

Nial Peters

List of Publications by Year in descending order

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131
papers

5,524
citations

70961

41
h-index

98622

67
g-index

140
all docs

140
docs citations

140
times ranked

4256
citing authors

#	ARTICLE	IF	CITATIONS
1	A miniaturised ultraviolet spectrometer for remote sensing of SO ₂ fluxes: a new tool for volcano surveillance. <i>Journal of Volcanology and Geothermal Research</i> , 2003, 119, 241-254.	0.8	334
2	Estimates of volcanic-induced cooling in the Northern Hemisphere over the past 1,500 years. <i>Nature Geoscience</i> , 2015, 8, 784-788.	5.4	220
3	Endogenous growth of persistently active volcanoes. <i>Nature</i> , 1993, 366, 554-557.	13.7	180
4	Remote measurements of volcanic gas compositions by solar occultation spectroscopy. <i>Nature</i> , 1998, 396, 567-570.	13.7	171
5	Remote sensing of CO ₂ and H ₂ O emission rates from Masaya volcano, Nicaragua. <i>Geology</i> , 2000, 28, 915.	2.0	146
6	Mass flux measurements at active lava lakes: Implications for magma recycling. <i>Journal of Geophysical Research</i> , 1999, 104, 7117-7136.	3.3	141
7	Climate response to the Samalas volcanic eruption in 1257 revealed by proxy records. <i>Nature Geoscience</i> , 2017, 10, 123-128.	5.4	130
8	BrO formation in volcanic plumes. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 2935-2941.	1.6	122
9	The impact of degassing on the oxidation state of basaltic magmas: A case study of K�lauea volcano. <i>Earth and Planetary Science Letters</i> , 2016, 450, 317-325.	1.8	118
10	Mantle to surface degassing of alkalic magmas at Erebus volcano, Antarctica. <i>Earth and Planetary Science Letters</i> , 2011, 306, 261-271.	1.8	116
11	Tracking the changing oxidation state of Erebus magmas, from mantle to surface, driven by magma ascent and degassing. <i>Earth and Planetary Science Letters</i> , 2014, 393, 200-209.	1.8	111
12	Pulsatory magma supply to a phonolite lava lake. <i>Earth and Planetary Science Letters</i> , 2009, 284, 392-398.	1.8	108
13	Probing the magma plumbing of Erebus volcano, Antarctica, by open-path FTIR spectroscopy of gas emissions. <i>Journal of Volcanology and Geothermal Research</i> , 2008, 177, 743-754.	0.8	102
14	Depletion rates of sulfur dioxide in tropospheric volcanic plumes. <i>Geophysical Research Letters</i> , 1998, 25, 2671-2674.	1.5	98
15	Tree rings reveal globally coherent signature of cosmogenic radiocarbon events in 774 and 993 CE. <i>Nature Communications</i> , 2018, 9, 3605.	5.8	98
16	Ice core and palaeoclimatic evidence for the timing and nature of the great mid-13th century volcanic eruption. <i>International Journal of Climatology</i> , 2003, 23, 417-426.	1.5	97
17	Changes in gas composition prior to a minor explosive eruption at Masaya volcano, Nicaragua. <i>Journal of Volcanology and Geothermal Research</i> , 2003, 126, 327-339.	0.8	91
18	Atmospheric chemistry of a 33�34 hour old volcanic cloud from Hekla Volcano (Iceland): Insights from direct sampling and the application of chemical box modeling. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	89

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19	Mantle plumes are oxidised. <i>Earth and Planetary Science Letters</i> , 2019, 527, 115798.	1.8	85
20	High temporal resolution SO ₂ flux measurements at Erebus volcano, Antarctica. <i>Journal of Volcanology and Geothermal Research</i> , 2010, 190, 325-336.	0.8	74
21	SO ₂ and HCl ratios in the plumes from Mt. Etna and Vulcano determined by Fourier Transform Spectroscopy. <i>Geophysical Research Letters</i> , 1995, 22, 1717-1720.	1.5	71
22	A CO ₂ gas precursor to the March 2015 Villarrica volcano eruption. <i>Geochemistry, Geophysics, Geosystems</i> , 2017, 18, 2120-2132.	1.0	66
23	First estimate of volcanic SO ₂ budget for Vanuatu island arc. <i>Journal of Volcanology and Geothermal Research</i> , 2012, 211-212, 36-46.	0.8	65
24	Age of the oldest known Homo sapiens from eastern Africa. <i>Nature</i> , 2022, 601, 579-583.	13.7	65
25	New Tree-Ring Evidence from the Pyrenees Reveals Western Mediterranean Climate Variability since Medieval Times. <i>Journal of Climate</i> , 2017, 30, 5295-5318.	1.2	62
26	Surge in sulphur and halogen degassing from Ambrym volcano, Vanuatu. <i>Bulletin of Volcanology</i> , 2009, 71, 1159-1168.	1.1	61
27	Implications of longeval lava lakes for geomorphological and plutonic processes at Erta 'Ale volcano, Afar. <i>Journal of Volcanology and Geothermal Research</i> , 1998, 80, 101-111.	0.8	59
28	Stable gas plume composition measured by OP-FTIR spectroscopy at Masaya Volcano, Nicaragua, 1998-1999. <i>Geophysical Research Letters</i> , 1999, 26, 3497-3500.	1.5	59
29	HCl emissions at Soufrière Hills Volcano, Montserrat, West Indies, during a second phase of dome building: November 1999 to October 2000. <i>Bulletin of Volcanology</i> , 2002, 64, 21-30.	1.1	59
30	Understanding the environmental impacts of large fissure eruptions: Aerosol and gas emissions from the 2014–2015 Holuhraun eruption (Iceland). <i>Earth and Planetary Science Letters</i> , 2017, 472, 309-322.	1.8	59
31	The influence of decision-making in tree ring-based climate reconstructions. <i>Nature Communications</i> , 2021, 12, 3411.	5.8	59
32	Sun photometer and lidar measurements of the plume from the Hawaii Kilauea Volcano Pu'u O'o vent: Aerosol flux and SO ₂ lifetime. <i>Geophysical Research Letters</i> , 2002, 29, 30-1-30-4.	1.5	55
33	Rapid and slow: Varying magma ascent rates as a mechanism for Vulcanian explosions. <i>Earth and Planetary Science Letters</i> , 2015, 420, 73-84.	1.8	55
34	Science, policy and place in volcanic disasters: Insights from Montserrat. <i>Environmental Science and Policy</i> , 2014, 39, 150-161.	2.4	53
35	Stratospheric Ozone destruction by the Bronze-Age Minoan eruption (Santorini Volcano, Greece). <i>Scientific Reports</i> , 2015, 5, 12243.	1.6	53
36	Precise date for the Laacher See eruption synchronizes the Younger Dryas. <i>Nature</i> , 2021, 595, 66-69.	13.7	53

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37	Sulfur dioxide emissions and degassing behavior of Erebus volcano, Antarctica. <i>Journal of Volcanology and Geothermal Research</i> , 2008, 177, 725-733.	0.8	51
38	Atmospheric chemistry of an Antarctic volcanic plume. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	51
39	Sustaining persistent lava lakes: Observations from high-resolution gas measurements at Villarrica volcano, Chile. <i>Earth and Planetary Science Letters</i> , 2016, 454, 237-247.	1.8	50
40	Remote determination of SiF ₄ in volcanic plumes: A new tool for volcano monitoring. <i>Geophysical Research Letters</i> , 1996, 23, 249-252.	1.5	49
41	Comparison of COSPEC and two miniature ultraviolet spectrometer systems for SO ₂ measurements using scattered sunlight. <i>Bulletin of Volcanology</i> , 2006, 68, 313-322.	1.1	45
42	The Eldgjá eruption: timing, long-range impacts and influence on the Christianisation of Iceland. <i>Climatic Change</i> , 2018, 147, 369-381.	1.7	45
43	Quantifying gas emissions from the "Millennium Eruption" of Paektu volcano, Democratic People's Republic of Korea/China. <i>Science Advances</i> , 2016, 2, e1600913.	4.7	43
44	On the role of hydrothermal systems in the transfer of volcanic sulfur to the atmosphere. <i>Geophysical Research Letters</i> , 1996, 23, 2057-2060.	1.5	41
45	Volcanic gas emission rates measured by solar occultation spectroscopy. <i>Geophysical Research Letters</i> , 2001, 28, 3131-3134.	1.5	40
46	The absolute sensitivity of digital colour cameras. <i>Optics Express</i> , 2009, 17, 20211.	1.7	39
47	Open-path Fourier transform infrared spectroscopy of SO ₂ : An empirical error budget analysis, with implications for volcano monitoring. <i>Journal of Geophysical Research</i> , 2001, 106, 27647-27659.	3.3	37
48	The 2010 Eyjafjallajökull eruption and the reconstruction of geography. <i>Geographical Journal</i> , 2011, 177, 4-11.	1.6	36
49	Hydrogen emissions from Erebus volcano, Antarctica. <i>Bulletin of Volcanology</i> , 2012, 74, 2109-2120.	1.1	36
50	Megacrystals track magma convection between reservoir and surface. <i>Earth and Planetary Science Letters</i> , 2015, 413, 1-12.	1.8	35
51	Rheology of phonolitic magmas – the case of the Erebus lava lake. <i>Earth and Planetary Science Letters</i> , 2015, 411, 53-61.	1.8	35
52	Evidence for partial melt in the crust beneath Mt. Paektu (Changbaishan), Democratic People's Republic of Korea and China. <i>Science Advances</i> , 2016, 2, e1501513.	4.7	35
53	Experimental Phase-equilibrium Constraints on the Phonolite Magmatic System of Erebus Volcano, Antarctica. <i>Journal of Petrology</i> , 2013, 54, 1285-1307.	1.1	34
54	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

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55	Terrestrial laser scanning observations of geomorphic changes and varying lava lake levels at Erebus volcano, Antarctica. <i>Journal of Volcanology and Geothermal Research</i> , 2015, 295, 43-54.	0.8	32
56	New insight into the factors leading to the 1998 flank collapse and lahar disaster at Casita volcano, Nicaragua. <i>Bulletin of Volcanology</i> , 2003, 65, 331-345.	1.1	31
57	Correlation of cycles in Lava Lake motion and degassing at Erebus Volcano, Antarctica. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 3244-3257.	1.0	31
58	Cyclic degassing of Erebus volcano, Antarctica. <i>Bulletin of Volcanology</i> , 2015, 77, 1.	1.1	31
59	Numerical simulations of convection in crystal-bearing magmas: A case study of the magmatic system at Erebus, Antarctica. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	30
60	Volcanic gas emissions and degassing dynamics at Ubinas and Sabancaya volcanoes; implications for the volatile budget of the central volcanic zone. <i>Journal of Volcanology and Geothermal Research</i> , 2017, 343, 181-191.	0.8	30
61	Influence of eruptive style on volcanic gas emission chemistry and temperature. <i>Nature Geoscience</i> , 2018, 11, 678-681.	5.4	30
62	NO ₂ Emissions from Agricultural Burning in São Paulo, Brazil. <i>Environmental Science & Technology</i> , 2004, 38, 4557-4561.	4.6	29
63	Cone morphologies associated with shallow marine eruptions: east Pico Island, Azores. <i>Bulletin of Volcanology</i> , 2012, 74, 2289-2301.	1.1	29
64	Backward tracking of gas chemistry measurements at Erebus volcano. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	1.0	29
65	Decadal persistence of cycles in lava lake motion at Erebus volcano, Antarctica. <i>Earth and Planetary Science Letters</i> , 2014, 395, 1-12.	1.8	29
66	Volcanoes of the Tibesti massif (Chad, northern Africa). <i>Bulletin of Volcanology</i> , 2007, 69, 609-626.	1.1	27
67	Use of motion estimation algorithms for improved flux measurements using SO ₂ cameras. <i>Journal of Volcanology and Geothermal Research</i> , 2015, 300, 58-69.	0.8	27
68	Climatic and societal impacts of a "forgotten" cluster of volcanic eruptions in 1108-1110 CE. <i>Scientific Reports</i> , 2020, 10, 6715.	1.6	27
69	Spectroscopic observation of HCl degassing from Soufriere Hills Volcano, Montserrat. <i>Geophysical Research Letters</i> , 1998, 25, 3689-3692.	1.5	26
70	On the relationship between oxidation state and temperature of volcanic gas emissions. <i>Earth and Planetary Science Letters</i> , 2019, 520, 260-267.	1.8	26
71	Storage and Evolution of Mafic and Intermediate Alkaline Magmas beneath Ross Island, Antarctica. <i>Journal of Petrology</i> , 2016, 57, 93-118.	1.1	25
72	Volatile metal emissions from volcanic degassing and lava-seawater interactions at Kilauea Volcano, Hawaii. <i>Communications Earth & Environment</i> , 2021, 2, .	2.6	25

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73	Governing the lithosphere: Insights from Eyjafjallajökull concerning the role of scientists in supporting decision-making on active volcanoes. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	24
74	Northern Hemisphere temperature anomalies during the 1450s period of ambiguous volcanic forcing. <i>Bulletin of Volcanology</i> , 2017, 79, 1.	1.1	24
75	Interplay of environmental and socio-political factors in the downfall of the Eastern T�rk Empire in 630�CE. <i>Climatic Change</i> , 2017, 145, 383-395.	1.7	24
76	Eruption politics. <i>Nature Geoscience</i> , 2015, 8, 244-245.	5.4	23
77	Resilient science: The civic epistemology of disaster risk reduction. <i>Science and Public Policy</i> , 2016, 43, 363-374.	1.2	23
78	Crater Lake heat losses estimated by remote sensing. <i>Geophysical Research Letters</i> , 1996, 23, 1793-1796.	1.5	22
79	Reactive halogens (BrO and OClO) detected in the plume of Soufriere Hills Volcano during an eruption hiatus. <i>Geochemistry, Geophysics, Geosystems</i> , 2014, 15, 3346-3363.	1.0	22
80	Distribution of Partial Melt Beneath Changbaishan/Paektu Volcano, China/Democratic People's Republic of Korea. <i>Geochemistry, Geophysics, Geosystems</i> , 2020, 21, e2019GC008461.	1.0	22
81	High-spatial-resolution thermal remote sensing of active volcanic features using Landsat and hyperspectral data. <i>Geophysical Monograph Series</i> , 2000, , 161-177.	0.1	21
82	The 2011 eruption of Nabro volcano, Eritrea: perspectives on magmatic processes from melt inclusions. <i>Contributions To Mineralogy and Petrology</i> , 2018, 173, 1.	1.2	21
83	Spatial and Temporal Variations in SO2 and PM2.5 Levels Around K�lauea Volcano, Hawai'i During 2007�2018. <i>Frontiers in Earth Science</i> , 2020, 8, .	0.8	21
84	Depositional processes of reworked tephra from the Late Pleistocene Youngest Toba Tuff deposits in the Lenggong Valley, Malaysia. <i>Quaternary Research</i> , 2013, 79, 228-241.	1.0	20
85	Co-production of an institution: Montserrat Volcano Observatory and social dependence on science. <i>Science and Public Policy</i> , 2013, 40, 171-186.	1.2	20
86	A global synthesis of lava lake dynamics. <i>Journal of Volcanology and Geothermal Research</i> , 2019, 381, 16-31.	0.8	20
87	H2O�CO2 solubility in mafic alkaline magma: applications to volatile sources and degassing behavior at Erebus volcano, Antarctica. <i>Contributions To Mineralogy and Petrology</i> , 2013, 166, 845-860.	1.2	19
88	Strombolian eruptions and dynamics of magma degassing at Yasur Volcano (Vanuatu). <i>Journal of Volcanology and Geothermal Research</i> , 2020, 398, 106869.	0.8	19
89	Magmatic gas percolation through the old lava dome of El Misti volcano. <i>Bulletin of Volcanology</i> , 2017, 79, 46.	1.1	18
90	Monitoring gases from andesite volcanoes. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2000, 358, 1567-1584.	1.6	17

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91	AvoPlot: An extensible scientific plotting tool based on matplotlib. Journal of Open Research Software, 2014, 2, e1.	2.7	16
92	First study of the heat and gas budget for Sirung volcano, Indonesia. Bulletin of Volcanology, 2017, 79, 1.	1.1	15
93	Rapid metal pollutant deposition from the volcanic plume of K�lauea, Hawai�. Communications Earth & Environment, 2021, 2, .	2.6	15
94	Aerosol formation in basaltic lava fountaining: Eyjafjallaj�kull volcano, Iceland. Journal of Geophysical Research, 2012, 117, .	3.3	14
95	Characterisation of the magmatic signature in gas emissions from Turrialba Volcano, Costa Rica. Solid Earth, 2014, 5, 1341-1350.	1.2	13
96	Reply to 'Limited Late Antique cooling'. Nature Geoscience, 2017, 10, 243-243.	5.4	13
97	How to turn off a lava lake? A petrological investigation of the 2018 intra-caldera and submarine eruptions of Ambrym volcano. Bulletin of Volcanology, 2021, 83, 1.	1.1	13
98	New methods make volcanology research less hazardous. Eos, 1996, 77, 393.	0.1	12
99	Unrest at the Nevados de Chill�n volcanic complex: a failed or yet to unfold magmatic eruption?. Volcanica, 2018, 1, 19-32.	0.6	12
100	Numerical analysis of rapid water transfer beneath Antarctica. Journal of Glaciology, 2009, 55, 640-650.	1.1	11
101	Autonomous thermal camera system for monitoring the active lava lake at Erebus volcano, Antarctica. Geoscientific Instrumentation, Methods and Data Systems, 2014, 3, 13-20.	0.6	10
102	Chloride partitioning and solubility in hydrous phonolites from Erebus volcano: A contribution towards a multi-component degassing model. GeoResJ, 2014, 3-4, 27-45.	1.4	10
103	Volcanoes on borders: a scientific and (geo)political challenge. Bulletin of Volcanology, 2019, 81, 1.	1.1	10
104	Sulphur behaviour and redox conditions in etnean magmas during magma differentiation and degassing. Journal of Petrology, 0, , .	1.1	10
105	Satellite Observations of Lava Lake Activity at Nyiragongo Volcano, Ex-Zaire, during the Rwandan Refugee Crisis. Disasters, 1998, 22, 268-281.	1.1	9
106	Transient degassing events at the lava lake of Erebus volcano, Antarctica: Chemistry and mechanisms. GeoResJ, 2015, 7, 43-58.	1.4	9
107	Isotopically ($\delta^{13}C$ and $\delta^{18}O$) heavy volcanic plumes from Central Andean volcanoes: a field study. Bulletin of Volcanology, 2017, 79, 1.	1.1	9
108	In situ XANES study of the influence of varying temperature and oxygen fugacity on iron oxidation state and coordination in a phonolitic melt. Contributions To Mineralogy and Petrology, 2020, 175, 1.	1.2	9

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109	Global tree-ring response and inferred climate variation following the mid-thirteenth century Samalas eruption. <i>Climate Dynamics</i> , 2022, 59, 531-546.	1.7	9
110	Reply to comment from W.P. Aspinall on "Social studies of volcanology: knowledge generation and expert advice on active volcanoes" by Amy Donovan, Clive Oppenheimer and Michael Bravo [<i>Bull Volcanol</i> (2012) 74:677-689]. <i>Bulletin of Volcanology</i> , 2012, 74, 1571-1574.	1.1	7
111	Geological hazards: From early warning systems to public health toolkits. <i>Health and Place</i> , 2014, 30, 116-119.	1.5	7
112	Multi-Frequency Radar Micro-Doppler Based Classification of Micro-Drone Payload Weight. <i>Frontiers in Signal Processing</i> , 2021, 1, .	1.2	7
113	Plumetrack: Flux calculation software for UV cameras. <i>Computers and Geosciences</i> , 2018, 118, 86-90.	2.0	6
114	The importance of "year zero" in interdisciplinary studies of climate and history. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 32845-32847.	3.3	6
115	Utilization of Distal Tephra Records for Understanding Climatic and Environmental Consequences of the Youngest Toba Tuff. <i>Geophysical Monograph Series</i> , 2013, , 63-74.	0.1	5
116	Managing the uncertain earth: geophysical hazards in the risk society. <i>Geographical Journal</i> , 2014, 180, 89-95.	1.6	5
117	Radar Altimetry as a Robust Tool for Monitoring the Active Lava Lake at Erebus Volcano, Antarctica. <i>Geophysical Research Letters</i> , 2018, 45, 8897-8904.	1.5	5
118	Spectral Emissivity of Phonolite Lava at High Temperature. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2022, 60, 1-15.	2.7	5
119	A model of the geochemical and physical fluctuations of the lava lake at Erebus volcano, Antarctica. <i>Journal of Volcanology and Geothermal Research</i> , 2015, 308, 142-157.	0.8	4
120	First In-Situ Measurements of Plume Chemistry at Mount Garet Volcano, Island of Gaua (Vanuatu). <i>Applied Sciences (Switzerland)</i> , 2020, 10, 7293.	1.3	4
121	Harnessing Erebus volcano's thermal energy to power year-round monitoring. <i>Antarctic Science</i> , 2021, 33, 73-80.	0.5	4
122	In praise of archives (and an open mind). <i>Communications Earth & Environment</i> , 2022, 3, .	2.6	4
123	Chapter 25 Reflexive volcanology: 15 years of communicating risk and uncertainty in scientific advice on Montserrat. <i>Geological Society Memoir</i> , 2014, 39, 457-470.	0.9	2
124	Perspectives on the active volcanoes of China. <i>Geological Society Special Publication</i> , 2021, 510, 1-14.	0.8	2
125	Comment on "Effects in North Africa of the 934-940 CE Eldgjá; and 1783-1784 CE Laki eruptions (Iceland) revealed by previously unrecognized written sources" by Brugnattelli, V., and Tibaldi, A. [<i>Bull. Volcanol.</i> (2020) 82:73]. <i>Bulletin of Volcanology</i> , 2021, 83, 1.	1.1	2
126	Ion velocity filter effect observed in dayside hydrogen aurora. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	1

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127	The spatial extent of thermal anomalies at Lascar Volcano. , 2010, , .		1
128	mGEODARâ€”A Mobile Radar System for Detection and Monitoring of Gravitational Mass-Movements. Sensors, 2020, 20, 6373.	2.1	1
129	Radar UAV and bird signature comparisons with micro-Doppler. , 2021, , 279-314.		1
130	Assessing the effectiveness of low-cost air quality monitors for identifying volcanic SO2 and PM downwind from Masaya volcano, Nicaragua. Volcanica, 2022, 5, 33-59.	0.6	1
131	Assessing the effectiveness of low-cost air quality monitors for identifying volcanic SO2 and PM downwind from Masaya volcano, Nicaragua. Volcanica, 2022, 5, 13-39.	0.6	0