Marion Gehlen

List of Publications by Year
in descending order

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89 papers	11,010 citations	57719 44 h-index	48277 88 g-index

134 all docs	134 docs citations	134 times ranked	13432 citing authors

#	Article	IF	Citations
1	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	3.7	1,477
2	Multiple stressors of ocean ecosystems in the 21st century: projections with CMIP5 models. Biogeosciences, 2013, 10, 6225-6245.	1.3	1,191
3	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	3.7	1,159
4	Projected 21st century decrease in marine productivity: a multi-model analysis. Biogeosciences, 2010, 7, 979-1005.	1.3	520
5	Influence of diatom diversity on the ocean biological carbon pump. Nature Geoscience, 2018, 11, 27-37.	5.4	451
6	PISCES-v2: an ocean biogeochemical model for carbon and ecosystem studies. Geoscientific Model Development, 2015, 8, 2465-2513.	1.3	422
7	Hydrothermal contribution to the oceanic dissolved iron inventory. Nature Geoscience, 2010, 3, 252-256.	5.4	353
8	Twenty-first century ocean warming, acidification, deoxygenation, and upper-ocean nutrient and primary production decline from CMIP6 model projections. Biogeosciences, 2020, 17, 3439-3470.	1.3	348
9	Response of diatoms distribution to global warming and potential implications: A global model study. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	332
10	Experimental strategies to assess the biological ramifications of multiple drivers of global ocean changeâ€"A review. Global Change Biology, 2018, 24, 2239-2261.	4.2	285
11	On the Future of Argo: A Global, Full-Depth, Multi-Disciplinary Array. Frontiers in Marine Science, 2019, 6, .	1.2	235
12	Reconciling surface ocean productivity, export fluxes and sediment composition in a global biogeochemical ocean model. Biogeosciences, 2006, 3, 521-537.	1.3	165
13	Managing living marine resources in a dynamic environment: The role of seasonal to decadal climate forecasts. Progress in Oceanography, 2017, 152, 15-49.	1.5	165
14	Global reductions in seafloor biomass in response to climate change. Global Change Biology, 2014, 20, 1861-1872.	4.2	155
15	Tracking Improvement in Simulated Marine Biogeochemistry Between CMIP5 and CMIP6. Current Climate Change Reports, 2020, 6, 95-119.	2.8	155
16	Unraveling the atomic structure of biogenic silica: evidence of the structural association of Al and Si in diatom frustules. Geochimica Et Cosmochimica Acta, 2002, 66, 1601-1609.	1.6	149
17	Dissolved inorganic carbon and alkalinity fluxes from coastal marine sediments: model estimates for different shelf environments and sensitivity to global change. Biogeosciences, 2013, 10, 371-398.	1.3	142
18	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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19	From Observation to Information and Users: The Copernicus Marine Service Perspective. Frontiers in Marine Science, 2019, 6, .	1.2	135
20	The fate of pelagic CaCO₃ production in a high CO₂ ocean: a model study. Biogeosciences, 2007, 4, 505-519.	1.3	114
21	Spatial and bodyâ€size dependent response of marine pelagic communities to projected global climate change. Global Change Biology, 2015, 21, 154-164.	4.2	114
22	Skill assessment of three earth system models with common marine biogeochemistry. Climate Dynamics, 2013, 40, 2549-2573.	1.7	108
23	Deep ocean ventilation, carbon isotopes, marine sedimentation and the deglacial CO₂ rise. Climate of the Past, 2011, 7, 771-800.	1.3	107
24	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
25	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
26	The fate of carbon in continental shelf sediments of eastern Canada: a case study. Deep-Sea Research Part II: Topical Studies in Oceanography, 2000, 47, 733-760.	0.6	85
27	LSCE-FFNN-v1: a two-step neural network model for the reconstruction of surface ocean <i>p</i>CO₂ over the global ocean. Geoscientific Model Development, 2019, 12, 2091-2105.	1.3	81
28	Rapid post-mortem incorporation of aluminum in diatom frustules: Evidence from chemical and structural analyses. Marine Chemistry, 2007, 106, 208-222.	0.9	77
29	Manganese in the west Atlantic Ocean in the context of the first global ocean circulation model of manganese. Biogeosciences, 2017, 14, 1123-1152.	1.3	75
30	Coastal-ocean uptake of anthropogenic carbon. Biogeosciences, 2016, 13, 4167-4185.	1.3	74
31	Inconsistent strategies to spin up models in CMIP5: implications for ocean biogeochemical model performance assessment. Geoscientific Model Development, 2016, 9, 1827-1851.	1.3	68
32	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
33	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
34	Building the capacity for forecasting marine biogeochemistry and ecosystems: recent advances and future developments. Journal of Operational Oceanography, 2015, 8, s168-s187.	0.6	63
35	Nonlinearity of Ocean Carbon Cycle Feedbacks in CMIP5 Earth System Models. Journal of Climate, 2014, 27, 3869-3888.	1.2	62
36	Advancing Marine Biogeochemical and Ecosystem Reanalyses and Forecasts as Tools for Monitoring and Managing Ecosystem Health. Frontiers in Marine Science, 2019, 6, .	1.2	62

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37	Multiyear predictability of tropical marine productivity. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11646-11651.	3.3	61
38	Standing and Transient Eddies in the Response of the Southern Ocean Meridional Overturning to the Southern Annular Mode. Journal of Climate, 2012, 25, 6958-6974.	1.2	58
39	Spatial and temporal variability of benthic silica fluxes in the southeastern North Sea. Continental Shelf Research, 1995, 15, 1675-1696.	0.9	54
40	Coupled Al-Si geochemistry in an ocean general circulation model: A tool for the validation of oceanic dust deposition fields?. Global Biogeochemical Cycles, 2003, 17, .	1.9	53
41	The response of marine carbon and nutrient cycles to ocean acidification: Large uncertainties related to phytoplankton physiological assumptions. Global Biogeochemical Cycles, 2011, 25, n/a-n/a.	1.9	53
42	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.	3.7	51
43	Projected pH reductions by 2100 might put deep North Atlantic biodiversity at risk. Biogeosciences, 2014, 11, 6955-6967.	1.3	49
44	Aluminium in an ocean general circulation model compared with the West Atlantic Geotraces cruises. Journal of Marine Systems, 2013, 126, 3-23.	0.9	48
45	Projections of oceanic N₂O emissions in the 21st century using the IPSL Earth system model. Biogeosciences, 2015, 12, 4133-4148.	1.3	48
46	A seamless ensemble-based reconstruction of surface ocean <i>p</i>CO₂ and airâ€“sea CO₂ fluxes over the global coastal and open oceans. Biogeosciences, 2022, 19, 1087-1109.	1.3	48
47	Sensitivity of pelagic calcification to ocean acidification. Biogeosciences, 2011, 8, 433-458.	1.3	47
48	Copernicus Marine Service Ocean State Report, Issue 4. Journal of Operational Oceanography, 2020, 13, S1-S172.	0.6	47
49	Pathways to sustaining tuna-dependent Pacific Island economies during climate change. Nature Sustainability, 2021, 4, 900-910.	11.5	47
50	Slowâ€sinking particulate organic carbon in the Atlantic Ocean: Magnitude, flux, and potential controls. Global Biogeochemical Cycles, 2017, 31, 1051-1065.	1.9	46
51	Variable reactivity of particulate organic matter in a global ocean biogeochemical model. Biogeosciences, 2017, 14, 2321-2341.	1.3	46
52	Eddy compensation and controls of the enhanced seaâ€toâ€air CO₂ flux during positive phases of the Southern Annular Mode. Global Biogeochemical Cycles, 2013, 27, 950-961.	1.9	43
53	Drastic changes in deep-sea sediment porewater composition induced by episodic input of organic matter. Limnology and Oceanography, 1997, 42, 980-986.	1.6	42
54	Influence of anthropogenic aerosol deposition on the relationship between oceanic productivity and warming. Geophysical Research Letters, 2015, 42, 10745-10754.	1.5	40

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55	Early diagenesis of silica in sandy North sea sediments: quantification of the solid phase. Marine Chemistry, 1993, 42, 71-83.	0.9	34
56	Net primary productivity estimates and environmental variables in the Arctic Ocean: An assessment of coupled physical-biogeochemical models. Journal of Geophysical Research: Oceans, 2016, 121, 8635-8669.	1.0	34
57	The role of adsorptionâ€“desorption surface reactions in controlling interstitial Si(OH)4 concentrations and enhancing Si(OH)4 turn-over in shallow shelf seas. Continental Shelf Research, 2002, 22, 1529-1547.	0.9	32
58	Crystallinity of foraminifera shells: A proxy to reconstruct past bottom water CO3=changes?. Geochemistry, Geophysics, Geosystems, 2004, 5, .	1.0	31
59	The impacts of ocean acidification on marine trace gases and the implications forÂatmospheric chemistry andÂclimate. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20190769.	1.0	31
60	On the effects of circulation, sediment resuspension and biological incorporation by diatoms in an ocean model of aluminium*. Biogeosciences, 2014, 11, 3757-3779.	1.3	29
61	Competition between Silicifiers and Non-silicifiers in the Past and Present Ocean and Its Evolutionary Impacts. Frontiers in Marine Science, 2018, 5, .	1.2	29
62	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
63	The relationship between Al and Si in biogenic silica as determined by PIXE and XAS. Nuclear Instruments & Methods in Physics Research B, 2002, 189, 180-184.	0.6	24
64	Modelling the distribution of stable carbon isotopes in porewaters of deep-sea sediments. Geochimica Et Cosmochimica Acta, 1999, 63, 2763-2773.	1.6	23
65	Reassessing the dissolution of marine carbonates: I. Solubility. Deep-Sea Research Part I: Oceanographic Research Papers, 2005, 52, 1445-1460.	0.6	23
66	Reassessing the dissolution of marine carbonates: II. Reaction kinetics. Deep-Sea Research Part I: Oceanographic Research Papers, 2005, 52, 1461-1476.	0.6	23
67	Assessing the sensitivity of modeled airâ€sea CO₂ exchange to the remineralization depth of particulate organic and inorganic carbon. Global Biogeochemical Cycles, 2008, 22, .	1.9	23
68	Projected impacts of climate change and ocean acidification on the global biogeography of planktonic Foraminifera. Biogeosciences, 2015, 12, 2873-2889.	1.3	21
69	Restructuring of plankton genomic biogeography in the surface ocean under climate change. Nature Climate Change, 2022, 12, 393-401.	8.1	21
70	Model constraints on the anthropogenic carbon budget of the Arctic Ocean. Biogeosciences, 2019, 16, 2343-2367.	1.3	20
71	Biogeochemical Consequences of Ocean Acidification and Feedbacks to the Earth System. , 2011, , .		17
72	Trace element cartography ofGlobigerinoides rubershells using particle-induced X-ray emission. Geochemistry, Geophysics, Geosystems, 2004, 5, n/a-n/a.	1.0	15

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73	On the potential of230Th,231Pa, and10Be for marine rain ratio determinations: A modeling study. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	1.9	14
74	Detection limit improvement for Mg in marine foraminiferal calcite by using helium induced X-ray emission. Nuclear Instruments & Methods in Physics Research B, 2002, 190, 482-487.	0.6	13
75	Shortâ€term dissolution response of pelagic carbonate sediments to the invasion of anthropogenic CO₂: A model study. Geochemistry, Geophysics, Geosystems, 2008, 9, .	1.0	12
76	Evaluation of an operational ocean model configuration at 1/12Â° spatial resolution for the Indonesian seas (NEMO2.3/INDO12) â€“ Part 2: Biogeochemistry. Geoscientific Model Development, 2016, 9, 1523-1543.	1.3	12
77	Synthesis of new scientific challenges for GODAE OceanView. Journal of Operational Oceanography, 2015, 8, s259-s271.	0.6	9
78	Kinetics of silica sorption on North Sea sediments. Chemical Geology, 1993, 107, 359-361.	1.4	8
79	Distribution and long-term change of the sea surface carbonate system in the Mozambique Channel (1963â€“2019). Deep-Sea Research Part II: Topical Studies in Oceanography, 2021, 186-188, 104936.	0.6	8
80	Observation system simulation experiments in the Atlantic Ocean for enhanced surface ocean <i>p</i>CO₂ reconstructions. Ocean Science, 2021, 17, 1011-1030.	1.3	8
81	Marine Biogeochemical Modelling and Data Assimilation for Operational Forecasting, Reanalysis, and Climate Research. , 0, , .		8
82	Transport and storage of anthropogenic C in the North Atlantic Subpolar Ocean. Biogeosciences, 2018, 15, 4661-4682.	1.3	7
83	Editorial: Biogeochemistry and Genomics of Silicification and Silicifiers. Frontiers in Marine Science, 2019, 6, .	1.2	7
84	The potential of ²³⁰Th for detection of ocean acidification impacts on pelagic carbonate production. Biogeosciences, 2018, 15, 3521-3539.	1.3	5
85	The Global Pandemic Has Shown We Need an Action Plan for the Ocean. Frontiers in Marine Science, 2021, 8, .	1.2	5
86	The impact of the South-East Madagascar Bloom on the oceanic CO₂ sink. Biogeosciences, 2022, 19, 1451-1468.	1.3	5
87	Modeling Ocean Biogeochemical Processes and the Resulting Tracer Distributions. International Geophysics, 2013, , 667-694.	0.6	4
88	Quantification of Chaotic Intrinsic Variability of Seaâ€Air CO₂ Fluxes at Interannual Timescales. Geophysical Research Letters, 2020, 47, e2020GL088304.	1.5	4
89	Alternate Histories: Synthetic Large Ensembles of Seaâ€Air CO₂ Flux. Global Biogeochemical Cycles, 2022, 36, .	1.9	3