Matthew A Charette

List of Publications by Year
in descending order

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121 papers	10,750 citations	28274 55 h-index	31849 101 g-index
127 all docs	127 docs citations	127 times ranked	7488 citing authors

#	Article	IF	Citations
1	A mesoscale phytoplankton bloom in the polar Southern Ocean stimulated by iron fertilization. Nature, 2000, 407, 695-702.	27.8	1,417
2	Quantifying submarine groundwater discharge in the coastal zone via multiple methods. Science of the Total Environment, 2006, 367, 498-543.	8.0	791
3	Southern Ocean deep-water carbon export enhanced by natural iron fertilization. Nature, 2009, 457, 577-580.	27.8	338
4	Trace element cycling in a subterranean estuary: Part 2. Geochemistry of the pore water. Geochimica Et Cosmochimica Acta, 2006, 70, 811-826.	3.9	275
5	Oxidative precipitation of groundwater-derived ferrous iron in the subterranean estuary of a coastal bay. Geophysical Research Letters, 2002, 29, 85-1-85-4.	4.0	266
6	Utility of radium isotopes for evaluating the input and transport of groundwaterâ€derived nitrogen to a Cape Cod estuary. Limnology and Oceanography, 2001, 46, 465-470.	3.1	259
7	The GEOTRACES Intermediate Data Product 2017. Chemical Geology, 2018, 493, 210-223.	3.3	257
8	Global estimate of submarine groundwater discharge based on an observationally constrained radium isotope model. Geophysical Research Letters, 2014, 41, 8438-8444.	4.0	236
9	The Effects of Iron Fertilization on Carbon Sequestration in the Southern Ocean. Science, 2004, 304, 414-417.	12.6	225
10	Greenland meltwater as a significant and potentially bioavailable source of iron to the ocean. Nature Geoscience, 2013, 6, 274-278.	12.9	216
11	Trace element cycling in a subterranean estuary: Part 1. Geochemistry of the permeable sediments. Geochimica Et Cosmochimica Acta, 2005, 69, 2095-2109.	3.9	206
12	Intercomparison of submarine groundwater discharge estimates from a sandy unconfined aquifer. Journal of Hydrology, 2006, 327, 411-425.	5.4	184
13	Groundwater dynamics in subterranean estuaries of coastal unconfined aquifers: Controls on submarine groundwater discharge and chemical inputs to the ocean. Advances in Water Resources, 2018, 115, 315-331.	3.8	184
14	Nitrogen biogeochemistry of submarine groundwater discharge. Limnology and Oceanography, 2008, 53, 1025-1039.	3.1	175
15	234Th sorption and export models in the water column: A review. Marine Chemistry, 2006, 100, 234-249.	2.3	174
16	Molecular characterization of dissolved organic matter associated with the Greenland ice sheet. Geochimica Et Cosmochimica Acta, 2010, 74, 3768-3784.	3.9	160
17	Dissolved iron in the vicinity of the Crozet Islands, Southern Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2007, 54, 1999-2019.	1.4	155
18	Submarine groundwater discharge of nutrients and copper to an urban subestuary of Chesapeake Bay (Elizabeth River). Limnology and Oceanography, 2004, 49, 376-385.	3.1	152

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19	New perspectives on radium behavior within a subterranean estuary. Marine Chemistry, 2008, 109, 250-267.	2.3	142
20	Flow and nutrient dynamics in a subterranean estuary (Waquoit Bay, MA, USA): Field data and reactive transport modeling. Geochimica Et Cosmochimica Acta, 2008, 72, 3398-3412.	3.9	126
21	The Volume of Earthâ€™s Ocean. Oceanography, 2010, 23, 112-114.	1.0	125
22	Reviews and syntheses: The biogeochemical cycle of silicon in the modern ocean. Biogeosciences, 2021, 18, 1269-1289.	3.3	124
23	Organic carbon export from the Greenland ice sheet. Geochimica Et Cosmochimica Acta, 2013, 109, 329-344.	3.9	116
24	Shelfâ€derived iron inputs drive biological productivity in the southern Drake Passage. Global Biogeochemical Cycles, 2009, 23, .	4.9	115
25	Precision Ground Water Sampling in Coastal Aquifers Using a Direct-Push, Shielded-Screen Well-Point System. Ground Water Monitoring and Remediation, 2006, 26, 87-93.	0.8	114
26	Hydrologic forcing of submarine groundwater discharge: Insight from a seasonal study of radium isotopes in a groundwaterâ€dominated salt marsh estuary. Limnology and Oceanography, 2007, 52, 230-239.	3.1	114
27	Testing a new small-volume technique for determining 234Th in seawater. Journal of Radioanalytical and Nuclear Chemistry, 2001, 248, 795-799.	1.5	105
28	Iron isotope fractionation in subterranean estuaries. Geochimica Et Cosmochimica Acta, 2008, 72, 3413-3430.	3.9	105
29	How significant is submarine groundwater discharge and its associated dissolved inorganic carbon in a river-dominated shelf system?. Biogeosciences, 2012, 9, 1777-1795.	3.3	104
30	Long-term trends of upwelling and impacts on primary productivity in the Alaskan Beaufort Sea. Deep-Sea Research Part I: Oceanographic Research Papers, 2013, 79, 106-121.	1.4	104
31	An intercomparison of small- and large-volume techniques for thorium-234 in seawater. Marine Chemistry, 2001, 74, 15-28.	2.3	102
32	Has Submarine Groundwater Discharge Been Overlooked as a Source of Mercury to Coastal Waters?. Environmental Science & Technology, 2007, 41, 3090-3095.	10.0	101
33	An inverse relationship between production and export efficiency in the Southern Ocean. Geophysical Research Letters, 2013, 40, 1557-1561.	4.0	100
34	as a tracer of particulate organic carbon export in the subarctic northeast Pacific Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 1999, 46, 2833-2861.	1.4	94
35	Salt marsh submarine groundwater discharge as traced by radium isotopes. Marine Chemistry, 2003, 84, 113-121.	2.3	89
36	Patterns and variability of groundwater flow and radium activity at the coast: A case study from Waquoit Bay, Massachusetts. Marine Chemistry, 2011, 127, 100-114.	2.3	87

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37	Particle export during the Southern Ocean Iron Experiment (SOFeX). Limnology and Oceanography, 2005, 50, 311-327.	3.1	86
38	Radium isotopes as tracers of iron sources fueling a Southern Ocean phytoplankton bloom. Deep-Sea Research Part II: Topical Studies in Oceanography, 2007, 54, 1989-1998.	1.4	86
39	Sea level controls sedimentation and environments in coastal caves and sinkholes. Marine Geology, 2011, 286, 35-50.	2.1	83
40	Coupled radon, methane and nitrate sensors for large-scale assessment of groundwater discharge and non-point source pollution to coastal waters. Journal of Environmental Radioactivity, 2010, 101, 553-563.	1.7	80
41	Dissolved strontium in the subterranean estuary â€“ Implications for the marine strontium isotope budget. Geochimica Et Cosmochimica Acta, 2013, 117, 33-52.	3.9	80
42	The Transpolar Drift as a Source of Riverine and Shelfâ€Derived Trace Elements to the Central Arctic Ocean. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015920.	2.6	80
43	Geochemical Cycling of Arsenic in a Coastal Aquifer. Environmental Science & Technology, 2006, 40, 3273-3278.	10.0	77
44	Trace element geochemistry of groundwater in a karst subterranean estuary (Yucatan Peninsula,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 4	3.9	76
45	Climateâ€driven sea level anomalies modulate coastal groundwater dynamics and discharge. Geophysical Research Letters, 2013, 40, 2701-2706.	4.0	74
46	Nutrient release to oceans from buoyancy-driven upwelling at Greenland tidewater glaciers. Nature Geoscience, 2019, 12, 34-39.	12.9	73
47	Increased fluxes of shelf-derived materials to the central Arctic Ocean. Science Advances, 2018, 4, eaao1302.	10.3	72
48	Rates of particle scavenging and particulate organic carbon export estimated using 234Th as a tracer in the subtropical and equatorial Atlantic Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 1999, 46, 885-906.	1.4	71
49	Seasonal cycles in radium and barium within a subterranean estuary: Implications for groundwater derived chemical fluxes to surface waters. Geochimica Et Cosmochimica Acta, 2013, 119, 164-177.	3.9	71
50	Unexpected source of Fukushima-derived radiocesium to the coastal ocean of Japan. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11092-11096.	7.1	70
51	Radium isotope distributions during the US GEOTRACES North Atlantic cruises. Marine Chemistry, 2015, 177, 184-195.	2.3	68
52	Radium-based estimates of cesium isotope transport and total direct ocean discharges from the Fukushima Nuclear Power Plant accident. Biogeosciences, 2013, 10, 2159-2167.	3.3	66
53	Effect of submarine groundwater discharge on the coastal ocean inorganic carbon cycle. Limnology and Oceanography, 2014, 59, 1529-1554.	3.1	65
54	Investigating the carbon cycle in the Gulf of Maine using the natural tracer thorium 234. Journal of Geophysical Research, 2001, 106, 11553-11579.	3.3	62

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55	Coastal ocean and shelf-sea biogeochemical cycling of trace elements and isotopes: lessons learned from GEOTRACES. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20160076.	3.4	56
56	Groundwater discharge impacts marine isotope budgets of Li, Mg, Ca, Sr, and Ba. Nature Communications, 2021, 12, 148.	12.8	55
57	An automated dyeâ€dilution based seepage meter for the timeâ€series measurement of submarine groundwater discharge. Limnology and Oceanography: Methods, 2003, 1, 16-28.	2.0	54
58	Hydrologic Controls on Nutrient Cycling in an Unconfined Coastal Aquifer. Environmental Science & Technology, 2014, 48, 14178-14185.	10.0	54
59	Does submarine groundwater discharge contribute to summer hypoxia in the Changjiang (Yangtze) River Estuary?. Science of the Total Environment, 2020, 719, 137450.	8.0	53
60	Does iron fertilization lead to rapid carbon export in the Southern Ocean?. Geochemistry, Geophysics, Geosystems, 2000, 1, n/a-n/a.	2.5	52
61	Field, Laboratory, and Modeling Study of Reactive Transport of Groundwater Arsenic in a Coastal Aquifer. Environmental Science & Technology, 2009, 43, 5333-5338.	10.0	52
62	Dissolved Iron Cycling in the Subterranean Estuary of a Coastal Bay: Waquoit Bay, Massachusetts. Biological Bulletin, 2002, 203, 255-256.	1.8	51
63	Submarine groundwater discharge in a river-dominated Florida estuary. Marine Chemistry, 2013, 156, 3-17.	2.3	51
64	Seasonal evolution of water contributions to discharge from a Greenland outlet glacier: insight from a new isotope-mixing model. Journal of Glaciology, 2011, 57, 929-941.	2.2	50
65	Submarine groundwater discharge to a small estuary estimated from radon and salinity measurements and a box model. Biogeosciences, 2005, 2, 141-157.	3.3	49
66	Dissolved silica in the subterranean estuary and the impact of submarine groundwater discharge on the global marine silica budget. Marine Chemistry, 2019, 208, 29-42.	2.3	49
67	Nitrogen Flux and Speciation Through the Subterranean Estuary of Waquoit Bay, Massachusetts. Biological Bulletin, 2003, 205, 244-245.	1.8	48
68	Methodological advances for measuring low-level radium isotopes in seawater. Journal of Radioanalytical and Nuclear Chemistry, 2013, 296, 357-362.	1.5	46
69	Carbonate system biogeochemistry in a subterranean estuary â€" Waquoit Bay, USA. Geochimica Et Cosmochimica Acta, 2017, 203, 422-439.	3.9	44
70	On the Time Scales of Magma Genesis, Melt Evolution, Crystal Growth Rates and Magma Degassing in the Erebus Volcano Magmatic System Using the 238U, 235U and 232Th Decay Series. Journal of Petrology, 2013, 54, 235-271.	2.8	39
71	Lingering radioactivity at the Bikini and Enewetak Atolls. Science of the Total Environment, 2018, 621, 1185-1198.	8.0	39
72	Flux of Particulate Elements in the North Atlantic Ocean Constrained by Multiple Radionuclides. Global Biogeochemical Cycles, 2018, 32, 1738-1758.	4.9	39

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73	Radium Isotopes Across the Arctic Ocean Show Time Scales of Water Mass Ventilation and Increasing Shelf Inputs. Journal of Geophysical Research: Oceans, 2018, 123, 4853-4873.	2.6	39
74	Direct measurements of submarine groundwater discharge (SGD) over a fractured rock aquifer in Flamengo Bay Brazil. Estuarine, Coastal and Shelf Science, 2008, 76, 466-472.	2.1	38
75	Particle transformations and export flux during anin situiron-stimulated algal bloom in the Southern Ocean. Geophysical Research Letters, 2001, 28, 2409-2412.	4.0	37
76	Pore water exchangeâ€driven inorganic carbon export from intertidal salt marshes. Limnology and Oceanography, 2021, 66, 1774-1792.	3.1	32
77	Nutrient-rich submarine groundwater discharge fuels the largest green tide in the world. Science of the Total Environment, 2021, 770, 144845.	8.0	30
78	Preparation of Mn-fiber standards for the efficiency calibration of the delayed coincidence counting system (RaDeCC). Marine Chemistry, 2010, 121, 206-214.	2.3	29
79	Relationship between water and aragonite barium concentrations in aquaria reared juvenile corals. Geochimica Et Cosmochimica Acta, 2017, 209, 123-134.	3.9	29
80	Radium isotopes as tracers of hydrothermal inputs and neutrally buoyant plume dynamics in the deep ocean. Marine Chemistry, 2018, 201, 51-65.	2.3	29
81	Using radon to quantify groundwater discharge and methane fluxes to a shallow, tundra lake on the Yukon-Kuskokwim Delta, Alaska. Biogeochemistry, 2020, 148, 69-89.	3.5	29
82	Radiochemical Estimates of Submarine Groundwater Discharge to Waquoit Bay, Massachusetts. Biological Bulletin, 2003, 205, 246-247.	1.8	28
83	A synthesis of upper ocean carbon and dissolved iron budgets for Southern Ocean natural iron fertilisation studies. Deep-Sea Research Part II: Topical Studies in Oceanography, 2013, 90, 147-157.	1.4	27
84	Oxygen metabolism and pH in coastal ecosystems: Eddy Covariance Hydrogen ion and Oxygen Exchange System (ECHOES). Limnology and Oceanography: Methods, 2015, 13, 438-450.	2.0	25
85	The ²²⁶Raâ€“Ba relationship in the North Atlantic during GEOTRACES-GA01. Biogeosciences, 2018, 15, 3027-3048.	3.3	25
86	GEOTRACES radium isotopes interlaboratory comparison experiment. Limnology and Oceanography: Methods, 2012, 10, 451-463.	2.0	24
87	Determination of water mass ages using radium isotopes as tracers: Implications for phytoplankton dynamics in estuaries. Marine Chemistry, 2013, 156, 18-26.	2.3	24
88	Winter mesoscale circulation on the shelf slope region of the southern Drake Passage. Deep-Sea Research Part II: Topical Studies in Oceanography, 2013, 90, 4-14.	1.4	24
89	An automated dye-dilution based seepage meter for the time-series measurement of submarine groundwater discharge. Limnology and Oceanography: Methods, 2011, 1, 16-28.	2.0	24
90	Distribution of anaerobic ammonia-oxidizing bacteria in a subterranean estuary. Marine Chemistry, 2012, 136-137, 7-13.	2.3	23

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91	Seasonal cycle of circulation in the Antarctic Peninsula and the off-shelf transport of shelf waters into southern Drake Passage and Scotia Sea. Deep-Sea Research Part II: Topical Studies in Oceanography, 2013, 90, 15-30.	1.4	23
92	Mercury flux from salt marsh sediments: Insights from a comparison between 224Ra/228Th disequilibrium and core incubation methods. Geochimica Et Cosmochimica Acta, 2018, 222, 569-583.	3.9	23
93	Benthic Nitrogen Fixation in an Eutrophic Estuary Affected by Groundwater Discharge. Journal of Coastal Research, 2012, 280, 477-485.	0.3	22
94	Shelfâ€Basin Interactions and Water Mass Residence Times in the Western Arctic Ocean: Insights Provided by Radium Isotopes. Journal of Geophysical Research: Oceans, 2019, 124, 3279-3297.	2.6	22
95	Kinetics of thorium and particle cycling along the U.S. GEOTRACES North Atlantic Transect. Deep-Sea Research Part I: Oceanographic Research Papers, 2017, 125, 106-128.	1.4	21
96	The release of dissolved actinium to the ocean: A global comparison of different end-members. Marine Chemistry, 2008, 109, 409-420.	2.3	19
97	Testing models of thorium and particle cycling in the ocean using data from station GT11-22 of the U.S. GEOTRACES North Atlantic section. Deep-Sea Research Part I: Oceanographic Research Papers, 2016, 113, 57-79.	1.4	19
98	Deltaic and Estuarine Controls on Mackenzie River Solute Fluxes to the Arctic Ocean. Estuaries and Coasts, 2020, 43, 1992-2014.	2.2	17
99	Hydrogeology and geochemistry of near-shore submarine groundwater discharge at Flamengo Bay, Ubatuba, Brazil. Estuarine, Coastal and Shelf Science, 2008, 76, 457-465.	2.1	14
100	Hydrothermal vents: A previously unrecognized source of actinium-227 to the deep ocean. Marine Chemistry, 2015, 177, 583-590.	2.3	13
101	A New Perspective for Assessing Water Transport and Associated Retention Effects in a Large Reservoir. Geophysical Research Letters, 2018, 45, 9642-9650.	4.0	13
102	Current and historical rates of input of mercury to the Penobscot River, Maine, from a chlor-alkali plant. Science of the Total Environment, 2018, 637-638, 1175-1186.	8.0	13
103	Timescales of hydrothermal scavenging in the South Pacific Ocean from 234Th, 230Th, and 228Th. Earth and Planetary Science Letters, 2019, 506, 146-156.	4.4	12
104	Uncertainty versus variability in upper ocean carbon flux estimates. Limnology and Oceanography, 2004, 49, 1218-1220.	3.1	11
105	Fe sources and transport from the Antarctic Peninsula shelf to the southern Scotia Sea. Deep-Sea Research Part I: Oceanographic Research Papers, 2019, 150, 103060.	1.4	11
106	Insight into the measurement of dissolved 227Ac in seawater using radium delayed coincidence counter. Marine Chemistry, 2019, 212, 64-73.	2.3	10
107	Observational and Modeling Evidence of Seasonal Trends in Sedimentâ€Derived Material Inputs to the Chukchi Sea. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC016007.	2.6	10
108	Determination of particulate and dissolved 228Th in seawater using a delayed coincidence counter. Marine Chemistry, 2015, 177, 196-202.	2.3	9

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109	Utility of 222Rn as a passive tracer of subglacial distributed system drainage. Earth and Planetary Science Letters, 2017, 462, 180-188.	4.4	9
110	Dissolved and Particulate Barium Distributions Along the US GEOTRACES North Atlantic and East Pacific Zonal Transects (GA03 and GP16): Global Implications for the Marine Barium Cycle. Global Biogeochemical Cycles, 2022, 36, .	4.9	8
111	Matching carbon pools and fluxes for the Southern Ocean Iron Release Experiment (SOIREE). Deep-Sea Research Part I: Oceanographic Research Papers, 2006, 53, 1941-1960.	1.4	7
112	A new method for the determination of low-level actinium-227 in geological samples. Journal of Radioanalytical and Nuclear Chemistry, 2013, 296, 279-283.	1.5	7
113	Closing the Global Marine ²²⁶Ra Budget Reveals the Biological Pump as a Dominant Removal Flux in the Upper Ocean. Geophysical Research Letters, 2022, 49, .	4.0	7
114	Commentary on: How accurate are the234Th based particulate residence times in the ocean? by G. Kim, N. Hussain, and T. Church. Geophysical Research Letters, 2000, 27, 1939-1940.	4.0	5
115	Using ²²⁶Ra and ²²⁸Ra isotopes to distinguish water mass distribution in the Canadian Arctic Archipelago. Biogeosciences, 2020, 17, 4937-4959.	3.3	5
116	Revisiting 228Th as a tool for determining sedimentation and mass accumulation rates. Chemical Geology, 2022, 607, 121006.	3.3	4
117	Underground gamma-ray measurements of radium isotopes from hydrothermal plumes in the deep Pacific Ocean. Applied Radiation and Isotopes, 2019, 153, 108831.	1.5	2
118	Submarine Groundwater Discharge. , 2019, , 108-119.		2
119	Physical drivers of sediment-water interaction on the Beaufort Sea shelf. Deep-Sea Research Part I: Oceanographic Research Papers, 2022, 181, 103700.	1.4	2
120	Fractionation of 226Ra and Ba in the Upper North Pacific Ocean. Frontiers in Marine Science, 0, 9, .	2.5	1
121	Muddying Greenland's meltwaters. Nature Geoscience, 2017, 10, 804-805.	12.9	0