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List of Publications by Year
in descending order

214 papers	33,687 citations	5876 81 h-index	4323 173 g-index
312 all docs	312 docs citations	312 times ranked	28162 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.	13.7	3,772
2	Climateâ€“Carbon Cycle Feedback Analysis: Results from the C4MIP Model Intercomparison. Journal of Climate, 2006, 19, 3337-3353.	1.2	2,647
3	Mid- to Late Holocene climate change: an overview. Quaternary Science Reviews, 2008, 27, 1791-1828.	1.4	1,389
4	The Global Methane Budget 2000â€“2017. Earth System Science Data, 2020, 12, 1561-1623.	3.7	1,199
5	Contrasting futures for ocean and society from different anthropogenic CO ₂ emissions scenarios. Science, 2015, 349, aac4722.	6.0	1,059
6	Anthropogenic perturbation of the carbon fluxes from land to ocean. Nature Geoscience, 2013, 6, 597-607.	5.4	937
7	The global methane budget 2000â€“2012. Earth System Science Data, 2016, 8, 697-751.	3.7	824
8	A comprehensive quantification of global nitrous oxide sources and sinks. Nature, 2020, 586, 248-256.	13.7	814
9	Holocene carbon-cycle dynamics based on CO2 trapped in ice at Taylor Dome, Antarctica. Nature, 1999, 398, 121-126.	13.7	686
10	Climate and human influences on globalÂbiomass burning over the past twoÂmillennia. Nature Geoscience, 2008, 1, 697-702.	5.4	686
11	Carbon balance of the terrestrial biosphere in the Twentieth Century: Analyses of CO2, climate and land use effects with four process-based ecosystem models. Global Biogeochemical Cycles, 2001, 15, 183-206.	1.9	680
12	Projected 21st century decrease in marine productivity: a multi-model analysis. Biogeosciences, 2010, 7, 979-1005.	1.3	520
13	Carbon dioxide and climate impulse response functions for the computation of greenhouse gas metrics: a multi-model analysis. Atmospheric Chemistry and Physics, 2013, 13, 2793-2825.	1.9	517
14	Oceanic sources, sinks, and transport of atmospheric CO₂. Global Biogeochemical Cycles, 2009, 23, .	1.9	455
15	Imminent ocean acidification in the Arctic projected with the NCAR global coupled carbon cycle-climate model. Biogeosciences, 2009, 6, 515-533.	1.3	417
16	Global warming feedbacks on terrestrial carbon uptake under the Intergovernmental Panel on Climate Change (IPCC) Emission Scenarios. Global Biogeochemical Cycles, 2001, 15, 891-907.	1.9	368
17	Rates of change in natural and anthropogenic radiative forcing over the past 20,000 years. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1425-1430.	3.3	366
18	Climate forcing reconstructions for use in PMIP simulations of the last millennium (v1.0). Geoscientific Model Development, 2011, 4, 33-45.	1.3	349

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19	Constraints on radiative forcing and future climate change from observations and climate model ensembles. Nature, 2002, 416, 719-723.	13.7	345
20	Carbon Isotope Constraints on the Deglacial CO ₂ Rise from Ice Cores. Science, 2012, 336, 711-714.	6.0	339
21	Inverse estimates of anthropogenic CO2uptake, transport, and storage by the ocean. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	1.9	331
22	Solar influence on climate during the past millennium: Results from transient simulations with the NCAR Climate System Model. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 3713-3718.	3.3	323
23	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO₂. New Phytologist, 2021, 229, 2413-2445.	3.5	286
24	Global Warming and Marine Carbon Cycle Feedbacks on Future Atmospheric CO2. Science, 1999, 284, 464-467.	6.0	284
25	Solar activity during the last 1000yr inferred from radionuclide records. Quaternary Science Reviews, 2007, 26, 82-97.	1.4	284
26	Ensemble reconstruction constraints on the global carbon cycle sensitivity to climate. Nature, 2010, 463, 527-530.	13.7	256
27	An efficient and accurate representation of complex oceanic and biospheric models of anthropogenic carbon uptake. Tellus, Series B: Chemical and Physical Meteorology, 1996, 48, 397-417.	0.8	240
28	Climate forcing reconstructions for use in PMIP simulations of the Last Millennium (v1.1). Geoscientific Model Development, 2012, 5, 185-191.	1.3	238
29	Long-Term Climate Commitments Projected with Climateâ€“Carbon Cycle Models. Journal of Climate, 2008, 21, 2721-2751.	1.2	232
30	Global soil nitrous oxide emissions since the preindustrial era estimated by an ensemble of terrestrial biosphere models: Magnitude, attribution, and uncertainty. Global Change Biology, 2019, 25, 640-659.	4.2	214
31	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, .	1.9	211
32	Evaluating global ocean carbon models: The importance of realistic physics. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	1.9	210
33	Multiple greenhouse-gas feedbacks from the land biosphere under future climate change scenarios. Nature Climate Change, 2013, 3, 666-672.	8.1	209
34	Long-Term Climate Change Commitment and Reversibility: An EMIC Intercomparison. Journal of Climate, 2013, 26, 5782-5809.	1.2	208
35	Stable isotope constraints on Holocene carbon cycle changes from an Antarctic ice core. Nature, 2009, 461, 507-510.	13.7	203
36	Constraining global methane emissions and uptake by ecosystems. Biogeosciences, 2011, 8, 1643-1665.	1.3	202

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37	Transient simulations of Holocene atmospheric carbon dioxide and terrestrial carbon since the Last Glacial Maximum. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	1.9	197
38	Evaluation of ocean model ventilation with CFC-11: comparison of 13 global ocean models. Ocean Modelling, 2002, 4, 89-120.	1.0	192
39	Probabilistic climate change projections using neural networks. Climate Dynamics, 2003, 21, 257-272.	1.7	185
40	Stability of the Atlantic meridional overturning circulation: A model intercomparison. Geophysical Research Letters, 2012, 39, .	1.5	185
41	The past ecology of <i>Abies alba</i> provides new perspectives on future responses of silver fir forests to global warming. Ecological Monographs, 2013, 83, 419-439.	2.4	176
42	Spatial variability and temporal trends in waterâ€use efficiency of European forests. Global Change Biology, 2014, 20, 3700-3712.	4.2	175
43	The PMIP4 contribution to CMIP6 â€“ Part 2: Two interglacials, scientific objective and experimental design for Holocene and Last Interglacial simulations. Geoscientific Model Development, 2017, 10, 3979-4003.	1.3	171
44	Evaluation of ocean carbon cycle models with data-based metrics. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	168
45	Towards real-time verification of CO2 emissions. Nature Climate Change, 2017, 7, 848-850.	8.1	168
46	Expert assessment of future vulnerability of the global peatland carbon sink. Nature Climate Change, 2021, 11, 70-77.	8.1	167
47	Palaeoclimate constraints on the impact of 2 Â°C anthropogenic warming and beyond. Nature Geoscience, 2018, 11, 474-485.	5.4	166
48	Historical and idealized climate model experiments: an intercomparison of Earth system models of intermediate complexity. Climate of the Past, 2013, 9, 1111-1140.	1.3	157
49	Inverse estimates of the oceanic sources and sinks of natural CO2 and the implied oceanic carbon transport. Global Biogeochemical Cycles, 2007, 21, .	1.9	156
50	The PMIP4 contribution to CMIP6 â€“ Part 3: The last millennium, scientific objective, and experimental design for the PMIP4 <i>past1000</i> simulations. Geoscientific Model Development, 2017, 10, 4005-4033.	1.3	155
51	Simulating effects of land use changes on carbon fluxes: past contributions to atmospheric CO₂ increases and future commitments due to losses of terrestrial sink capacity. Tellus, Series B: Chemical and Physical Meteorology, 2022, 60, 583.	0.8	147
52	Natural variability and anthropogenic trends in oceanic oxygen in a coupled carbon cycleâ€“climate model ensemble. Global Biogeochemical Cycles, 2009, 23, .	1.9	143
53	What caused Earth's temperature variations during the last 800,000 years? Data-based evidence on radiative forcing and constraints on climate sensitivity. Quaternary Science Reviews, 2010, 29, 129-145.	1.4	143
54	Oxygen and indicators of stress for marine life in multi-model global warming projections. Biogeosciences, 2013, 10, 1849-1868.	1.3	140

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55	Temperature increase of 21st century mitigation scenarios. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 15258-15262.	3.3	139
56	Biogeochemical protocols and diagnostics for the CMIP6 Ocean Model Intercomparison Project (OMIP). Geoscientific Model Development, 2017, 10, 2169-2199.	1.3	137
57	Revision of the global carbon budget due to changing air-sea oxygen fluxes. Global Biogeochemical Cycles, 2002, 16, 43-1-43-12.	1.9	136
58	Modelling Nd-isotopes with a coarse resolution ocean circulation model: Sensitivities to model parameters and source/sink distributions. Geochimica Et Cosmochimica Acta, 2011, 75, 5927-5950.	1.6	136
59	Use of a simple model for studying oceanic tracer distributions and the global carbon cycle. Tellus, Series B: Chemical and Physical Meteorology, 1992, 44, 186-207.	0.8	133
60	Ocean thermohaline circulation and sedimentary231Pa/230Th ratio. Paleoceanography, 2000, 15, 625-641.	3.0	133
61	Global wetland contribution to 2000â€“2012 atmospheric methane growth rate dynamics. Environmental Research Letters, 2017, 12, 094013.	2.2	129
62	Trends in marine dissolved oxygen: Implications for ocean circulation changes and the carbon budget. Eos, 2003, 84, 197.	0.1	124
63	The Global N2O Model Intercomparison Project. Bulletin of the American Meteorological Society, 2018, 99, 1231-1251.	1.7	123
64	Constraining temperature variations over the last millennium by comparing simulated and observed atmospheric CO2. Climate Dynamics, 2003, 20, 281-299.	1.7	115
65	The role of Southern Ocean processes in orbital and millennial CO2 variations â€“ A synthesis. Quaternary Science Reviews, 2010, 29, 193-205.	1.4	115
66	Estimates of the effect of Southern Ocean iron fertilization on atmospheric CO2 concentrations. Nature, 1991, 349, 772-775.	13.7	114
67	Feedback mechanisms and sensitivities of ocean carbon uptake under global warming. Tellus, Series B: Chemical and Physical Meteorology, 2001, 53, 564-592.	0.8	114
68	Water Mass Distribution and Ventilation Time Scales in a Cost-Efficient, Three-Dimensional Ocean Model. Journal of Climate, 2006, 19, 5479-5499.	1.2	113
69	Deep ocean ventilation, carbon isotopes, marine sedimentation and the deglacial CO₂ rise. Climate of the Past, 2011, 7, 771-800.	1.3	107
70	Allowable carbon emissions lowered by multiple climate targets. Nature, 2013, 499, 197-201.	13.7	105
71	Climate-induced interannual variability of marine primary and export production in three global coupled climate carbon cycle models. Biogeosciences, 2008, 5, 597-614.	1.3	104
72	A reconstruction of radiocarbon production and total solar irradiance from the Holocene ¹⁴C and CO₂ records: implications of data and model uncertainties. Climate of the Past, 2013, 9, 1879-1909.	1.3	104

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73	Transient simulations of the carbon and nitrogen dynamics in northern peatlands: from the Last Glacial Maximum to the 21st century. Climate of the Past, 2013, 9, 1287-1308.	1.3	102
74	Use of a simple model for studying oceanic tracer distributions and the global carbon cycle. Tellus, Series B: Chemical and Physical Meteorology, 2022, 44, 186.	0.8	98
75	Reversible and irreversible impacts of greenhouse gas emissions in multi-century projections with the NCAR global coupled carbon cycle-climate model. Climate Dynamics, 2010, 35, 1439-1459.	1.7	98
76	Modelling the concentration of atmospheric CO 2 during the Younger Dryas climate event. Climate Dynamics, 1999, 15, 341-354.	1.7	97
77	Evidence for distinct modes of solar activity. Astronomy and Astrophysics, 2014, 562, L10.	2.1	97
78	The variability in the carbon sinks as reconstructed for the last 1000 years. Geophysical Research Letters, 1999, 26, 1437-1440.	1.5	95
79	Regional Impacts of Climate Change and Atmospheric CO2 on Future Ocean Carbon Uptake: A Multimodel Linear Feedback Analysis. Journal of Climate, 2011, 24, 2300-2318.	1.2	95
80	A nonlinear impulse response model of the coupled carbon cycle-climate system (NICCS). Climate Dynamics, 2001, 18, 189-202.	1.7	94
81	The role of ocean transport in the uptake of anthropogenic CO₂. Biogeosciences, 2009, 6, 375-390.	1.3	93
82	Sensitivity of Holocene atmospheric CO₂ and the modern carbon budget to early human land use: analyses with a process-based model. Biogeosciences, 2011, 8, 69-88.	1.3	92
83	A reconstruction of atmospheric carbon dioxide and its stable carbon isotopic composition from the penultimate glacial maximum to the last glacial inception. Climate of the Past, 2013, 9, 2507-2523.	1.3	90
84	A Coupled Dynamical Oceanâ€"Energy Balance Atmosphere Model for Paleoclimate Studies. Journal of Climate, 2011, 24, 349-375.	1.2	87
85	Renewable CO₂recycling and synthetic fuel production in a marine environment. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 12212-12219.	3.3	86
86	Poorly ventilated deep ocean at the Last Glacial Maximum inferred from carbon isotopes: A dataâ€model comparison study. Paleoceanography, 2017, 32, 2-17.	3.0	85
87	Variability and quasi-decadal changes in the methane budget over the period 2000â€"2012. Atmospheric Chemistry and Physics, 2017, 17, 11135-11161.	1.9	85
88	231Pa/230Th fractionation by ocean transport, biogenic particle flux and particle type. Earth and Planetary Science Letters, 2005, 237, 135-155.	1.8	84
89	Simulating atmospheric CO2, 13C and the marine carbon cycle during the Last Glacialâ€"Interglacial cycle: possible role for a deepening of the mean remineralization depth and an increase in the oceanic nutrient inventory. Quaternary Science Reviews, 2012, 56, 46-68.	1.4	83
90	How important are Southern Hemisphere wind changes for low glacial carbon dioxide? A model study. Paleoceanography, 2008, 23, .	3.0	81

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91	Time of emergence of trends in ocean biogeochemistry. Biogeosciences, 2014, 11, 3647-3659.	1.3	81
92	20thÂcentury changes in carbon isotopes and water-use efficiency: tree-ring-based evaluation of the CLM4.5 and LPX-Bern models. Biogeosciences, 2017, 14, 2641-2673.	1.3	81
93	Warm Mediterranean mid-Holocene summers inferred from fossil midge assemblages. Nature Geoscience, 2017, 10, 207-212.	5.4	80
94	Evaluation of terrestrial carbon cycle models with atmospheric CO2measurements: Results from transient simulations considering increasing CO2, climate, and land-use effects. Global Biogeochemical Cycles, 2002, 16, 39-1-39-15.	1.9	79
95	A modeling assessment of the interplay between aeolian iron fluxes and ironâ€binding ligands in controlling carbon dioxide fluctuations during Antarctic warm events. Paleoceanography, 2008, 23, .	3.0	76
96	Long-term variability of the terrestrial and oceanic carbon sinks and the budgets of the carbon isotopes13C and14C. Global Biogeochemical Cycles, 1998, 12, 277-295.	1.9	75
97	Taking Action Against Ocean Acidification: A Review of Management and Policy Options. Environmental Management, 2013, 52, 761-779.	1.2	73
98	Impact of oceanic reorganizations on the ocean carbon cycle and atmospheric carbon dioxide content. Paleoceanography, 1998, 13, 225-244.	3.0	71
99	Past and future carbon fluxes from land use change, shifting cultivation and wood harvest. Tellus, Series B: Chemical and Physical Meteorology, 2022, 66, 23188.	0.8	71
100	Simulated changes in vegetation distribution, land carbon storage, and atmospheric CO2 in response to a collapse of the North Atlantic thermohaline circulation. Climate Dynamics, 2005, 25, 689-708.	1.7	70
101	Modeled natural and excess radiocarbon: Sensitivities to the gas exchange formulation and ocean transport strength. Global Biogeochemical Cycles, 2008, 22, .	1.9	70
102	Past and future evolution of <i>Abies alba</i> forests in Europe â€" comparison of a dynamic vegetation model with palaeo data and observations. Global Change Biology, 2016, 22, 727-740.	4.2	70
103	DYPTOP: a cost-efficient TOPMODEL implementation to simulate sub-grid spatio-temporal dynamics of global wetlands and peatlands. Geoscientific Model Development, 2014, 7, 3089-3110.	1.3	69
104	Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations. Earth System Science Data, 2019, 11, 1263-1289.	3.7	69
105	Modeling the marine aragonite cycle: changes under rising carbon dioxide and its role in shallow water CaCO₃ dissolution. Biogeosciences, 2008, 5, 1057-1072.	1.3	67
106	Sensitivity of a dynamic global vegetation model to climate and atmospheric CO2. Global Change Biology, 2004, 10, 1223-1239.	4.2	66
107	Misrepresentation of the IPCC CO2 emission scenarios. Nature Geoscience, 2010, 3, 376-377.	5.4	66
108	Links between atmospheric carbon dioxide, theÂland carbon reservoir and climate over theÂpast millennium. Nature Geoscience, 2015, 8, 383-387.	5.4	66

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109	The 1430s: a cold period of extraordinary internal climate variability during the early SpÃ¶rer Minimum with social and economic impacts in north-western and central Europe. Climate of the Past, 2016, 12, 2107-2126.	1.3	66
110	Marine N₂O Emissions From Nitrification and Denitrification Constrained by Modern Observations and Projected in Multimillennial Global Warming Simulations. Global Biogeochemical Cycles, 2018, 32, 92-121.	1.9	66
111	An efficient and accurate representation of complex oceanic and biospheric models of anthropogenic carbon uptake. Tellus, Series B: Chemical and Physical Meteorology, 2022, 48, 397.	0.8	64
112	A Bayesian ensemble data assimilation to constrain model parameters and land-use carbon emissions. Biogeosciences, 2018, 15, 2909-2930.	1.3	64
113	The quiet crossing of ocean tipping points. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	64
114	A field study on chemistry, S(IV) oxidation rates and vertical transport during fog conditions. Atmospheric Environment Part A General Topics, 1991, 25, 217-230.	1.3	63
115	Ice core evidence for the extent of past atmospheric CO2change due to iron fertilisation. Geophysical Research Letters, 2004, 31, .	1.5	63
116	Impact of the 2015/2016 El NiÃ±o on the terrestrial carbon cycle constrained by bottom-up and top-down approaches. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170304.	1.8	63
117	A first-order analysis of the potential role of CO2 fertilization to affect the global carbon budget: a comparison of four terrestrial biosphere models. Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 343-366.	0.8	60
118	An updated synthesis of the observed and projected impacts of climate change on the chemical, physical and biological processes in the oceans. Frontiers in Marine Science, 2015, 2, .	1.2	59
119	How unusual is today's solar activity?. Nature, 2005, 436, E3-E4.	13.7	58
120	Terrestrial carbon storage during the past 200 years: A Monte Carlo Analysis of CO2data from ice core and atmospheric measurements. Global Biogeochemical Cycles, 1997, 11, 111-124.	1.9	57
121	A Combined Tree Ring and Vegetation Model Assessment of European Forest Growth Sensitivity to Interannual Climate Variability. Global Biogeochemical Cycles, 2018, 32, 1226-1240.	1.9	54
122	Probabilistic climate change projections for CO2stabilization profiles. Geophysical Research Letters, 2005, 32, .	1.5	53
123	Atmospheric CO₂ response to volcanic eruptions: The role of ENSO, season, and variability. Global Biogeochemical Cycles, 2013, 27, 239-251.	1.9	53
124	Climate and carbon cycle dynamics in a CESM simulation from 850 to 2100 CE. Earth System Dynamics, 2015, 6, 411-434.	2.7	52
125	Fingerprints of changes in the terrestrial carbon cycle in response to large reorganizations in ocean circulation. Climate of the Past, 2011, 7, 319-338.	1.3	50
126	Burial-nutrient feedbacks amplify the sensitivity of atmospheric carbon dioxide to changes in organic matter remineralisation. Earth System Dynamics, 2014, 5, 321-343.	2.7	50

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127	Implications of the Paris agreement for the ocean. Nature Climate Change, 2016, 6, 732-735.	8.1	50
128	A first-order analysis of the potential rôle of CO₂ fertilization to affect the global carbon budget: a comparison of four terrestrial biosphere models. Tellus, Series B: Chemical and Physical Meteorology, 2022, 51, 343.	0.8	49
129	Projected pH reductions by 2100 might put deep North Atlantic biodiversity at risk. Biogeosciences, 2014, 11, 6955-6967.	1.3	49
130	Sensitivity of pelagic calcification to ocean acidification. Biogeosciences, 2011, 8, 433-458.	1.3	47
131	Simulation of atmospheric radiocarbon during abrupt oceanic circulation changes: trying to reconcile models and reconstructions. Quaternary Science Reviews, 2003, 22, 1647-1658.	1.4	46
132	Sensitivity of atmospheric CO₂ and climate to explosive volcanic eruptions. Biogeosciences, 2011, 8, 2317-2339.	1.3	46
133	Mechanisms of millennial-scale atmospheric CO2 change in numerical model simulations. Quaternary Science Reviews, 2019, 220, 30-74.	1.4	46
134	Modeling the relationship between231Pa/230Th distribution in North Atlantic sediment and Atlantic meridional overturning circulation. Paleoceanography, 2007, 22, .	3.0	45
135	A latitude-depth, circulation-biogeochemical ocean model for paleoclimate studies. Development and sensitivities. Tellus, Series B: Chemical and Physical Meteorology, 1998, 50, 290-316.	0.8	44
136	Methane emissions from floodplains in the Amazon Basin: challenges in developing a process-based model for global applications. Biogeosciences, 2014, 11, 1519-1558.	1.3	43
137	Pulse response functions are cost-efficient tools to model the link between carbon emissions, atmospheric CO2 and global warming. Physics and Chemistry of the Earth, 1996, 21, 471-476.	0.3	42
138	Southern Ocean anthropogenic carbon sink constrained by sea surface salinity. Science Advances, 2021, 7, .	4.7	42
139	Growth enhancement due to global atmospheric change as predicted by terrestrial ecosystem models: consistent with US forest inventory data. Global Change Biology, 2002, 8, 299-303.	4.2	41
140	Toward explaining the Holocene carbon dioxide and carbon isotope records: Results from transient ocean carbon cycleâ€climate simulations. Paleoceanography, 2012, 27, .	3.0	41
141	Title is missing!. Environmental Modeling and Assessment, 1999, 4, 133-140.	1.2	39
142	Metrics to assess the mitigation of global warming by carbon capture and storage in the ocean and in geological reservoirs. Geophysical Research Letters, 2004, 31, .	1.5	39
143	Possible effects of iron fertilization in the Southern Ocean on atmospheric CO₂ concentration. Global Biogeochemical Cycles, 1991, 5, 135-150.	1.9	38
144	Isotopic constraints on marine and terrestrial N2O emissions during the last deglaciation. Nature, 2014, 516, 234-237.	13.7	38

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145	Low terrestrial carbon storage at the Last Glacial Maximum: constraints from multi-proxy data. Climate of the Past, 2019, 15, 849-879.	1.3	38
146	A latitude-depth, circulation-biogeochemical ocean model for paleoclimate studies. Development and sensitivities. Tellus, Series B: Chemical and Physical Meteorology, 2022, 50, 290.	0.8	37
147	Imbalance in the budget. Nature, 1994, 370, 181-182.	13.7	36
148	Impact of oceanic circulation changes on atmospheric <i>Î´</i>¹³CO₂. Global Biogeochemical Cycles, 2015, 29, 1944-1961.	1.9	35
149	Abrupt CO ₂ release to the atmosphere under glacial and early interglacial climate conditions. Science, 2020, 369, 1000-1005.	6.0	35
150	Evaluating timescales of carbon turnover in temperate forest soils with radiocarbon data. Global Biogeochemical Cycles, 1999, 13, 555-573.	1.9	34
151	Regional airâ€sea fluxes of anthropogenic carbon inferred with an Ensemble Kalman Filter. Global Biogeochemical Cycles, 2009, 23, .	1.9	34
152	Transient Earth system responses to cumulative carbon dioxide emissions: linearities, uncertainties, and probabilities in an observation-constrained model ensemble. Biogeosciences, 2016, 13, 1071-1103.	1.3	34
153	Holocene peatland and ice-core data constraints on the timing and magnitude of CO ₂ emissions from past land use. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1492-1497.	3.3	34
154	New insights into cycling of 231 Pa and 230 Th in the Atlantic Ocean. Earth and Planetary Science Letters, 2017, 468, 27-37.	1.8	34
155	Impact of an abrupt cooling event on interglacial methane emissions in northern peatlands. Biogeosciences, 2013, 10, 1963-1981.	1.3	30
156	Global Patterns in Net Primary Production Allocation Regulated by Environmental Conditions and Forest Stand Age: A Modelâ€Data Comparison. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 2039-2059.	1.3	30
157	AÂprobabilistic assessment of calcium carbonate export and dissolution in the modern ocean. Biogeosciences, 2016, 13, 2823-2848.	1.3	28
158	Variability of the ocean carbon cycle in response to the North Atlantic Oscillation. Tellus, Series B: Chemical and Physical Meteorology, 2022, 64, 18738.	0.8	27
159	A radiative forcing analysis of tropical peatlands before and after their conversion to agricultural plantations. Global Change Biology, 2018, 24, 5518-5533.	4.2	27
160	Hysteresis of the Earth system under positive and negative CO₂ emissions. Environmental Research Letters, 2020, 15, 124026.	2.2	27
161	Comparative carbon cycle dynamics of the present and last interglacial. Quaternary Science Reviews, 2016, 137, 15-32.	1.4	26
162	Ocean carbon transport in a box-diffusion versus a general circulation model. Journal of Geophysical Research, 1997, 102, 12367-12388.	3.3	24

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163	The substitution of high-resolution terrestrial biosphere models and carbon sequestration in response to changing CO2and climate. Global Biogeochemical Cycles, 1999, 13, 785-802.	1.9	23
164	Simulating oxygen isotope ratios in tree ring cellulose using a dynamic global vegetation model. Biogeosciences, 2016, 13, 3869-3886.	1.3	23
165	Coherent Response of Antarctic Intermediate Water and Atlantic Meridional Overturning Circulation During the Last Deglaciation: Reconciling Contrasting Neodymium Isotope Reconstructions From the Tropical Atlantic. Paleoceanography, 2017, 32, 1036-1053.	3.0	23
166	Model limits on the role of volcanic carbon emissions in regulating glacialâ€“interglacial CO2 variations. Earth and Planetary Science Letters, 2012, 329-330, 141-149.	1.8	22
167	Sensitivity of Nd isotopic composition in seawater to changes in Nd sources and paleoceanographic implications. Journal of Geophysical Research, 2012, 117, .	3.3	21
168	Intensification of tropical Pacific biological productivity due to volcanic eruptions. Geophysical Research Letters, 2016, 43, 1184-1192.	1.5	21
169	Quantifying differences in land use emission estimates implied by definition discrepancies. Earth System Dynamics, 2015, 6, 731-744.	2.7	21
170	CO2 and non-CO2 radiative forcings in climate projections for twenty-first century mitigation scenarios. Climate Dynamics, 2009, 33, 737-749.	1.7	20
171	Carbon sources and sinks from an Ensemble Kalman Filter ocean data assimilation. Global Biogeochemical Cycles, 2010, 24, .	1.9	20
172	Global peatland area and carbon dynamics from the Last Glacial Maximum to the present â€“ a process-based model investigation. Biogeosciences, 2020, 17, 5285-5308.	1.3	20
173	A modeling study of oceanic nitrous oxide during the Younger Dryas cold period. Geophysical Research Letters, 2003, 30, .	1.5	19
174	Detecting changes in marine responses to ENSO from 850 to 2100 C.E.: Insights from the ocean carbon cycle. Geophysical Research Letters, 2015, 42, 518-525.	1.5	19
175	Hazards of decreasing marine oxygen: the near-term and millennial-scale benefits of meeting the Paris climate targets. Earth System Dynamics, 2018, 9, 797-816.	2.7	19
176	Committed and projected future changes in global peatlands â€“ continued transient model simulations since the Last Glacial Maximum. Biogeosciences, 2021, 18, 3657-3687.	1.3	19
177	Modeling past atmospheric CO2: Results of a challenge. Eos, 2005, 86, 341.	0.1	18
178	Modeling Neodymium Isotopes in the Ocean Component of the Community Earth System Model (CESM1). Journal of Advances in Modeling Earth Systems, 2019, 11, 624-640.	1.3	18
179	On the relationship between Nd isotopic composition and ocean overturning circulation in idealized freshwater discharge events. Paleoceanography, 2012, 27, .	3.0	16
180	The Bern Simple Climate Model (BernSCM) v1.0: an extensible and fully documented open-source re-implementation of the Bern reduced-form model for global carbon cycleâ€“climate simulations. Geoscientific Model Development, 2018, 11, 1887-1908.	1.3	16

#	Article	IF	Citations
181	Feedback mechanisms and sensitivities of ocean carbon uptake under global warming. Tellus, Series B: Chemical and Physical Meteorology, 2022, 53, 564.	0.8	15
182	The Atmospheric Carbon Dioxide Perturbation. Europhysics News, 1996, 27, 213-218.	0.1	14
183	A strong mitigation scenario maintains climate neutrality of northern peatlands. One Earth, 2022, 5, 86-97.	3.6	14
184	Physical and biogeochemical responses to freshwater-induced thermohaline variability in a zonally averaged ocean model. Geophysical Monograph Series, 1999, , 263-284.	0.1	12
185	N₂O changes from the Last Glacial Maximum to the preindustrial â€" Part 1: Quantitative reconstruction of terrestrial and marine emissions using N₂O stable isotopes in ice cores. Biogeosciences, 2019, 16, 3997-4021.	1.3	12
186	Impact of Climate Change Mitigation On Ocean Acidification Projections. , 2011, , .		12
187	Mysteriously high Î"¹⁴C of the glacial atmosphere: influence of ¹⁴C production and carbon cycle changes. Climate of the Past, 2020, 16, 1159-1185.	1.3	12
188	Methane budget estimates in Finland from the CarbonTracker Europe-CH₄ data assimilation system. Tellus, Series B: Chemical and Physical Meteorology, 2022, 71, 1565030.	0.8	11
189	Assessment of time of emergence of anthropogenic deoxygenation and warming: insights from a CESM simulation from 850 to 2100â€‰CE. Biogeosciences, 2019, 16, 1755-1780.	1.3	10
190	Modeling the evolution of pulse-like perturbations in atmospheric carbon and carbon isotopes: the role of weatheringâ€"sedimentation imbalances. Climate of the Past, 2020, 16, 423-451.	1.3	10
191	The effects of varying drought-heat signatures on terrestrial carbon dynamics and vegetation composition. Biogeosciences, 2022, 19, 1979-1993.	1.3	10
192	An Ensemble Kalman Filter multi-tracer assimilation: Determining uncertain ocean model parameters for improved climate-carbon cycle projections. Ocean Modelling, 2013, 64, 29-45.	1.0	9
193	Growing feedback from ocean carbon to climate. Nature, 2015, 522, 295-296.	13.7	8
194	No support for carbon storage of >1,000 GtC in northern peatlands. Nature Geoscience, 2021, 14, 465-467.	5.4	8
195	N₂O changes from the Last Glacial Maximum to the preindustrial â€" PartÂ 2: terrestrial N₂O emissions and carbonâ€"nitrogen cycle interactions. Biogeosciences, 2020, 17, 3511-3543.	1.3	7
196	A climate database with varying droughtâ€heat signatures for climate impact modelling. Geoscience Data Journal, 2022, 9, 154-166.	1.8	7
197	Magnitude and Uncertainty of Nitrous Oxide Emissions From North America Based on Bottomâ€Up and Topâ€Down Approaches: Informing Future Research and National Inventories. Geophysical Research Letters, 2021, 48, e2021GL095264.	1.5	7
198	Marine N₂O emissions during a Younger Dryas-like event: the role of meridional overturning, tropical thermocline ventilation, and biological productivity. Environmental Research Letters, 2019, 14, 075007.	2.2	6

#	Article	IF	Citations
199	Der Anstieg des atmosphÃrischen Kohlendioxids. Physik Journal, 1995, 51, 405-411.	0.1	5
200	CH₄ and N₂O fluctuations during the penultimate deglaciation. Climate of the Past, 2021, 17, 1627-1643.	1.3	5
201	Future Development of the Carbon Cycle: the Role of the Biota/Forests within the IPCC Stabilization Scenarios. , 1998, , 269-291.		4
202	The Gosac Project to Predict the Efficiency of Ocean CO2 Sequestration Using 3-D Ocean Models. , 2003, , 1691-1694.		4
203	Measured and modelled source water Î´18O based on tree-ring cellulose of larch and pine trees from the permafrost zone. IForest, 2020, 13, 224-229.	0.5	4
204	Radiocarbon in the Land and Ocean Components of the Community Earth System Model. Global Biogeochemical Cycles, 2022, 36, .	1.9	4
205	Reply to the comment by Bard et al. on â€œSolar activity during the last 1000yr inferred from radionuclide recordsâ€ Quaternary Science Reviews, 2007, 26, 2304-2308.	1.4	3
206	Is deoxygenation detectable before warming in the thermocline?. Biogeosciences, 2020, 17, 1877-1895.	1.3	3
207	Lower oceanic <i>Î´</i>¹³C during the last interglacial period compared to the Holocene. Climate of the Past, 2021, 17, 507-528.	1.3	3
208	The Effects of Land Use and Management on the Global Carbon Cycle. Remote Sensing and Digital Image Processing, 2012, , 237-256.	0.7	2
209	Ice core-based isotopic constraints on past carbon cycle changes. Past Global Change Magazine, 2015, 23, 12-13.	0.4	2
210	Narrowing the uncertainty for deep-ocean injection efficiency. , 2005, , 1481-1485.		1
211	Kommentar zum Artikel: Zur ozeanischen Pufferwirkung auf den atmosphï¿½rischen CO2-Gehalt in einem Flieï¿½gleichgewicht (J. prakt. Chem. 335 (1993) 425). Journal FÃ¼r Praktische Chemie, Chemiker-Zeitung, 1994, 336, 280-281.	0.5	0
212	Temperature increase of 21st century mitigation scenarios. IOP Conference Series: Earth and Environmental Science, 2009, 6, 492012.	0.2	0
213	Preface: The 10th International Carbon Dioxide Conference (ICDC10) and the 19th WMO/IAEA Meeting on Carbon Dioxide, Other Greenhouse Gases, and Related Measurement Techniques (GGMT-2017). Atmospheric Chemistry and Physics, 2018, 18, 7841-7842.	1.9	0
214	Isotopes of carbon, water and geotracers in paleoclimate research. Past Global Change Magazine, 2014, 22, 49-49.	0.4	0