Ronny Lauerwald

List of Publications by Year
in descending order

53 papers	6,302 citations	126907 33 h-index	168389 53 g-index
68 all docs	68 docs citations	68 times ranked	7887 citing authors

#	Article	IF	Citations
1	Global carbon dioxide emissions from inland waters. Nature, 2013, 503, 355-359.	27.8	1,670
2	Anthropogenic perturbation of the carbon fluxes from land to ocean. Nature Geoscience, 2013, 6, 597-607.	12.9	937
3	A comprehensive quantification of global nitrous oxide sources and sinks. Nature, 2020, 586, 248-256.	27.8	814
4	Global perturbation of organic carbon cycling by river damming. Nature Communications, 2017, 8, 15347.	12.8	246
5	Spatial patterns in CO₂ evasion from the global river network. Global Biogeochemical Cycles, 2015, 29, 534-554.	4.9	223
6	Global chemical weathering and associated P-release â€" The role of lithology, temperature and soil properties. Chemical Geology, 2014, 363, 145-163.	3.3	215
7	Regionalized global budget of the CO₂ exchange at the airâ€•water interface in continental shelf seas. Global Biogeochemical Cycles, 2014, 28, 1199-1214.	4.9	160
8	Global multi-scale segmentation of continental and coastal waters from the watersheds to the continental margins. Hydrology and Earth System Sciences, 2013, 17, 2029-2051.	4.9	157
9	ORCHIDEE-MICT (v8.4.1), aÂland surface model for the high latitudes: model description and validation. Geoscientific Model Development, 2018, 11, 121-163.	3.6	135
10	Nitrous oxide emissions from inland waters: Are IPCC estimates too high?. Global Change Biology, 2019, 25, 473-488.	9.5	119
11	A Brief Overview of the GLObal RIver Chemistry Database, GLORICH. Procedia Earth and Planetary Science, 2014, 10, 23-27.	0.6	111
12	Around one third of current Arctic Ocean primary production sustained by rivers and coastal erosion. Nature Communications, 2021, 12, 169.	12.8	106
13	Unexpected large evasion fluxes of carbon dioxide from turbulent streams draining the worldâ€™s mountains. Nature Communications, 2019, 10, 4888.	12.8	71
14	Empirical estimates of regional carbon budgets imply reduced global soil heterotrophic respiration. National Science Review, 2021, 8, nwaa145.	9.5	70
15	Global soil organic carbon removal by water erosion under climate change and land use change during ADâ€‰1850â€“2005. Biogeosciences, 2018, 15, 4459-4480.	3.3	68
16	Dissolved silica mobilization in the conterminous USA. Chemical Geology, 2010, 270, 90-109.	3.3	67
17	Atmospheric CO2 consumption by chemical weathering in North America. Geochimica Et Cosmochimica Acta, 2011, 75, 7829-7854.	3.9	59
18	Sources of Uncertainty in Regional and Global Terrestrial CO₂ Exchange Estimates. Global Biogeochemical Cycles, 2020, 34, e2019GB006393.	4.9	59

#	Article	IF	Citations
19	Reviews and syntheses: An empirical spatiotemporal description of the global surfaceâ€“atmosphere carbon fluxes: opportunities and data limitations. Biogeosciences, 2017, 14, 3685-3703.	3.3	58
20	Comparing national greenhouse gas budgets reported in UNFCCC inventories against atmospheric inversions. Earth System Science Data, 2022, 14, 1639-1675.	9.9	58
21	Assessing the nonconservative fluvial fluxes of dissolved organic carbon in North America. Journal of Geophysical Research, 2012, 117, .	3.3	57
22	<scp>CO</scp>₂ evasion from boreal lakes: Revised estimate, drivers of spatial variability, and future projections. Global Change Biology, 2018, 24, 711-728.	9.5	56
23	Regional trends and drivers of the global methane budget. Global Change Biology, 2022, 28, 182-200.	9.5	56
24	Modelling Estuarine Biogeochemical Dynamics: From the Local to the Global Scale. Aquatic Geochemistry, 2013, 19, 591-626.	1.3	54
25	ORCHIDEE-SOM: modeling soil organic carbon (SOC) and dissolved organic carbon (DOC) dynamics along vertical soil profiles in Europe. Geoscientific Model Development, 2018, 11, 937-957.	3.6	52
26	What controls the spatial patterns of the riverine carbonate system? â€" A case study for North America. Chemical Geology, 2013, 337-338, 114-127.	3.3	47
27	Leaching of dissolved organic carbon from mineral soils plays a significant role in the terrestrial carbon balance. Global Change Biology, 2021, 27, 1083-1096.	9.5	47
28	State of the science in reconciling topâ€down and bottomâ€up approaches for terrestrial CO₂ budget. Global Change Biology, 2020, 26, 1068-1084.	9.5	43
29	ORCHILEAK (revision 3875): a new model branch to simulate carbon transfers along the terrestrialâ€“aquatic continuum of the Amazon basin. Geoscientific Model Development, 2017, 10, 3821-3859.	3.6	40
30	Natural Lakes Are a Minor Global Source of N₂O to the Atmosphere. Global Biogeochemical Cycles, 2019, 33, 1564-1581.	4.9	40
31	Large historical carbon emissions from cultivated northern peatlands. Science Advances, 2021, 7, .	10.3	37
32	Seasonal response of airâ€“water CO₂ exchange along the landâ€“ocean aquatic continuum of the northeast North American coast.. Biogeosciences, 2015, 12, 1447-1458.	3.3	34
33	Aquatic carbon fluxes dampen the overall variation of net ecosystem productivity in the Amazon basin: An analysis of the interannual variability in the boundless carbon cycle. Global Change Biology, 2019, 25, 2094-2111.	9.5	34
34	Definitions and methods to estimate regional land carbon fluxes for the second phase of the REgional Carbon Cycle Assessment and Processes Project (RECCAP-2). Geoscientific Model Development, 2022, 15, 1289-1316.	3.6	34
35	How Simulations of the Land Carbon Sink Are Biased by Ignoring Fluvial Carbon Transfers: A Case Study for the Amazon Basin. One Earth, 2020, 3, 226-236.	6.8	26
36	The consolidated European synthesis of CO₂ emissions and removals for the European Union and United Kingdom: 1990â€“2018. Earth System Science Data, 2021, 13, 2363-2406.	9.9	23

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37	Global evaluation of the nutrient-enabled version of the land surface model ORCHIDEE-CNP v1.2 (r5986). Geoscientific Model Development, 2021, 14, 1987-2010.	3.6	22
38	Representation of dissolved organic carbon in the JULES land surface model (vn4.4_JULES-DOCM). Geoscientific Model Development, 2018, 11, 593-609.	3.6	21
39	Changes in dissolved silica mobilization into river systems draining North America until the period 2081â€“2100. Journal of Geochemical Exploration, 2011, 110, 31-39.	3.2	19
40	Retention of dissolved silica within the fluvial system of the conterminous USA. Biogeochemistry, 2013, 112, 637-659.	3.5	16
41	The consolidated European synthesis of CH₄ and N₂O emissions for the European Union and United Kingdom: 1990â€“2017. Earth System Science Data, 2021, 13, 2307-2362.	9.9	16
42	A strong mitigation scenario maintains climate neutrality of northern peatlands. One Earth, 2022, 5, 86-97.	6.8	14
43	Historical and future contributions of inland waters to the Congo Basin carbon balance. Earth System Dynamics, 2021, 12, 37-62.	7.1	13
44	ORCHIDEE MICT-LEAK (r5459), a global model for the production, transport, and transformation of dissolved organic carbon from Arctic permafrost regions â€“ Part 1: Rationale, model description, and simulation protocol. Geoscientific Model Development, 2019, 12, 3503-3521.	3.6	12
45	ORCHIDEE MICT-LEAK (r5459), a global model for the production, transport, and transformation of dissolved organic carbon from Arctic permafrost regions â€“ Part 2: Model evaluation over the Lena River basin. Geoscientific Model Development, 2020, 13, 507-520.	3.6	12
46	CE-DYNAM (v1): a spatially explicit process-based carbon erosion scheme for use in Earth system models. Geoscientific Model Development, 2020, 13, 1201-1222.	3.6	11
47	Spatiotemporal patterns and drivers of terrestrial dissolved organic carbonÂ(DOC) leaching into the European river network. Earth System Dynamics, 2022, 13, 393-418.	7.1	11
48	Simulating Erosionâ€Induced Soil and Carbon Delivery From Uplands to Rivers in a Global Land Surface Model. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002121.	3.8	10
49	Carbon Leakage through the Terrestrial-aquatic Interface: Implications for the Anthropogenic CO2 Budget. Procedia Earth and Planetary Science, 2014, 10, 319-324.	0.6	9
50	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.	4.0	7
51	Compatibility of space and time for modeling fluvial fluxes â€“ A comparison. Applied Geochemistry, 2011, 26, S295-S297.	3.0	2
52	Salt marshes in the silica budget of the North Sea. Continental Shelf Research, 2014, 82, 31-36.	1.8	1
53	State of science in carbon budget assessments for temperate forests and grasslands. , 2022, , 237-270.		0