Kate Maher

List of Publications by Year
in descending order

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105 papers	6,841 citations	66343 42 h-index	62596 80 g-index
119 all docs	119 docs citations	119 times ranked	6722 citing authors

#	Article	IF	Citations
1	Hydrologic Regulation of Chemical Weathering and the Geologic Carbon Cycle. Science, 2014, 343, 1502-1504.	12.6	412
2	The dependence of chemical weathering rates on fluid residence time. Earth and Planetary Science Letters, 2010, 294, 101-110.	4.4	394
3	Persistence of soil organic carbon caused by functional complexity. Nature Geoscience, 2020, 13, 529-534.	12.9	363
4	Environmental Speciation of Actinides. Inorganic Chemistry, 2013, 52, 3510-3532.	4.0	318
5	The role of reaction affinity and secondary minerals in regulating chemical weathering rates at the Santa Cruz Soil Chronosequence, California. Geochimica Et Cosmochimica Acta, 2009, 73, 2804-2831.	3.9	280
6	The role of fluid residence time and topographic scales in determining chemical fluxes from landscapes. Earth and Planetary Science Letters, 2011, 312, 48-58.	4.4	261
7	The mineral dissolution rate conundrum: Insights from reactive transport modeling of U isotopes and pore fluid chemistry in marine sediments. Geochimica Et Cosmochimica Acta, 2006, 70, 337-363.	3.9	234
8	Marine anoxia and delayed Earth system recovery after the end-Permian extinction. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2360-2365.	7.1	228
9	Expanding the role of reactive transport models in critical zone processes. Earth-Science Reviews, 2017, 165, 280-301.	9.1	207
10	Fluid-Rock Interaction: A Reactive Transport Approach. Reviews in Mineralogy and Geochemistry, 2009, 70, 485-532.	4.8	182
11	Steering of westerly storms over western NorthÂAmerica at the Last Glacial Maximum. Nature Geoscience, 2015, 8, 201-205.	12.9	180
12	Sediment transport time measured with U-series isotopes: Results from ODP North Atlantic drift site 984. Earth and Planetary Science Letters, 2006, 248, 394-410.	4.4	150
13	Rates of silicate dissolution in deep-sea sediment: In situ measurement using 234U/238U of pore fluids. Geochimica Et Cosmochimica Acta, 2004, 68, 4629-4648.	3.9	141
14	Cenozoic carbon cycle imbalances and a variable weathering feedback. Earth and Planetary Science Letters, 2016, 450, 152-163.	4.4	121
15	Element release and reaction-induced porosity alteration during shale-hydraulic fracturing fluid interactions. Applied Geochemistry, 2017, 82, 47-62.	3.0	116
16	Differential weathering of basaltic and granitic catchments from concentrationâ€“discharge relationships. Geochimica Et Cosmochimica Acta, 2016, 190, 265-293.	3.9	113
17	Impact of Organics and Carbonates on the Oxidation and Precipitation of Iron during Hydraulic Fracturing of Shale. Energy & Fuels, 2017, 31, 3643-3658.	5.1	104
18	Chemical weathering of a marine terrace chronosequence, Santa Cruz, California. Part II: Solute profiles, gradients and the comparisons of contemporary and long-term weathering rates. Geochimica Et Cosmochimica Acta, 2009, 73, 2769-2803.	3.9	102

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19	Uranium isotope evidence for temporary ocean oxygenation in the aftermath of the Sturtian Snowball Earth. Earth and Planetary Science Letters, 2017, 458, 282-292.	4.4	101
20	Snowmelt controls on concentrationâ€discharge relationships and the balance of oxidative and acidâ€base weathering fluxes in an alpine catchment, <scp>E</scp>ast <scp>R</scp>iver, <scp>C</scp>olorado. Water Resources Research, 2017, 53, 2507-2523.	4.2	98
21	Uâ€“Sr isotopic speedometer: Fluid flow and chemical weathering rates in aquifers. Geochimica Et Cosmochimica Acta, 2006, 70, 4417-4435.	3.9	96
22	The imprint of climate and geology on the residence times of groundwater. Geophysical Research Letters, 2016, 43, 701-708.	4.0	93
23	Climatic and vegetation control on sediment dynamics during the last glacial cycle. Geology, 2010, 38, 395-398.	4.4	91
24	Chromium fluxes and speciation in ultramafic catchments and global rivers. Chemical Geology, 2016, 426, 135-157.	3.3	91
25	Kinetics and Products of Chromium(VI) Reduction by Iron(II/III)-Bearing Clay Minerals. Environmental Science & Technology, 2017, 51, 9817-9825.	10.0	90
26	Stable runoff and weathering fluxes into the oceans over Quaternary climate cycles. Nature Geoscience, 2015, 8, 538-542.	12.9	87
27	Physico-Chemical Heterogeneity of Organic-Rich Sediments in the Rifle Aquifer, CO: Impact on Uranium Biogeochemistry. Environmental Science & Technology, 2016, 50, 46-53.	10.0	77
28	Uranylâ€“chlorite sorption/desorption: Evaluation of different U(VI) sequestration processes. Geochimica Et Cosmochimica Acta, 2009, 73, 5989-6007.	3.9	75
29	Modeling the influence of organic acids on soil weathering. Geochimica Et Cosmochimica Acta, 2014, 139, 487-507.	3.9	73
30	Isotopic approaches for quantifying the rates of marine burial diagenesis. Reviews of Geophysics, 2010, 48, .	23.0	69
31	Uranium isotope evidence for an expansion of marine anoxia during the endâ€<scp>T</scp>riassic extinction. Geochemistry, Geophysics, Geosystems, 2017, 18, 3093-3108.	2.5	69
32	Relationships between CO2, thermodynamic limits on silicate weathering, and the strength of the silicate weathering feedback. Earth and Planetary Science Letters, 2018, 485, 111-120.	4.4	69
33	Olivine dissolution and carbonation under conditions relevant for in situ carbon storage. Chemical Geology, 2014, 373, 93-105.	3.3	66
34	Rise and fall of late Pleistocene pluvial lakes in response to reduced evaporation and precipitation: Evidence from Lake Surprise, California. Bulletin of the Geological Society of America, 2014, 126, 1387-1415.	3.3	65
35	Uranium comminution ages: Sediment transport and deposition time scales. Comptes Rendus - Geoscience, 2012, 344, 678-687.	1.2	58
36	A spatially resolved surface kinetic model for forsterite dissolution. Geochimica Et Cosmochimica Acta, 2016, 174, 313-334.	3.9	58

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37	Quantifying Cr(VI) Production and Export from Serpentine Soil of the California Coast Range. Environmental Science & Technology, 2017, 51, 141-149.	10.0	58
38	Critical zone structure controls concentrationâ€“discharge relationships and solute generation in forested tropical montane watersheds. Water Resources Research, 2017, 53, 6279-6295.	4.2	56
39	Multi-phase flow simulation of CO 2 leakage through a fractured caprock in response to mitigation strategies. International Journal of Greenhouse Gas Control, 2016, 44, 11-25.	4.6	49
40	Isotopic and Geochemical Tracers for U(VI) Reduction and U Mobility at an in Situ Recovery U Mine. Environmental Science & Technology, 2015, 49, 5939-5947.	10.0	47
41	Identifying the Sources of Subsurface Contamination at the Hanford Site in Washington using High-Precision Uranium Isotopic Measurements. Environmental Science & Technology, 2004, 38, 3330-3337.	10.0	46
42	Thicknesses of Chemically Altered Zones in Shale Matrices Resulting from Interactions with Hydraulic Fracturing Fluid. Energy & Fuels, 2019, 33, 6878-6889.	5.1	46
43	Evaporation Effects on Oxygen and Hydrogen Isotopes in Deep Vadose Zone Pore Fluids at Hanford, Washington. Vadose Zone Journal, 2004, 3, 220-232.	2.2	44
44	Shale Kerogen: Hydraulic Fracturing Fluid Interactions and Contaminant Release. Energy & Fuels, 2018, 32, 8966-8977.	5.1	40
45	Uranium reduction and isotopic fractionation in reducing sediments: Insights from reactive transport modeling. Geochimica Et Cosmochimica Acta, 2020, 287, 65-92.	3.9	40
46	The influence of mixing on stable isotope ratios in porous media: A revised Rayleigh model. Water Resources Research, 2017, 53, 1101-1124.	4.2	39
47	Modeling Coupled Chemical and Isotopic Equilibration Rates. Procedia Earth and Planetary Science, 2014, 10, 208-217.	0.6	38
48	Clumped-isotope thermometry of magnesium carbonates in ultramafic rocks. Geochimica Et Cosmochimica Acta, 2016, 193, 222-250.	3.9	38
49	The impact of neogene grassland expansion and aridification on the isotopic composition of continental precipitation. Global Biogeochemical Cycles, 2014, 28, 992-1004.	4.9	37
50	The influence of seawater carbonate chemistry, mineralogy, and diagenesis on calcium isotope variations in Lower-Middle Triassic carbonate rocks. Chemical Geology, 2017, 471, 13-37.	3.3	37
51	Vadose zone infiltration rate at Hanford, Washington, inferred from Sr isotope measurements. Water Resources Research, 2003, 39, .	4.2	36
52	Effects of surface structural disorder and surface coverage on isotopic fractionation during Zn(II) adsorption onto quartz and amorphous silica surfaces. Geochimica Et Cosmochimica Acta, 2017, 215, 354-376.	3.9	36
53	Uranium Incorporation into Amorphous Silica. Environmental Science & Technology, 2014, 48, 8636-8644.	10.0	35
54	Isotopic Evidence for Reductive Immobilization of Uranium Across a Roll-Front Mineral Deposit. Environmental Science & Technology, 2016, 50, 6189-6198.	10.0	34

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55	Dissolution rates and vadose zone drainage from strontium isotope measurements of groundwater in the Pasco Basin, WA unconfined aquifer. Journal of Hydrology, 2006, 321, 39-58.	5.4	33
56	Global perturbation of the marine calcium cycle during the Permian-Triassic transition. Bulletin of the Geological Society of America, 2018, 130, 1323-1338.	3.3	33
57	Integrating airborne remote sensing and field campaigns for ecology and Earth system science. Methods in Ecology and Evolution, 2020, 11, 1492-1508.	5.2	33
58	Uranium isotopes in soils as a proxy for past infiltration and precipitation across the western United States. Numerische Mathematik, 2014, 314, 821-857.	1.4	30
59	Evolution of hillslope soils: The geomorphic theater and the geochemical play. Applied Geochemistry, 2011, 26, S149-S153.	3.0	29
60	Relationships between the Transit Time of Water and the Fluxes of Weathered Elements through the Critical Zone. Procedia Earth and Planetary Science, 2014, 10, 16-22.	0.6	29
61	Influence of eolian deposition and rainfall amounts on the U-isotopic composition of soil water and soil minerals. Geochimica Et Cosmochimica Acta, 2012, 88, 146-166.	3.9	26
62	Effects of nano-confinement on Zn(II) adsorption to nanoporous silica. Geochimica Et Cosmochimica Acta, 2018, 240, 80-97.	3.9	26
63	The Sensitivity of Terrestrial Î´¹⁸O Gradients to Hydroclimate Evolution. Journal of Geophysical Research D: Atmospheres, 2019, 124, 563-582.	3.3	26
64	Reactive Transport Modeling of Shaleâ€“Fluid Interactions after Imbibition of Fracturing Fluids. Energy & Fuels, 2020, 34, 5511-5523.	5.1	25
65	230Thâ€“U dating of surficial deposits using the ion microprobe (SHRIMP-RG): A microstratigraphic perspective. Quaternary International, 2007, 166, 15-28.	1.5	23
66	Concentrationâ€“discharge patterns of weathering products from global rivers. Acta Geochimica, 2017, 36, 405-409.	1.7	21
67	Surface ages and weathering rates from 10Be (meteoric) and 10Be/9Be: Insights from differential mass balance and reactive transport modeling. Chemical Geology, 2016, 446, 70-86.	3.3	20
68	Lithologic and redox controls on hexavalent chromium in vadose zone sediments of Californiaâ€™s Central Valley. Geochimica Et Cosmochimica Acta, 2019, 265, 478-494.	3.9	18
69	Cr(VI) reduction by Fe(II) sorbed to silica surfaces. Chemosphere, 2019, 234, 98-107.	8.2	18
70	Reactive Transport Processes that Drive Chemical Weathering: From Making Space for Water to Dismantling Continents. Reviews in Mineralogy and Geochemistry, 2019, 85, 349-380.	4.8	18
71	Evaporation Effects on Oxygen and Hydrogen Isotopes in Deep Vadose Zone Pore Fluids at Hanford, Washington. Vadose Zone Journal, 2004, 3, 220-232.	2.2	17
72	Aluminous gneiss derived by weathering of basaltic source rocks in the Neoarchean StorÃ¸ Supracrustal Belt, southern West Greenland. Chemical Geology, 2016, 441, 63-80.	3.3	17

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73	Imaging Pyrite Oxidation and Barite Precipitation in Gas and Oil Shales. , 2018, , .		15
74	Ten-million years of activity within the Eastern California Shear Zone from Uâ€“Pb dating of fault-zone opal. Earth and Planetary Science Letters, 2019, 521, 37-45.	4.4	15
75	A Model Linking Stable Isotope Fractionation to Water Flux and Transit Times in Heterogeneous Porous Media. Procedia Earth and Planetary Science, 2014, 10, 179-188.	0.6	14
76	Isotopic Fingerprint of Uranium Accumulation and Redox Cycling in Floodplains of the Upper Colorado River Basin. Environmental Science & Technology, 2019, 53, 3399-3409.	10.0	14
77	Stability of Floodplain Subsurface Microbial Communities Through Seasonal Hydrological and Geochemical Cycles. Frontiers in Earth Science, 2020, 8, .	1.8	14
78	A Molecular Investigation of Soil Organic Carbon Composition across a Subalpine Catchment. Soil Systems, 2018, 2, 6.	2.6	13
79	Multimodal imaging and stochastic percolation simulation for improved quantification of effective porosity and surface area in vesicular basalt. Advances in Water Resources, 2018, 121, 235-244.	3.8	13
80	Concentrationâ€Discharge Relationships of Dissolved Rhenium in Alpine Catchments Reveal Its Use as a Tracer of Oxidative Weathering. Water Resources Research, 2021, 57, e2021WR029844.	4.2	13
81	11. Fluid-Rock Interaction: A Reactive Transport Approach. , 2009, , 485-532.		12
82	Geochemistry of CO2-rich waters in Iceland. Chemical Geology, 2016, 444, 158-179.	3.3	12
83	An evaluation of paired Î´18O and (234U/238U)0 in opal as a tool for paleoclimate reconstruction in semi-arid environments. Chemical Geology, 2017, 449, 236-252.	3.3	12
84	A Teaching Exercise To Introduce Stable Isotope Fractionation of Metals into Geochemistry Courses. Journal of Chemical Education, 2013, 90, 1014-1017.	2.3	11
85	Barium Sources in Hydraulic Fracturing Systems and Chemical Controls on its Release into Solution. , 2018, , .		11
86	Modeling Transient Soil Moisture Limitations on Microbial Carbon Respiration. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 2222-2247.	3.0	11
87	Soil Respiration Response to Rainfall Modulated by Plant Phenology in a Montane Meadow, East River, Colorado, USA. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2020JG005924.	3.0	11
88	Sedimentary reservoir oxidation during geologic CO2 sequestration. Geochimica Et Cosmochimica Acta, 2015, 155, 30-46.	3.9	10
89	A model for kinetic isotope fractionation during redox reactions. Geochimica Et Cosmochimica Acta, 2020, 269, 661-677.	3.9	10
90	Thermodynamic controls on redox-driven kinetic stable isotope fractionation. Geochemical Perspectives Letters, 0, , 20-25.	5.0	10

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91	Local and Global Sensitivity Analysis of a Reactive Transport Model Simulating Floodplain Redox Cycling. Water Resources Research, 2021, 57, e2021WR029723.	4.2	10
92	A reactive transport model for geochemical mitigation of CO2 leaking into a confined aquifer. Energy Procedia, 2014, 63, 4620-4629.	1.8	9
93	Geochemical Modeling of Iron (Hydr)oxide Scale Formation During Hydraulic Fracturing Operations. , 2019, , .		8
94	Chromium isotope fractionation during reduction of Chromium(VI) by Iron(II/III)-bearing clay minerals. Geochimica Et Cosmochimica Acta, 2021, 292, 235-253.	3.9	8
95	Growing new generations of critical zone scientists. Earth Surface Processes and Landforms, 2017, 42, 2498-2502.	2.5	7
96	Field Evidence for Strong Chemical Separation of Contaminants in the Hanford Vadose Zone. Vadose Zone Journal, 2007, 6, 1031-1041.	2.2	7
97	Global Sensitivity Analysis of a Reactive Transport Model for Mineral Scale Formation During Hydraulic Fracturing. Environmental Engineering Science, 2021, 38, 192-207.	1.6	6
98	Abiotic/Biotic Coupling in the Rhizosphere: A Reactive Transport Modeling Analysis. Procedia Earth and Planetary Science, 2014, 10, 104-108.	0.6	5
99	Effective kinetics driven by dynamic concentration gradients under coupled transport and reaction. Geochimica Et Cosmochimica Acta, 2021, 306, 189-209.	3.9	4
100	Opportunities for large-scale CO2 disposal in coastal marine volcanic basins based on the geology of northeast Hawaii. International Journal of Greenhouse Gas Control, 2021, 110, 103396.	4.6	4
101	Taking the Pulse of the Earth's Surface Systems. Eos, 2015, 96, .	0.1	4
102	Evaporation Effects on Oxygen and Hydrogen Isotopes in Deep Vadose Zone Pore Fluids at Hanford, Washington. Vadose Zone Journal, 2004, 3, 220.	2.2	4
103	12. Reactive Transport Processes that Drive Chemical Weathering: From Making Space for Water to Dismantling Continents. , 2019, , 349-380.		2
104	ELEMENTS Toolkit 2. Elements, 2016, 12, 77-78.	0.5	0
105	Duration and Intensity of Endâ€Permian Marine Anoxia. Geochemistry, Geophysics, Geosystems, 2022, 23, .	2.5	0