Mathieu Vrac

List of Publications by Year
in descending order

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57 papers	2,279 citations	236925 25 h-index	223800 46 g-index
76 all docs	76 docs citations	76 times ranked	3007 citing authors

#	Article	IF	Citations
1	Multivariate statistical modelling of compound events via pair-copula constructions: analysis of floods in Ravenna (Italy). Hydrology and Earth System Sciences, 2017, 21, 2701-2723.	4.9	206
2	Assessing climate change impacts on European wind energy from ENSEMBLES high-resolution climate projections. Climatic Change, 2015, 128, 99-112.	3.6	171
3	Multivariateâ€"Intervariable, Spatial, and Temporalâ€"Bias Correction*. Journal of Climate, 2015, 28, 218-237.	3.2	147
4	Increased probability of compound long-duration dry and hot events in Europe during summer (1950â€“2013). Environmental Research Letters, 2019, 14, 094006.	5.2	103
5	Intercomparison of statistical and dynamical downscaling models under the EURO- and MED-CORDEX initiative framework: present climate evaluations. Climate Dynamics, 2016, 46, 1301-1329.	3.8	100
6	Soil Moisture Drought in Europe: A Compound Event of Precipitation and Potential Evapotranspiration on Multiple Time Scales. Journal of Hydrometeorology, 2018, 19, 1255-1271.	1.9	81
7	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.	3.6	81
8	Multivariate bias adjustment of high-dimensional climate simulations: the Rank Resampling for Distributions and Dependences (R²D²) bias correction. Hydrology and Earth System Sciences, 2018, 22, 3175-3196.	4.9	80
9	A bias-corrected CMIP5 dataset for Africa using the CDF-t method â€“ a contribution to agricultural impact studies. Earth System Dynamics, 2018, 9, 313-338.	7.1	75
10	Are regional climate models relevant for crop yield prediction in West Africa?. Environmental Research Letters, 2011, 6, 014008.	5.2	74
11	Multivariate bias corrections of climate simulations: which benefits for which losses?. Earth System Dynamics, 2020, 11, 537-562.	7.1	73
12	Bias correction of precipitation through Singularity Stochastic Removal: Because occurrences matter. Journal of Geophysical Research D: Atmospheres, 2016, 121, 5237-5258.	3.3	70
13	Comparison of statistical downscaling methods with respect to extreme events over Europe: Validation results from the perfect predictor experiment of the COST Action VALUE. International Journal of Climatology, 2019, 39, 3846-3867.	3.5	64
14	A combined statistical bias correction and stochastic downscaling method for precipitation. Hydrology and Earth System Sciences, 2017, 21, 1693-1719.	4.9	62
15	Stochastic Model Output Statistics for Bias Correcting and Downscaling Precipitation Including Extremes. Journal of Climate, 2014, 27, 6940-6959.	3.2	52
16	Exploring the impact of climate variability during the Last Glacial Maximum on the pattern of human occupation of Iberia. Journal of Human Evolution, 2014, 73, 35-46.	2.6	51
17	Risky business: The impact of climate and climate variability on human population dynamics in Western Europe during the Last Glacial Maximum. Quaternary Science Reviews, 2017, 164, 217-229.	3.0	47
18	Consequences of rapid ice sheet melting on the Sahelian population vulnerability. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6533-6538.	7.1	47

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19	Copernicus Marine Service Ocean State Report, Issue 4. Journal of Operational Oceanography, 2020, 13, S1-S172.	1.2	47
20	Analyses of the Northern European Summer Heatwave of 2018. Bulletin of the American Meteorological Society, 2020, 101, S35-S40.	3.3	44
21	Brief communication: The role of using precipitation or river discharge data when assessing global coastal compound flooding. Natural Hazards and Earth System Sciences, 2020, 20, 1765-1782.	3.6	38
22	Ensemble reconstruction of the atmospheric column from surface pressure using analogues. Climate Dynamics, 2013, 41, 1333-1344.	3.8	33
23	Robust assessment of the time of emergence of precipitation change in West Africa. Scientific Reports, 2020, 10, 7670.	3.3	32
24	Ensemble bias correction of climate simulations: preserving internal variability. Scientific Reports, 2021, 11, 3098.	3.3	32
25	A statistical framework for conditional extreme event attribution. Advances in Statistical Climatology, Meteorology and Oceanography, 2017, 3, 17-31.	0.9	32
26	Multivariate stochastic bias corrections with optimal transport. Hydrology and Earth System Sciences, 2019, 23, 773-786.	4.9	29
27	Comparison of spatial downscaling methods of general circulation model results to study climate variability during the Last Glacial Maximum. Geoscientific Model Development, 2018, 11, 2563-2579.	3.6	26
28	Quantifying Differences in Circulation Patterns Based on Probabilistic Models: IPCC AR4 Multimodel Comparison for the North Atlantic*. Journal of Climate, 2010, 23, 6573-6589.	3.2	24
29	Influence of Bias Correcting Predictors on Statistical Downscaling Models. Journal of Applied Meteorology and Climatology, 2017, 56, 5-26.	1.5	23
30	A climate projection dataset tailored for the European energy sector. Climate Services, 2019, 16, 100138.	2.5	23
31	Changes in Future Synoptic Circulation Patterns: Consequences for Extreme Event Attribution. Geophysical Research Letters, 2020, 47, e2020GL088002.	4.0	23
32	Climate variability and trends in downscaled high-resolution simulations and projections over Metropolitan France. Climate Dynamics, 2013, 41, 1419-1437.	3.8	22
33	Weather regimes designed for local precipitation modeling: Application to the Mediterranean basin. Journal of Geophysical Research, 2010, 115, .	3.3	21
34	Trends and variability of seasonal weather regimes. International Journal of Climatology, 2014, 34, 472-480.	3.5	21
35	Trends of atmospheric circulation during singular hot days in Europe. Environmental Research Letters, 2018, 13, 054007.	5.2	21
36	Restructuring of plankton genomic biogeography in the surface ocean under climate change. Nature Climate Change, 2022, 12, 393-401.	18.8	21

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37	Sensitivity analysis of runoff modeling to statistical downscaling models in the western Mediterranean. Hydrology and Earth System Sciences, 2016, 20, 1031-1047.	4.9	19
38	Dealing with non-stationarity in sub-daily stochastic rainfall models. Hydrology and Earth System Sciences, 2018, 22, 5919-5933.	4.9	19
39	Mapping Weather-Type Influence on Senegal Precipitation Based on a Spatialâ€“Temporal Statistical Model*. Journal of Climate, 2013, 26, 8189-8209.	3.2	17
40	R²D² v2.0: accounting for temporal dependences in multivariate bias correction via analogue rank resampling. Geoscientific Model Development, 2020, 13, 5367-5387.	3.6	12
41	Contrasting changes in hydrological processes of the Volta River basin under global warming. Hydrology and Earth System Sciences, 2022, 26, 1481-1506.	4.9	12
42	Conditional and residual trends of singular hot days in Europe. Environmental Research Letters, 2020, 15, 064018.	5.2	11
43	Adjusting spatial dependence of climate model outputs with cycle-consistent adversarial networks. Climate Dynamics, 2021, 57, 3323-3353.	3.8	11
44	Singular Extreme Events and Their Attribution to Climate Change: A Climate Serviceâ€“Centered Analysis. Weather, Climate, and Society, 2020, 12, 89-101.	1.1	10
45	A high-resolution downscaled CMIP5 projections dataset of essential surface climate variables over the globe coherent with the ERA5 reanalysis for climate change impact assessments. Data in Brief, 2021, 35, 106900.	1.0	10
46	Recent Trends in the Recurrence of North Atlantic Atmospheric Circulation Patterns. Complexity, 2018, 2018, 1-8.	1.6	8
47	Nonstationary stochastic rain type generation: accounting for climate drivers. Hydrology and Earth System Sciences, 2020, 24, 2841-2854.	4.9	8
48	Observation system simulation experiments in the Atlantic Ocean for enhanced surface ocean <i>p</i>CO₂ reconstructions. Ocean Science, 2021, 17, 1011-1030.	3.4	8
49	Emerging climate signals in the Lena River catchment: a non-parametric statistical approach. Hydrology and Earth System Sciences, 2020, 24, 2817-2839.	4.9	7
50	Mixture model-based atmospheric air mass classification: a probabilistic view of thermodynamic profiles. Advances in Statistical Climatology, Meteorology and Oceanography, 2016, 2, 115-136.	0.9	4
51	Statistical downscaling of water vapour satellite measurements from profiles of tropical ice clouds. Earth System Science Data, 2020, 12, 1-20.	9.9	4
52	Seasonal circulation regimes in the North Atlantic: Towards a new seasonality. International Journal of Climatology, 2022, 42, 5848-5870.	3.5	4
53	Seasonal forecasts of the Saharan heat low characteristics: a multi-model assessment. Weather and Climate Dynamics, 2021, 2, 893-912.	3.5	3
54	Combining global climate models using graph cuts. Climate Dynamics, 2022, 59, 2345-2361.	3.8	2

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55	Is time a variable like the others in multivariate statistical downscaling and bias correction?. Earth System Dynamics, 2021, 12, 1253-1273.	7.1	1
56	Sensitivity of bias adjustment methods to low-frequency internal climate variability over the reference period: an ideal model study. , 0, , .		1
57	Projected Changes in the Atmospheric Dynamics of Climate Extremes in France. Atmosphere, 2021, 12, 1440.	2.3	0