

# Dorothee Bakker

## List of Publications by Year in descending order

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Version: 2024-02-01

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	Satellite sea surface temperature: a powerful tool for interpreting in situ $\text{CO}_2$ measurements in the equatorial Pacific Ocean. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 51, 490.	0.8	16
2	Integrated analysis of carbon dioxide and oxygen concentrations as a quality control of ocean float data. <i>Communications Earth &amp; Environment</i> , 2022, 3, .	2.6	10
3	Global Carbon Budget 2021. <i>Earth System Science Data</i> , 2022, 14, 1917-2005.	3.7	663
4	Uncertainties in eddy covariance air-sea $\text{CO}_2$ flux measurements and implications for gas transfer velocity parameterisations. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 8089-8110.	1.9	20
5	Air-Sea Gas Fluxes and Remineralization From a Novel Combination of pH and O <sub>2</sub> Sensors on a Glider. <i>Frontiers in Marine Science</i> , 2021, 8, .	1.2	2
6	Near-Surface Stratification Due to Ice Melt Biases Arctic Air-Sea $\text{CO}_2$ Flux Estimates. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL095266.	1.5	14
7	Consistency and Challenges in the Ocean Carbon Sink Estimate for the Global Carbon Budget. <i>Frontiers in Marine Science</i> , 2020, 7, .	1.2	114
8	Carbon on the Northwest European Shelf: Contemporary Budget and Future Influences. <i>Frontiers in Marine Science</i> , 2020, 7, .	1.2	70
9	Tracer Measurements in Growing Sea Ice Support Convective Gravity Drainage Parameterizations. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2019JC015791.	1.0	11
10	On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. <i>Frontiers in Marine Science</i> , 2019, 6, .	1.2	235
11	Reframing the carbon cycle of the subpolar Southern Ocean. <i>Science Advances</i> , 2019, 5, eaav6410.	4.7	25
12	The Weddell Gyre, Southern Ocean: Present Knowledge and Future Challenges. <i>Reviews of Geophysics</i> , 2019, 57, 623-708.	9.0	105
13	Quantifying and valuing carbon flows and stores in coastal and shelf ecosystems in the UK. <i>Ecosystem Services</i> , 2019, 35, 67-76.	2.3	62
14	Variability and change in the west Antarctic Peninsula marine system: Research priorities and opportunities. <i>Progress in Oceanography</i> , 2019, 173, 208-237.	1.5	102
15	Global Carbon Budget 2019. <i>Earth System Science Data</i> , 2019, 11, 1783-1838.	3.7	1,159
16	Strengthening seasonal marine CO <sub>2</sub> variations due to increasing atmospheric CO <sub>2</sub> . <i>Nature Climate Change</i> , 2018, 8, 146-150.	8.1	109
17	Southern Ocean pteropods at risk from ocean warming and acidification. <i>Marine Biology</i> , 2018, 165, 8.	0.7	46
18	High Resolution pH Measurements Using a Lab-on-Chip Sensor in Surface Waters of Northwest European Shelf Seas. <i>Sensors</i> , 2018, 18, 2622.	2.1	13

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19	Oceanic fronts control the distribution of dissolved barium in the Southern Ocean. <i>Marine Chemistry</i> , 2018, 204, 95-106.	0.9	7
20	Global Carbon Budget 2017. <i>Earth System Science Data</i> , 2018, 10, 405-448.	3.7	801
21	South Atlantic interbasin exchanges of mass, heat, salt and anthropogenic carbon. <i>Progress in Oceanography</i> , 2017, 151, 62-82.	1.5	14
22	Shelled pteropods in peril: Assessing vulnerability in a high CO <sub>2</sub> ocean. <i>Earth-Science Reviews</i> , 2017, 169, 132-145.	4.0	78
23	The seasonal cycle of carbonate system processes in Ryder Bay, West Antarctic Peninsula. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2017, 139, 167-180.	0.6	36
24	Measuring pH variability using an experimental sensor on an underwater glider. <i>Ocean Science</i> , 2017, 13, 427-442.	1.3	14
25	Environmental drivers of coccolithophore abundance and calcification across Drake Passage (Southern Ocean). <i>Biogeosciences</i> , 2016, 13, 5917-5935.	1.3	33
26	Decadal variations and trends of the global ocean carbon sink. <i>Global Biogeochemical Cycles</i> , 2016, 30, 1396-1417.	1.9	241
27	A multi-decade record of high-quality $\text{CO}_2$ data in version 3 of the Surface Ocean $\text{CO}_2$ Atlas (SOCAT). <i>Earth System Science Data</i> , 2016, 8, 383-413.	3.7	413
28	The ocean carbon sink – impacts, vulnerabilities and challenges. <i>Earth System Dynamics</i> , 2015, 6, 327-358.	2.7	109
29	Data-based estimates of the ocean carbon sink variability – first results of the Surface Ocean $\text{CO}_2$ Mapping Intercomparison (SOCOM). <i>Biogeosciences</i> , 2015, 12, 7251-7278.	1.3	163
30	Surface ocean-lower atmosphere study: Scientific synthesis and contribution to Earth system science. <i>Anthropocene</i> , 2015, 12, 54-68.	1.6	13
31	Carbon dynamics of the Weddell Gyre, Southern Ocean. <i>Global Biogeochemical Cycles</i> , 2015, 29, 288-306.	1.9	24
32	The seasonal cycle of ocean-atmosphere $\text{CO}_2$ flux in Ryder Bay, west Antarctic Peninsula. <i>Geophysical Research Letters</i> , 2015, 42, 2934-2942.	1.5	41
33	Seasonal cycle of $\text{CO}_2$ from the sea ice edge to island blooms in the Scotia Sea, Southern Ocean. <i>Marine Chemistry</i> , 2015, 177, 490-500.	0.9	14
34	The reinvigoration of the Southern Ocean carbon sink. <i>Science</i> , 2015, 349, 1221-1224.	6.0	331
35	Global Carbon Budget 2015. <i>Earth System Science Data</i> , 2015, 7, 349-396.	3.7	616
36	Dissolution Dominating Calcification Process in Polar Pteropods Close to the Point of Aragonite Undersaturation. <i>PLoS ONE</i> , 2014, 9, e109183.	1.1	100

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37	Interannual sea-air CO <sub>2</sub> flux variability from an observation-driven ocean mixed-layer scheme. <i>Biogeosciences</i> , 2014, 11, 4599-4613.	1.3	111
38	Coccolithophores on the north-west European shelf: calcification rates and environmental controls. <i>Biogeosciences</i> , 2014, 11, 3919-3940.	1.3	45
39	Intercomparison of carbonate chemistry measurements on a cruise in northwestern European shelf seas. <i>Biogeosciences</i> , 2014, 11, 4339-4355.	1.3	26
40	Global carbon budget 2013. <i>Earth System Science Data</i> , 2014, 6, 235-263.	3.7	311
41	Air-Sea Interactions of Natural Long-Lived Greenhouse Gases (CO <sub>2</sub> , N <sub>2</sub> O, CH <sub>4</sub> ) in a Changing Climate. <i>Springer Earth System Sciences</i> , 2014, , 113-169.	0.1	29
42	Short-term metabolic and growth responses of the cold-water coral <i>Lophelia pertusa</i> to ocean acidification. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2014, 99, 27-35.	0.6	84
43	The contribution of the Weddell Gyre to the lower limb of the Global Overturning Circulation. <i>Journal of Geophysical Research: Oceans</i> , 2014, 119, 3357-3377.	1.0	61
44	Recent variability of the global ocean carbon sink. <i>Global Biogeochemical Cycles</i> , 2014, 28, 927-949.	1.9	313
45	Perspectives and Integration in SOLAS Science. <i>Springer Earth System Sciences</i> , 2014, , 247-306.	0.1	2
46	Measurements of total alkalinity and inorganic dissolved carbon in the Atlantic Ocean and adjacent Southern Ocean between 2008 and 2010. <i>Earth System Science Data</i> , 2014, 6, 175-183.	3.7	3
47	An update to the Surface Ocean CO <sub>2</sub> Atlas (SOCAT version 2). <i>Earth System Science Data</i> , 2014, 6, 69-90.	3.7	158
48	Sea-air CO <sub>2</sub> fluxes in the Southern Ocean for the period 1990-2009. <i>Biogeosciences</i> , 2013, 10, 4037-4054.	1.3	162
49	Global surface-ocean CO <sub>2</sub> flux variability from an observation-driven ocean mixed-layer scheme. <i>Ocean Science</i> , 2013, 9, 193-216.	1.3	141
50	A neural network-based estimate of the seasonal to inter-annual variability of the Atlantic Ocean carbon sink. <i>Biogeosciences</i> , 2013, 10, 7793-7815.	1.3	167
51	A uniform, quality controlled Surface Ocean CO <sub>2</sub> Atlas (SOCAT). <i>Earth System Science Data</i> , 2013, 5, 125-143.	3.7	158
52	Surface Ocean CO <sub>2</sub> Atlas (SOCAT) gridded data products. <i>Earth System Science Data</i> , 2013, 5, 145-153.	3.7	101
53	Extensive dissolution of live pteropods in the Southern Ocean. <i>Nature Geoscience</i> , 2012, 5, 881-885.	5.4	266
54	Dynamic seasonal cycling of inorganic carbon downstream of South Georgia, Southern Ocean. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2012, 59-60, 25-35.	0.6	31

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55	Population dynamics and biogeochemical significance of <i>Limacina helicina antarctica</i> in the Scotia Sea (Southern Ocean). <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2012, 59-60, 105-116.	0.6	52
56	Description and quantification of pteropod shell dissolution: a sensitive bioindicator of ocean acidification. <i>Global Change Biology</i> , 2012, 18, 2378-2388.	4.2	91
57	Global data products help assess changes to ocean carbon sink. <i>Eos</i> , 2012, 93, 125-126.	0.1	14
58	A New Database to Explore the Findings from Large-Scale Ocean Iron Enrichment Experiments. <i>Oceanography</i> , 2012, 25, 64-71.	0.5	15
59	Rapid changes in surface water carbonate chemistry during Antarctic sea ice melt. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2010, 62, 621-635.	0.8	18
60	Ocean acidification and marine trace gas emissions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 760-765.	3.3	96
61	High productivity in an ice melting hot spot at the eastern boundary of the Weddell Gyre. <i>Global Biogeochemical Cycles</i> , 2010, 24, .	1.9	21
62	Anthropogenic carbon accumulation in the subtropical North Atlantic. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	26
63	Assessing the internal consistency of the CARINA database in the Indian sector of the Southern Ocean. <i>Earth System Science Data</i> , 2010, 2, 51-70.	3.7	14
64	Estimating the monthly $pCO_2$ distribution in the North Atlantic using a self-organizing neural network. <i>Biogeosciences</i> , 2009, 6, 1405-1421.	1.3	109
65	Tracking the Variable North Atlantic Sink for Atmospheric $CO_2$ . <i>Science</i> , 2009, 326, 1391-1393.	6.0	173
66	Southern Ocean deep-water carbon export enhanced by natural iron fertilization. <i>Nature</i> , 2009, 457, 577-580.	13.7	338
67	Climatological mean and decadal change in surface ocean $pCO_2$ , and net sea-air $CO_2$ flux over the global oceans. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2009, 56, 554-577.	0.6	1,540
68	Surface-ocean $CO_2$ variability and vulnerability. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2009, 56, 504-511.	0.6	62
69	Dedication to Dr. Taro Takahashi. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2009, 56, 503.	0.6	0
70	Consistency of cruise data of the CARINA database in the Atlantic sector of the Southern Ocean. <i>Earth System Science Data</i> , 2009, 1, 63-75.	3.7	17
71	Impact of the North Atlantic Oscillation on the trans-Atlantic migrations of the European eel ( <i>Anguilla anguilla</i> ). <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	42
72	An operational monitoring system to provide indicators of $CO_2$ -related variables in the ocean. <i>ICES Journal of Marine Science</i> , 2008, 65, 1498-1503.	1.2	27

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73	A rapid transition from ice covered CO <sub>2</sub> -rich waters to a biologically mediated CO <sub>2</sub> sink in the eastern Weddell Gyre. <i>Biogeosciences</i> , 2008, 5, 1373-1386.	1.3	50
74	The island mass effect and biological carbon uptake for the subantarctic Crozet Archipelago. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2007, 54, 2174-2190.	0.6	50
75	Surface ocean CO <sub>2</sub> variability and vulnerability workshop, Paris, France, 11-14 April 2007. <i>Eos</i> , 2007, 88, 287-287.	0.1	5
76	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
77	The CO <sub>2</sub> system in a Redfield context during an iron enrichment experiment in the Southern Ocean. <i>Marine Chemistry</i> , 2005, 95, 89-105.	0.9	23
78	Ocean fertilization with iron: effects on climate and air quality. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2005, 57, 269-271.	0.8	15
79	Iron and mixing affect biological carbon uptake in SOIREE and EisenEx, two Southern Ocean iron fertilisation experiments. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2005, 52, 1001-1019.	0.6	38
80	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
81	Variability of the net air-sea CO <sub>2</sub> flux inferred from shipboard and satellite measurements in the Southern Ocean south of Tasmania and New Zealand. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	30
82	Variability of surface water CO <sub>2</sub> during seasonal upwelling in the equatorial Atlantic Ocean as observed by a drifting buoy. <i>Journal of Geophysical Research</i> , 2001, 106, 9241-9253.	3.3	21
83	Southern Ocean iron enrichment promotes inorganic carbon drawdown. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2001, 48, 2483-2507.	0.6	59
84	A piece in the CO <sub>2</sub> jigsaw. <i>Nature</i> , 2001, 410, 765-766.	13.7	38
85	A mesoscale phytoplankton bloom in the polar Southern Ocean stimulated by iron fertilization. <i>Nature</i> , 2000, 407, 695-702.	13.7	1,417
86	Effect of iron supply on Southern Ocean CO <sub>2</sub> uptake and implications for glacial atmospheric CO <sub>2</sub> . <i>Nature</i> , 2000, 407, 730-733.	13.7	449
87	Satellite sea surface temperature: a powerful tool for interpreting in situ pCO <sub>2</sub> measurements in the equatorial Pacific Ocean. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 1999, 51, 490-508.	0.8	42
88	Modelled and observed sea surface fCO <sub>2</sub> in the southern ocean: a comparative study. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 1999, 51, 541-559.	0.8	16
89	Air-sea CO <sub>2</sub> flux variability in the equatorial Pacific Ocean near 100°W. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 1999, 51, 734-747.	0.8	8
90	The dependence on temperature and salinity of dissolved inorganic carbon in East Atlantic surface waters. <i>Marine Chemistry</i> , 1999, 65, 263-280.	0.9	43

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91	Dissolved carbon dioxide in tropical East Atlantic surface waters. <i>Physics and Chemistry of the Earth</i> , 1999, 24, 399-404.	0.3	9
92	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 CO <sub>2</sub> exchange coefficient. <i>Journal of Geophysical Research</i> , 1999, 104, 11375-11392.	3.3	14
93	$\delta^{13}\text{C}$ of Southern Ocean suspended organic matter during spring and early summer: regional and temporal variability. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1997, 44, 129-142.	0.6	46
94	Changes of carbon dioxide in surface waters during spring in the Southern Ocean. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1997, 44, 91-127.	0.6	107
95	Dissolved carbon dioxide in Dutch coastal waters. <i>Marine Chemistry</i> , 1996, 55, 247-263.	0.9	39
96	Trends in inorganic and organic carbon in a bloom of <i>Emiliana huxleyi</i> in the North Sea. <i>Marine Ecology - Progress Series</i> , 1996, 143, 271-282.	0.9	64
97	Importance of iron for plankton blooms and carbon dioxide drawdown in the Southern Ocean. <i>Nature</i> , 1995, 373, 412-415.	13.7	748