David R Hilton

List of Publications by Year
in descending order

86 papers	4,288 citations	81900 39 h-index	118850 62 g-index
89 all docs	89 docs citations	89 times ranked	3457 citing authors

#	Article	IF	Citations
1	Subduction and Recycling of Nitrogen Along the Central American Margin. Science, 2002, 297, 1154-1157.	12.6	178
2	Contrasting Heâ€“C relationships in Nicaragua and Costa Rica: insights into C cycling through subduction zones. Earth and Planetary Science Letters, 2003, 214, 499-513.	4.4	161
3	Evidence for primordial water in Earthâ€™s deep mantle. Science, 2015, 350, 795-797.	12.6	159
4	Extreme 3He/4He ratios in northwest Iceland: constraining the common component in mantle plumes. Earth and Planetary Science Letters, 1999, 173, 53-60.	4.4	158
5	Degassing of mantle-derived CO2 and He from springs in the southern Colorado Plateau regionâ€”Neotectonic connections and implications for groundwater systems. Bulletin of the Geological Society of America, 2009, 121, 1034-1053.	3.3	149
6	The helium and carbon isotope systematics of a continental geothermal system: results from monitoring studies at Long Valley caldera (California, U.S.A.). Chemical Geology, 1996, 127, 269-295.	3.3	146
7	Dissected hydrologic system at the Grand Canyon: Interaction between deeply derived fluids and plateau aquifer waters in modern springs and travertine. Geology, 2006, 34, 25.	4.4	125
8	Southern limit of mantle-derived geothermal helium emissions in Tibet: implications for lithospheric structure. Earth and Planetary Science Letters, 2000, 180, 297-308.	4.4	116
9	Source and movement of helium in the eastern Morongo groundwater Basin: The influence of regional tectonics on crustal and mantle helium fluxes. Geochimica Et Cosmochimica Acta, 2005, 69, 3857-3872.	3.9	95
10	Crustal CO₂ liberation during the 2006 eruption and earthquake events at Merapi volcano, Indonesia. Geophysical Research Letters, 2012, 39, .	4.0	95
11	The May 2003 eruption of Anatahan volcano, Mariana Islands: Geochemical evolution of a silicic island-arc volcano. Journal of Volcanology and Geothermal Research, 2005, 146, 139-170.	2.1	94
12	9. Noble Gases and Volatile Recycling at Subduction Zones. , 2002, , 319-370.		85
13	The helium flux from the continents and ubiquity of low-3He/4He recycled crust and lithosphere. Geochimica Et Cosmochimica Acta, 2015, 153, 116-133.	3.9	83
14	Major and trace element and Srâ€“Nd isotope signatures of lavas from the Central Lau Basin: Implications for the nature and influence of subduction components in the back-arc mantle. Journal of Volcanology and Geothermal Research, 2008, 178, 657-670.	2.1	82
15	Nitrogen systematics and gas fluxes of subduction zones: Insights from Costa Rica arc volatiles. Geochemistry, Geophysics, Geosystems, 2004, 5, n/a-n/a.	2.5	81
16	The effects of volatile recycling, degassing and crustal contamination on the helium and carbon geochemistry of hydrothermal fluids from the Southern Volcanic Zone of Chile. Chemical Geology, 2009, 266, 38-49.	3.3	81
17	Carbon Fluxes and Primary Magma CO₂ Contents Along the Global Midâ€Ocean Ridge System. Geochemistry, Geophysics, Geosystems, 2019, 20, 1387-1424.	2.5	74
18	A common mantle plume source beneath the entire East African Rift System revealed by coupled helium-neon systematics. Geophysical Research Letters, 2014, 41, 2304-2311.	4.0	72

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19	Volatile fluxes through the Big Bend section of the San Andreas Fault, California: Helium and carbon-dioxide systematics. Chemical Geology, 2013, 339, 92-102.	3.3	69
20	Origin of 3He/4He ratios in HIMU-type basalts constrained from Canary Island lavas. Earth and Planetary Science Letters, 2011, 305, 226-234.	4.4	68
21	Heliumâ€“carbon relationships in geothermal fluids of western Anatolia, Turkey. Chemical Geology, 2008, 247, 305-321.	3.3	66
22	High 3He/4He ratios in the Manus backarc basin: Implications for mantle mixing and the origin of plumes in the western Pacific Ocean. Geology, 1998, 26, 1007.	4.4	65
23	Resolving Sediment Subduction and Crustal Contamination in the Lesser Antilles Island Arc: a Combined Heâ€“Oâ€“Sr Isotope Approach. Journal of Petrology, 2002, 43, 143-170.	2.8	62
24	Climate variability in the Botswana Kalahari from the late Pleistocene to the present day. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	62
25	Evidence for extensive degassing of the Hawaiian Mantle Plume from helium-carbon relationships at Kilauea Volcano. Geophysical Research Letters, 1997, 24, 3065-3068.	4.0	60
26	Helium isotope studies in the Mojave Desert, California: implications for groundwater chronology and regional seismicity. Chemical Geology, 2003, 202, 95-113.	3.3	60
27	Helium isotope variations between RÃ©union Island and the Central Indian Ridge (17Â°â€“21Â°S): New evidence for ridgeâ€“hot spot interaction. Journal of Geophysical Research, 2011, 116, .	3.3	60
28	Helium isotopes in peridotite mineral phases from Hyblean Plateau xenoliths (south-eastern Sicily,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	3.3	58
29	Nitrogen sources and recycling at subduction zones: Insights from the Izuâ€Boninâ€Mariana arc. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	54
30	Carbon dioxide and helium in hydrothermal fluids from Loihi Seamount, Hawaii, USA: Temporal variability and implications for the release of mantle volatiles. Geochimica Et Cosmochimica Acta, 1994, 58, 1219-1227.	3.9	52
31	Evidence for an 18O-depleted mantle plume from contrasting 18O/16O ratios of back-arc lavas from the Manus Basin and Mariana Trough. Earth and Planetary Science Letters, 2000, 176, 171-183.	4.4	52
32	Evidence for crustal degassing of CF4 and SF6 in Mojave Desert groundwaters. Geochimica Et Cosmochimica Acta, 2008, 72, 999-1013.	3.9	51
33	The CO2-He-Ar-H2O systematics of the manus back-arc basin: resolving source composition from degassing and contamination effects. Geochimica Et Cosmochimica Acta, 2004, 68, 1837-1855.	3.9	49
34	Continental-scale links between the mantle and groundwater systems of the western United States: Evidence from travertine springs and regional He isotope data. GSA Today, 2005, 15, 4.	2.0	49
35	Aqueous and isotope geochemistry of mineral springs along the southern margin of the Tibetan plateau: Implications for fluid sources and regional degassing of CO₂. Geochemistry, Geophysics, Geosystems, 2008, 9, .	2.5	48
36	Isotope systematics of Icelandic thermal fluids. Journal of Volcanology and Geothermal Research, 2017, 337, 146-164.	2.1	47

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37	Nitrogen isotopes of the mantle: Insights from mineral separates. Geophysical Research Letters, 2005, 32, .	4.0	46
38	Gas geochemistry of a shallow submarine hydrothermal vent associated with the El RequesÃ³n fault zone, BahÃa ConcepciÃ³n, Baja California Sur, MÃ©xico. Chemical Geology, 2005, 224, 82-95.	3.3	44
39	Contrasting hydrothermal activity at Sierra Negra and Alcedo volcanoes, Galapagos Archipelago, Ecuador. Bulletin of Volcanology, 2000, 62, 34-52.	3.0	42
40	Absence of a high time-integrated 3He/(U+Th) source in the mantle beneath continents. Geology, 2005, 33, 733.	4.4	42
41	Continental smokers couple mantle degassing and distinctive microbiology within continents. Earth and Planetary Science Letters, 2016, 435, 22-30.	4.4	42
42	Carbon release from submarine seeps at the Costa Rica fore arc: Implications for the volatile cycle at the Central America convergent margin. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	39
43	Major and trace element and Sr-Nd isotope signatures of the northern Lau Basin lavas: Implications for the composition and dynamics of the back-arc basin mantle. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	38
44	Limited underthrusting of India below Tibet: ³ He/ ⁴ He analysis of thermal springs locates the mantle suture in continental collision. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2113877119.	7.1	38
45	A quadrupole-based mass spectrometric system for the determination of noble gas abundances in fluids. Geochemistry, Geophysics, Geosystems, 2002, 3, 1-10.	2.5	37
46	Helium-4 characteristics of groundwaters from Central Australia: Comparative chronology with chlorine-36 and carbon-14 dating techniques. Journal of Hydrology, 2008, 348, 176-194.	5.4	37
47	Magma reservoir dynamics at Toba caldera, Indonesia, recorded by oxygen isotope zoning in quartz. Scientific Reports, 2017, 7, 40624.	3.3	36
48	An overview of the volatile systematics of the Lau Basin â€“ Resolving the effects of source variation, magmatic degassing and crustal contamination. Geochimica Et Cosmochimica Acta, 2012, 85, 88-113.	3.9	35
49	Recycling of crustal material by the Iceland mantle plume: New evidence from nitrogen elemental and isotope systematics of subglacial basalts. Geochimica Et Cosmochimica Acta, 2016, 176, 206-226.	3.9	34
50	Tracing magma sources in an arc-arc collision zone: Helium and carbon isotope and relative abundance systematics of the Sangihe Arc, Indonesia. Geochemistry, Geophysics, Geosystems, 2004, 5, n/a-n/a.	2.5	33
51	The Leaking Mantle. Science, 2007, 318, 1389-1390.	12.6	33
52	Spatial distribution of helium isotopes in Icelandic geothermal fluids and volcanic materials with implications for location, upwelling and evolution of the Icelandic mantle plume. Chemical Geology, 2018, 480, 12-27.	3.3	33
53	Subducted lithosphere controls halogen enrichments in the Iceland mantle plume source. Geology, 2016, 44, 679-682.	4.4	32
54	The crater lake and hydrothermal system of Mount Pinatubo, Philippines: evolution in the decade after eruption. Bulletin of Volcanology, 2004, 66, 149-167.	3.0	31

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55	CO 2 , 13 C/ 12 C and H 2 O variability in natural basaltic glasses: a study comparing stepped heating and ftir spectroscopic techniques. Geochimica Et Cosmochimica Acta, 1999, 63, 1805-1813.	3.9	30
56	Nucleogenic neon in high 3He/4He lavas from the Manus back-arc basin: a new perspective on Heâ€“Ne decoupling. Earth and Planetary Science Letters, 2001, 194, 53-66.	4.4	30
57	Volatile and N isotope chemistry of the Molucca Sea collision zone: Tracing source components along the Sangihe Arc, Indonesia. Geochemistry, Geophysics, Geosystems, 2005, 6, n/a-n/a.	2.5	30
58	Resolving volatile sources along the western Sunda arc, Indonesia. Chemical Geology, 2013, 339, 263-282.	3.3	30
59	Mantle-derived helium in hot springs of the Cordillera Blanca, Peru: Implications for mantle-to-crust fluid transfer in a flat-slab subduction setting. Chemical Geology, 2015, 417, 200-209.	3.3	29
60	Turkish geothermal fields as natural analogues of CO 2 storage sites: Gas geochemistry and implications for CO 2 trapping mechanisms. Geothermics, 2016, 64, 96-110.	3.4	28
61	Trace element and Sr-Nd-Pb isotope geochemistry of Rungwe Volcanic Province, Tanzania: implications for a Superplume source for East Africa Rift magmatism. Frontiers in Earth Science, 2014, 2, .	1.8	25
62	Helium isotopic evidence for modification of the cratonic lithosphere during the Permo-Triassic Siberian flood basalt event. Lithos, 2015, 216-217, 73-80.	1.4	25
63	Sources, degassing, and contamination of CO2, H2O, He, Ne, and Ar in basaltic glasses from Kolbeinsey Ridge, North Atlantic. Geochimica Et Cosmochimica Acta, 2005, 69, 5729-5746.	3.9	24
64	Spatial variations in gas and stable isotope compositions of thermal fluids around Lake Van: Implications for crustâ€“mantle dynamics in eastern Turkey. Chemical Geology, 2012, 300-301, 165-176.	3.3	24
65	Multi-level magma plumbing at Agung and Batur volcanoes increases risk of hazardous eruptions. Scientific Reports, 2018, 8, 10547.	3.3	24
66	Geochemical Monitoring of Geothermal Waters (2002â€“2004) along the North Anatolian Fault Zone, Turkey: Spatial and Temporal Variations and Relationship to Seismic Activity. Pure and Applied Geophysics, 2008, 165, 17-43.	1.9	23
67	Melt-modified lithosphere beneath Ross Island and its role in the tectono-magmatic evolution of the West Antarctic Rift System. Chemical Geology, 2019, 518, 45-54.	3.3	23
68	Sulfur isotope fractionation during the May 2003 eruption of Anatahan volcano, Mariana Islands: Implications for sulfur sources and plume processes. Geochimica Et Cosmochimica Acta, 2010, 74, 5382-5397.	3.9	22
69	Fluid sources and pathways of the Costa Rica erosional convergent margin. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	19
70	Petrology and Sr-Nd-Pb-He isotope geochemistry of postspreading lavas on fossil spreading axes off Baja California Sur, Mexico. Geochemistry, Geophysics, Geosystems, 2011, 12, n/a-n/a.	2.5	19
71	Carbon cycling at the Sunda margin, Indonesia: A regional study with global implications. Geology, 2019, 47, 483-486.	4.4	19
72	No slabâ€derived CO₂ in Mariana Trough backâ€arc basalts: Implications for carbon subduction and for temporary storage of CO₂ beneath slow spreading ridges. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	18

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73	The trace element and Sr-Nd-Pb isotope geochemistry of Juan Fernandez lavas reveal variable contributions from a high-3He/4He mantle plume. Chemical Geology, 2018, 476, 280-291.	3.3	11
74	Introduction to the Special Issue on the 2003 Eruption of Anatahan Volcano, Commonwealth of the Northern Mariana Islands (CNMI). Journal of Volcanology and Geothermal Research, 2005, 146, 1-7.	2.1	10
75	Crustal volatile release at Merapi volcano; the 2006 earthquake and eruption events. Geology Today, 2013, 29, 96-101.	0.9	10
76	Post-earthquake anomalies in Heâ€“CO2 isotope and relative abundance systematics of thermal waters: The case of the 2011 Van earthquake, eastern Anatolia, Turkey. Chemical Geology, 2015, 411, 1-11.	3.3	10
77	Heliumâ€“oxygenâ€“osmium isotopic and elemental constraints on the mantle sources of the Deccan Traps. Earth and Planetary Science Letters, 2017, 478, 245-257.	4.4	10
78	Cycling of CO₂ and N₂ Along the Hikurangi Subduction Margin, New Zealand: An Integrated Geological, Theoretical, and Isotopic Approach. Geochemistry, Geophysics, Geosystems, 2021, 22, e2021GC009650.	2.5	10
79	Heterogeneous mantle-derived helium isotopes in the Canary Islands and other ocean islands. Geology, 2021, 49, 120-124.	4.4	9
80	Geochemistry and isotopic characteristics of the Caviahue-Copahue volcanic complex, Province of Neuquèn, Argentina. , 2006, , .		7
81	Recycled noble gases preserved in podiform chromitites from Luobusa, Tibet. Chemical Geology, 2017, 469, 97-109.	3.3	5
82	Introduction to the special issue on â€˜Frontiers in Gas Geochemistryâ€™. Chemical Geology, 2013, 339, 1-3.	3.3	3
83	Detection of a widespread mantle component of ³He in thermal springs of Lhasa Block and Tethyan Himalaya, eastern Tibet: evidence for rollâ€back of the Indianâ€Asian mantle suture south of the Yarlung suture zone, and asthenospheric upwelling beneath the Lhasa block. Acta Geologica Sinica, 2019, 93, 56-57.	1.4	3
84	Differential Diffusion of Helium Isotopes in Glass, Quantum-tunneling 3He Enrichment, and Portable 3He/4He Monitoring of Mantle Processes. Scientific Reports, 2019, 9, 5213.	3.3	2
85	Evidence from gas-rich ultramafic xenoliths for Superplume-derived recycled volatiles in the East African sub-continental mantle. Chemical Geology, 2022, 589, 120682.	3.3	2
86	Geochemical Monitoring of Geothermal Waters (2002â€“2004) along the North Anatolian Fault Zone, Turkey: Spatial and Temporal Variations and Relationship to Seismic Activity. , 2008, , 17-43.		1