

Matthew A Charette

List of Publications by Year in descending order

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121
papers

10,750
citations

28190

55
h-index

31759

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. <i>Nature</i> , 2000, 407, 695-702.	13.7	1,417
2	Quantifying submarine groundwater discharge in the coastal zone via multiple methods. <i>Science of the Total Environment</i> , 2006, 367, 498-543.	3.9	791
3	Southern Ocean deep-water carbon export enhanced by natural iron fertilization. <i>Nature</i> , 2009, 457, 577-580.	13.7	338
4	Trace element cycling in a subterranean estuary: Part 2. Geochemistry of the pore water. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 811-826.	1.6	275
5	Oxidative precipitation of groundwater-derived ferrous iron in the subterranean estuary of a coastal bay. <i>Geophysical Research Letters</i> , 2002, 29, 85-1-85-4.	1.5	266
6	Utility of radium isotopes for evaluating the input and transport of groundwater-derived nitrogen to a Cape Cod estuary. <i>Limnology and Oceanography</i> , 2001, 46, 465-470.	1.6	259
7	The GEOTRACES Intermediate Data Product 2017. <i>Chemical Geology</i> , 2018, 493, 210-223.	1.4	257
8	Global estimate of submarine groundwater discharge based on an observationally constrained radium isotope model. <i>Geophysical Research Letters</i> , 2014, 41, 8438-8444.	1.5	236
9	The Effects of Iron Fertilization on Carbon Sequestration in the Southern Ocean. <i>Science</i> , 2004, 304, 414-417.	6.0	225
10	Greenland meltwater as a significant and potentially bioavailable source of iron to the ocean. <i>Nature Geoscience</i> , 2013, 6, 274-278.	5.4	216
11	Trace element cycling in a subterranean estuary: Part 1. Geochemistry of the permeable sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 2095-2109.	1.6	206
12	Intercomparison of submarine groundwater discharge estimates from a sandy unconfined aquifer. <i>Journal of Hydrology</i> , 2006, 327, 411-425.	2.3	184
13	Groundwater dynamics in subterranean estuaries of coastal unconfined aquifers: Controls on submarine groundwater discharge and chemical inputs to the ocean. <i>Advances in Water Resources</i> , 2018, 115, 315-331.	1.7	184
14	Nitrogen biogeochemistry of submarine groundwater discharge. <i>Limnology and Oceanography</i> , 2008, 53, 1025-1039.	1.6	175
15	²³⁴ Th sorption and export models in the water column: A review. <i>Marine Chemistry</i> , 2006, 100, 234-249.	0.9	174
16	Molecular characterization of dissolved organic matter associated with the Greenland ice sheet. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 3768-3784.	1.6	160
17	Dissolved iron in the vicinity of the Crozet Islands, Southern Ocean. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2007, 54, 1999-2019.	0.6	155
18	Submarine groundwater discharge of nutrients and copper to an urban subestuary of Chesapeake Bay (Elizabeth River). <i>Limnology and Oceanography</i> , 2004, 49, 376-385.	1.6	152

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19	New perspectives on radium behavior within a subterranean estuary. <i>Marine Chemistry</i> , 2008, 109, 250-267.	0.9	142
20	Flow and nutrient dynamics in a subterranean estuary (Waquoit Bay, MA, USA): Field data and reactive transport modeling. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 3398-3412.	1.6	126
21	The Volume of Earth's Ocean. <i>Oceanography</i> , 2010, 23, 112-114.	0.5	125
22	Reviews and syntheses: The biogeochemical cycle of silicon in the modern ocean. <i>Biogeosciences</i> , 2021, 18, 1269-1289.	1.3	124
23	Organic carbon export from the Greenland ice sheet. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 109, 329-344.	1.6	116
24	Shelf-derived iron inputs drive biological productivity in the southern Drake Passage. <i>Global Biogeochemical Cycles</i> , 2009, 23, .	1.9	115
25	Precision Ground Water Sampling in Coastal Aquifers Using a Direct-Push, Shielded-Screen Well-Point System. <i>Ground Water Monitoring and Remediation</i> , 2006, 26, 87-93.	0.6	114
26	Hydrologic forcing of submarine groundwater discharge: Insight from a seasonal study of radium isotopes in a groundwater-dominated salt marsh estuary. <i>Limnology and Oceanography</i> , 2007, 52, 230-239.	1.6	114
27	Testing a new small-volume technique for determining ²³⁴ Th in seawater. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2001, 248, 795-799.	0.7	105
28	Iron isotope fractionation in subterranean estuaries. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 3413-3430.	1.6	105
29	How significant is submarine groundwater discharge and its associated dissolved inorganic carbon in a river-dominated shelf system?. <i>Biogeosciences</i> , 2012, 9, 1777-1795.	1.3	104
30	Long-term trends of upwelling and impacts on primary productivity in the Alaskan Beaufort Sea. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2013, 79, 106-121.	0.6	104
31	An intercomparison of small- and large-volume techniques for thorium-234 in seawater. <i>Marine Chemistry</i> , 2001, 74, 15-28.	0.9	102
32	Has Submarine Groundwater Discharge Been Overlooked as a Source of Mercury to Coastal Waters?. <i>Environmental Science & Technology</i> , 2007, 41, 3090-3095.	4.6	101
33	An inverse relationship between production and export efficiency in the Southern Ocean. <i>Geophysical Research Letters</i> , 2013, 40, 1557-1561.	1.5	100
34	as a tracer of particulate organic carbon export in the subarctic northeast Pacific Ocean. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1999, 46, 2833-2861.	0.6	94
35	Salt marsh submarine groundwater discharge as traced by radium isotopes. <i>Marine Chemistry</i> , 2003, 84, 113-121.	0.9	89
36	Patterns and variability of groundwater flow and radium activity at the coast: A case study from Waquoit Bay, Massachusetts. <i>Marine Chemistry</i> , 2011, 127, 100-114.	0.9	87

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37	Particle export during the Southern Ocean Iron Experiment (SOFeX). <i>Limnology and Oceanography</i> , 2005, 50, 311-327.	1.6	86
38	Radium isotopes as tracers of iron sources fueling a Southern Ocean phytoplankton bloom. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2007, 54, 1989-1998.	0.6	86
39	Sea level controls sedimentation and environments in coastal caves and sinkholes. <i>Marine Geology</i> , 2011, 286, 35-50.	0.9	83
40	Coupled radon, methane and nitrate sensors for large-scale assessment of groundwater discharge and non-point source pollution to coastal waters. <i>Journal of Environmental Radioactivity</i> , 2010, 101, 553-563.	0.9	80
41	Dissolved strontium in the subterranean estuary – Implications for the marine strontium isotope budget. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 117, 33-52.	1.6	80
42	The Transpolar Drift as a Source of Riverine and Shelf-Derived Trace Elements to the Central Arctic Ocean. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2019JC015920.	1.0	80
43	Geochemical Cycling of Arsenic in a Coastal Aquifer. <i>Environmental Science & Technology</i> , 2006, 40, 3273-3278.	4.6	77
44	Trace element geochemistry of groundwater in a karst subterranean estuary (Yucatan Peninsula, Yucatán) Tj ETQq0 0 0 rgBT JOverlock 10 Tf 50 4	1.6	76
45	Climate-driven sea level anomalies modulate coastal groundwater dynamics and discharge. <i>Geophysical Research Letters</i> , 2013, 40, 2701-2706.	1.5	74
46	Nutrient release to oceans from buoyancy-driven upwelling at Greenland tidewater glaciers. <i>Nature Geoscience</i> , 2019, 12, 34-39.	5.4	73
47	Increased fluxes of shelf-derived materials to the central Arctic Ocean. <i>Science Advances</i> , 2018, 4, eaao1302.	4.7	72
48	Rates of particle scavenging and particulate organic carbon export estimated using ²³⁴ Th as a tracer in the subtropical and equatorial Atlantic Ocean. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1999, 46, 885-906.	0.6	71
49	Seasonal cycles in radium and barium within a subterranean estuary: Implications for groundwater derived chemical fluxes to surface waters. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 119, 164-177.	1.6	71
50	Unexpected source of Fukushima-derived radiocesium to the coastal ocean of Japan. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 11092-11096.	3.3	70
51	Radium isotope distributions during the US GEOTRACES North Atlantic cruises. <i>Marine Chemistry</i> , 2015, 177, 184-195.	0.9	68
52	Radium-based estimates of cesium isotope transport and total direct ocean discharges from the Fukushima Nuclear Power Plant accident. <i>Biogeosciences</i> , 2013, 10, 2159-2167.	1.3	66
53	Effect of submarine groundwater discharge on the coastal ocean inorganic carbon cycle. <i>Limnology and Oceanography</i> , 2014, 59, 1529-1554.	1.6	65
54	Investigating the carbon cycle in the Gulf of Maine using the natural tracer thorium ²³⁴ . <i>Journal of Geophysical Research</i> , 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. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20160076.	1.6	56
56	Groundwater discharge impacts marine isotope budgets of Li, Mg, Ca, Sr, and Ba. <i>Nature Communications</i> , 2021, 12, 148.	5.8	55
57	An automated dye-dilution based seepage meter for the time-series measurement of submarine groundwater discharge. <i>Limnology and Oceanography: Methods</i> , 2003, 1, 16-28.	1.0	54
58	Hydrologic Controls on Nutrient Cycling in an Unconfined Coastal Aquifer. <i>Environmental Science & Technology</i> , 2014, 48, 14178-14185.	4.6	54
59	Does submarine groundwater discharge contribute to summer hypoxia in the Changjiang (Yangtze) River Estuary?. <i>Science of the Total Environment</i> , 2020, 719, 137450.	3.9	53
60	Does iron fertilization lead to rapid carbon export in the Southern Ocean?. <i>Geochemistry, Geophysics, Geosystems</i> , 2000, 1, n/a-n/a.	1.0	52
61	Field, Laboratory, and Modeling Study of Reactive Transport of Groundwater Arsenic in a Coastal Aquifer. <i>Environmental Science & Technology</i> , 2009, 43, 5333-5338.	4.6	52
62	Dissolved Iron Cycling in the Subterranean Estuary of a Coastal Bay: Waquoit Bay, Massachusetts. <i>Biological Bulletin</i> , 2002, 203, 255-256.	0.7	51
63	Submarine groundwater discharge in a river-dominated Florida estuary. <i>Marine Chemistry</i> , 2013, 156, 3-17.	0.9	51
64	Seasonal evolution of water contributions to discharge from a Greenland outlet glacier: insight from a new isotope-mixing model. <i>Journal of Glaciology</i> , 2011, 57, 929-941.	1.1	50
65	Submarine groundwater discharge to a small estuary estimated from radon and salinity measurements and a box model. <i>Biogeosciences</i> , 2005, 2, 141-157.	1.3	49
66	Dissolved silica in the subterranean estuary and the impact of submarine groundwater discharge on the global marine silica budget. <i>Marine Chemistry</i> , 2019, 208, 29-42.	0.9	49
67	Nitrogen Flux and Speciation Through the Subterranean Estuary of Waquoit Bay, Massachusetts. <i>Biological Bulletin</i> , 2003, 205, 244-245.	0.7	48
68	Methodological advances for measuring low-level radium isotopes in seawater. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2013, 296, 357-362.	0.7	46
69	Carbonate system biogeochemistry in a subterranean estuary " Waquoit Bay, USA. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 203, 422-439.	1.6	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 ²³⁸ U, ²³⁵ U and ²³² Th Decay Series. <i>Journal of Petrology</i> , 2013, 54, 235-271.	1.1	39
71	Lingering radioactivity at the Bikini and Enewetak Atolls. <i>Science of the Total Environment</i> , 2018, 621, 1185-1198.	3.9	39
72	Flux of Particulate Elements in the North Atlantic Ocean Constrained by Multiple Radionuclides. <i>Global Biogeochemical Cycles</i> , 2018, 32, 1738-1758.	1.9	39

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73	Radium Isotopes Across the Arctic Ocean Show Time Scales of Water Mass Ventilation and Increasing Shelf Inputs. <i>Journal of Geophysical Research: Oceans</i> , 2018, 123, 4853-4873.	1.0	39
74	Direct measurements of submarine groundwater discharge (SGD) over a fractured rock aquifer in Flamengo Bay Brazil. <i>Estuarine, Coastal and Shelf Science</i> , 2008, 76, 466-472.	0.9	38
75	Particle transformations and export flux during an iron-stimulated algal bloom in the Southern Ocean. <i>Geophysical Research Letters</i> , 2001, 28, 2409-2412.	1.5	37
76	Pore water exchange-driven inorganic carbon export from intertidal salt marshes. <i>Limnology and Oceanography</i> , 2021, 66, 1774-1792.	1.6	32
77	Nutrient-rich submarine groundwater discharge fuels the largest green tide in the world. <i>Science of the Total Environment</i> , 2021, 770, 144845.	3.9	30
78	Preparation of Mn-fiber standards for the efficiency calibration of the delayed coincidence counting system (RaDeCC). <i>Marine Chemistry</i> , 2010, 121, 206-214.	0.9	29
79	Relationship between water and aragonite barium concentrations in aquaria reared juvenile corals. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 209, 123-134.	1.6	29
80	Radium isotopes as tracers of hydrothermal inputs and neutrally buoyant plume dynamics in the deep ocean. <i>Marine Chemistry</i> , 2018, 201, 51-65.	0.9	29
81	Using radon to quantify groundwater discharge and methane fluxes to a shallow, tundra lake on the Yukon-Kuskokwim Delta, Alaska. <i>Biogeochemistry</i> , 2020, 148, 69-89.	1.7	29
82	Radiochemical Estimates of Submarine Groundwater Discharge to Waquoit Bay, Massachusetts. <i>Biological Bulletin</i> , 2003, 205, 246-247.	0.7	28
83	A synthesis of upper ocean carbon and dissolved iron budgets for Southern Ocean natural iron fertilisation studies. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2013, 90, 147-157.	0.6	27
84	Oxygen metabolism and pH in coastal ecosystems: Eddy Covariance Hydrogen ion and Oxygen Exchange System (ECHOES). <i>Limnology and Oceanography: Methods</i> , 2015, 13, 438-450.	1.0	25
85	The ^{226}Ra / ^{137}Ba relationship in the North Atlantic during GEOTRACES-GA01. <i>Biogeosciences</i> , 2018, 15, 3027-3048.	1.3	25
86	GEOTRACES radium isotopes interlaboratory comparison experiment. <i>Limnology and Oceanography: Methods</i> , 2012, 10, 451-463.	1.0	24
87	Determination of water mass ages using radium isotopes as tracers: Implications for phytoplankton dynamics in estuaries. <i>Marine Chemistry</i> , 2013, 156, 18-26.	0.9	24
88	Winter mesoscale circulation on the shelf slope region of the southern Drake Passage. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2013, 90, 4-14.	0.6	24
89	An automated dye-dilution based seepage meter for the time-series measurement of submarine groundwater discharge. <i>Limnology and Oceanography: Methods</i> , 2011, 1, 16-28.	1.0	24
90	Distribution of anaerobic ammonia-oxidizing bacteria in a subterranean estuary. <i>Marine Chemistry</i> , 2012, 136-137, 7-13.	0.9	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. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2013, 90, 15-30.	0.6	23
92	Mercury flux from salt marsh sediments: Insights from a comparison between $^{224}\text{Ra}/^{228}\text{Th}$ disequilibrium and core incubation methods. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 222, 569-583.	1.6	23
93	Benthic Nitrogen Fixation in an Eutrophic Estuary Affected by Groundwater Discharge. <i>Journal of Coastal Research</i> , 2012, 280, 477-485.	0.1	22
94	Shelf-Basin Interactions and Water Mass Residence Times in the Western Arctic Ocean: Insights Provided by Radium Isotopes. <i>Journal of Geophysical Research: Oceans</i> , 2019, 124, 3279-3297.	1.0	22
95	Kinetics of thorium and particle cycling along the U.S. GEOTRACES North Atlantic Transect. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2017, 125, 106-128.	0.6	21
96	The release of dissolved actinium to the ocean: A global comparison of different end-members. <i>Marine Chemistry</i> , 2008, 109, 409-420.	0.9	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. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2016, 113, 57-79.	0.6	19
98	Deltaic and Estuarine Controls on Mackenzie River Solute Fluxes to the Arctic Ocean. <i>Estuaries and Coasts</i> , 2020, 43, 1992-2014.	1.0	17
99	Hydrogeology and geochemistry of near-shore submarine groundwater discharge at Flamengo Bay, Ubatuba, Brazil. <i>Estuarine, Coastal and Shelf Science</i> , 2008, 76, 457-465.	0.9	14
100	Hydrothermal vents: A previously unrecognized source of actinium-227 to the deep ocean. <i>Marine Chemistry</i> , 2015, 177, 583-590.	0.9	13
101	A New Perspective for Assessing Water Transport and Associated Retention Effects in a Large Reservoir. <i>Geophysical Research Letters</i> , 2018, 45, 9642-9650.	1.5	13
102	Current and historical rates of input of mercury to the Penobscot River, Maine, from a chlor-alkali plant. <i>Science of the Total Environment</i> , 2018, 637-638, 1175-1186.	3.9	13
103	Timescales of hydrothermal scavenging in the South Pacific Ocean from ^{234}Th , ^{230}Th , and ^{228}Th . <i>Earth and Planetary Science Letters</i> , 2019, 506, 146-156.	1.8	12
104	Uncertainty versus variability in upper ocean carbon flux estimates. <i>Limnology and Oceanography</i> , 2004, 49, 1218-1220.	1.6	11
105	Fe sources and transport from the Antarctic Peninsula shelf to the southern Scotia Sea. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2019, 150, 103060.	0.6	11
106	Insight into the measurement of dissolved ^{227}Ac in seawater using radium delayed coincidence counter. <i>Marine Chemistry</i> , 2019, 212, 64-73.	0.9	10
107	Observational and Modeling Evidence of Seasonal Trends in Sediment-Derived Material Inputs to the Chukchi Sea. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2019JC016007.	1.0	10
108	Determination of particulate and dissolved ^{228}Th in seawater using a delayed coincidence counter. <i>Marine Chemistry</i> , 2015, 177, 196-202.	0.9	9

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109	Utility of ^{222}Rn as a passive tracer of subglacial distributed system drainage. <i>Earth and Planetary Science Letters</i> , 2017, 462, 180-188.	1.8	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. <i>Global Biogeochemical Cycles</i> , 2022, 36, .	1.9	8
111	Matching carbon pools and fluxes for the Southern Ocean Iron Release Experiment (SOIREE). <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2006, 53, 1941-1960.	0.6	7
112	A new method for the determination of low-level actinium-227 in geological samples. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2013, 296, 279-283.	0.7	7
113	Closing the Global Marine ^{226}Ra Budget Reveals the Biological Pump as a Dominant Removal Flux in the Upper Ocean. <i>Geophysical Research Letters</i> , 2022, 49, .	1.5	7
114	Commentary on: How accurate are the ^{234}Th based particulate residence times in the ocean? by G. Kim, N. Hussain, and T. Church. <i>Geophysical Research Letters</i> , 2000, 27, 1939-1940.	1.5	5
115	Using ^{226}Ra and ^{228}Ra isotopes to distinguish water mass distribution in the Canadian Arctic Archipelago. <i>Biogeosciences</i> , 2020, 17, 4937-4959.	1.3	5
116	Revisiting ^{228}Th as a tool for determining sedimentation and mass accumulation rates. <i>Chemical Geology</i> , 2022, 607, 121006.	1.4	4
117	Underground gamma-ray measurements of radium isotopes from hydrothermal plumes in the deep Pacific Ocean. <i>Applied Radiation and Isotopes</i> , 2019, 153, 108831.	0.7	2
118	Submarine Groundwater Discharge. , 2019, , 108-119.		2
119	Physical drivers of sediment-water interaction on the Beaufort Sea shelf. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2022, 181, 103700.	0.6	2
120	Fractionation of ^{226}Ra and Ba in the Upper North Pacific Ocean. <i>Frontiers in Marine Science</i> , 0, 9, .	1.2	1
121	Muddying Greenland's meltwaters. <i>Nature Geoscience</i> , 2017, 10, 804-805.	5.4	0