

Gregor Rehder

List of Publications by Year in descending order

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Version: 2024-02-01

89
papers

8,635
citations

87886

38
h-index

48312

88
g-index

116
all docs

116
docs citations

116
times ranked

12291
citing authors

#	ARTICLE	IF	CITATIONS
1	Biogeochemical functioning of the Baltic Sea. <i>Earth System Dynamics</i> , 2022, 13, 633-685.	7.1	22
2	Global Carbon Budget 2021. <i>Earth System Science Data</i> , 2022, 14, 1917-2005.	9.9	663
3	Technical note: Seamless gas measurements across the land-ocean aquatic continuum – corrections and evaluation of sensor data for CO ₂ , CH ₄ and O ₂ from field deployments in contrasting environments. <i>Biogeosciences</i> , 2021, 18, 1351-1373.	3.3	13
4	The northern European shelf as an increasing net sink for CO ₂ . <i>Biogeosciences</i> , 2021, 18, 1127-1147.	3.3	14
5	Upwelling-induced trace gas dynamics in the Baltic Sea inferred from 8 years of autonomous measurements on a ship of opportunity. <i>Biogeosciences</i> , 2021, 18, 2679-2709.	3.3	3
6	Decoupling salinity and carbonate chemistry: low calcium ion concentration rather than salinity limits calcification in Baltic Sea mussels. <i>Biogeosciences</i> , 2021, 18, 2573-2590.	3.3	10
7	Congruent changes in microbial community dynamics and ecosystem methane fluxes following natural drought in two restored fens. <i>Soil Biology and Biochemistry</i> , 2021, 160, 108348.	8.8	15
8	Cyanobacteria net community production in the Baltic Sea as inferred from profiling $\delta^{13}C$ measurements. <i>Biogeosciences</i> , 2021, 18, 4889-4917.	3.3	0
9	Pelagic Methane Sink Enhanced by Benthic Methanotrophs Ejected From a Gas Seep. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL094819.	4.0	3
10	Meridional and Cross-Shelf Variability of N ₂ O and CH ₄ in the Eastern-South Atlantic. <i>Journal of Geophysical Research: Oceans</i> , 2021, 126, e2020JC016878.	2.6	1
11	The diurnal cycle of $\delta^{13}C$ in the coastal region of the Baltic Sea. <i>Ocean Science</i> , 2021, 17, 1657-1675.	3.4	8
12	The characteristics of the CO ₂ system of the Oder River estuary (Baltic Sea). <i>Journal of Marine Systems</i> , 2020, 211, 103418.	2.1	13
13	Carbon release and transformation from coastal peat deposits controlled by submarine groundwater discharge: a column experiment study. <i>Limnology and Oceanography</i> , 2020, 65, 1116-1135.	3.1	5
14	Ideas and perspectives: A strategic assessment of methane and nitrous oxide measurements in the marine environment. <i>Biogeosciences</i> , 2020, 17, 5809-5828.	3.3	16
15	A Surface Ocean CO ₂ Reference Network, SOCONET and Associated Marine Boundary Layer CO ₂ Measurements. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	26
16	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, .	2.5	13
17	Controls on zooplankton methane production in the central Baltic Sea. <i>Biogeosciences</i> , 2019, 16, 1-16.	3.3	30
18	Ecological Regional Ocean Model with vertically resolved sediments (ERGOM-SED1.0): coupling benthic and pelagic biogeochemistry of the south-western Baltic Sea. <i>Geoscientific Model Development</i> , 2019, 12, 275-320.	3.6	14

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19	A Harmonized Nitrous Oxide (N ₂ O) Ocean Observation Network for the 21st Century. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	32
20	N ₂ O Emissions From the Northern Benguela Upwelling System. <i>Geophysical Research Letters</i> , 2019, 46, 3317-3326.	4.0	19
21	The FluxEngine air-sea gas flux toolbox: simplified interface and extensions for in situ analyses and multiple sparingly soluble gases. <i>Ocean Science</i> , 2019, 15, 1707-1728.	3.4	10
22	Global Carbon Budget 2019. <i>Earth System Science Data</i> , 2019, 11, 1783-1838.	9.9	1,159
23	Spectrophotometric pH measurements in the presence of dissolved organic matter and hydrogen sulfide. <i>Limnology and Oceanography: Methods</i> , 2018, 16, 68-82.	2.0	16
24	The contribution of zooplankton to methane supersaturation in the oxygenated upper waters of the central Baltic Sea. <i>Limnology and Oceanography</i> , 2018, 63, 412-430.	3.1	52
25	Predominance of methanogens over methanotrophs in rewetted fens characterized by high methane emissions. <i>Biogeosciences</i> , 2018, 15, 6519-6536.	3.3	38
26	An intercomparison of oceanic methane and nitrous oxide measurements. <i>Biogeosciences</i> , 2018, 15, 5891-5907.	3.3	42
27	Metrology of pH Measurements in Brackish Waters—Part 2: Experimental Characterization of Purified meta-Cresol Purple for Spectrophotometric pH Measurements. <i>Frontiers in Marine Science</i> , 2018, 5, .	2.5	22
28	Metrology for pH Measurements in Brackish Waters—Part 1: Extending Electrochemical pH Measurements of TRIS Buffers to Salinities 5–20. <i>Frontiers in Marine Science</i> , 2018, 5, .	2.5	18
29	Understanding the Coastal Ecocline: Assessing Sea-Land Interactions at Non-tidal, Low-Lying Coasts Through Interdisciplinary Research. <i>Frontiers in Marine Science</i> , 2018, 5, .	2.5	30
30	Sub-marine Continuation of Peat Deposits From a Coastal Peatland in the Southern Baltic Sea and its Holocene Development. <i>Frontiers in Earth Science</i> , 2018, 6, .	1.8	15
31	Global Carbon Budget 2018. <i>Earth System Science Data</i> , 2018, 10, 2141-2194.	9.9	1,167
32	Global Carbon Budget 2017. <i>Earth System Science Data</i> , 2018, 10, 405-448.	9.9	801
33	Biogeochemical cycles. , 2017, , 87-122.		9
34	Effects of the 2014 major Baltic inflow on methane and nitrous oxide dynamics in the water column of the central Baltic Sea. <i>Earth System Dynamics</i> , 2017, 8, 817-826.	7.1	14
35	A Bioreactor Approach to Investigate the Linkage between Methane Oxidation and Nitrate/Nitrite Reduction in the Pelagic Oxidic-Anoxic Transition Zone of the Central Baltic Sea. <i>Frontiers in Marine Science</i> , 2016, 3, .	2.5	3
36	Long-term alkalinity trends in the Baltic Sea and their implications for CO ₂ -induced acidification. <i>Limnology and Oceanography</i> , 2016, 61, 1984-2002.	3.1	87

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37	Effects of climate change on methane emissions from seafloor sediments in the Arctic Ocean: A review. <i>Limnology and Oceanography</i> , 2016, 61, S283.	3.1	109
38	The fate of bubbles in a large, intense bubble megaplume for stratified and unstratified water: Numerical simulations of 22/4b expedition field data. <i>Marine and Petroleum Geology</i> , 2015, 68, 806-823.	3.3	27
39	A review of oceanographic and meteorological controls on the North Sea circulation and hydrodynamics with a view to the fate of North Sea methane from well site 22/4b and other seabed sources. <i>Marine and Petroleum Geology</i> , 2015, 68, 861-882.	3.3	21
40	Ongoing methane discharge at well site 22/4b (North Sea) and discovery of a spiral vortex bubble plume motion. <i>Marine and Petroleum Geology</i> , 2015, 68, 718-730.	3.3	41
41	Global Carbon Budget 2015. <i>Earth System Science Data</i> , 2015, 7, 349-396.	9.9	616
42	Investigating hypoxia in aquatic environments: diverse approaches to addressing a complex phenomenon. <i>Biogeosciences</i> , 2014, 11, 1215-1259.	3.3	175
43	Seepage of methane at Jaco Scar, a slide caused by seamount subduction offshore Costa Rica. <i>International Journal of Earth Sciences</i> , 2014, 103, 1801-1815.	1.8	16
44	Seasonal and spatial methane dynamics in the water column of the central Baltic Sea (Gotland Sea). <i>Continental Shelf Research</i> , 2014, 91, 12-25.	1.8	32
45	“Self-Preservation” of CH ₄ Hydrates for Gas Transport Technology: Pressure–Temperature Dependence and Ice Microstructures. <i>Energy & Fuels</i> , 2014, 28, 6275-6283.	5.1	91
46	Seasonal variation of methane in the water column of Arkona and Bornholm Basin, western Baltic Sea. <i>Journal of Marine Systems</i> , 2014, 139, 332-347.	2.1	14
47	Detecting sinks and sources of CO ₂ and CH ₄ by ferrybox-based measurements in the Baltic Sea: Three case studies. <i>Journal of Marine Systems</i> , 2014, 140, 13-25.	2.1	31
48	Metabolically active microbial communities in marine sediment under high-CO ₂ and low-pH extremes. <i>ISME Journal</i> , 2013, 7, 555-567.	9.8	51
49	A low frequency multibeam assessment: Spatial mapping of shallow gas by enhanced penetration and angular response anomaly. <i>Marine and Petroleum Geology</i> , 2013, 44, 217-222.	3.3	35
50	Comparative studies of pelagic microbial methane oxidation within the redox zones of the Gotland Deep and Landsort Deep (central Baltic Sea). <i>Biogeosciences</i> , 2013, 10, 7863-7875.	3.3	22
51	Methane-Carbon Flow into the Benthic Food Web at Cold Seeps “A Case Study from the Costa Rica Subduction Zone. <i>PLoS ONE</i> , 2013, 8, e74894.	2.5	70
52	One year of continuous measurements constraining methane emissions from the Baltic Sea to the atmosphere using a ship of opportunity. <i>Biogeosciences</i> , 2013, 10, 81-99.	3.3	48
53	The Baltic Sea Tracer Release Experiment: 1. Mixing rates. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	25
54	Fluid and gas fluxes from the Logatchev hydrothermal vent area. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	9

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55	Methane Hydrate Pellet Transport Using the Self-Preservation Effect: A Techno-Economic Analysis. <i>Energies</i> , 2012, 5, 2499-2523.	3.1	133
56	Aerobic methanotrophy within the pelagic redox-zone of the Gotland Deep (central Baltic Sea). <i>Biogeosciences</i> , 2012, 9, 4969-4977.	3.3	29
57	Air-sea CO ₂ exchange in the Gulf of Bothnia, Baltic Sea. <i>Continental Shelf Research</i> , 2012, 37, 46-56.	1.8	24
58	A new method for continuous measurement of methane and carbon dioxide in surface waters using off-axis integrated cavity output spectroscopy (ICOS): An example from the Baltic Sea. <i>Limnology and Oceanography: Methods</i> , 2011, 9, 176-184.	2.0	61
59	Quantification of seep-related methane gas emissions at Tommeliten, North Sea. <i>Continental Shelf Research</i> , 2011, 31, 867-878.	1.8	107
60	Comment on "A Persistent Oxygen Anomaly Reveals the Fate of Spilled Methane in the Deep Gulf of Mexico". <i>Science</i> , 2011, 332, 1033-1033.	12.6	23
61	Gas seepage in the Dnepr paleo-delta area (NW-Black Sea) and its regional impact on the water column methane cycle. <i>Journal of Marine Systems</i> , 2010, 80, 90-100.	2.1	31
62	Distribution of methane in the water column of the Baltic Sea. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	54
63	Controls on methane bubble dissolution inside and outside the hydrate stability field from open ocean field experiments and numerical modeling. <i>Marine Chemistry</i> , 2009, 114, 19-30.	2.3	110
64	Methane hydrate dissolution rates in undersaturated seawater under controlled hydrodynamic forcing. <i>Marine Chemistry</i> , 2009, 115, 226-234.	2.3	21
65	Jiulong methane reef: Microbial mediation of seep carbonates in the South China Sea. <i>Marine Geology</i> , 2008, 249, 243-256.	2.1	196
66	Hunting a New Ocean Tracer. <i>Eos</i> , 2008, 89, 419-419.	0.1	1
67	Experimental Investigation of the Rising Behavior of CO ₂ Droplets in Seawater under Hydrate-Forming Conditions. <i>Environmental Science & Technology</i> , 2008, 42, 5241-5246.	10.0	20
68	Indications of a link between seismotectonics and CH ₄ release from seeps off Costa Rica. <i>Geochemistry, Geophysics, Geosystems</i> , 2007, 8, n/a-n/a.	2.5	50
69	Estimates of methane output from mud extrusions at the erosive convergent margin off Costa Rica. <i>Marine Geology</i> , 2006, 225, 129-144.	2.1	94
70	In situ benthic fluxes from an intermittently active mud volcano at the Costa Rica convergent margin. <i>Earth and Planetary Science Letters</i> , 2005, 235, 79-95.	4.4	78
71	Methane sources, distributions, and fluxes from cold vent sites at Hydrate Ridge, Cascadia Margin. <i>Global Biogeochemical Cycles</i> , 2005, 19, n/a-n/a.	4.9	75
72	Methane emission from high-intensity marine gas seeps in the Black Sea into the atmosphere. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	4.0	90

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73	Methane dynamics in the Weddell Sea determined via stable isotope ratios and CFC-11. <i>Global Biogeochemical Cycles</i> , 2004, 18, n/a-n/a.	4.9	25
74	Dissolution rates of pure methane hydrate and carbon-dioxide hydrate in undersaturated seawater at 1000-m depth. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 285-292.	3.9	123
75	Distribution and height of methane bubble plumes on the Cascadia Margin characterized by acoustic imaging. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	127
76	Visual and Hydroacoustic Investigations of Gas Bubbles Detection and Quantification of Natural and Man-Made Methane Expulsions. <i>Energy Exploration and Exploitation</i> , 2003, 21, 293-297.	2.3	1
77	Enhanced marine CH ₄ emissions to the atmosphere off Oregon caused by coastal upwelling. <i>Global Biogeochemical Cycles</i> , 2002, 16, 2-1-2-11.	4.9	49
78	Measurements of the fate of gas hydrates during transit through the ocean water column. <i>Geophysical Research Letters</i> , 2002, 29, 38-1-38-4.	4.0	39
79	Experimental Determination of the Fate of Rising CO ₂ Droplets in Seawater. <i>Environmental Science & Technology</i> , 2002, 36, 5441-5446.	10.0	74
80	Enhanced lifetime of methane bubble streams within the deep ocean. <i>Geophysical Research Letters</i> , 2002, 29, 21-1-21-4.	4.0	170
81	Noble gases and radiocarbon in natural gas hydrates. <i>Geophysical Research Letters</i> , 2002, 29, 63-1-63-4.	4.0	40
82	An experiment demonstrating that marine slumping is a mechanism to transfer methane from seafloor gas-hydrate deposits into the upper ocean and atmosphere. <i>Geo-Marine Letters</i> , 2002, 22, 198-203.	1.1	76
83	Pockmarks off Big Sur, California. <i>Marine Geology</i> , 2002, 181, 323-335.	2.1	61
84	Partial pressure and air-sea flux of CO ₂ in the Northeast Atlantic during September 1995. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2001, 48, 3179-3189.	1.4	11
85	Methane and pCO ₂ in the Kuroshio and the South China Sea during maximum summer surface temperatures. <i>Marine Chemistry</i> , 2001, 75, 89-108.	2.3	58
86	Gas hydrate destabilization: enhanced dewatering, benthic material turnover and large methane plumes at the Cascadia convergent margin. <i>Earth and Planetary Science Letters</i> , 1999, 170, 1-15.	4.4	386
87	Methane in the northern Atlantic controlled by microbial oxidation and atmospheric history. <i>Geophysical Research Letters</i> , 1999, 26, 587-590.	4.0	104
88	The Multiple Sources and Patterns of Methane in North Sea Waters. <i>Aquatic Geochemistry</i> , 1998, 4, 403-427.	1.3	79
89	The $\delta^{13}\text{C}$ anomaly in the northeastern Atlantic. <i>Global Biogeochemical Cycles</i> , 1998, 12, 467-477.	4.9	20