatic segments. <i>Geological Society Special Publication</i> , 2006, 259, 143-163.	0.8	84
23	Local Earthquake Magnitude Scale and Seismicity Rate for the Ethiopian Rift. <i>Bulletin of the Seismological Society of America</i> , 2006, 96, 2221-2230.	1.1	80
24	Crustal tomographic imaging of a transitional continental rift: the Ethiopian rift. <i>Geophysical Journal International</i> , 2008, 172, 1033-1048.	1.0	80
25	Insights into extensional processes during magma assisted rifting: Evidence from aligned scoria cones. <i>Journal of Volcanology and Geothermal Research</i> , 2011, 201, 83-96.	0.8	79
26	Formation and stability of magmatic segments in the Main Ethiopian and Afar rifts. <i>Earth and Planetary Science Letters</i> , 2010, 293, 225-235.	1.8	77
27	Mantle upwelling and initiation of rift segmentation beneath the Afar Depression. <i>Geology</i> , 2013, 41, 635-638.	2.0	76
28	Mantle upwellings, melt migration and the rifting of Africa: insights from seismic anisotropy. <i>Geological Society Special Publication</i> , 2006, 259, 55-72.	0.8	72
29	The development of extension and magmatism in the Red Sea rift of Afar. <i>Tectonophysics</i> , 2013, 607, 98-114.	0.9	72
30	Crustal Structure of Active Deformation Zones in Africa: Implications for Global Crustal Processes. <i>Tectonics</i> , 2017, 36, 3298-3332.	1.3	72
31	Seismicity during lateral dike propagation: Insights from new data in the recent Manda Hararo Dabbahu rifting episode (Afar, Ethiopia). <i>Geochemistry, Geophysics, Geosystems</i> , 2011, 12, .	1.0	66
32	The origin of along-rift variations in faulting and magmatism in the Ethiopian Rift. <i>Tectonics</i> , 2015, 34, 464-477.	1.3	65
33	Mapping the evolving strain field during continental breakup from crustal anisotropy in the Afar Depression. <i>Nature Communications</i> , 2011, 2, 285.	5.8	63
34	The magma-assisted removal of Arabia in Afar: Evidence from dike injection in the Ethiopian rift captured using InSAR and seismicity. <i>Tectonics</i> , 2011, 30, .	1.3	62
35	Integrated field, satellite and petrological observations of the November 2010 eruption of Erta Ale. <i>Bulletin of Volcanology</i> , 2012, 74, 2251-2271.	1.1	62
36	Thermal models of dyke intrusion during development of continent-ocean transition. <i>Earth and Planetary Science Letters</i> , 2014, 385, 145-153.	1.8	62

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37	Variations in late syn-rift melt alignment inferred from shear-wave splitting in crustal earthquakes beneath the Ethiopian rift. <i>Geophysical Research Letters</i> , 2005, 32, .	1.5	58
38	Differentiating flow, melt, or fossil seismic anisotropy beneath Ethiopia. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 1878-1894.	1.0	55
39	The development of magmatism along the Cameroon Volcanic Line: Evidence from seismicity and seismic anisotropy. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 4233-4252.	1.4	55
40	First recorded eruption of Nabro volcano, Eritrea, 2011. <i>Bulletin of Volcanology</i> , 2015, 77, 85.	1.1	54
41	Multiple mantle upwellings in the transition zone beneath the northern African rift system from relative P-wave travel-time tomography. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 2949-2968.	1.0	52
42	Aborted propagation of the Ethiopian rift caused by linkage with the Kenyan rift. <i>Nature Communications</i> , 2019, 10, 1309.	5.8	49
43	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> , 2018, 37, 477-496.	1.3	48
44	Depth Extent and Kinematics of Faulting in the Southern Tanganyika Rift, Africa. <i>Tectonics</i> , 2019, 38, 842-862.	1.3	48
45	Crustal structure of the rifted volcanic margins and uplifted plateau of Western Yemen from receiver function analysis. <i>Geophysical Journal International</i> , 2013, 193, 1673-1690.	1.0	47
46	The protracted development of focused magmatic intrusion during continental rifting. <i>Tectonics</i> , 2014, 33, 875-897.	1.3	47
47	The initiation of segmented buoyancy-driven melting during continental breakup. <i>Nature Communications</i> , 2016, 7, 13110.	5.8	47
48	The August 2002 earthquake sequence in north Afar: Insights into the neotectonics of the Danakil microplate. <i>Journal of African Earth Sciences</i> , 2007, 48, 70-79.	0.9	45
49	The time scales of continental rifting: Implications for global processes. , 2013, , .		42
50	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> , 2017, 209, 1892-1905.	1.0	42
51	Spatial relationship between earthquakes and volcanic vents in the central-northern Main Ethiopian Rift. <i>Journal of Volcanology and Geothermal Research</i> , 2013, 262, 123-133.	0.8	41
52	Hydrous upwelling across the mantle transition zone beneath the Afar Triple Junction. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 834-846.	1.0	39
53	The Ethiopia Afar Geoscientific Lithospheric Experiment (EAGLE): Probing the transition from continental rifting to incipient seafloor spreading. , 2011, , .		34
54	Local Earthquake Magnitude Scale and <i>b</i> -Value for the Danakil Region of Northern Afar. <i>Bulletin of the Seismological Society of America</i> , 2017, 107, 521-531.	1.1	33

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55	Seismicity During Continental Breakup in the Red Sea Rift of Northern Afar. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 2345-2362.	1.4	33
56	Geological evolution of the Boset-Bericha Volcanic Complex, Main Ethiopian Rift: 40Ar/39Ar evidence for episodic Pleistocene to Holocene volcanism. <i>Journal of Volcanology and Geothermal Research</i> , 2018, 351, 115-133.	0.8	33
57	Imaging Lithospheric Discontinuities Beneath the Northern East African Rift Using <i>S</i> -to- <i>P</i> Receiver Functions. <i>Geochemistry, Geophysics, Geosystems</i> , 2018, 19, 4048-4062.	1.0	33
58	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> , 2014, 119, 8267-8282.	1.4	32
59	Magma-induced axial subsidence during final-stage rifting: Implications for the development of seaward-dipping reflectors. , 2015, 11, 563-571.		31
60	Crustal Structure at a Young Continental Rift: A Receiver Function Study From the Tanganyika Rift. <i>Tectonics</i> , 2017, 36, 2806-2822.	1.3	31
61	The Development of Late-Stage Continental Breakup: Seismic Reflection and Borehole Evidence from the Danakil Depression, Ethiopia. <i>Tectonics</i> , 2018, 37, 2848-2862.	1.3	30
62	Crustal structure of western Hispaniola (Haiti) from a teleseismic receiver function study. <i>Tectonophysics</i> , 2017, 709, 9-19.	0.9	29
63	Using Ambient Noise to Image the Northern East African Rift. <i>Geochemistry, Geophysics, Geosystems</i> , 2019, 20, 2091-2109.	1.0	29
64	Uppermost mantle (Pn) velocity model for the Afar region, Ethiopia: an insight into rifting processes. <i>Geophysical Journal International</i> , 2013, 193, 321-328.	1.0	27
65	Strike-slip tectonics during rift linkage. <i>Geology</i> , 2019, 47, 31-34.	2.0	26
66	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> , 2016, 420, 149-163.	0.8	25
67	Seismic Anisotropy of the Upper Mantle Below the Western Rift, East Africa. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 5644-5660.	1.4	25
68	Local seismicity near the actively deforming Corbetti volcano in the Main Ethiopian Rift. <i>Journal of Volcanology and Geothermal Research</i> , 2019, 381, 227-237.	0.8	25
69	Seismicity of the Bora-Tullu Moye Volcanic Field, 2016-2017. <i>Geochemistry, Geophysics, Geosystems</i> , 2019, 20, 548-570.	1.0	23
70	Small-scale thermal upwellings under the northern East African Rift from <i>S</i> travel time tomography. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 7395-7408.	1.4	22
71	Low-frequency earthquakes beneath Tullu Moye volcano, Ethiopia, reveal fluid pulses from shallow magma chamber. <i>Earth and Planetary Science Letters</i> , 2019, 526, 115782.	1.8	22
72	Structural Analysis of the Western Afar Margin, East Africa: Evidence for Multiphase Rotational Rifting. <i>Tectonics</i> , 2020, 39, e2019TC006043.	1.3	22

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73	Diking-induced moderate-magnitude earthquakes on a youthful rift border fault: The 2002 Nyiragongo-Kalehe sequence, D.R. Congo. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 4280-4291.	1.0	21
74	Magmatism on rift flanks: Insights from ambient noise phase velocity in Afar region. <i>Geophysical Research Letters</i> , 2015, 42, 2179-2188.	1.5	21
75	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> , 2020, 164, 103649.	0.9	21
76	Crustal and upper mantle structure beneath south-western margin of the Arabian Peninsula from teleseismic tomography. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 2850-2864.	1.0	20
77	The Tectonics and Active Faulting of Haiti from Seismicity and Tomography. <i>Tectonics</i> , 2019, 38, 1138-1155.	1.3	20
78	What causes subsidence following the 2011 eruption at Nabro (Eritrea)?. <i>Progress in Earth and Planetary Science</i> , 2018, 5, .	1.1	19
79	Tectonics of the Asela-Langano Margin, Main Ethiopian Rift (East Africa). <i>Tectonics</i> , 2020, 39, e2020TC006075.	1.3	19
80	Uppermost mantle velocity from Pn tomography in the Gulf of Aden. , 2014, 10, 958-968.		18
81	Seafloor spreading event in western Gulf of Aden during the November 2010-March 2011 period captured by regional seismic networks: evidence for dike events and interactions with a nascent transform zone. <i>Geophysical Journal International</i> , 2016, 205, 1244-1266.	1.0	18
82	Initiation of a Proto-transform Fault Prior to Seafloor Spreading. <i>Geochemistry, Geophysics, Geosystems</i> , 2018, 19, 4744-4756.	1.0	18
83	Crustal structure of the Gulf of Aden southern margin: Evidence from receiver functions on Socotra Island (Yemen). <i>Tectonophysics</i> , 2014, 637, 251-267.	0.9	17
84	Probabilistic Seismic Hazard Assessment for Eritrea. <i>Bulletin of the Seismological Society of America</i> , 2017, 107, 1478-1494.	1.1	17
85	Constraints on fault and crustal strength of the Main Ethiopian Rift from formal inversion of earthquake focal mechanism data. <i>Tectonophysics</i> , 2018, 731-732, 172-180.	0.9	16
86	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> , 2016, 420, 165-180.	0.8	15
87	Extension and stress during continental breakup: Seismic anisotropy of the crust in Northern Afar. <i>Earth and Planetary Science Letters</i> , 2017, 477, 41-51.	1.8	15
88	Seismicity Associated With the Formation of a New Island in the Southern Red Sea. <i>Frontiers in Earth Science</i> , 2018, 6, .	0.8	15
89	Observing Oblique Slip During Rift Linkage in Northern Afar. <i>Geophysical Research Letters</i> , 2019, 46, 10782-10790.	1.5	15
90	Mechanism for Deep Crustal Seismicity: Insight From Modeling of Deformation Processes at the Main Ethiopian Rift. <i>Geochemistry, Geophysics, Geosystems</i> , 2020, 21, e2020GC008935.	1.0	15

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91	Quantitative Constraints on Faulting and Fault Slip Rates in the Northern Main Ethiopian Rift. <i>Tectonics</i> , 2020, 39, e2019TC006046.	1.3	15
92	Is the local seismicity in western Hispaniola (Haiti) capable of imaging northern Caribbean subduction?. , 2019, 15, 1738-1750.		14
93	Low-Frequency Hybrid Earthquakes near a Magma Chamber in Afar: Quantifying Path Effects. <i>Bulletin of the Seismological Society of America</i> , 2010, 100, 1892-1903.	1.1	13
94	Variations in melt emplacement beneath the northern East African Rift from radial anisotropy. <i>Earth and Planetary Science Letters</i> , 2021, 573, 117150.	1.8	13
95	Upper mantle structure of the southern Arabian margin: Insights from teleseismic tomography. , 2015, 11, 1262-1278.		11
96	Magmatism at continental passive margins inferred from Ambientâ€Noise Phaseâ€velocity in the Gulf of Aden. <i>Terra Nova</i> , 2016, 28, 19-26.	0.9	11
97	Seismicity of the central Afar rift and implications for Tendaho dam hazards. <i>Geological Society Special Publication</i> , 2016, 420, 341-354.	0.8	11
98	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> , 2021, 9, .	0.8	11
99	Introduction: Anatomy of rifting: Tectonics and magmatism in continental rifts, oceanic spreading centers, and transforms. , 2015, 11, 1256-1261.		10
100	Earthquake Clustering and Energy Release of the Africanâ€Arabian Rift System. <i>Bulletin of the Seismological Society of America</i> , 2018, 108, 155-162.	1.1	10
101	Evolution of the Alu-Dalafilla and Borale volcanoes, Afar, Ethiopia. <i>Journal of Volcanology and Geothermal Research</i> , 2020, 408, 107094.	0.8	10
102	Revealing 60Âyears of Earthquake Swarms in the Southern Red Sea, Afar and the Gulf of Aden. <i>Frontiers in Earth Science</i> , 2021, 9, .	0.8	10
103	Rift-Related Morphology of the Afar Depression. <i>World Geomorphological Landscapes</i> , 2015, , 251-274.	0.1	9
104	Crustal thickness estimates beneath four seismic stations in Ethiopia inferred from p-wave receiver function studies. <i>Journal of African Earth Sciences</i> , 2019, 150, 264-271.	0.9	8
105	Lower Crustal Earthquakes in the March 2018 Sequence Along the Western Margin of Afar. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2020GC009614.	1.0	8
106	Plateâ€Boundary Kinematics of the Afrera Linkage Zone (Afar) From InSAR and Seismicity. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2020JB021387.	1.4	8
107	Imaging the seismic velocity structure of the crust and upper mantle in the northern East African Rift using Rayleigh wave tomography. <i>Geophysical Journal International</i> , 2022, 230, 2036-2055.	1.0	8
108	Transient mobilization of subcrustal carbon coincident with Palaeoceneâ€Eocene Thermal Maximum. <i>Nature Geoscience</i> , 2022, 15, 573-579.	5.4	8

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109	Seismic Anisotropy Reveals a Dynamic Link Between Adjacent Magmatic Segments Prior to Dyke Intrusion. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 9800-9816.	1.4	7
110	Seismicity and Crustal Structure of the Southern Main Ethiopian Rift: New Evidence From Lake Abaya. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2021GC009831.	1.0	6
111	Magmatism and deformation during continental breakup. <i>Astronomy and Geophysics</i> , 2014, 55, 5.18-5.22.	0.1	5
112	Analogue modelling of marginal flexure in Afar, East Africa: Implications for passive margin formation. <i>Tectonophysics</i> , 2020, 796, 228595.	0.9	5
113	Seismic Discontinuities Across the North American Caribbean Plate Boundary From Receiver Functions. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2021GC009723.	1.0	5
114	Comparison of Deep Learning Techniques for the Investigation of a Seismic Sequence: An Application to the 2019, Mw 4.5 Mugello (Italy) Earthquake. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2021JB023405.	1.4	5
115	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> , 2022, 192, 104570.	0.9	5
116	Spatial forecasting of seismicity provided from Earth observation by space satellite technology. <i>Scientific Reports</i> , 2020, 10, 9696.	1.6	4
117	Evidence of active magmatic rifting at the Maâ€™Alalta volcanic field (Afar, Ethiopia). <i>Bulletin of Volcanology</i> , 2021, 83, 1.	1.1	4
118	The Nature of Upper Mantle Upwelling During Initiation of Seafloor Spreading in the Southern Red Sea. , 2019, , 113-129.		3
119	3D Extension at Plate Boundaries Accommodated by Interacting Fault Systems. <i>Scientific Reports</i> , 2020, 10, 8669.	1.6	3
120	Spatial Variations in Crustal and Mantle Anisotropy Across the North American Caribbean Boundary on Haiti. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2019JB018438.	1.4	3
121	Strain Accommodation by Intrusion and Faulting in a Rift Linkage Zone: Evidences From High-Resolution Topography Data of the Afrera Plain (Afar, East Africa). <i>Tectonics</i> , 2022, 41, .	1.3	3
122	Mapping Hydrothermal Alteration at the Fentale-Dofan Magmatic Segment of the Main Ethiopian Rift. <i>Frontiers in Earth Science</i> , 2021, 9, .	0.8	2
123	Modelling S-Wave Velocity Structure Beneath the Central Main Ethiopian Rift Using Receiver Functions. <i>Frontiers in Earth Science</i> , 2022, 10, .	0.8	1
124	Keir receives 2011 Jason Morgan Early Career Award: Response. <i>Eos</i> , 2012, 93, 221-221.	0.1	0
125	Editorial: Seismicity in Volcanic Areas. <i>Frontiers in Earth Science</i> , 2021, 9, .	0.8	0