Nicolas Gruber

List of Publications by Year
in descending order

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213	40,760	5268 83	2828 191
papers	citations	h-index	g-index

293	293	293	29239
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Anthropogenic ocean acidification over the twenty-first century and its impact on calcifying organisms. Nature, 2005, 437, 681-686.	27.8	3,772
2	The Oceanic Sink for Anthropogenic CO2. Science, 2004, 305, 367-371.	12.6	3,371
3	An Earth-system perspective of the global nitrogen cycle. Nature, 2008, 451, 293-296.	27.8	2,602
4	The Global Carbon Cycle: A Test of Our Knowledge of Earth as a System. Science, 2000, 290, 291-296.	12.6	1,601
5	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	9.9	1,477
6	Ocean Deoxygenation in a Warming World. Annual Review of Marine Science, 2010, 2, 199-229.	11.6	1,277
7	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	9.9	1,159
8	Global patterns of marine nitrogen fixation and denitrification. Global Biogeochemical Cycles, 1997, 11, 235-266.	4.9	1,134
9	High-latitude controls of thermocline nutrients and low latitude biological productivity. Nature, 2004, 427, 56-60.	27.8	1,090
10	Anthropogenic perturbation of the carbon fluxes from land to ocean. Nature Geoscience, 2013, 6, 597-607.	12.9	937
11	Marine heatwaves under global warming. Nature, 2018, 560, 360-364.	27.8	821
12	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	9.9	663
13	Spatial coupling of nitrogen inputs and losses in the ocean. Nature, 2007, 445, 163-167.	27.8	618
14	Recent trends and drivers of regional sources and sinks of carbon dioxide. Biogeosciences, 2015, 12, 653-679.	3.3	587
15	The oceanic sink for anthropogenic CO ₂ from 1994 to 2007. Science, 2019, 363, 1193-1199.	12.6	505
16	Oceanic sources, sinks, and transport of atmospheric CO₂. Global Biogeochemical Cycles, 2009, 23, .	4.9	455
17	Warming up, turning sour, losing breath: ocean biogeochemistry under global change. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 1980-1996.	3.4	427
18	An improved method for detecting anthropogenic CO2in the oceans. Global Biogeochemical Cycles, 1996, 10, 809-837.	4.9	415

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19	Spatial coupling of nitrogen inputs and losses in the ocean. Nature, 2007, 445, 163-167.	27.8	379
20	Rapid Progression of Ocean Acidification in the California Current System. Science, 2012, 337, 220-223.	12.6	353
21	Global ocean storage of anthropogenic carbon. Biogeosciences, 2013, 10, 2169-2191.	3.3	348
22	Inverse estimates of anthropogenic CO2uptake, transport, and storage by the ocean. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	4.9	331
23	The reinvigoration of the Southern Ocean carbon sink. Science, 2015, 349, 1221-1224.	12.6	331
24	Imprint of Southern Ocean eddies on winds, clouds and rainfall. Nature Geoscience, 2013, 6, 608-612.	12.9	324
25	Eddy-induced reduction of biological production in eastern boundary upwelling systems. Nature Geoscience, 2011, 4, 787-792.	12.9	315
26	Denitrification and N2fixation in the Pacific Ocean. Global Biogeochemical Cycles, 2001, 15, 483-506.	4.9	314
27	Recent variability of the global ocean carbon sink. Global Biogeochemical Cycles, 2014, 28, 927-949.	4.9	313
28	Sinks for Anthropogenic Carbon. Physics Today, 2002, 55, 30-36.	0.3	304
29	A switch from Si(OH)4to NO3â˜'depletion in the glacial Southern Ocean. Geophysical Research Letters, 2002, 29, 5-1.	4.0	294
30	Spatiotemporal patterns of carbon-13 in the global surface oceans and the oceanic suess effect. Global Biogeochemical Cycles, 1999, 13, 307-335.	4.9	277
31	Global ocean carbon uptake: magnitude, variability and trends. Biogeosciences, 2013, 10, 1983-2000.	3.3	276
32	Estimates of anthropogenic carbon uptake from four three-dimensional global ocean models. Global Biogeochemical Cycles, 2001, 15, 43-60.	4.9	274
33	Drivers and uncertainties of future global marine primary production in marine ecosystem models. Biogeosciences, 2015, 12, 6955-6984.	3.3	252
34	A first estimate of present and preindustrial air-sea CO2flux patterns based on ocean interior carbon measurements and models. Geophysical Research Letters, 2003, 30, 10-1-10-4.	4.0	245
35	Decadal variations and trends of the global ocean carbon sink. Global Biogeochemical Cycles, 2016, 30, 1396-1417.	4.9	241
36	Interannual Variability in the North Atlantic Ocean Carbon Sink. Science, 2002, 298, 2374-2378.	12.6	230

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37	Enhanced CO2outgassing in the Southern Ocean from a positive phase of the Southern Annular Mode. Global Biogeochemical Cycles, 2007, 21, n/a-n/a.	4.9	226
38	Impact of circulation on export production, dissolved organic matter, and dissolved oxygen in the ocean: Results from Phase II of the Ocean Carbonâ€cycle Model Intercomparison Project (OCMIPâ€2). Global Biogeochemical Cycles, 2007, 21, .	4.9	211
39	Evaluating global ocean carbon models: The importance of realistic physics. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	210
40	Sea-ice transport driving Southern Ocean salinity and its recent trends. Nature, 2016, 537, 89-92.	27.8	203
41	Toward a mechanistic understanding of the decadal trends in the Southern Ocean carbon sink. Global Biogeochemical Cycles, 2008, 22, .	4.9	202
42	Diagnosing the contribution of phytoplankton functional groups to the production and export of particulate organic carbon, CaCO3, and opal from global nutrient and alkalinity distributions. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	4.9	199
43	The Dynamics of the Marine Nitrogen Cycle and its Influence on Atmospheric CO2 Variations. , 2004, , 97-148.		196
44	Impact of the Southern Annular Mode on Southern Ocean circulation and biology. Geophysical Research Letters, 2005, 32, .	4.0	194
45	Evaluation of ocean model ventilation with CFC-11: comparison of 13 global ocean models. Ocean Modelling, 2002, 4, 89-120.	2.4	192
46	Current systematic carbon-cycle observations and the need for implementing a policy-relevant carbon observing system. Biogeosciences, 2014, 11, 3547-3602.	3.3	189
47	The Marine Nitrogen Cycle. , 2008, , 1-50.		185
48	Changes in Ocean Heat, Carbon Content, and Ventilation: A Review of the First Decade of GO-SHIP Global Repeat Hydrography. Annual Review of Marine Science, 2016, 8, 185-215.	11.6	183
49	Anthropogenic CO2in the Atlantic Ocean. Global Biogeochemical Cycles, 1998, 12, 165-191.	4.9	176
50	Increasing anthropogenic nitrogen in the North Pacific Ocean. Science, 2014, 346, 1102-1106.	12.6	174
51	Observing Biogeochemical Cycles at Global Scales with Profiling Floats and Gliders: Prospects for a Global Array. Oceanography, 2009, 22, 216-225.	1.0	171
52	Evaluation of ocean carbon cycle models with data-based metrics. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	168
53	Trends and regional distributions of land and ocean carbon sinks. Biogeosciences, 2010, 7, 2351-2367.	3.3	167
54	A neural network-based estimate of the seasonal to inter-annual variability of the Atlantic Ocean carbon sink. Biogeosciences, 2013, 10, 7793-7815.	3.3	167

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55	The Variable Southern Ocean Carbon Sink. Annual Review of Marine Science, 2019, 11, 159-186.	11.6	165
56	Seasonal and long-term dynamics of the upper ocean carbon cycle at Station ALOHA near Hawaii. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	164
57	Data-based estimates of the ocean carbon sink variability â€“ first results of the Surface Ocean <i>p</i>CO₂ Mapping intercomparison (SOCOM). Biogeosciences, 2015, 12, 7251-7278.	3.3	163
58	Seaâ€“air CO₂ fluxes in the Southern Ocean for the period 1990â€“2009. Biogeosciences, 2013, 10, 4037-4054.	3.3	162
59	Inverse estimates of the oceanic sources and sinks of natural CO2 and the implied oceanic carbon transport. Global Biogeochemical Cycles, 2007, 21, .	4.9	156
60	Multiple constraints on regional CO2flux variations over land and oceans. Global Biogeochemical Cycles, 2005, 19, .	4.9	154
61	Eddy-resolving simulation of plankton ecosystem dynamics in the California Current System. Deep-Sea Research Part I: Oceanographic Research Papers, 2006, 53, 1483-1516.	1.4	154
62	Spatiotemporal variability and long-term trends of ocean acidification in the California Current System. Biogeosciences, 2013, 10, 193-216.	3.3	152
63	A joint atmosphere-ocean inversion for surface fluxes of carbon dioxide: 1. Methods and global-scale fluxes. Global Biogeochemical Cycles, 2007, 21, .	4.9	138
64	Global pattern of phytoplankton diversity driven by temperature and environmental variability. Science Advances, 2019, 5, eaau6253.	10.3	134
65	OCEAN ACIDIFICATION IN THE CALIFORNIA CURRENT SYSTEM. Oceanography, 2009, 22, 60-71.	1.0	131
66	An assessment of the Atlantic and Arctic seaâ€“air CO₂ fluxes, 1990â€“2009. Biogeosciences, 2013, 10, 607-627.	3.3	131
67	A short-term sink for atmospheric CO2 in subtropical mode water of the North Atlantic Ocean. Nature, 2002, 420, 489-493.	27.8	130
68	Biology and airâ€“sea gas exchange controls on the distribution of carbon isotope ratios (Î´¹³C) in the ocean. Biogeosciences, 2013, 10, 5793-5816.	3.3	130
69	Southern <scp>O</scp>cean eddy phenomenology. Journal of Geophysical Research: Oceans, 2015, 120, 7413-7449.	2.6	129
70	Nitrogen fixation within the water column associated with two hypoxic basins in the Southern California Bight. Aquatic Microbial Ecology, 2011, 63, 193-205.	1.8	126
71	Dominant role of eddies and filaments in the offshore transport of carbon and nutrients in the <scp>C</scp>alifornia <scp>C</scp>urrent <scp>S</scp>ystem. Journal of Geophysical Research: Oceans, 2015, 120, 5318-5341.	2.6	118
72	Consistency and Challenges in the Ocean Carbon Sink Estimate for the Global Carbon Budget. Frontiers in Marine Science, 2020, 7, .	2.5	114

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73	Trends and drivers in global surface ocean pH over the past 3 decades. Biogeosciences, 2015, 12, 1285-1298.	3.3	112
74	Continental shelves as a variable but increasing global sink for atmospheric carbon dioxide. Nature Communications, 2018, 9, 454.	12.8	112
75	Strengthening seasonal marine CO2 variations due to increasing atmospheric CO2. Nature Climate Change, 2018, 8, 146-150.	18.8	109
76	Oceanic vertical exchange and new production: a comparison between models and observations. Deep-Sea Research Part II: Topical Studies in Oceanography, 2001, 49, 363-401.	1.4	107
77	Projected decreases in future marine export production: the role of the carbon flux through the upper ocean ecosystem. Biogeosciences, 2016, 13, 4023-4047.	3.3	106
78	Around one third of current Arctic Ocean primary production sustained by rivers and coastal erosion. Nature Communications, 2021, 12, 169.	12.8	106
79	Improved Estimates of Changes in Upper Ocean Salinity and the Hydrological Cycle. Journal of Climate, 2020, 33, 10357-10381.	3.2	105
80	Ecological niches of open ocean phytoplankton taxa. Limnology and Oceanography, 2015, 60, 1020-1038.	3.1	104
81	Offsetting the radiative benefit of ocean iron fertilization by enhancing N2O emissions. Geophysical Research Letters, 2003, 30, .	4.0	102
82	How accurate is the estimation of anthropogenic carbon in the ocean? An evaluation of the Î”C* method. Global Biogeochemical Cycles, 2005, 19, .	4.9	101
83	Carbon-13 constraints on the seasonal inorganic carbon budget at the BATS site in the northwestern Sargasso Sea. Deep-Sea Research Part I: Oceanographic Research Papers, 1998, 45, 673-717.	1.4	99
84	Changing controls on oceanic radiocarbon: New insights on shallowâ€toâ€deep ocean exchange and anthropogenic CO₂ uptake. Journal of Geophysical Research, 2012, 117, .	3.3	99
85	Biogeochemical extremes and compound events in the ocean. Nature, 2021, 600, 395-407.	27.8	96
86	OceanSODA-ETHZ: a global gridded data set of the surface ocean carbonate system for seasonal to decadal studies of ocean acidification. Earth System Science Data, 2021, 13, 777-808.	9.9	88
87	Air-sea flux of oxygen estimated from bulk data: Implications For the marine and atmospheric oxygen cycles. Global Biogeochemical Cycles, 2001, 15, 783-803.	4.9	86
88	The Spatiotemporal Dynamics of the Sources and Sinks of CO₂ in the Global Coastal Ocean. Global Biogeochemical Cycles, 2019, 33, 1693-1714.	4.9	86
89	Deep ocean biogeochemistry of silicic acid and nitrate. Global Biogeochemical Cycles, 2007, 21, .	4.9	85
90	On the Southern Ocean CO₂ uptake and the role of the biological carbon pump in the 21st century. Global Biogeochemical Cycles, 2015, 29, 1451-1470.	4.9	85

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91	The effects of temperature, salinity, and the carbonate system on Mg/Ca in Globigerinoides ruber (white): A global sediment trap calibration. Earth and Planetary Science Letters, 2018, 482, 607-620.	4.4	82
92	A joint atmosphere-ocean inversion for surface fluxes of carbon dioxide: 2. Regional results. Global Biogeochemical Cycles, 2007, 21, .	4.9	77
93	Decadal water mass variations along 20Â°W in the Northeastern Atlantic Ocean. Progress in Oceanography, 2007, 73, 277-295.	3.2	77
94	On the relationships between primary, net community, and export production in subtropical gyres. Deep-Sea Research Part II: Topical Studies in Oceanography, 2006, 53, 698-717.	1.4	74
95	Continental-scale enrichment of atmospheric ¹⁴CO₂ from the nuclear power industry: potential impact on the estimation of fossil fuel-derived CO₂. Atmospheric Chemistry and Physics, 2011, 11, 12339-12349.	4.9	74
96	A probabilistic estimate of global marine Nâ€fixation and denitrification. Global Biogeochemical Cycles, 2012, 26, .	4.9	73
97	Detecting anthropogenic CO₂ changes in the interior Atlantic Ocean between 1989 and 2005. Journal of Geophysical Research, 2010, 115, .	3.3	72
98	Carbon isotope evidence for the latitudinal distribution and wind speed dependence of the airâ€“sea gas transfer velocity. Tellus, Series B: Chemical and Physical Meteorology, 2006, 58, 390-417.	1.6	71
99	Global marine plankton functional type biomass distributions: coccolithophores. Earth System Science Data, 2013, 5, 259-276.	9.9	71
100	Global high-resolution monthly <i>p</i>CO₂ climatology for the coastal ocean derived from neural network interpolation. Biogeosciences, 2017, 14, 4545-4561.	3.3	71
101	Interannual variability of the upper ocean carbon cycle at station ALOHA near Hawaii. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	70
102	The intensity, duration, and severity of low aragonite saturation state events on the California continental shelf. Geophysical Research Letters, 2013, 40, 3424-3428.	4.0	70
103	Integrating Biogeochemistry and Ecology Into Ocean Data Assimilation Systems. Oceanography, 2009, 22, 206-215.	1.0	69
104	Rethinking climate engineering categorization in the context of climate change mitigation and adaptation. Wiley Interdisciplinary Reviews: Climate Change, 2014, 5, 23-35.	8.1	69
105	Transfer Across the Air-Sea Interface. Springer Earth System Sciences, 2014, , 55-112.	0.2	69
106	What can be learned about carbon cycle climate feedbacks from the CO₂ airborne fraction?. Atmospheric Chemistry and Physics, 2010, 10, 7739-7751.	4.9	68
107	The anthropogenic perturbation of the marine nitrogen cycle by atmospheric deposition: Nitrogen cycle feedbacks and the ¹⁵N Haberâ€Bosch effect. Global Biogeochemical Cycles, 2016, 30, 1418-1440.	4.9	68
108	Major restructuring of marine plankton assemblages under global warming. Nature Communications, 2021, 12, 5226.	12.8	67

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109	Oxygen trends over five decades in the North Atlantic. Journal of Geophysical Research, 2012, 117, .	3.3	66
110	Atmospheric potential oxygen: New observations and their implications for some atmospheric and oceanic models. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	4.9	64
111	A comparative study of biological production in eastern boundary upwelling systems using an artificial neural network. Biogeosciences, 2012, 9, 293-308.	3.3	64
112	The quiet crossing of ocean tipping points. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	64
113	Carbon at the coastal interface. Nature, 2015, 517, 148-149.	27.8	62
114	How strong is the Harvardton-Bear Constraint?. Global Biogeochemical Cycles, 1999, 13, 817-820.	4.9	61
115	An improved estimate of the isotopic air-sea disequilibrium of CO2: Implications for the oceanic uptake of anthropogenic CO2. Geophysical Research Letters, 2001, 28, 555-558.	4.0	61
116	Remote versus local influence of <scp>ENSO</scp> on the <scp>C</scp>alifornia Current System. Journal of Geophysical Research: Oceans, 2015, 120, 1353-1374.	2.6	61
117	Decoupling marine export production from new production. Geophysical Research Letters, 2005, 32, .	4.0	60
118	Reviews and syntheses: An empirical spatiotemporal description of the global surfaceâ€“atmosphere carbon fluxes: opportunities and data limitations. Biogeosciences, 2017, 14, 3685-3703.	3.3	58
119	What controls biological production in coastal upwelling systems? Insights from a comparative modeling study. Biogeosciences, 2011, 8, 2961-2976.	3.3	57
120	Decadal variability in twentieth-century ocean acidification in the California Current Ecosystem. Nature Geoscience, 2020, 13, 43-49.	12.9	51
121	SeaFlux: harmonization of airâ€“sea CO₂ fluxes from surface <i>p</i>CO₂ data products using a standardized approach. Earth System Science Data, 2021, 13, 4693-4710.	9.9	51
122	Climatic modulation of recent trends in ocean acidification in the California Current System. Environmental Research Letters, 2016, 11, 014007.	5.2	50
123	Ocean acidification limits temperature-induced poleward expansion of coral habitats around Japan. Biogeosciences, 2012, 9, 4955-4968.	3.3	49
124	Spatiotemporal variability and drivers of <i>p</i>CO₂ and airâ€“sea CO₂ fluxes in the California Current System: an eddy-resolving modeling study. Biogeosciences, 2014, 11, 671-690.	3.3	49
125	Projections of oceanic N₂O emissions in the 21st century using the IPSL Earth system model. Biogeosciences, 2015, 12, 4133-4148.	3.3	48
126	Atmospheric Response to Mesoscale Sea Surface Temperature Anomalies: Assessment of Mechanisms and Coupling Strength in a High-Resolution Coupled Model over the South Atlantic*. Journals of the Atmospheric Sciences, 2015, 72, 1872-1890.	1.7	48

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127	A model-based assessment of the TrOCA approach for estimating anthropogenic carbon in the ocean. Biogeosciences, 2010, 7, 723-751.	3.3	47
128	Imprint of Southern Ocean mesoscale eddies on chlorophyll. Biogeosciences, 2018, 15, 4781-4798.	3.3	47
129	Constraining future terrestrial carbon cycle projections using observationâ€based water and carbon flux estimates. Global Change Biology, 2016, 22, 2198-2215.	9.5	46
130	The MAREDAT global database of high performance liquid chromatography marine pigment measurements. Earth System Science Data, 2013, 5, 109-123.	9.9	44
131	Ocean (De)oxygenation Across the Last Deglaciation: Insights for the Future. Oceanography, 2014, 27, 26-35.	1.0	43
132	The impact on atmospheric CO₂ of iron fertilization induced changes in the ocean's biological pump. Biogeosciences, 2008, 5, 385-406.	3.3	42
133	Mesoscale atmosphere ocean coupling enhances the transfer of wind energy into the ocean. Nature Communications, 2016, 7, ncomms11867.	12.8	42
134	ENSOâ€Driven Variability of Denitrification and Suboxia in the Eastern Tropical Pacific Ocean. Global Biogeochemical Cycles, 2017, 31, 1470-1487.	4.9	41
135	Observationâ€Based Trends of the Southern Ocean Carbon Sink. Geophysical Research Letters, 2017, 44, 12,339.	4.0	41
136	On the long-range offshore transport of organic carbon from the Canary Upwelling System to the open North Atlantic. Biogeosciences, 2017, 14, 3337-3369.	3.3	41
137	Response of biological production and airâ€“sea CO2 fluxes to upwelling intensification in the California and Canary Current Systems. Journal of Marine Systems, 2013, 109-110, 149-160.	2.1	39
138	Long-term trends in ocean plankton production and particle export between 1960â€“2006. Biogeosciences, 2013, 10, 7373-7393.	3.3	39
139	Carbon isotopes in the ocean model of the Community Earth System Model (CESM1). Geoscientific Model Development, 2015, 8, 2419-2434.	3.6	39
140	Local atmospheric forcing driving an unexpected California Current System response during the 2015â€“2016 El NiÃ±o. Geophysical Research Letters, 2017, 44, 304-311.	4.0	39
141	Seaâ€Ice Induced Southern Ocean Subsurface Warming and Surface Cooling in a Warming Climate. AGU Advances, 2020, 1, e2019AV000132.	5.4	39
142	The CarboCount CH sites: characterization of a dense greenhouse gas observation network. Atmospheric Chemistry and Physics, 2015, 15, 11147-11164.	4.9	38
143	Diurnal carbon cycling in the surface ocean and lower atmosphere of Santa Monica Bay, California. Geophysical Research Letters, 2009, 36, .	4.0	37
144	Redfield's evolving legacy. Nature Geoscience, 2014, 7, 853-855.	12.9	37

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145	Global coccolithophore diversity: Drivers and future change. Progress in Oceanography, 2016, 140, 27-42.	3.2	36
146	Variability and trends of ocean acidification in the Southern California Current System: A time series from Santa Monica Bay. Journal of Geophysical Research: Oceans, 2013, 118, 3622-3633.	2.6	35
147	The eMLR(C*) Method to Determine Decadal Changes in the Global Ocean Storage of Anthropogenic CO₂. Global Biogeochemical Cycles, 2018, 32, 654-679.	4.9	35
148	Pacific Anthropogenic Carbon Between 1991 and 2017. Global Biogeochemical Cycles, 2019, 33, 597-617.	4.9	35
149	Biogeographic classification of the Caspian Sea. Biogeosciences, 2014, 11, 6451-6470.	3.3	34
150	A global seasonal surface ocean climatology of phytoplankton types based on CHEMTAX analysis of HPLC pigments. Deep-Sea Research Part I: Oceanographic Research Papers, 2016, 109, 137-156.	1.4	33
151	Factors controlling coccolithophore biogeography in the Southern Ocean. Biogeosciences, 2018, 15, 6997-7024.	3.3	33
152	Comparison of two approaches to quantify anthropogenic CO2in the ocean: Results from the northern Indian Ocean. Global Biogeochemical Cycles, 2001, 15, 11-25.	4.9	32
153	Seasonal Carbon Dynamics in the Nearâ€€Global Ocean. Global Biogeochemical Cycles, 2020, 34, e2020GB006571.	4.9	32
154	Biological and physical impacts of ageostrophic frontal circulations driven by confluent flow and vertical mixing. Dynamics of Atmospheres and Oceans, 2008, 45, 229-251.	1.8	31
155	Elusive marine nitrogen fixation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4246-4248.	7.1	31
156	Mesoscale contribution to the long-range offshore transport of organic carbon from the Canary Upwelling System to the open North Atlantic. Biogeosciences, 2018, 15, 5061-5091.	3.3	31
157	The dynamics of the marine nitrogen cycle across the last deglaciation. Paleoceanography, 2013, 28, 116-129.	3.0	30
158	Long-term trends in surface ocean pH in the North Atlantic. Marine Chemistry, 2014, 162, 71-76.	2.3	30
159	Air-Sea Interactions of Natural Long-Lived Greenhouse Gases (CO2, N2O, CH4) in a Changing Climate. Springer Earth System Sciences, 2014, , 113-169.	0.2	29
160	Estimating net air-sea fluxes from ocean bulk data: Methodology and application to the heat cycle. Global Biogeochemical Cycles, 2001, 15, 767-782.	4.9	28
161	Highâ€frequency response of the ocean to mountain gap winds in the northeastern tropical Pacific. Journal of Geophysical Research, 2009, 114, .	3.3	28
162	Air-sea CO₂ fluxes and the controls on ocean surface <i>p</i>CO₂ seasonal variability in the coastal and open-ocean southwestern Atlantic Ocean: a modeling study. Biogeosciences, 2015, 12, 5793-5809.	3.3	28

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163	Abiotic controls of potentially harmful algal blooms in Santa Monica Bay, California. Continental Shelf Research, 2008, 28, 2584-2593.	1.8	27
164	Fickle trends in the ocean. Nature, 2009, 458, 155-156.	27.8	27
165	On the role of climate modes in modulating the airâ€“sea CO₂ fluxes in eastern boundary upwelling systems. Biogeosciences, 2019, 16, 329-346.	3.3	27
166	Title is missing!. Journal of Paleolimnology, 2000, 24, 277-291.	1.6	26
167	Origin, Transformation, and Fate: The Threeâ€Dimensional Biological Pump in the California Current System. Journal of Geophysical Research: Oceans, 2018, 123, 7939-7962.	2.6	26
168	Guidelines Towards an Integrated Ocean Observation System for Ecosystems and Biogeochemical Cycles. , 2010, , .		26
169	A bigger nitrogen fix. Nature, 2005, 436, 786-787.	27.8	25
170	Contrasting Impact of Future CO₂ Emission Scenarios on the Extent of CaCO₃ Mineral Undersaturation in the Humboldt Current System. Journal of Geophysical Research: Oceans, 2018, 123, 2018-2036.	2.6	24
171	Contrasting Upper and Deep Ocean Oxygen Response to Protracted Global Warming. Global Biogeochemical Cycles, 2020, 34, e2020GB006601.	4.9	24
172	Deglacial nitrogen isotope changes in the Gulf of Mexico: Evidence from bulk sedimentary and foraminiferaâ€bound nitrogen in Orca Basin sediments. Paleoceanography, 2011, 26, .	3.0	21
173	Spatiotemporal patterns of the fossil-fuel CO₂ signal in central Europe: results from a high-resolution atmospheric transport model. Atmospheric Chemistry and Physics, 2017, 17, 14145-14169.	4.9	20
174	Circulation timescales of Atlantic Water in the Arctic Ocean determined from anthropogenic radionuclides. Ocean Science, 2021, 17, 111-129.	3.4	20
175	Atlantic Ocean CARINA data: overview and salinity adjustments. Earth System Science Data, 2010, 2, 17-34.	9.9	20
176	Labrador Sea Water property variations in the northeastern Atlantic Ocean. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	18
177	Interannual to decadal oxygen variability in the mid-depth water masses of the eastern North Atlantic. Deep-Sea Research Part I: Oceanographic Research Papers, 2015, 95, 85-98.	1.4	18
178	Biogeochemical Consequences of Ocean Acidification and Feedbacks to the Earth System. , 2011, , .		17
179	A CO-based method to determine the regional biospheric signal in atmospheric CO₂. Tellus, Series B: Chemical and Physical Meteorology, 2022, 69, 1353388.	1.6	15
180	Sub-seasonal to interannual variations of sea surface temperature, salinity, oxygen anomaly, and transmissivity in Santa Monica Bay, California from 1987 to 1997. Continental Shelf Research, 2004, 24, 1053-1082.	1.8	14

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181	Large-Scale, Persistent Nutrient Fronts of the World Ocean: Impacts on Biogeochemistry. Handbook of Environmental Chemistry, 2013, , 25-62.	0.4	14
182	Will marine productivity wane?. Science, 2018, 359, 1103-1104.	12.6	14
183	CARINA oxygen data in the Atlantic Ocean. Earth System Science Data, 2009, 1, 87-100.	9.9	13
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