

Are Olsen

List of Publications by Year in descending order

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Version: 2024-02-01

119
papers

13,819
citations

57631

44
h-index

23472

111
g-index

189
all docs

189
docs citations

189
times ranked

13979
citing authors

#	ARTICLE	IF	CITATIONS
1	Climatological mean and decadal change in surface ocean pCO ₂ , and net sea-air CO ₂ flux over the global oceans. Deep-Sea Research Part II: Topical Studies in Oceanography, 2009, 56, 554-577.	0.6	1,540
2	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	3.7	1,477
3	Global Carbon Budget 2018. Earth System Science Data, 2018, 10, 2141-2194.	3.7	1,167
4	Global Carbon Budget 2016. Earth System Science Data, 2016, 8, 605-649.	3.7	905
5	Global Carbon Budget 2015. Earth System Science Data, 2015, 7, 349-396.	3.7	616
6	The oceanic sink for anthropogenic CO ₂ from 1994 to 2007. Science, 2019, 363, 1193-1199.	6.0	505
7	Global carbon budget 2014. Earth System Science Data, 2015, 7, 47-85.	3.7	463
8	The Global Ocean Data Analysis Project version 2 (GLODAPv2) – an internally consistent data product for the world ocean. Earth System Science Data, 2016, 8, 297-323.	3.7	424
9	A multi-decade record of high-quality surface ocean CO ₂ data in version 3 of the Surface Ocean CO ₂ Atlas (SOCAT). Earth System Science Data, 2016, 8, 383-413.	3.7	413
10	THE ROLE OF THE BARENTS SEA IN THE ARCTIC CLIMATE SYSTEM. Reviews of Geophysics, 2013, 51, 415-449.	9.0	362
11	A new global interior ocean mapped climatology: the 1°-1° GLODAP version 2. Earth System Science Data, 2016, 8, 325-340.	3.7	284
12	Recommendations for autonomous underway pCO ₂ measuring systems and data-reduction routines. Deep-Sea Research Part II: Topical Studies in Oceanography, 2009, 56, 512-522.	0.6	265
13	On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. Frontiers in Marine Science, 2019, 6, .	1.2	235
14	Surface ocean pH and buffer capacity: past, present and future. Scientific Reports, 2019, 9, 18624.	1.6	207
15	Tracking the Variable North Atlantic Sink for Atmospheric CO ₂ . Science, 2009, 326, 1391-1393.	6.0	173
16	Data-based estimates of the ocean carbon sink variability – first results of the Surface Ocean CO ₂ Mapping intercomparison (SOCOM). Biogeosciences, 2015, 12, 7251-7278.	1.3	163
17	A uniform, quality controlled Surface Ocean CO ₂ Atlas (SOCAT). Earth System Science Data, 2013, 5, 125-143.	3.7	158
18	An update to the Surface Ocean CO ₂ Atlas (SOCAT version 2). Earth System Science Data, 2014, 6, 69-90.	3.7	158

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19	Global surface-ocean CO_2 flux variability from an observation-driven ocean mixed-layer scheme. <i>Ocean Science</i> , 2013, 9, 193-216.	1.3	141
20	An assessment of the Atlantic and Arctic sea CO_2 fluxes, 1990–2009. <i>Biogeosciences</i> , 2013, 10, 607-627.	1.3	131
21	Productivity in the Barents Sea - Response to Recent Climate Variability. <i>PLoS ONE</i> , 2014, 9, e95273.	1.1	123
22	The CARINA data synthesis project: introduction and overview. <i>Earth System Science Data</i> , 2010, 2, 105-121.	3.7	116
23	Trends and drivers in global surface ocean pH over the past 3 decades. <i>Biogeosciences</i> , 2015, 12, 1285-1298.	1.3	112
24	Interannual sea CO_2 flux variability from an observation-driven ocean mixed-layer scheme. <i>Biogeosciences</i> , 2014, 11, 4599-4613.	1.3	111
25	Estimating the monthly CO_2 distribution in the North Atlantic using a self-organizing neural network. <i>Biogeosciences</i> , 2009, 6, 1405-1421.	1.3	109
26	GLODAPv2.2019 – an update of GLODAPv2. <i>Earth System Science Data</i> , 2019, 11, 1437-1461.	3.7	102
27	Surface Ocean CO_2 Atlas (SOCAT) gridded data products. <i>Earth System Science Data</i> , 2013, 5, 145-153.	3.7	101
28	A decrease in the sink for atmospheric CO_2 in the North Atlantic. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	1.5	92
29	Magnitude and origin of the anthropogenic CO_2 increase and ^{13}C Suess effect in the Nordic seas since 1981. <i>Global Biogeochemical Cycles</i> , 2006, 20, n/a-n/a.	1.9	89
30	Quality control procedures and methods of the CARINA database. <i>Earth System Science Data</i> , 2010, 2, 35-49.	3.7	89
31	A global estimate of the full oceanic ^{13}C Suess effect since the preindustrial. <i>Global Biogeochemical Cycles</i> , 2017, 31, 492-514.	1.9	87
32	An updated version of the global interior ocean biogeochemical data product, GLODAPv2.2020. <i>Earth System Science Data</i> , 2020, 12, 3653-3678.	3.7	76
33	Sea CO_2 flux of CO_2 in the Caribbean Sea estimated using in situ and remote sensing data. <i>Remote Sensing of Environment</i> , 2004, 89, 309-325.	4.6	72
34	Irminger Sea deep convection injects oxygen and anthropogenic carbon to the ocean interior. <i>Nature Communications</i> , 2016, 7, 13244.	5.8	69
35	A global ocean climatology of preindustrial and modern ocean ^{13}C . <i>Global Biogeochemical Cycles</i> , 2017, 31, 515-534.	1.9	68
36	Recent acceleration of the sea surface CO_2 growth rate in the North Atlantic subpolar gyre (1993–2008) revealed by winter observations. <i>Global Biogeochemical Cycles</i> , 2010, 24, .	1.9	67

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37	Mapping of the air-sea CO ₂ flux in the Arctic Ocean and its adjacent seas: Basin-wide distribution and seasonal to interannual variability. <i>Polar Science</i> , 2016, 10, 323-334.	0.5	67
38	A high precision spectrophotometric method for on-line shipboard seawater pH measurements: the automated marine pH sensor (AMpS). <i>Talanta</i> , 2002, 56, 61-69.	2.9	60
39	Sea-surface CO ₂ fugacity in the subpolar North Atlantic. <i>Biogeosciences</i> , 2008, 5, 535-547.	1.3	60
40	Arctic Ocean CO ₂ uptake: an improved multiyear estimate of the air-sea CO ₂ flux incorporating chlorophyll <i>a</i> concentrations. <i>Biogeosciences</i> , 2018, 15, 1643-1661.	1.3	56
41	Interannual variability in the wintertime air-sea flux of carbon dioxide in the northern North Atlantic, 1981-2001. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2003, 50, 1323-1338.	0.6	55
42	An updated version of the global interior ocean biogeochemical data product, GLODAPv2.2021. <i>Earth System Science Data</i> , 2021, 13, 5565-5589.	3.7	54
43	Large $\hat{\gamma}^{13}C$ Gradients in the Preindustrial North Atlantic Revealed. <i>Science</i> , 2010, 330, 658-659.	6.0	49
44	The Nordic Seas carbon budget: Sources, sinks, and uncertainties. <i>Global Biogeochemical Cycles</i> , 2011, 25, n/a-n/a.	1.9	46
45	Long-term surface pCO ₂ trends from observations and models. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 66, 23083.	0.8	46
46	Seasonal and interannual variability of the air-sea CO ₂ flux in the Atlantic sector of the Barents Sea. <i>Marine Chemistry</i> , 2007, 104, 203-213.	0.9	44
47	Spatiotemporal variations of CO ₂ in the North Sea. <i>Ocean Science</i> , 2010, 6, 77-89.	1.3	44
48	Nordic Seas Heat Loss, Atlantic Inflow, and Arctic Sea Ice Cover Over the Last Century. <i>Reviews of Geophysics</i> , 2022, 60, .	9.0	43
49	Reconstructing the time history of the air-sea CO ₂ disequilibrium and its rate of change in the eastern subpolar North Atlantic, 1972-1989. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	42
50	Algorithms to estimate the carbon dioxide uptake in the northern North Atlantic using shipboard observations, satellite and ocean analysis data. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2009, 56, 630-639.	0.6	38
51	Effects of sea-ice and biogeochemical processes and storms on under-ice water CO ₂ during the winter-spring transition in the high Arctic ocean: Implications for sea-air CO ₂ fluxes. <i>Journal of Geophysical Research: Oceans</i> , 2017, 122, 5566-5587.	1.0	38
52	Processes Driving Global Interior Ocean pH Distribution. <i>Global Biogeochemical Cycles</i> , 2020, 34, e2019GB006229.	1.9	35
53	Air-sea CO ₂ fluxes in the Caribbean Sea from 2002-2004. <i>Journal of Marine Systems</i> , 2007, 66, 272-284.	0.9	34
54	Constraining Projection-Based Estimates of the Future North Atlantic Carbon Uptake. <i>Journal of Climate</i> , 2018, 31, 3959-3978.	1.2	34

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55	On the nature of the factors that control spring bloom development at the entrance to the Barents Sea and their interannual variability. <i>Sarsia</i> , 2003, 88, 379-393.	0.5	32
56	Mg/Ca ratios in the planktonic foraminifer <i>Neogloboquadrina pachyderma</i> (sinistral) in the northern North Atlantic/Nordic Seas. <i>Geochemistry, Geophysics, Geosystems</i> , 2006, 7, n/a-n/a.	1.0	31
57	A statistical gap-filling method to interpolate global monthly surface ocean carbon dioxide data. <i>Journal of Advances in Modeling Earth Systems</i> , 2015, 7, 1554-1575.	1.3	31
58	A global monthly climatology of total alkalinity: a neural network approach. <i>Earth System Science Data</i> , 2019, 11, 1109-1127.	3.7	31
59	Anthropogenic increase of oceanic pCO ₂ in the Barents Sea surface water. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	30
60	Arctic Intermediate Water in the Nordic Seas, 1991-2009. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2017, 128, 82-97.	0.6	29
61	Continued warming, salinification and oxygenation of the Greenland Sea gyre. <i>Tellus, Series A: Dynamic Meteorology and Oceanography</i> , 2022, 70, 1476434.	0.8	29
62	The effect of wind speed products and wind speed-gas exchange relationships on interannual variability of the air-sea CO ₂ gas transfer velocity. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2005, 57, 95-106.	0.8	28
63	Response of the surface ocean CO ₂ system in the Nordic seas and northern North Atlantic to climate change. <i>Geophysical Monograph Series</i> , 2005, , 189-197.	0.1	28
64	Optimal evaluation of the surface ocean CO ₂ system in the northern North Atlantic using data from voluntary observing ships. <i>Limnology and Oceanography: Methods</i> , 2009, 7, 109-118.	1.0	28
65	Nordic seas transit time distributions and anthropogenic CO ₂ . <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	27
66	Modelling ocean acidification in the Nordic and Barents Seas in present and future climate. <i>Journal of Marine Systems</i> , 2014, 131, 10-20.	0.9	27
67	A Surface Ocean CO ₂ Reference Network, SOCONET and Associated Marine Boundary Layer CO ₂ Measurements. <i>Frontiers in Marine Science</i> , 2019, 6, .	1.2	26
68	Surface water fCO ₂ algorithms for the high-latitude Pacific sector of the Southern Ocean. <i>Remote Sensing of Environment</i> , 2012, 119, 184-196.	4.6	25
69	A model study of the seasonal and long-term North Atlantic surface <i>CO₂</i> variability. <i>Biogeosciences</i> , 2012, 9, 907-923.	1.3	25
70	Winter weather controls net influx of atmospheric CO ₂ on the north-west European shelf. <i>Scientific Reports</i> , 2019, 9, 20153.	1.6	25
71	Preformed Properties for Marine Organic Matter and Carbonate Mineral Cycling Quantification. <i>Global Biogeochemical Cycles</i> , 2021, 35, e2020GB006623.	1.9	25
72	Air-sea flux of anthropogenic carbon dioxide in the North Atlantic. <i>Geophysical Research Letters</i> , 2002, 29, 16-1-16-4.	1.5	24

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73	Trends of Ocean Acidification and CO_2 in the Northern North Sea, 2003–2015. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2019, 124, 3088-3103.	1.3	24
74	Arctic Ocean data in CARINA. <i>Earth System Science Data</i> , 2010, 2, 71-78.	3.7	23
75	A global monthly climatology of oceanic total dissolved inorganic carbon: a neural network approach. <i>Earth System Science Data</i> , 2020, 12, 1725-1743.	3.7	22
76	Arctic Carbon Cycle: Patterns, Impacts and Possible Changes. , 2015, , 95-115.		21
77	Ocean acidification in the subpolar North Atlantic: rates and mechanisms controlling pH changes. <i>Biogeosciences</i> , 2016, 13, 3701-3715.	1.3	21
78	Acidification of the Nordic Seas. <i>Biogeosciences</i> , 2022, 19, 979-1012.	1.3	21
79	Annual and seasonal fCO_2 and air-sea CO_2 fluxes in the Barents Sea. <i>Journal of Marine Systems</i> , 2013, 113-114, 62-74.	0.9	20
80	Atlantic Ocean CARINA data: overview and salinity adjustments. <i>Earth System Science Data</i> , 2010, 2, 17-34.	3.7	20
81	Aragonite saturation states and pH in western Norwegian fjords: seasonal cycles and controlling factors, 2005–2009. <i>Ocean Science</i> , 2016, 12, 937-951.	1.3	18
82	Diurnal variations of surface ocean CO_2 and sea-air CO_2 flux evaluated using remotely sensed data. <i>Geophysical Research Letters</i> , 2004, 31, .	1.5	17
83	CARINA data synthesis project: pH data scale unification and cruise adjustments. <i>Earth System Science Data</i> , 2010, 2, 133-155.	3.7	16
84	Best Practice Data Standards for Discrete Chemical Oceanographic Observations. <i>Frontiers in Marine Science</i> , 2022, 8, .	1.2	16
85	A review of the inorganic carbon cycle of the Nordic Seas and Barents Sea. <i>Geophysical Monograph Series</i> , 2005, , 157-175.	0.1	15
86	Overview of the Nordic Seas CARINA data and salinity measurements. <i>Earth System Science Data</i> , 2009, 1, 25-34.	3.7	15
87	Global data products help assess changes to ocean carbon sink. <i>Eos</i> , 2012, 93, 125-126.	0.1	14
88	Inorganic carbon and water masses in the Irminger Sea since 1991. <i>Biogeosciences</i> , 2018, 15, 51-72.	1.3	14
89	A Framework for the Development, Design and Implementation of a Sustained Arctic Ocean Observing System. <i>Frontiers in Marine Science</i> , 2019, 6, .	1.2	14
90	Large Decadal Changes in Air-sea CO_2 Fluxes in the Caribbean Sea. <i>Journal of Geophysical Research: Oceans</i> , 2019, 124, 6960-6982.	1.0	14

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91	Ocean Biogeochemical Predictions—Initialization and Limits of Predictability. <i>Frontiers in Marine Science</i> , 2020, 7, .	1.2	14
92	The northern European shelf as an increasing net sink for CO ₂ . <i>Biogeosciences</i> , 2021, 18, 1127-1147.	1.3	14
93	Sea-ice and brine formation in Storfjorden: Implications for the Arctic wintertime air-sea CO ₂ flux. <i>Geophysical Monograph Series</i> , 2005, , 177-187.	0.1	13
94	Direct measurements of CO ₂ flux in the Greenland Sea. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	13
95	The role of phytoplankton dynamics in the seasonal and interannual variability of carbon in the subpolar North Atlantic—a modeling study. <i>Geoscientific Model Development</i> , 2012, 5, 683-707.	1.3	13
96	Anthropogenic carbon changes in the Irminger Basin (1981–2006): Coupling of ¹³ C DIC and DIC observations. <i>Journal of Marine Systems</i> , 2013, 126, 24-32.	0.9	13
97	Surface ocean-lower atmosphere study: Scientific synthesis and contribution to Earth system science. <i>Anthropocene</i> , 2015, 12, 54-68.	1.6	13
98	A Model-Based Evaluation of the Inverse Gaussian Transit-Time Distribution Method for Inferring Anthropogenic Carbon Storage in the Ocean. <i>Journal of Geophysical Research: Oceans</i> , 2018, 123, 1777-1800.	1.0	13
99	Constraining the Oceanic Uptake and Fluxes of Greenhouse Gases by Building an Ocean Network of Certified Stations: The Ocean Component of the Integrated Carbon Observation System, ICOS-Oceans. <i>Frontiers in Marine Science</i> , 2019, 6, .	1.2	13
100	Wintertime CO ₂ Variability in the Subpolar North Atlantic Since 2004. <i>Geophysical Research Letters</i> , 2019, 46, 1580-1590.	1.5	13
101	Nordic Seas total dissolved inorganic carbon data in CARINA. <i>Earth System Science Data</i> , 2009, 1, 35-43.	3.7	13
102	Mechanisms and Early Detections of Multidecadal Oxygen Changes in the Interior Subpolar North Atlantic. <i>Geophysical Research Letters</i> , 2018, 45, 4218-4229.	1.5	11
103	A vision for FAIR ocean data products. <i>Communications Earth & Environment</i> , 2021, 2, .	2.6	11
104	Trends in anthropogenic carbon in the Arctic Ocean. <i>Progress in Oceanography</i> , 2019, 178, 102177.	1.5	10
105	Nordic Seas total alkalinity data in CARINA. <i>Earth System Science Data</i> , 2009, 1, 77-86.	3.7	10
106	Seasonal Variations of the Surface Nutrients and Hydrography in the Norwegian Sea. <i>International Journal of Environmental Science and Development</i> , 2014, 5, 496-505.	0.2	9
107	How Is the Ocean Anthropogenic Carbon Reservoir Filled?. <i>Global Biogeochemical Cycles</i> , 2022, 36, .	1.9	9
108	Nordic Seas nutrients data in CARINA. <i>Earth System Science Data</i> , 2010, 2, 205-213.	3.7	7

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109	Expanding Carbon Data Collection From the Ocean's Interior. <i>Eos</i> , 2010, 91, 457-458.	0.1	6
110	A multi-decadal record of oceanographic changes of the past ~165 years (1850-2015 AD) from Northwest of Iceland. <i>PLoS ONE</i> , 2020, 15, e0239373.	1.1	6
111	The impact of climate variations on fluxes of oxygen in the Barents Sea. <i>Continental Shelf Research</i> , 2002, 22, 1117-1128.	0.9	5
112	Nordic Seas dissolved oxygen data in CARINA. <i>Earth System Science Data</i> , 2010, 2, 123-131.	3.7	5
113	The effect of wind speed products and wind speed-air-sea CO ₂ gas exchange relationships on interannual variability of the air-sea CO ₂ gas transfer velocity. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2005, 57, 95-106.	0.8	4
114	Perspectives and Integration in SOLAS Science. <i>Springer Earth System Sciences</i> , 2014, , 247-306.	0.1	2
115	Autonomous observing platform CO ₂ data shed new light on the Southern Ocean carbon cycle. <i>Global Biogeochemical Cycles</i> , 2017, 31, 1032-1035.	1.9	1
116	In-air one-point calibration of oxygen optodes in underway systems. <i>Limnology and Oceanography: Methods</i> , 2021, 19, 293-302.	1.0	1
117	Modelling recent changes in carbon uptake in the North Atlantic. <i>IOP Conference Series: Earth and Environmental Science</i> , 2009, 6, 032011.	0.2	0
118	Sea surface pCO ₂ variability and air-sea CO ₂ exchange in the coastal Sudanese Red Sea. <i>Regional Studies in Marine Science</i> , 2021, 44, 101796.	0.4	0
119	chapter 2 A Statistical Gap-Filling Method to Interpolate Global Monthly Surface Ocean Carbon Dioxide Data. , 2017, , 15-62.		0