Roland SÃ©fÃ©rian

List of Articles by Year
in descending order

Source: //exaly.com/author-pdf/3626820/publications.pdf

Version: 2025-02-01

118 PR articles	17,581 PR citations	48176 45 PR h-index	28681 103 g-index
123 documents	20223 doc citations	43055 50 h-index	31078 citing authors

#	Article	IF	Citations
1	Assessing the Time of Emergence of Marine Ecosystems From Global to Local Scales Using IPSLâ€CM6Aâ€LR/APECOSM Climateâ€Toâ€Fish Ensemble Simulations. Earth's Future, 2025, 13, .	7.2	0
2	Global Carbon Budget 2024. Earth System Science Data, 2025, 17, 965-1039.	9.0	298
3	Consistency of global carbon budget between concentration- and emission-driven historical experiments simulated by CMIP6 Earth system models and suggestions for improved simulation of CO_2 concentration. Biogeosciences, 2025, 22, 1447-1473.	3.1	7
4	Change in negative emission burden between an overshoot versus peak-shaved stratospheric aerosol injection pathway. Earth System Dynamics, 2025, 16, 667-681.	5.9	1
5	Degrees of reversibility of ocean deoxygenation in an atmospheric carbon dioxide removal scenario. Environmental Research Letters, 2025, 20, 084051.	4.9	2
6	Sensitivity Study of Atmospheric DMS Simulated in WRFâ€Chem to Various Oceanic DMS Fields Over the South West Pacific. Journal of Geophysical Research D: Atmospheres, 2025, 130, .	3.0	0
7	A Synthesis of Global Coastal Ocean Greenhouse Gas Fluxes. Global Biogeochemical Cycles, 2024, 38, .	5.3	18
8	Carbon cycle feedbacks in an idealized simulation and a scenario simulation of negative emissions in CMIP6 Earth system models. Biogeosciences, 2024, 21, 411-435.	3.1	10
9	A Synthesis of Global Coastal Ocean Greenhouse Gas Fluxes. Global Biogeochemical Cycles, 2024, 38, .	5.3	44
10	Assessment of Global Ocean Biogeochemistry Models for Ocean Carbon Sink Estimates in RECCAP2 and Recommendations for Future Studies. Journal of Advances in Modeling Earth Systems, 2024, 16, .	3.9	22
11	Solar radiation modification challenges decarbonization with renewable solar energy. Earth System Dynamics, 2024, 15, 307-322.	5.9	12
12	G6-1.5K-SAI: a new Geoengineering Model Intercomparison Project (GeoMIP) experiment integrating recent advances in solar radiation modification studies. Geoscientific Model Development, 2024, 17, 2583-2596.	3.8	17
13	A perspective on the next generation of Earth system model scenarios: towards representative emission pathways (REPs). Geoscientific Model Development, 2024, 17, 4533-4559.	3.8	31
14	Physical inconsistencies in the representation of the ocean heat-carbon nexus in simple climate models. Communications Earth & Environment, 2024, 5, .	6.9	4
15	The Modeled Seasonal Cycles of Surface N_2O Fluxes and Atmospheric N_2O. Global Biogeochemical Cycles, 2024, 38, .	5.3	1
16	Change in Wind Renewable Energy Potential Under Stratospheric Aerosol Injections. Earth's Future, 2024, 12, .	7.2	3
17	Bringing it all together: science priorities for improved understanding of Earth system change and to support international climate policy. Earth System Dynamics, 2024, 15, 1319-1351.	5.9	14
18	Description and Evaluation of the CNRMâ€Cerfacs Climate Prediction System (C3PS). Journal of Advances in Modeling Earth Systems, 2024, 16, .	3.9	3

#	Article	IF	Citations
19	The need for carbon-emissions-driven climate projections in CMIP7. Geoscientific Model Development, 2024, 17, 8141-8172.	3.8	28
20	Earth system responses to different levels of greenhouse gas emissions mitigation. Frontiers in Climate, 2024, 6, .	3.6	3
21	Evaluation of global fire simulations in CMIP6 Earth system models. Geoscientific Model Development, 2024, 17, 8751-8771.	3.8	10
22	Northern-high-latitude permafrost and terrestrial carbon response to two solar geoengineering scenarios. Earth System Dynamics, 2023, 14, 55-79.	5.9	10
23	The representation of alkalinity and the carbonate pump from CMIP5 to CMIP6 Earth system models and implications for the carbon cycle. Biogeosciences, 2023, 20, 1195-1257.	3.1	24
24	Global Surface Ocean Acidification Indicators From 1750 to 2100. Journal of Advances in Modeling Earth Systems, 2023, 15, .	3.9	67
25	Soil respirationâ€“driven CO 2 pulses dominate Australiaâ€™s flux variability. Science, 2023, 379, 1332-1335.	36.2	35
26	How does the phytoplanktonâ€“light feedback affect the marine N 2 O inventory?. Earth System Dynamics, 2023, 14, 399-412.	5.9	7
27	Irreversible loss in marine ecosystem habitability after a temperature overshoot. Communications Earth & Environment, 2023, 4, .	6.9	25
28	Magnitude, Trends, and Variability of the Global Ocean Carbon Sink From 1985 to 2018. Global Biogeochemical Cycles, 2023, 37, .	5.3	65
29	Global Estimation of the Eddy Kinetic Energy Dissipation From a Diagnostic Energy Balance. Geophysical Research Letters, 2023, 50, .	4.1	4
30	The Zero Emissions Commitment and climate stabilization. Frontiers in Science, 2023, 1, .	15.2	47
31	Global Carbon Budget 2023. Earth System Science Data, 2023, 15, 5301-5369.	9.0	1,018
32	Simulations of ocean deoxygenation in the historical era: insights from forced and coupled models. Frontiers in Marine Science, 2023, 10, .	2.5	6
33	Tripling of western US particulate pollution from wildfires in a warming climate. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.5	74
34	The impact of stratospheric aerosol intervention on the North Atlantic and Quasi-Biennial Oscillations in the Geoengineering Model Intercomparison Project (GeoMIP) G6sulfur experiment. Atmospheric Chemistry and Physics, 2022, 22, 2999-3016.	4.6	29
35	Stratospheric ozone response to sulfate aerosol and solar dimming climate interventions based on the G6 Geoengineering Model Intercomparison Project (GeoMIP) simulations. Atmospheric Chemistry and Physics, 2022, 22, 4557-4579.	4.6	54
36	Impact of bioenergy crop expansion on climateâ€“carbon cycle feedbacks in overshoot scenarios. Earth System Dynamics, 2022, 13, 779-794.	5.9	20

#	Article	IF	Citations
37	Assessing Model Predictions of Carbon Dynamics in Global Drylands. Frontiers in Environmental Science, 2022, 10, .	3.2	19
38	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	9.0	1,207
39	Multi-century dynamics of the climate and carbon cycle under both high and net negative emissions scenarios. Earth System Dynamics, 2022, 13, 885-909.	5.9	47
40	Contrasting projections of the ENSO-driven CO_2 flux variability in the equatorial Pacific under high-warming scenario. Earth System Dynamics, 2022, 13, 1097-1118.	5.9	27
41	Uncertainty in land carbon budget simulated by terrestrial biosphere models: the role of atmospheric forcing. Environmental Research Letters, 2022, 17, 094033.	4.9	9
42	Process-oriented analysis of dominant sources of uncertainty in the land carbon sink. Nature Communications, 2022, 13, .	13.7	64
43	Diazotrophy as a key driver of the response of marine net primary productivity to climate change. Biogeosciences, 2022, 19, 4267-4285.	3.1	31
44	Climate change impacts the vertical structure of marine ecosystem thermal ranges. Nature Climate Change, 2022, 12, 935-942.	17.7	21
45	A Processâ€Model Perspective on Recent Changes in the Carbon Cycle of North America. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	2.9	12
46	Enhanced Indiaâ€Africa Carbon Uptake and Asiaâ€Pacific Carbon Release Associated With the 2019 Extreme Positive Indian Ocean Dipole. Geophysical Research Letters, 2022, 49, .	4.1	13
47	Global Carbon Budget 2022. Earth System Science Data, 2022, 14, 4811-4900.	9.0	1,436
48	Comparing different generations of idealized solar geoengineering simulations in the Geoengineering Model Intercomparison Project (GeoMIP). Atmospheric Chemistry and Physics, 2021, 21, 4231-4247.	4.6	38
49	Predictable Variations of the Carbon Sinks and Atmospheric CO2 Growth in a Multiâ€Model Framework. Geophysical Research Letters, 2021, 48, .	4.1	23
50	Climate model projections from the Scenario Model Intercomparison ProjectÂ(ScenarioMIP) of CMIP6. Earth System Dynamics, 2021, 12, 253-293.	5.9	539
51	The Climate Response to Emissions Reductions Due to COVIDâ€19: Initial Results From CovidMIP. Geophysical Research Letters, 2021, 48, .	4.1	59
52	Evaluation of ocean dimethylsulfide concentration and emission in CMIP6 models. Biogeosciences, 2021, 18, 3823-3860.	3.1	36
53	Brief communication: Reduction in the future Greenland ice sheet surface melt with the help of solar geoengineering. Cryosphere, 2021, 15, 3013-3019.	3.1	25
54	Identifying the sources of uncertainty in climate model simulations of solar radiation modification with the G6sulfur and G6solar Geoengineering Model Intercomparison Project (GeoMIP) simulations. Atmospheric Chemistry and Physics, 2021, 21, 10039-10063.	4.6	96

#	Article	IF	Citations
55	Climate-driven chemistry and aerosol feedbacks in CMIP6 Earth system models. Atmospheric Chemistry and Physics, 2021, 21, 1105-1126.	4.6	89
56	Tracking Improvement in Simulated Marine Biogeochemistry Between CMIP5 and CMIP6. Current Climate Change Reports, 2020, 6, 95-119.	7.3	237
57	Quantification of Chaotic Intrinsic Variability of Seaâ€Air CO2 Fluxes at Interannual Timescales. Geophysical Research Letters, 2020, 47, .	4.1	5
58	The CNRM Global Atmosphere Model ARPEGEâ€Climat 6.3: Description and Evaluation. Journal of Advances in Modeling Earth Systems, 2020, 12, .	3.9	85
59	Consistency and Challenges in the Ocean Carbon Sink Estimate for the Global Carbon Budget. Frontiers in Marine Science, 2020, 7, .	2.5	179
60	The Global Land Carbon Cycle Simulated With ISBAâ€CTRIP: Improvements Over the Last Decade. Journal of Advances in Modeling Earth Systems, 2020, 12, .	3.9	81
61	Is there warming in the pipeline? A multi-model analysis of the Zero Emissions Commitment from CO 2. Biogeosciences, 2020, 17, 2987-3016.	3.1	172
62	Twenty-first century ocean warming, acidification, deoxygenation, and upper-ocean nutrient and primary production decline from CMIP6 model projections. Biogeosciences, 2020, 17, 3439-3470.	3.1	589
63	Presentâ€Day and Historical Aerosol and Ozone Characteristics in CNRM CMIP6 Simulations. Journal of Advances in Modeling Earth Systems, 2020, 12, .	3.9	56
64	Uncertainty in carbon budget estimates due to internal climate variability. Environmental Research Letters, 2020, 15, 104064.	4.9	13
65	Carbonâ€“concentration and carbonâ€“climate feedbacks in CMIP6 models and their comparison to CMIP5 models. Biogeosciences, 2020, 17, 4173-4222.	3.1	417
66	Global climate response to idealized deforestation in CMIP6 models. Biogeosciences, 2020, 17, 5615-5638.	3.1	109
67	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	9.0	1,960
68	Impact of Solar Radiation Modification on Allowable CO₂ Emissions: What Can We Learn From Multimodel Simulations?. Earth's Future, 2019, 7, 664-676.	7.2	14
69	Evaluation of an Online Gridâ€Coarsening Algorithm in a Global Eddyâ€Admitting Ocean Biogeochemical Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 1759-1783.	3.9	49
70	Recent Changes in the ISBAâ€CTRIP Land Surface System for Use in the CNRMâ€CM6 Climate Model and in Global Offâ€Line Hydrological Applications. Journal of Advances in Modeling Earth Systems, 2019, 11, 1207-1252.	3.9	184
71	Evaluation of CNRM Earth System Model, CNRMâ€ESM2â€1: Role of Earth System Processes in Presentâ€Day and Future Climate. Journal of Advances in Modeling Earth Systems, 2019, 11, 4182-4227.	3.9	569
72	Decadal trends in the ocean carbon sink. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 11646-11651.	7.5	124

#	Article	IF	Citations
73	Evaluation of CMIP6 DECK Experiments With CNRMâ€CM6â€1. Journal of Advances in Modeling Earth Systems, 2019, 11, 2177-2213.	3.9	790
74	The oceanic cycle of carbon monoxide and its emissions to the atmosphere. Biogeosciences, 2019, 16, 881-902.	3.1	63
75	The Zero Emissions Commitment Model Intercomparison Project (ZECMIP) contribution to C4MIP: quantifying committed climate changes following zero carbon emissions. Geoscientific Model Development, 2019, 12, 4375-4385.	3.8	96
76	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	9.0	1,362
77	Land Surface Cooling Induced by Sulfate Geoengineering Constrained by Major Volcanic Eruptions. Geophysical Research Letters, 2018, 45, 5663-5671.	4.1	24
78	Constraints on biomass energy deployment in mitigation pathways: the case of water scarcity. Environmental Research Letters, 2018, 13, 054011.	4.9	27
79	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.	3.7	83
80	An interactive ocean surface albedo scheme (OSAv1.0): formulation and evaluation in ARPEGE-Climat (V6.1) and LMDZ (V5A). Geoscientific Model Development, 2018, 11, 321-338.	3.8	30
81	Assessing the Decadal Predictability of Land and Ocean Carbon Uptake. Geophysical Research Letters, 2018, 45, 2455-2466.	4.1	36
82	Global Carbon Budget 2018. Earth System Science Data, 2018, 10, 2141-2194.	9.0	1,399
83	Global Carbon Budget 2017. Earth System Science Data, 2018, 10, 405-448.	9.0	924
84	Rapid emergence of climate change in environmental drivers of marine ecosystems. Nature Communications, 2017, 8, .	13.7	264
85	Managing living marine resources in a dynamic environment: The role of seasonal to decadal climate forecasts. Progress in Oceanography, 2017, 152, 15-49.	3.3	204
86	Emergent constraints on projections of declining primary production in the tropical oceans. Nature Climate Change, 2017, 7, 355-358.	17.7	154
87	The interactions between soilâ€“biosphereâ€“atmosphere (ISBA) land surface model multi-energy balance (MEB) option in SURFEXv8 â€“ Part 2: Introduction of a litter formulation and model evaluation for local-scale forest sites. Geoscientific Model Development, 2017, 10, 1621-1644.	3.8	26
88	Ã‰volution rÃ©cente du cycle du carbone planÃ©taire : facteurs humains et naturels. La MÃ©tÃ©orologie, 2016, 8, 3.	0.1	0
89	Inconsistent strategies to spin up models in CMIP5: implications for ocean biogeochemical model performance assessment. Geoscientific Model Development, 2016, 9, 1827-1851.	3.8	78
90	Projected decreases in future marine export production: the role of the carbon flux through the upper ocean ecosystem. Biogeosciences, 2016, 13, 4023-4047.	3.1	126

#	Article	IF	Citations
91	Development and evaluation of CNRM Earth system model â€“ CNRM-ESM1. Geoscientific Model Development, 2016, 9, 1423-1453.	3.8	70
92	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.	3.0	41
93	Natural variability of marine ecosystems inferred from a coupled climate to ecosystem simulation. Journal of Marine Systems, 2016, 153, 55-66.	2.7	17
94	Human-induced greening of the northern extratropical land surface. Nature Climate Change, 2016, 6, 959-963.	17.7	166
95	Global Carbon Budget 2016. Earth System Science Data, 2016, 8, 605-649.	9.0	996
96	On the Southern Ocean CO2 uptake and the role of the biological carbon pump in the 21st century. Global Biogeochemical Cycles, 2015, 29, 1451-1470.	5.3	108
97	Natural variability of CO2 and O2 fluxes: What can we learn from centuriesâ€long climate models simulations?. Journal of Geophysical Research: Oceans, 2015, 120, 384-404.	3.0	69
98	Drivers and uncertainties of future global marine primary production in marine ecosystem models. Biogeosciences, 2015, 12, 6955-6984.	3.1	329
99	Intercomparison of dissolved trace elements at the Bermuda Atlantic Time Series station. Marine Chemistry, 2015, 177, 476-489.	2.4	70
100	Bidecadal North Atlantic ocean circulation variability controlled by timing of volcanic eruptions. Nature Communications, 2015, 6, .	13.7	113
101	Global Carbon Budget 2015. Earth System Science Data, 2015, 7, 349-396.	9.0	667
102	Global carbon budget 2014. Earth System Science Data, 2015, 7, 47-85.	9.0	493
103	Projected pH reductions by 2100 might put deep North Atlantic biodiversity at risk. Biogeosciences, 2014, 11, 6955-6967.	3.1	58
104	Nonlinearity of Ocean Carbon Cycle Feedbacks in CMIP5 Earth System Models. Journal of Climate, 2014, 27, 3869-3888.	8.0	71
105	Multiyear predictability of tropical marine productivity. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11646-11651.	7.5	71
106	Detecting the anthropogenic influences on recent changes in ocean carbon uptake. Geophysical Research Letters, 2014, 41, 5968-5977.	4.1	20
107	Reconstructing the subsurface ocean decadal variability using surface nudging in a perfect model framework. Climate Dynamics, 2014, 44, 315-338.	2.7	33
108	On the evolution of the oceanic component of the IPSL climate models from CMIP3 to CMIP5: A mean state comparison. Ocean Modelling, 2013, 72, 167-184.	2.6	37

#	Article	IF	Citations
109	Dynamical and biogeochemical control on the decadal variability of ocean carbon fluxes. Earth System Dynamics, 2013, 4, 109-127.	5.9	28
110	Multiple stressors of ocean ecosystems in the 21st century: projections with CMIP5 models. Biogeosciences, 2013, 10, 6225-6245.	3.1	1,379
111	Water Mass Analysis of Effect of Climate Change on Airâ€“Sea CO2 Fluxes: The Southern Ocean. Journal of Climate, 2012, 25, 3894-3908.	8.0	36
112	Skill assessment of three earth system models with common marine biogeochemistry. Climate Dynamics, 2012, 40, 2549-2573.	2.7	113
113	Simulations of ocean deoxygenation in the historical era: insights from forced and coupled models. Frontiers in Marine Science, 0, 10, .	2.5	3
114	flat10MIP: an emissions-driven experiment to diagnose the climate response to positive, zero and negative CO ₂ emissions. Geoscientific Model Development, 0, 18, 5699-5724.	3.8	5
115	On a simplified solution of climate-carbon dynamics in idealized flat10MIP simulations. Earth System Dynamics, 0, 16, 2021-2034.	5.9	0
116	Evaluating biogeophysical sensitivities to idealized deforestation in CMIP6 models using observational constraints. Earth System Dynamics, 0, 16, 2137-2160.	5.9	0
117	An Energetically and Observationally Constrained Mesoscale Parameterization for Ocean Climate Models. Journal of Advances in Modeling Earth Systems, 0, 17, .	3.9	0
118	Canadian net forest CO2 uptake enhanced by heat drought via reduced respiration. Nature Geoscience, 0, 19, 145-152.	11.3	1