

Alex Baker

List of Publications by Year in descending order

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115
papers

14,698
citations

25034

57
h-index

22832

112
g-index

149
all docs

149
docs citations

149
times ranked

12132
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Global Iron Connections Between Desert Dust, Ocean Biogeochemistry, and Climate. <i>Science</i> , 2005, 308, 67-71. | 12.6 | 2,365 |
| 2 | Impacts of Atmospheric Anthropogenic Nitrogen on the Open Ocean. <i>Science</i> , 2008, 320, 893-897. | 12.6 | 964 |
| 3 | Atmospheric global dust cycle and iron inputs to the ocean. <i>Global Biogeochemical Cycles</i> , 2005, 19, n/a-n/a. | 4.9 | 930 |
| 4 | A global assessment of precipitation chemistry and deposition of sulfur, nitrogen, sea salt, base cations, organic acids, acidity and pH, and phosphorus. <i>Atmospheric Environment</i> , 2014, 93, 3-100. | 4.1 | 650 |
| 5 | Global distribution of atmospheric phosphorus sources, concentrations and deposition rates, and anthropogenic impacts. <i>Global Biogeochemical Cycles</i> , 2008, 22, . | 4.9 | 617 |
| 6 | Atmospheric Chemistry of Iodine. <i>Chemical Reviews</i> , 2012, 112, 1773-1804. | 47.7 | 482 |
| 7 | Trends in the solubility of iron, aluminium, manganese and phosphorus in aerosol collected over the Atlantic Ocean. <i>Marine Chemistry</i> , 2006, 98, 43-58. | 2.3 | 353 |
| 8 | Southern Ocean deep-water carbon export enhanced by natural iron fertilization. <i>Nature</i> , 2009, 457, 577-580. | 27.8 | 338 |
| 9 | Atmospheric and marine controls on aerosol iron solubility in seawater. <i>Marine Chemistry</i> , 2010, 120, 4-13. | 2.3 | 330 |
| 10 | The GEOTRACES Intermediate Data Product 2017. <i>Chemical Geology</i> , 2018, 493, 210-223. | 3.3 | 257 |
| 11 | Impacts on iron solubility in the mineral dust by processes in the source region and the atmosphere: A review. <i>Aeolian Research</i> , 2012, 5, 21-42. | 2.7 | 228 |
| 12 | Past, Present, and Future Atmospheric Nitrogen Deposition. <i>Journals of the Atmospheric Sciences</i> , 2016, 73, 2039-2047. | 1.7 | 222 |
| 13 | Mineral particle size as a control on aerosol iron solubility. <i>Geophysical Research Letters</i> , 2006, 33, . | 4.0 | 214 |
| 14 | Fractional solubility of aerosol iron: Synthesis of a global-scale data set. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 89, 173-189. | 3.9 | 206 |
| 15 | Atmospheric Transport and Deposition of Mineral Dust to the Ocean: Implications for Research Needs. <i>Environmental Science & Technology</i> , 2012, 46, 10390-10404. | 10.0 | 187 |
| 16 | Atmospheric fluxes of organic N and P to the global ocean. <i>Global Biogeochemical Cycles</i> , 2012, 26, . | 4.9 | 179 |
| 17 | Impacts of atmospheric nutrient deposition on marine productivity: Roles of nitrogen, phosphorus, and iron. <i>Global Biogeochemical Cycles</i> , 2011, 25, n/a-n/a. | 4.9 | 177 |
| 18 | Aerosol trace metal leaching and impacts on marine microorganisms. <i>Nature Communications</i> , 2018, 9, 2614. | 12.8 | 176 |

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|----|---|------|-----------|
| 19 | Atmospheric deposition of nutrients to the Atlantic Ocean. <i>Geophysical Research Letters</i> , 2003, 30, . | 4.0 | 173 |
| 20 | Atmospheric iron deposition and sea-surface dissolved iron concentrations in the eastern Atlantic Ocean. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2003, 50, 1339-1352. | 1.4 | 172 |
| 21 | Dry and wet deposition of nutrients from the tropical Atlantic atmosphere: Links to primary productivity and nitrogen fixation. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2007, 54, 1704-1720. | 1.4 | 168 |
| 22 | 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. | 1.4 | 155 |
| 23 | A reevaluation of the magnitude and impacts of anthropogenic atmospheric nitrogen inputs on the ocean. <i>Global Biogeochemical Cycles</i> , 2017, 31, 289-305. | 4.9 | 146 |
| 24 | Impacts of biomass burning emissions and land use change on Amazonian atmospheric phosphorus cycling and deposition. <i>Global Biogeochemical Cycles</i> , 2005, 19, n/a-n/a. | 4.9 | 142 |
| 25 | Formation of Iron Nanoparticles and Increase in Iron Reactivity in Mineral Dust during Simulated Cloud Processing. <i>Environmental Science & Technology</i> , 2009, 43, 6592-6596. | 10.0 | 140 |
| 26 | Pyrogenic iron: The missing link to high iron solubility in aerosols. <i>Science Advances</i> , 2019, 5, eaau7671. | 10.3 | 128 |
| 27 | Iron dissolution kinetics of mineral dust at low pH during simulated atmospheric processing. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 995-1007. | 4.9 | 122 |
| 28 | Microplastics and nanoplastics in the marine-atmosphere environment. <i>Nature Reviews Earth & Environment</i> , 2022, 3, 393-405. | 29.7 | 121 |
| 29 | The cycling of organic nitrogen through the atmosphere. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2013, 368, 20130115. | 4.0 | 119 |
| 30 | Trends in aerosol nutrient solubility along a west-east transect of the Saharan dust plume. <i>Geophysical Research Letters</i> , 2006, 33, . | 4.0 | 118 |
| 31 | Short residence time for iron in surface seawater impacted by atmospheric dry deposition from Saharan dust events. <i>Geophysical Research Letters</i> , 2004, 31, . | 4.0 | 106 |
| 32 | Methods for the sampling and analysis of marine aerosols: results from the 2008 GEOTRACES aerosol intercalibration experiment. <i>Limnology and Oceanography: Methods</i> , 2013, 11, 62-78. | 2.0 | 100 |
| 33 | Estimation of iron solubility from observations and a global aerosol model. <i>Journal of Geophysical Research</i> , 2005, 110, . | 3.3 | 99 |
| 34 | The distribution of iodide at the sea surface. <i>Environmental Sciences: Processes and Impacts</i> , 2014, 16, 1841-1859. | 3.5 | 98 |
| 35 | Isotopic evidence for a marine ammonia source. <i>Geophysical Research Letters</i> , 2003, 30, . | 4.0 | 97 |
| 36 | Hafnium and neodymium isotopes in surface waters of the eastern Atlantic Ocean: Implications for sources and inputs of trace metals to the ocean. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 540-557. | 3.9 | 97 |

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|----|--|-----|-----------|
| 37 | Global oceanic emission of ammonia: Constraints from seawater and atmospheric observations. <i>Global Biogeochemical Cycles</i> , 2015, 29, 1165-1178. | 4.9 | 96 |
| 38 | Atmospheric trace metal concentrations, solubility and deposition fluxes in remote marine air over the south-east Atlantic. <i>Marine Chemistry</i> , 2015, 177, 45-56. | 2.3 | 93 |
| 39 | Estimation of atmospheric nutrient inputs to the Atlantic Ocean from 50°N to 50°S based on large-scale field sampling: Fixed nitrogen and dry deposition of phosphorus. <i>Global Biogeochemical Cycles</i> , 2010, 24, . | 4.9 | 91 |
| 40 | The Atlantic Meridional Transect (AMT) Programme: A contextual view 1995–2005. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2006, 53, 1485-1515. | 1.4 | 90 |
| 41 | Influence of chemical weathering and aging of iron oxides on the potential iron solubility of Saharan dust during simulated atmospheric processing. <i>Global Biogeochemical Cycles</i> , 2011, 25, n/a-n/a. | 4.9 | 90 |
| 42 | Estimation of atmospheric nutrient inputs to the Atlantic Ocean from 50°N to 50°S based on large-scale field sampling: Iron and other dust-associated elements. <i>Global Biogeochemical Cycles</i> , 2013, 27, 755-767. | 4.9 | 88 |
| 43 | Distribution and sea-air fluxes of biogenic trace gases in the eastern Atlantic Ocean. <i>Global Biogeochemical Cycles</i> , 2000, 14, 871-886. | 4.9 | 85 |
| 44 | Marine Aerosol Iodine Chemistry: The Importance of Soluble Organic Iodine. <i>Environmental Chemistry</i> , 2005, 2, 295. | 1.5 | 84 |
| 45 | Field observations of the ocean–atmosphere exchange of ammonia: Fundamental importance of temperature as revealed by a comparison of high and low latitudes. <i>Global Biogeochemical Cycles</i> , 2008, 22, . | 4.9 | 83 |
| 46 | Nutrients in atmospheric aerosol particles along the Atlantic Meridional Transect. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2006, 53, 1706-1719. | 1.4 | 81 |
| 47 | Inorganic iodine speciation in tropical Atlantic aerosol. <i>Geophysical Research Letters</i> , 2004, 31, . | 4.0 | 80 |
| 48 | Iodine speciation and deposition fluxes from the marine atmosphere. <i>Journal of Geophysical Research</i> , 2001, 106, 28743-28749. | 3.3 | 78 |
| 49 | Reduction of iodate to iodide by cold water diatom cultures. <i>Marine Chemistry</i> , 2007, 105, 169-180. | 2.3 | 77 |
| 50 | Atmospheric trace metals over the Atlantic and South Indian Oceans: Investigation of metal concentrations and lead isotope ratios in coastal and remote marine aerosols. <i>Atmospheric Environment</i> , 2006, 40, 5435-5451. | 4.1 | 72 |
| 51 | Iron biogeochemistry across marine systems – progress from the past decade. <i>Biogeosciences</i> , 2010, 7, 1075-1097. | 3.3 | 69 |
| 52 | Changes in dissolved iron deposition to the oceans driven by human activity: a 3-D global modelling study. <i>Biogeosciences</i> , 2015, 12, 3973-3992. | 3.3 | 69 |
| 53 | Reactive Halogens in the Marine Boundary Layer (RHAMBLe): the tropical North Atlantic experiments. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 1031-1055. | 4.9 | 66 |
| 54 | Potentially bioavailable iron delivery by iceberg-hosted sediments and atmospheric dust to the polar oceans. <i>Biogeosciences</i> , 2016, 13, 3887-3900. | 3.3 | 65 |

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|----|--|------|-----------|
| 55 | Changes in iron speciation following a Saharan dust event in the tropical North Atlantic Ocean. <i>Marine Chemistry</i> , 2008, 110, 56-67. | 2.3 | 63 |
| 56 | Western Pacific atmospheric nutrient deposition fluxes, their impact on surface ocean productivity. <i>Global Biogeochemical Cycles</i> , 2014, 28, 712-728. | 4.9 | 63 |
| 57 | Reviews and syntheses: the GESAMP atmospheric iron deposition model intercomparison study. <i>Biogeosciences</i> , 2018, 15, 6659-6684. | 3.3 | 63 |
| 58 | The biogeochemical cycle of dissolved cobalt in the Atlantic and the Southern Ocean south off the coast of South Africa. <i>Marine Chemistry</i> , 2011, 126, 193-206. | 2.3 | 62 |
| 59 | Aerosol organic nitrogen over the remote Atlantic Ocean. <i>Atmospheric Environment</i> , 2010, 44, 1887-1893. | 4.1 | 60 |
| 60 | Bioavailable atmospheric phosphorous supply to the global ocean: a 3-D global modeling study. <i>Biogeosciences</i> , 2016, 13, 6519-6543. | 3.3 | 60 |
| 61 | Composition and properties of atmospheric particles in the eastern Atlantic and impacts on gas phase uptake rates. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 9299-9314. | 4.9 | 58 |
| 62 | The distribution of iodine in the Baltic Sea during summer. <i>Marine Chemistry</i> , 2001, 74, 87-98. | 2.3 | 57 |
| 63 | Atmospheric trace metals over the south-west Indian Ocean: Total gaseous mercury, aerosol trace metal concentrations and lead isotope ratios. <i>Marine Chemistry</i> , 2010, 121, 2-16. | 2.3 | 57 |
| 64 | Atmospheric transport of trace elements and nutrients to the oceans. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20150286. | 3.4 | 57 |
| 65 | Distributions of dissolved trace metals (Cd, Cu, Mn, Pb, Ag) in the southeastern Atlantic and the Southern Ocean. <i>Biogeosciences</i> , 2012, 9, 3231-3246. | 3.3 | 51 |
| 66 | Seasonal and interannual variation of dissolved iodine speciation at a coastal Antarctic site. <i>Marine Chemistry</i> , 2010, 118, 171-181. | 2.3 | 49 |
| 67 | Estimation of the Atmospheric Flux of Nutrients and Trace Metals to the Eastern Tropical North Atlantic Ocean*. <i>Journals of the Atmospheric Sciences</i> , 2015, 72, 4029-4045. | 1.7 | 49 |
| 68 | Global dust teleconnections: aerosol iron solubility and stable isotope composition. <i>Environmental Chemistry</i> , 2007, 4, 233. | 1.5 | 48 |
| 69 | Fluxes and distribution of dissolved iron in the eastern (sub-€) tropical North Atlantic Ocean. <i>Global Biogeochemical Cycles</i> , 2012, 26, . | 4.9 | 48 |
| 70 | Return of naturally sourced Pb to Atlantic surface waters. <i>Nature Communications</i> , 2016, 7, 12921. | 12.8 | 47 |
| 71 | Iron Biogeochemistry in the High Latitude North Atlantic Ocean. <i>Scientific Reports</i> , 2018, 8, 1283. | 3.3 | 47 |
| 72 | Release and transformations of inorganic iodine by marine macroalgae. <i>Estuarine, Coastal and Shelf Science</i> , 2009, 82, 406-414. | 2.1 | 46 |

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|----|--|------|-----------|
| 73 | Stable isotope ratio measurements of Cu and Zn in mineral dust (bulk and size fractions) from the Taklimakan Desert and the Sahel and in aerosols from the eastern tropical North Atlantic Ocean. <i>Talanta</i> , 2013, 114, 103-109. | 5.5 | 45 |
| 74 | Impact of atmospheric deposition on the contrasting iron biogeochemistry of the North and South Atlantic Ocean. <i>Global Biogeochemical Cycles</i> , 2013, 27, 1096-1107. | 4.9 | 45 |
| 75 | Minor effect of physical size sorting on iron solubility of transported mineral dust. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 8459-8469. | 4.9 | 44 |
| 76 | Iron organic speciation determination in rainwater using cathodic stripping voltammetry. <i>Analytica Chimica Acta</i> , 2012, 736, 45-54. | 5.4 | 41 |
| 77 | Atmospheric processing of iron in mineral and combustion aerosols: development of an intermediate-complexity mechanism suitable for Earth system models. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 14175-14196. | 4.9 | 41 |
| 78 | Atmospheric deposition of soluble trace elements along the Atlantic Meridional Transect (AMT). <i>Progress in Oceanography</i> , 2017, 158, 41-51. | 3.2 | 40 |
| 79 | Changing atmospheric acidity as a modulator of nutrient deposition and ocean biogeochemistry. <i>Science Advances</i> , 2021, 7, . | 10.3 | 39 |
| 80 | Phosphorus solubility in aerosol particles related to particle sources and atmospheric acidification in Asian continental outflow. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 847-860. | 4.9 | 38 |
| 81 | Influence of atmospheric inputs on the iron distribution in the subtropical North-East Atlantic Ocean. <i>Marine Chemistry</i> , 2007, 104, 186-202. | 2.3 | 37 |
| 82 | Trace element and isotope deposition across the air-sea interface: progress and research needs. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20160190. | 3.4 | 37 |
| 83 | Importance of reactive halogens in the tropical marine atmosphere: a regional modelling study using WRF-Chem. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 3161-3189. | 4.9 | 36 |
| 84 | Copper and zinc removal from aqueous solution by mixed mineral systems. <i>Journal of Colloid and Interface Science</i> , 2005, 291, 319-325. | 9.4 | 35 |
| 85 | Particulate phases are key in controlling dissolved iron concentrations in the (sub)tropical North Atlantic. <i>Geophysical Research Letters</i> , 2017, 44, 2377-2387. | 4.0 | 34 |
| 86 | Ship-Based Contributions to Global Ocean, Weather, and Climate Observing Systems. <i>Frontiers in Marine Science</i> , 2019, 6, . | 2.5 | 34 |
| 87 | The Cd isotope composition of atmospheric aerosols from the Tropical Atlantic Ocean. <i>Geophysical Research Letters</i> , 2017, 44, 2932-2940. | 4.0 | 32 |
| 88 | Insights Into the Biogeochemical Cycling of Iron, Nitrate, and Phosphate Across a 5,300 km South Pacific Zonal Section (153°E-150°W). <i>Global Biogeochemical Cycles</i> , 2018, 32, 187-207. | 4.9 | 31 |
| 89 | Trace Metal Fractional Solubility in Size-Segregated Aerosols From the Tropical Eastern Atlantic Ocean. <i>Global Biogeochemical Cycles</i> , 2020, 34, e2019GB006510. | 4.9 | 30 |
| 90 | Soluble trace metals in aerosols over the tropical south-east Pacific offshore of Peru. <i>Biogeosciences</i> , 2016, 13, 817-825. | 3.3 | 29 |

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| 91 | Influence of the ITCZ on H ₂ O ₂ in near surface waters in the equatorial Atlantic Ocean. <i>Geophysical Research Letters</i> , 2004, 31, . | 4.0 | 27 |
| 92 | Atmospheric water-soluble organic nitrogen (WSON) over marine environments: a global perspective. <i>Biogeosciences</i> , 2015, 12, 3131-3140. | 3.3 | 26 |
| 93 | Observation- and model-based estimates of particulate dry nitrogen deposition to the oceans. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 8189-8210. | 4.9 | 26 |
| 94 | Global sea-surface iodide observations, 1967–2018. <i>Scientific Data</i> , 2019, 6, 286. | 5.3 | 25 |
| 95 | Spring–summer net community production, new production, particle export and related water column biogeochemical processes in the marginal sea ice zone of the Western Antarctic Peninsula 2012–2014. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2018, 376, 20170177. | 3.4 | 23 |
| 96 | Nitrogen processes in coastal and marine ecosystems. , 2011, , 147-176. | | 22 |
| 97 | High Production of Soluble Iron Promoted by Aerosol Acidification in Fog. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL086124. | 4.0 | 22 |
| 98 | An assessment of the vertical diffusive flux of iron and other nutrients to the surface waters of the subpolar North Atlantic Ocean. <i>Biogeosciences</i> , 2014, 11, 2113-2130. | 3.3 | 21 |
| 99 | Copper and zinc removal from aqueous solution by mixed mineral systems. <i>Journal of Colloid and Interface Science</i> , 2005, 291, 326-333. | 9.4 | 19 |
| 100 | Chemical controls on ozone deposition to water. <i>Geophysical Research Letters</i> , 2012, 39, . | 4.0 | 19 |
| 101 | Seasonal and geographical variability of nitryl chloride and its precursors in Northern Europe. <i>Atmospheric Science Letters</i> , 2018, 19, e844. | 1.9 | 19 |
| 102 | A microwave digestion-based determination of low molecular weight organic acids in Bayer process liquor. <i>Talanta</i> , 1995, 42, 1355-1360. | 5.5 | 18 |
| 103 | Determination of total and non-water soluble iodine in atmospheric aerosols by thermal extraction and spectrometric detection (TESI). <i>Analytical and Bioanalytical Chemistry</i> , 2010, 398, 519-526. | 3.7 | 17 |
| 104 | Global modeling of tropospheric iodine aerosol. <i>Geophysical Research Letters</i> , 2016, 43, 10012-10019. | 4.0 | 17 |
| 105 | Sequential flow analysis coupled with ACSF for on-line monitoring of cobalt in the marine environment. <i>Fresenius' Journal of Analytical Chemistry</i> , 1997, 358, 703-710. | 1.5 | 16 |
| 106 | Processing and Ageing in the Atmosphere. , 2014, , 75-92. | | 14 |
| 107 | Trace Element Biogeochemistry in the High-Latitude North Atlantic Ocean: Seasonal Variations and Volcanic Inputs. <i>Global Biogeochemical Cycles</i> , 2021, 35, e2020GB006674. | 4.9 | 13 |
| 108 | Comparison of Bauxite and Bayer Liquor Humic Substances by ¹³ C Nuclear Magnetic Resonance Spectroscopy. Implications for the Fate of Humic Substances in the Bayer Process. <i>Industrial & Engineering Chemistry Research</i> , 1998, 37, 4198-4202. | 3.7 | 9 |

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|-----|--|-----|-----------|
| 109 | Spatial and Temporal Variability of Iodine in Aerosol. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034410. | 3.3 | 9 |
| 110 | Influence of collection substrate and extraction method on the speciation of soluble iodine in atmospheric aerosols. Atmospheric Environment: X, 2019, 1, 100009. | 1.4 | 8 |
| 111 | Soluble trace metals associated with atmospheric fine particulate matter in the two most populous cities in Vietnam. Atmospheric Environment: X, 2022, 15, 100178. | 1.4 | 7 |
| 112 | Measurement report: Indirect evidence for the controlling influence of acidity on the speciation of iodine in Atlantic aerosols. Atmospheric Chemistry and Physics, 2021, 21, 13067-13076. | 4.9 | 5 |
| 113 | Perspectives and Integration in SOLAS Science. Springer Earth System Sciences, 2014, , 247-306. | 0.2 | 2 |
| 114 | Soluble Iodine Speciation in Marine Aerosols Across the Indian and Pacific Ocean Basins. Frontiers in Marine Science, 2021, 8, . | 2.5 | 2 |
| 115 | Atmospheric Transport and Deposition of Particulate Matter to the Oceans. , 2019, , 21-25. | | 1 |