Dorothee Bakker

List of Publications by Year
in descending order

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97 papers	15,131 citations	50170 46 h-index	34900 98 g-index
132 all docs	132 docs citations	132 times ranked	14365 citing authors

#	Article	IF	Citations
1	Climatological mean and decadal change in surface ocean pCO2, and net seaâ€“air CO2 flux over the global oceans. Deep-Sea Research Part II: Topical Studies in Oceanography, 2009, 56, 554-577.	0.6	1,540
2	A mesoscale phytoplankton bloom in the polar Southern Ocean stimulated by iron fertilization. Nature, 2000, 407, 695-702.	13.7	1,417
3	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	3.7	1,159
4	Global Carbon Budget 2017. Earth System Science Data, 2018, 10, 405-448.	3.7	801
5	Importance of iron for plankton blooms and carbon dioxide drawdown in the Southern Ocean. Nature, 1995, 373, 412-415.	13.7	748
6	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	3.7	663
7	Global Carbon Budget 2015. Earth System Science Data, 2015, 7, 349-396.	3.7	616
8	Synthesis of iron fertilization experiments: From the Iron Age in the Age of Enlightenment. Journal of Geophysical Research, 2005, 110, .	3.3	596
9	Effect of iron supply on Southern Ocean CO2 uptake and implications for glacial atmospheric CO2. Nature, 2000, 407, 730-733.	13.7	449
10	A multi-decade record of high-quality <i>f</i>CO₂ data in version 3 of the Surface Ocean CO₂ Atlas (SOCAT). Earth System Science Data, 2016, 8, 383-413.	3.7	413
11	Southern Ocean deep-water carbon export enhanced by natural iron fertilization. Nature, 2009, 457, 577-580.	13.7	338
12	The reinvigoration of the Southern Ocean carbon sink. Science, 2015, 349, 1221-1224.	6.0	331
13	Recent variability of the global ocean carbon sink. Global Biogeochemical Cycles, 2014, 28, 927-949.	1.9	313
14	Global carbon budget 2013. Earth System Science Data, 2014, 6, 235-263.	3.7	311
15	Extensive dissolution of live pteropods in the Southern Ocean. Nature Geoscience, 2012, 5, 881-885.	5.4	266
16	Decadal variations and trends of the global ocean carbon sink. Global Biogeochemical Cycles, 2016, 30, 1396-1417.	1.9	241
17	On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. Frontiers in Marine Science, 2019, 6, .	1.2	235
18	Tracking the Variable North Atlantic Sink for Atmospheric CO ₂. Science, 2009, 326, 1391-1393.	6.0	173

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19	A neural network-based estimate of the seasonal to inter-annual variability of the Atlantic Ocean carbon sink. Biogeosciences, 2013, 10, 7793-7815.	1.3	167
20	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.	1.3	163
21	Seaâ€“air CO₂ fluxes in the Southern Ocean for the period 1990â€“2009. Biogeosciences, 2013, 10, 4037-4054.	1.3	162
22	A uniform, quality controlled Surface Ocean CO₂ Atlas (SOCAT). Earth System Science Data, 2013, 5, 125-143.	3.7	158
23	An update to the Surface Ocean CO₂ Atlas (SOCAT version 2). Earth System Science Data, 2014, 6, 69-90.	3.7	158
24	Global surface-ocean <i>p</i>^{CO₂} and seaâ€“air CO₂ flux variability from an observation-driven ocean mixed-layer scheme. Ocean Science, 2013, 9, 193-216.	1.3	141
25	Consistency and Challenges in the Ocean Carbon Sink Estimate for the Global Carbon Budget. Frontiers in Marine Science, 2020, 7, .	1.2	114
26	Interannual seaâ€“air CO₂ flux variability from an observation-driven ocean mixed-layer scheme. Biogeosciences, 2014, 11, 4599-4613.	1.3	111
27	Estimating the monthly <i>p</i>CO₂ distribution in the North Atlantic using a self-organizing neural network. Biogeosciences, 2009, 6, 1405-1421.	1.3	109
28	The ocean carbon sink â€“ impacts, vulnerabilities and challenges. Earth System Dynamics, 2015, 6, 327-358.	2.7	109
29	Strengthening seasonal marine CO2 variations due to increasing atmospheric CO2. Nature Climate Change, 2018, 8, 146-150.	8.1	109
30	Changes of carbon dioxide in surface waters during spring in the Southern Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 1997, 44, 91-127.	0.6	107
31	The Weddell Gyre, Southern Ocean: Present Knowledge and Future Challenges. Reviews of Geophysics, 2019, 57, 623-708.	9.0	105
32	Variability and change in the west Antarctic Peninsula marine system: Research priorities and opportunities. Progress in Oceanography, 2019, 173, 208-237.	1.5	102
33	Surface Ocean CO₂ Atlas (SOCAT) gridded data products. Earth System Science Data, 2013, 5, 145-153.	3.7	101
34	Dissolution Dominating Calcification Process in Polar Pteropods Close to the Point of Aragonite Undersaturation. PLoS ONE, 2014, 9, e109183.	1.1	100
35	Ocean acidification and marine trace gas emissions. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 760-765.	3.3	96
36	Description and quantification of pteropod shell dissolution: a sensitive bioindicator of ocean acidification. Global Change Biology, 2012, 18, 2378-2388.	4.2	91

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37	Short-term metabolic and growth responses of the cold-water coral Lophelia pertusa to ocean acidification. Deep-Sea Research Part II: Topical Studies in Oceanography, 2014, 99, 27-35.	0.6	84
38	Shelled pteropods in peril: Assessing vulnerability in a high CO2 ocean. Earth-Science Reviews, 2017, 169, 132-145.	4.0	78
39	Carbon on the Northwest European Shelf: Contemporary Budget and Future Influences. Frontiers in Marine Science, 2020, 7, .	1.2	70
40	Trends in inorganic and organic carbon in a bloom of Emiliania huxleyi in the North Sea. Marine Ecology - Progress Series, 1996, 143, 271-282.	0.9	64
41	Surface-ocean CO2 variability and vulnerability. Deep-Sea Research Part II: Topical Studies in Oceanography, 2009, 56, 504-511.	0.6	62
42	Quantifying and valuing carbon flows and stores in coastal and shelf ecosystems in the UK. Ecosystem Services, 2019, 35, 67-76.	2.3	62
43	The contribution of the Weddell Gyre to the lower limb of the Global Overturning Circulation. Journal of Geophysical Research: Oceans, 2014, 119, 3357-3377.	1.0	61
44	Southern Ocean iron enrichment promotes inorganic carbon drawdown. Deep-Sea Research Part II: Topical Studies in Oceanography, 2001, 48, 2483-2507.	0.6	59
45	Population dynamics and biogeochemical significance of Limacina helicina antarctica in the Scotia Sea (Southern Ocean). Deep-Sea Research Part II: Topical Studies in Oceanography, 2012, 59-60, 105-116.	0.6	52
46	The island mass effect and biological carbon uptake for the subantarctic Crozet Archipelago. Deep-Sea Research Part II: Topical Studies in Oceanography, 2007, 54, 2174-2190.	0.6	50
47	A rapid transition from ice covered CO₂â€“rich waters to a biologically mediated CO₂ sink in the eastern Weddell Gyre. Biogeosciences, 2008, 5, 1373-1386.	1.3	50
48	Î´13C of Southern Ocean suspended organic matter during spring and early summer: regional and temporal variability. Deep-Sea Research Part II: Topical Studies in Oceanography, 1997, 44, 129-142.	0.6	46
49	Southern Ocean pteropods at risk from ocean warming and acidification. Marine Biology, 2018, 165, 8.	0.7	46
50	Coccolithophores on the north-west European shelf: calcification rates and environmental controls. Biogeosciences, 2014, 11, 3919-3940.	1.3	45
51	The dependence on temperature and salinity of dissolved inorganic carbon in East Atlantic surface waters. Marine Chemistry, 1999, 65, 263-280.	0.9	43
52	Satellite sea surface temperature: a powerful tool for interpreting in situ pCO2 measurements in the equatorial Pacific Ocean. Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 490-508.	0.8	42
53	Impact of the North Atlantic Oscillation on the transâ€Atlantic migrations of the European eel (Anguilla anguilla). Journal of Geophysical Research, 2008, 113, .	3.3	42
54	The seasonal cycle of oceanâ€atmosphere CO₂ flux in Ryder Bay, west Antarctic Peninsula. Geophysical Research Letters, 2015, 42, 2934-2942.	1.5	41

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55	Dissolved carbon dioxide in Dutch coastal waters. Marine Chemistry, 1996, 55, 247-263.	0.9	39
56	A piece in the CO2 jigsaw. Nature, 2001, 410, 765-766.	13.7	38
57	Iron and mixing affect biological carbon uptake in SOIREE and EisenEx, two Southern Ocean iron fertilisation experiments. Deep-Sea Research Part I: Oceanographic Research Papers, 2005, 52, 1001-1019.	0.6	38
58	The seasonal cycle of carbonate system processes in Ryder Bay, West Antarctic Peninsula. Deep-Sea Research Part II: Topical Studies in Oceanography, 2017, 139, 167-180.	0.6	36
59	Environmental drivers of coccolithophore abundance and calcification across Drake Passage (Southern Ocean). Biogeosciences, 2016, 13, 5917-5935.	1.3	33
60	Dynamic seasonal cycling of inorganic carbon downstream of South Georgia, Southern Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2012, 59-60, 25-35.	0.6	31
61	Variability of the net airâ€“sea CO2flux inferred from shipboard and satellite measurements in the Southern Ocean south of Tasmania and New Zealand. Journal of Geophysical Research, 2005, 110, .	3.3	30
62	Air-Sea Interactions of Natural Long-Lived Greenhouse Gases (CO2, N2O, CH4) in a Changing Climate. Springer Earth System Sciences, 2014, , 113-169.	0.1	29
63	An operational monitoring system to provide indicators of CO2-related variables in the ocean. ICES Journal of Marine Science, 2008, 65, 1498-1503.	1.2	27
64	Anthropogenic carbon accumulation in the subtropical North Atlantic. Journal of Geophysical Research, 2010, 115, .	3.3	26
65	Intercomparison of carbonate chemistry measurements on a cruise in northwestern European shelf seas. Biogeosciences, 2014, 11, 4339-4355.	1.3	26
66	Reframing the carbon cycle of the subpolar Southern Ocean. Science Advances, 2019, 5, eaav6410.	4.7	25
67	Carbon dynamics of the Weddell Gyre, Southern Ocean. Global Biogeochemical Cycles, 2015, 29, 288-306.	1.9	24
68	The CO2 system in a Redfield context during an iron enrichment experiment in the Southern Ocean. Marine Chemistry, 2005, 95, 89-105.	0.9	23
69	Variability of surface waterfCO2during seasonal upwelling in the equatorial Atlantic Ocean as observed by a drifting buoy. Journal of Geophysical Research, 2001, 106, 9241-9253.	3.3	21
70	High productivity in an ice melting hot spot at the eastern boundary of the Weddell Gyre. Global Biogeochemical Cycles, 2010, 24, .	1.9	21
71	Uncertainties in eddy covariance airâ€“sea CO₂ flux measurements and implications for gas transfer velocity parameterisations. Atmospheric Chemistry and Physics, 2021, 21, 8089-8110.	1.9	20
72	Rapid changes in surface water carbonate chemistry during Antarctic sea ice melt. Tellus, Series B: Chemical and Physical Meteorology, 2010, 62, 621-635.	0.8	18

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73	Consistency of cruise data of the CARINA database in the Atlantic sector of the Southern Ocean. Earth System Science Data, 2009, 1, 63-75.	3.7	17
74	Satellite sea surface temperature: a powerful tool for interpreting in situ <i>p</i>CO₂ measurements in the equatorial Pacific Ocean. Tellus, Series B: Chemical and Physical Meteorology, 2022, 51, 490.	0.8	16
75	Modelled and observed sea surface fCO2 in the southern ocean: a comparative study. Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 541-559.	0.8	16
76	Ocean fertilization with iron: effects on climate and air quality. Tellus, Series B: Chemical and Physical Meteorology, 2005, 57, 269-271.	0.8	15
77	A New Database to Explore the Findings from Large-Scale Ocean Iron Enrichment Experiments. Oceanography, 2012, 25, 64-71.	0.5	15
78	Comparison of NSCAT, ERS 2 active microwave instrument, special sensor microwave imager, and Carbon Interface Ocean Atmosphere buoy wind speed: Consequences for the air-sea CO2exchange coefficient. Journal of Geophysical Research, 1999, 104, 11375-11392.	3.3	14
79	Global data products help assess changes to ocean carbon sink. Eos, 2012, 93, 125-126.	0.1	14
80	Seasonal cycle of CO2 from the sea ice edge to island blooms in the Scotia Sea, Southern Ocean. Marine Chemistry, 2015, 177, 490-500.	0.9	14
81	South Atlantic interbasin exchanges of mass, heat, salt and anthropogenic carbon. Progress in Oceanography, 2017, 151, 62-82.	1.5	14
82	Measuring pH variability using an experimental sensor on an underwater glider. Ocean Science, 2017, 13, 427-442.	1.3	14
83	Assessing the internal consistency of the CARINA database in the Indian sector of the Southern Ocean. Earth System Science Data, 2010, 2, 51-70.	3.7	14
84	Nearâ€Surface Stratification Due to Ice Melt Biases Arctic Airâ€Sea CO₂ Flux Estimates. Geophysical Research Letters, 2021, 48, e2021GL095266.	1.5	14
85	Surface ocean-lower atmosphere study: Scientific synthesis and contribution to Earth system science. Anthropocene, 2015, 12, 54-68.	1.6	13
86	High Resolution pH Measurements Using a Lab-on-Chip Sensor in Surface Waters of Northwest European Shelf Seas. Sensors, 2018, 18, 2622.	2.1	13
87	Tracer Measurements in Growing Sea Ice Support Convective Gravity Drainage Parameterizations. Journal of Geophysical Research: Oceans, 2020, 125, e2019JC015791.	1.0	11
88	Integrated analysis of carbon dioxide and oxygen concentrations as a quality control of ocean float data. Communications Earth & Environment, 2022, 3, .	2.6	10
89	Dissolved carbon dioxide in tropical East Atlantic surface waters. Physics and Chemistry of the Earth, 1999, 24, 399-404.	0.3	9
90	Air-sea CO2 flux variability in the equatorial Pacific Ocean near 100oW. Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 734-747.	0.8	8

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91	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.	0.6	7
92	Oceanic fronts control the distribution of dissolved barium in the Southern Ocean. Marine Chemistry, 2018, 204, 95-106.	0.9	7
93	Surface ocean CO2 variability and vulnerability workshop, Paris, France, 11â€“14 April 2007. Eos, 2007, 88, 287-287.	0.1	5
94	Measurements of total alkalinity and inorganic dissolved carbon in the Atlantic Ocean and adjacent Southern Ocean between 2008 and 2010. Earth System Science Data, 2014, 6, 175-183.	3.7	3
95	Air-Sea Gas Fluxes and Remineralization From a Novel Combination of pH and O2 Sensors on a Glider. Frontiers in Marine Science, 2021, 8, .	1.2	2
96	Perspectives and Integration in SOLAS Science. Springer Earth System Sciences, 2014, , 247-306.	0.1	2
97	Dedication to Dr. Taro Takahashi. Deep-Sea Research Part II: Topical Studies in Oceanography, 2009, 56, 503.	0.6	0