

Ken Buesseler

List of Publications by Year in descending order

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125
papers

16,571
citations

19657

61
h-index

15732

125
g-index

132
all docs

132
docs citations

132
times ranked

8994
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.	27.8	1,417
2	Mesoscale Iron Enrichment Experiments 1993-2005: Synthesis and Future Directions. <i>Science</i> , 2007, 315, 612-617.	12.6	1,250
3	The decoupling of production and particulate export in the surface ocean. <i>Global Biogeochemical Cycles</i> , 1998, 12, 297-310.	4.9	613
4	Synthesis of iron fertilization experiments: From the Iron Age in the Age of Enlightenment. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	596
5	Revisiting Carbon Flux Through the Ocean's Twilight Zone. <i>Science</i> , 2007, 316, 567-570.	12.6	547
6	Southern Ocean Iron Enrichment Experiment: Carbon Cycling in High- and Low-Si Waters. <i>Science</i> , 2004, 304, 408-414.	12.6	546
7	Upper Ocean Carbon Export and the Biological Pump. <i>Oceanography</i> , 2001, 14, 50-58.	1.0	533
8	An assessment of the use of sediment traps for estimating upper ocean particle fluxes. <i>Journal of Marine Research</i> , 2007, 65, 345-416.	0.3	432
9	Impacts of the Fukushima Nuclear Power Plants on Marine Radioactivity. <i>Environmental Science & Technology</i> , 2011, 45, 9931-9935.	10.0	430
10	Carbon and nitrogen export during the JGOFS North Atlantic Bloom experiment estimated from ²³⁴ Th/ ²³⁸ U disequilibria. <i>Deep-sea Research Part A, Oceanographic Research Papers</i> , 1992, 39, 1115-1137.	1.5	402
11	Fukushima-derived radionuclides in the ocean and biota off Japan. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 5984-5988.	7.1	387
12	Shedding light on processes that control particle export and flux attenuation in the twilight zone of the open ocean. <i>Limnology and Oceanography</i> , 2009, 54, 1210-1232.	3.1	384
13	Global assessment of ocean carbon export by combining satellite observations and food web models. <i>Global Biogeochemical Cycles</i> , 2014, 28, 181-196.	4.9	368
14	Bacterial vs. zooplankton control of sinking particle flux in the ocean's twilight zone. <i>Limnology and Oceanography</i> , 2008, 53, 1327-1338.	3.1	350
15	Do upper-ocean sediment traps provide an accurate record of particle flux?. <i>Nature</i> , 1991, 353, 420-423.	27.8	291
16	Assessing the apparent imbalance between geochemical and biochemical indicators of meso- and bathypelagic biological activity: What the ²³⁴ Th/ ²³⁸ U is wrong with present calculations of carbon budgets?. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2010, 57, 1557-1571.	1.4	268
17	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.	3.1	259
18	Carbon-cycle imbalances in the Sargasso Sea. <i>Nature</i> , 1994, 372, 537-540.	27.8	246

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19	Variability in the average sinking velocity of marine particles. <i>Limnology and Oceanography</i> , 2010, 55, 2085-2096.	3.1	228
20	The Effects of Iron Fertilization on Carbon Sequestration in the Southern Ocean. <i>Science</i> , 2004, 304, 414-417.	12.6	225
21	Fukushima Daiichi—Derived Radionuclides in the Ocean: Transport, Fate, and Impacts. <i>Annual Review of Marine Science</i> , 2017, 9, 173-203.	11.6	216
22	Regional estimates of the export flux of particulate organic carbon derived from thorium-234 during the JGOFS EqPac program. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1995, 42, 777-804.	1.4	212
23	Upper ocean export of particulate organic carbon in the Arabian Sea derived from thorium-234. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1998, 45, 2461-2487.	1.4	197
24	The isotopic signature of fallout plutonium in the North Pacific. <i>Journal of Environmental Radioactivity</i> , 1997, 36, 69-83.	1.7	194
25	Biogeochemical impacts due to mesoscale eddy activity in the Sargasso Sea as measured at the Bermuda Atlantic Time-series Study (BATS). <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2003, 50, 3017-3039.	1.4	189
26	Prediction of the Export and Fate of Global Ocean Net Primary Production: The EXPORTS Science Plan. <i>Frontiers in Marine Science</i> , 2016, 3, .	2.5	179
27	²³⁴ Th sorption and export models in the water column: A review. <i>Marine Chemistry</i> , 2006, 100, 234-249.	2.3	174
28	A time-series study of particulate matter export in the North Pacific Subtropical Gyre based on ²³⁴ Th: ²³⁸ U disequilibrium. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2001, 48, 2595-2611.	1.4	159
29	Changes in fecal pellet characteristics with depth as indicators of zooplankton repackaging of particles in the mesopelagic zone of the subtropical and subarctic North Pacific Ocean. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2008, 55, 1636-1647.	1.4	159
30	Ocean Iron Fertilization—Moving Forward in a Sea of Uncertainty. <i>Science</i> , 2008, 319, 162-162.	12.6	156
31	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.	3.1	152
32	Metrics that matter for assessing the ocean biological carbon pump. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 9679-9687.	7.1	145
33	Vertical budgets for organic carbon and biogenic silica in the Pacific sector of the Southern Ocean, 1996—1998. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2002, 49, 1645-1674.	1.4	140
34	Variability of inorganic and organic phosphorus turnover rates in the coastal ocean. <i>Nature</i> , 1999, 398, 502-505.	27.8	125
35	A comparison of the quantity and composition of material caught in a neutrally buoyant versus surface-tethered sediment trap. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2000, 47, 277-294.	1.4	124
36	A review of present techniques and methodological advances in analyzing ²³⁴ Th in aquatic systems. <i>Marine Chemistry</i> , 2006, 100, 190-212.	2.3	123

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37	Fishing for Answers off Fukushima. <i>Science</i> , 2012, 338, 480-482.	12.6	122
38	Determination of thorium isotopes in seawater by nondestructive and radiochemical procedures. <i>Deep-sea Research Part A, Oceanographic Research Papers</i> , 1992, 39, 1103-1114.	1.5	120
39	Observations of carbon export by small sinking particles in the upper mesopelagic. <i>Marine Chemistry</i> , 2015, 175, 72-81.	2.3	112
40	Quantification of ²³⁴ Th recovery in small volume sea water samples by inductively coupled plasma-mass spectrometry. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2005, 263, 355-360.	1.5	111
41	CLIMATE CHANGE: Will Ocean Fertilization Work?. <i>Science</i> , 2003, 300, 67-68.	12.6	107
42	A three dimensional time-dependent approach to calibrating sediment trap fluxes. <i>Global Biogeochemical Cycles</i> , 1994, 8, 179-193.	4.9	106
43	Reassessment of ⁹⁰ Sr, ¹³⁷ Cs, and ¹³⁴ Cs in the Coast off Japan Derived from the Fukushima Dai-ichi Nuclear Accident. <i>Environmental Science & Technology</i> , 2016, 50, 173-180.	10.0	106
44	Testing a new small-volume technique for determining ²³⁴ Th in seawater. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2001, 248, 795-799.	1.5	105
45	An intercomparison of small- and large-volume techniques for thorium-234 in seawater. <i>Marine Chemistry</i> , 2001, 74, 15-28.	2.3	102
46	Sources and Migration of Plutonium in Groundwater at the Savannah River Site. <i>Environmental Science & Technology</i> , 2002, 36, 3690-3699.	10.0	101
47	An inverse relationship between production and export efficiency in the Southern Ocean. <i>Geophysical Research Letters</i> , 2013, 40, 1557-1561.	4.0	100
48	Fukushima and Ocean Radioactivity. <i>Oceanography</i> , 2014, 27, 92-105.	1.0	93
49	Using ²³⁴ Th disequilibria to estimate the vertical removal rates of polycyclic aromatic hydrocarbons from the surface ocean. <i>Marine Chemistry</i> , 1997, 57, 11-23.	2.3	89
50	Iron-stimulated changes in ¹³ C fractionation and export by equatorial Pacific phytoplankton: Toward a paleogrowth rate proxy. <i>Paleoceanography</i> , 1999, 14, 589-595.	3.0	89
51	Particle export during the Southern Ocean Iron Experiment (SOFeX). <i>Limnology and Oceanography</i> , 2005, 50, 311-327.	3.1	86
52	The geochemistry of fallout plutonium in the North Atlantic: II. ratios and their significance. <i>Geochimica Et Cosmochimica Acta</i> , 1987, 51, 2623-2637.	3.9	84
53	Mixing between oxic and anoxic waters of the Black Sea as traced by Chernobyl cesium isotopes. <i>Deep-sea Research Part A, Oceanographic Research Papers</i> , 1991, 38, S725-S745.	1.5	83
54	An assessment of the relative importance of horizontal and vertical transport of particle-reactive chemicals in the coastal ocean. <i>Continental Shelf Research</i> , 1998, 18, 805-829.	1.8	79

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55	The effect of marginal ice-edge dynamics on production and export in the Southern Ocean along 170°W. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2003, 50, 579-603.	1.4	77
56	Chernobyl radionuclides in a Black Sea sediment trap. <i>Nature</i> , 1987, 329, 825-828.	27.8	75
57	Upper ocean carbon export, horizontal transport, and vertical eddy diffusivity in the southwestern Gulf of Maine. <i>Continental Shelf Research</i> , 2000, 20, 707-736.	1.8	71
58	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.	7.1	70
59	Opening the floodgates at Fukushima. <i>Science</i> , 2020, 369, 621-622.	12.6	68
60	Evaluation of two cross-flow ultrafiltration membranes for isolating marine organic colloids. <i>Marine Chemistry</i> , 1998, 62, 117-136.	2.3	67
61	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.	3.3	66
62	Effects of sinking velocities and microbial respiration rates on the attenuation of particulate carbon fluxes through the mesopelagic zone. <i>Global Biogeochemical Cycles</i> , 2015, 29, 175-193.	4.9	66
63	Plutonium in groundwater at the 100K-Area of the U.S. DOE Hanford Site. <i>Journal of Contaminant Hydrology</i> , 2005, 76, 167-189.	3.3	65
64	The oceanographic toolbox for the collection of sinking and suspended marine particles. <i>Progress in Oceanography</i> , 2015, 133, 17-31.	3.2	61
65	The mass spectrometric determination of fallout ²³⁹ Pu and ²⁴⁰ Pu in marine samples. <i>Journal of Environmental Radioactivity</i> , 1987, 5, 425-444.	1.7	60
66	Comparison of carbon and opal export rates between summer and spring bloom periods in the region of the Antarctic Polar Front, SE Atlantic. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2002, 49, 3849-3869.	1.4	57
67	Decoupling of net community and export production on submesoscales in the Sargasso Sea. <i>Global Biogeochemical Cycles</i> , 2015, 29, 1266-1282.	4.9	56
68	Sinking phytoplankton associated with carbon flux in the Atlantic Ocean. <i>Limnology and Oceanography</i> , 2016, 61, 1172-1187.	3.1	53
69	Does iron fertilization lead to rapid carbon export in the Southern Ocean?. <i>Geochemistry, Geophysics, Geosystems</i> , 2000, 1, n/a-n/a.	2.5	52
70	High particle export over the continental shelf of the west Antarctic Peninsula. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	47
71	²³⁴ Th deficit and excess in the Southern Ocean during spring 2001: Particle export and remineralization. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	46
72	High precision ²³⁰ Th and ²³² Th in the Norwegian Sea and Denmark by thermal ionization mass spectrometry. <i>Geophysical Research Letters</i> , 1995, 22, 2589-2592.	4.0	45

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73	A comparison of major and minor elemental fluxes collected in neutrally buoyant and surface-tethered sediment traps. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2004, 51, 1387-1395.	1.4	43
74	A new method for the estimation of sinking particle fluxes from measurements of the particle size distribution, average sinking velocity, and carbon content. <i>Limnology and Oceanography: Methods</i> , 2012, 10, 329-346.	2.0	43
75	Determination of fission-products and actinides in the Black Sea following the Chernobyl accident. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 1990, 138, 33-47.	1.5	42
76	Size-fractionated plutonium isotopes in a coastal environment. <i>Journal of Environmental Radioactivity</i> , 2001, 53, 9-25.	1.7	42
77	²³⁴ Th as a tracer of particulate export and remineralization in the southeastern tropical Pacific. <i>Marine Chemistry</i> , 2018, 201, 35-50.	2.3	42
78	Spatial variability and the fate of cesium in coastal sediments near Fukushima, Japan. <i>Biogeosciences</i> , 2014, 11, 5123-5137.	3.3	41
79	Extraction of cesium in seawater off Japan using AMP-PAN resin and quantification via gamma spectroscopy and inductively coupled mass spectrometry. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2013, 296, 369-374.	1.5	39
80	Lingering radioactivity at the Bikini and Enewetak Atolls. <i>Science of the Total Environment</i> , 2018, 621, 1185-1198.	8.0	39
81	Marine radioecology after the Fukushima Dai-ichi nuclear accident: Are we better positioned to understand the impact of radionuclides in marine ecosystems?. <i>Science of the Total Environment</i> , 2018, 618, 80-92.	8.0	39
82	Flux of Particulate Elements in the North Atlantic Ocean Constrained by Multiple Radionuclides. <i>Global Biogeochemical Cycles</i> , 2018, 32, 1738-1758.	4.9	39
83	Insights into particle formation and remineralization using the short-lived radionuclide, Thorium-234. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	38
84	Particle transformations and export flux during an iron-stimulated algal bloom in the Southern Ocean. <i>Geophysical Research Letters</i> , 2001, 28, 2409-2412.	4.0	37
85	Potential Releases of ¹²⁹ I, ²³⁶ U, and Pu Isotopes from the Fukushima Dai-ichi Nuclear Power Plants to the Ocean from 2013 to 2015. <i>Environmental Science & Technology</i> , 2017, 51, 9826-9835.	10.0	35
86	Intercalibration studies of short-lived thorium-234 in the water column and marine particles. <i>Limnology and Oceanography: Methods</i> , 2012, 10, 631-644.	2.0	34
87	Recent Transport History of Fukushima Radioactivity in the Northeast Pacific Ocean. <i>Environmental Science & Technology</i> , 2017, 51, 10494-10502.	10.0	34
88	How Data Set Characteristics Influence Ocean Carbon Export Models. <i>Global Biogeochemical Cycles</i> , 2018, 32, 1312-1328.	4.9	33
89	A Visual Tour of Carbon Export by Sinking Particles. <i>Global Biogeochemical Cycles</i> , 2021, 35, e2021GB006985.	4.9	32
90	Contrasting biogeochemical cycles of cobalt in the surface western Atlantic Ocean. <i>Global Biogeochemical Cycles</i> , 2014, 28, 1387-1412.	4.9	29

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91	Observed eastward progression of the Fukushima ¹³⁴ Cs signal across the North Pacific. <i>Geophysical Research Letters</i> , 2015, 42, 7139-7147.	4.0	29
92	Tracking the Fate of Particle Associated Fukushima Daiichi Cesium in the Ocean off Japan. <i>Environmental Science & Technology</i> , 2015, 49, 9807-9816.	10.0	29
93	An operational overview of the EXport Processes in the Ocean from RemoTe Sensing (EXPORTS) Northeast Pacific field deployment. <i>Elementa</i> , 2021, 9, .	3.2	28
94	The geochemistry of fallout plutonium in the North Atlantic: I. A pore water study in shelf, slope and deep-sea sediments. <i>Geochimica Et Cosmochimica Acta</i> , 1987, 51, 2605-2622.	3.9	27
95	Are all sediment traps created equal? An intercomparison study of carbon export methodologies at the PAP-SO site. <i>Progress in Oceanography</i> , 2020, 184, 102317.	3.2	27
96	Application of cross-flow ultrafiltration for the determination of colloidal abundances in suboxic ferrous-rich ground waters. <i>Science of the Total Environment</i> , 2007, 372, 636-644.	8.0	26
97	Input of ¹²⁹ I into the western Pacific Ocean resulting from the Fukushima nuclear event. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2013, 296, 957-962.	1.5	25
98	Source-Dependent and Source-Independent Controls on Plutonium Oxidation State and Colloid Associations in Groundwater. <i>Environmental Science & Technology</i> , 2009, 43, 1322-1328.	10.0	24
99	⁷ Be analyses in seawater by low background gamma-spectroscopy. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2008, 277, 253-259.	1.5	22
100	Mercury Export Flux in the Arctic Ocean Estimated from ²³⁴ Th/ ²³⁸ U Disequilibria. <i>ACS Earth and Space Chemistry</i> , 2020, 4, 795-801.	2.7	22
101	The ¹²⁹ I content of subtropical Pacific waters: impact of Fukushima and other anthropogenic ¹²⁹ I sources. <i>Biogeosciences</i> , 2014, 11, 4839-4852.	3.3	20
102	Results of an Ocean Trial of the Symbiotic Machine for Ocean Uranium Extraction. <i>Environmental Science & Technology</i> , 2019, 53, 2229-2237.	10.0	20
103	Insights From the ²³⁸ U- ²³⁴ Th Method Into the Coupling of Biological Export and the Cycling of Cadmium, Cobalt, and Manganese in the Southeast Pacific Ocean. <i>Global Biogeochemical Cycles</i> , 2019, 33, 15-36.	4.9	20
104	Distribution and Evolution of Fukushima Dai-ichi derived ¹³⁷ Cs, ⁹⁰ Sr, and ¹²⁹ I in Surface Seawater off the Coast of Japan. <i>Environmental Science & Technology</i> , 2020, 54, 15066-15075.	10.0	20
105	Ironing Out Fe Residence Time in the Dynamic Upper Ocean. <i>Global Biogeochemical Cycles</i> , 2020, 34, e2020GB006592.	4.9	19
106	High-resolution spatial and temporal measurements of particulate organic carbon flux using thorium-234 in the northeast Pacific Ocean during the EXport Processes in the Ocean from RemoTe Sensing field campaign. <i>Elementa</i> , 2020, 8, .	3.2	19
107	The value of scientific research on the ocean's biological carbon pump. <i>Science of the Total Environment</i> , 2020, 749, 141357.	8.0	18
108	Biogenic sinking particle fluxes and sediment trap collection efficiency at Ocean Station Papa. <i>Elementa</i> , 2021, 9, .	3.2	17

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109	New applications of KNiFC-PAN resin for broad scale monitoring of radiocesium following the Fukushima Dai-ichi nuclear disaster. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2016, 307, 2193-2200.	1.5	15
110	The Neutrally Buoyant Sediment Trap: Two Decades of Progress. <i>Journal of Atmospheric and Oceanic Technology</i> , 2020, 37, 957-973.	1.3	14
111	The great iron dump. <i>Nature</i> , 2012, 487, 305-306.	27.8	10
112	Concentrations, ratios, and sinking fluxes of major bioelements at Ocean Station Papa. <i>Elementa</i> , 2021, 9, .	3.2	10
113	High-resolution spatial and temporal measurements of particulate organic carbon flux using thorium-234 in the northeast Pacific Ocean during the EXport Processes in the Ocean from RemoTe Sensing field campaign. <i>Elementa</i> , 2020, 8, .	3.2	10
114	Determination of particulate and dissolved ²²⁸ Th in seawater using a delayed coincidence counter. <i>Marine Chemistry</i> , 2015, 177, 196-202.	2.3	9
115	Revisiting five decades of ²³⁴ Th data: a comprehensive global oceanic compilation. <i>Earth System Science Data</i> , 2022, 14, 2639-2679.	9.9	9
116	Comment on "Trace Metal Levels in Uncontaminated Groundwater of a Coastal Watershed: Importance of Colloidal Forms". <i>Environmental Science & Technology</i> , 2003, 37, 657-658.	10.0	8
117	A Fukushima tracer perspective on four years of North Pacific mode water evolution. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2020, 166, 103379.	1.4	8
118	Quantification of ²³⁴ Th recovery in small volume sea water samples by inductively coupled plasma-mass spectrometry. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2005, 263, 355-360.	1.5	8
119	Review of the analysis of ²³⁴ Th in small volume (2-4 L) seawater samples: improvements and recommendations. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2021, 329, 1-13.	1.5	6
120	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.	4.0	5
121	Improved gamma-spectroscopy of marine samples via low background small anode germanium well detector with cosmic veto suppression. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2016, 307, 2359-2364.	1.5	4
122	Effects of Protective Shell Enclosures on Uranium Adsorbing Polymers. <i>Industrial & Engineering Chemistry Research</i> , 2018, .	3.7	3
123	Assessment of size-fractionated species of curium-244 via alpha spectrometry in groundwater. <i>Journal of Radioanalytical and Nuclear Chemistry</i> , 2009, 282, 1009-1012.	1.5	2
124	Twilight Zone Observation Network: A Distributed Observation Network for Sustained, Real-Time Interrogation of the Ocean's Twilight Zone. <i>Marine Technology Society Journal</i> , 2021, 55, 92-93.	0.4	2
125	Does essential trace elements influence the export production in oceans?. <i>Diqiu Huaxue</i> , 2006, 25, 276-276.	0.5	0