

Nicolas Bellouin

List of Publications by Year in descending order

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Version: 2024-02-01

104
papers

21,557
citations

30070

54
h-index

31849

101
g-index

172
all docs

172
docs citations

172
times ranked

18078
citing authors

#	ARTICLE	IF	CITATIONS
1	Global Carbon Budget 2021. <i>Earth System Science Data</i> , 2022, 14, 1917-2005.	9.9	663
2	Biomass burning aerosols in most climate models are too absorbing. <i>Nature Communications</i> , 2021, 12, 277.	12.8	84
3	The CLoudâ€“Aerosolâ€“Radiation Interaction and Forcing: Yearâˆ2017 (CLARIFY-2017) measurement campaign. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 1049-1084.	4.9	57
4	Assessing the Influence of COVIDâ€“19 on the Shortwave Radiative Fluxes Over the East Asian Marginal Seas. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL091699.	4.0	20
5	Changes in Clearâ€“sky Shortwave Aerosol Direct Radiative Effects Since 2002. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD034090.	3.3	12
6	How to reconstruct aerosol-induced diffuse radiation scenario for simulating GPP in land surface models? An evaluation of reconstruction methods with ORCHIDEE_DFv1.0_DFforc. <i>Geoscientific Model Development</i> , 2021, 14, 2029-2039.	3.6	2
7	Disentangling the Impacts of Anthropogenic Aerosols on Terrestrial Carbon Cycle During 1850â€“2014. <i>Earth's Future</i> , 2021, 9, e2021EF002035.	6.3	11
8	Energy Budget Constraints on the Time History of Aerosol Forcing and Climate Sensitivity. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033622.	3.3	25
9	Aerosolâ€“light interactions reduce the carbon budget imbalance. <i>Environmental Research Letters</i> , 2021, 16, 124072.	5.2	10
10	Bounding Global Aerosol Radiative Forcing of Climate Change. <i>Reviews of Geophysics</i> , 2020, 58, e2019RC000660.	23.0	424
11	Quantifying Progress Across Different CMIP Phases With the ESMValTool. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020, 125, e2019JD032321.	3.3	50
12	Largeâ€“scale Industrial Cloud Perturbations Confirm Bidirectional Cloud Water Responses to Anthropogenic Aerosols. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020, 125, e2020JD032575.	3.3	10
13	Climatology of Tropospheric Aerosols. , 2020, , .		1
14	Diurnal cycle of the semi-direct effect from a persistent absorbing aerosol layer over marine stratocumulus in large-eddy simulations. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 1317-1340.	4.9	30
15	Constraining Uncertainty in Aerosol Direct Forcing. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087141.	4.0	21
16	Cloudy-sky contributions to the direct aerosol effect. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 8855-8865.	4.9	8
17	Radiative forcing of climate change from the Copernicus reanalysis of atmospheric composition. <i>Earth System Science Data</i> , 2020, 12, 1649-1677.	9.9	22
18	WFDE5: bias-adjusted ERA5 reanalysis data for impact studies. <i>Earth System Science Data</i> , 2020, 12, 2097-2120.	9.9	179

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19	Description and evaluation of aerosol in UKESM1 and HadGEM3-GC3.1 CMIP6 historical simulations. <i>Geoscientific Model Development</i> , 2020, 13, 6383-6423.	3.6	83
20	Weak average liquid-cloud-water response to anthropogenic aerosols. <i>Nature</i> , 2019, 572, 51-55.	27.8	111
21	Ensembles of Global Climate Model Variants Designed for the Quantification and Constraint of Uncertainty in Aerosols and Their Radiative Forcing. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 3728-3754.	3.8	33
22	Anthropogenic aerosol forcing – insights from multiple estimates from aerosol-climate models with reduced complexity. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 6821-6841.	4.9	33
23	Studying the impact of biomass burning aerosol radiative and climate effects on the Amazon rainforest productivity with an Earth system model. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 1301-1326.	4.9	41
24	Asian and Trans-Pacific Dust: A Multimodel and Multiremote Sensing Observation Analysis. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 13534-13559.	3.3	24
25	Improved Aerosol Processes and Effective Radiative Forcing in HadGEM3 and UKESM1. <i>Journal of Advances in Modeling Earth Systems</i> , 2018, 10, 2786-2805.	3.8	106
26	Aerosol and physical atmosphere model parameters are both important sources of uncertainty in aerosol ERF. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 9975-10006.	4.9	75
27	Strong constraints on aerosol–cloud interactions from volcanic eruptions. <i>Nature</i> , 2017, 546, 485-491.	27.8	191
28	Volcano and Ship Tracks Indicate Excessive Aerosol-Induced Cloud Water Increases in a Climate Model. <i>Geophysical Research Letters</i> , 2017, 44, 12492-12500.	4.0	55
29	Fast and slow shifts of the zonal-mean intertropical convergence zone in response to an idealized anthropogenic aerosol. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 870-892.	3.8	33
30	Aerosols at the poles: an AeroCom Phase II multi-model evaluation. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 12197-12218.	4.9	58
31	Southeast Atlantic Ocean aerosol direct radiative effects over clouds: Comparison of observations and simulations. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	0
32	Evaluation of the aerosol vertical distribution in global aerosol models through comparison against CALIOP measurements: AeroCom phase II results. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 7254-7283.	3.3	80
33	The impact of European legislative and technology measures to reduce air pollutants on air quality, human health and climate. <i>Environmental Research Letters</i> , 2016, 11, 024010.	5.2	50
34	Comparison of aerosol optical properties above clouds between POLDER and AeroCom models over the South East Atlantic Ocean during the fire season. <i>Geophysical Research Letters</i> , 2016, 43, 3991-4000.	4.0	23
35	Constraining the aerosol influence on cloud fraction. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 3566-3583.	3.3	129
36	Evaluation of biomass burning aerosols in the HadGEM3 climate model with observations from the SAMBBA field campaign. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 14657-14685.	4.9	41

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37	Contrasting fast precipitation responses to tropospheric and stratospheric ozone forcing. <i>Geophysical Research Letters</i> , 2016, 43, 1263-1271.	4.0	15
38	What controls the vertical distribution of aerosol? Relationships between process sensitivity in HadGEM3-UKCA and inter-model variation from AeroCom Phase II. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 2221-2241.	4.9	82
39	Regional and global temperature response to anthropogenic SO ₂ emissions from China in three climate models. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 9785-9804.	4.9	46
40	Multi-model evaluation of short-lived pollutant distributions over east Asia during summer 2008. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 10765-10792.	4.9	17
41	Regional and seasonal radiative forcing by perturbations to aerosol and ozone precursor emissions. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 13885-13910.	4.9	17
42	Regional emission metrics for short-lived climate forcers from multiple models. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 7451-7468.	4.9	34
43	A process-based evaluation of dust-emitting winds in the CMIP5 simulation of HadGEM2-ES. <i>Climate Dynamics</i> , 2016, 46, 1107-1130.	3.8	23
44	A multi-model evaluation of aerosols over South Asia: common problems and possible causes. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 5903-5928.	4.9	113
45	Modelled and observed changes in aerosols and surface solar radiation over Europe between 1960 and 2009. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 9477-9500.	4.9	61
46	Evaluating the climate and air quality impacts of short-lived pollutants. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 10529-10566.	4.9	365
47	Advancements in decadal climate predictability: The role of nonoceanic drivers. <i>Reviews of Geophysics</i> , 2015, 53, 165-202.	23.0	81
48	Black carbon and atmospheric feedbacks. <i>Nature</i> , 2015, 519, 167-168.	27.8	49
49	AEROSOLS <i>Climatology of Tropospheric Aerosols.</i> , 2015, , 40-47.		1
50	AEROSOLS <i>Role in Climate Change.</i> , 2015, , 76-85.		2
51	The Met Office Unified Model Global Atmosphere 4.0 and JULES Global Land 4.0 configurations. <i>Geoscientific Model Development</i> , 2014, 7, 361-386.	3.6	154
52	The colour of smoke. <i>Nature Geoscience</i> , 2014, 7, 619-620.	12.9	5
53	Aerosol direct radiative effect of smoke over clouds over the southeast Atlantic Ocean from 2006 to 2009. <i>Geophysical Research Letters</i> , 2014, 41, 7723-7730.	4.0	38
54	The WFDEI meteorological forcing data set: WATCH Forcing Data methodology applied to ERA-Interim reanalysis data. <i>Water Resources Research</i> , 2014, 50, 7505-7514.	4.2	816

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55	Detection of solar dimming and brightening effects on Northern Hemisphere river flow. <i>Nature Geoscience</i> , 2014, 7, 796-800.	12.9	42
56	Sources, sinks, and transatlantic transport of North African dust aerosol: A multimodel analysis and comparison with remote sensing data. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 6259-6277.	3.3	88
57	The AeroCom evaluation and intercomparison of organic aerosol in global models. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 10845-10895.	4.9	363
58	Aerosol microphysics simulations of the Mt.~Pinatubo eruption with the UM-UKCA composition-climate model. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 11221-11246.	4.9	62
59	Modelled black carbon radiative forcing and atmospheric lifetime in AeroCom Phase II constrained by aircraft observations. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 12465-12477.	4.9	157
60	An AeroCom assessment of black carbon in Arctic snow and sea ice. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 2399-2417.	4.9	86
61	Impacts of increasing the aerosol complexity in the Met Office global numerical weather prediction model. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 4749-4778.	4.9	65
62	The importance of vertical velocity variability for estimates of the indirect aerosol effects. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 6369-6393.	4.9	73
63	Intercomparison and evaluation of global aerosol microphysical properties among AeroCom models of a range of complexity. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 4679-4713.	4.9	148
64	Ocean~“Atmosphere Interactions of Particles. <i>Springer Earth System Sciences</i> , 2014, , 171-246.	0.2	29
65	Bounding the role of black carbon in the climate system: A scientific assessment. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 5380-5552.	3.3	4,319
66	Asymmetric forcing from stratospheric aerosols impacts Sahelian rainfall. <i>Nature Climate Change</i> , 2013, 3, 660-665.	18.8	269
67	Radiative forcing of the direct aerosol effect from AeroCom Phase II simulations. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 1853-1877.	4.9	779
68	Estimates of aerosol radiative forcing from the MACC re-analysis. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 2045-2062.	4.9	194
69	Black carbon vertical profiles strongly affect its radiative forcing uncertainty. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 2423-2434.	4.9	223
70	Impact of the modal aerosol scheme GLOMAP-mode on aerosol forcing in the Hadley Centre Global Environmental Model. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 3027-3044.	4.9	106
71	Host model uncertainties in aerosol radiative forcing estimates: results from the AeroCom Prescribed intercomparison study. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 3245-3270.	4.9	143
72	Natural aerosol direct and indirect radiative effects. <i>Geophysical Research Letters</i> , 2013, 40, 3297-3301.	4.0	150

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73	A multimodel assessment of the influence of regional anthropogenic emission reductions on aerosol direct radiative forcing and the role of intercontinental transport. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 700-720.	3.3	49
74	Aerosols implicated as a prime driver of twentieth-century North Atlantic climate variability. <i>Nature</i> , 2012, 484, 228-232.	27.8	857
75	The roles of aerosol, water vapor and cloud in future global dimming/brightening. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	56
76	Aerosol forcing in the Climate Model Intercomparison Project (CMIP5) simulations by HadGEM2-ES and the role of ammonium nitrate. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	369
77	FAMOUS, faster: using parallel computing techniques to accelerate the FAMOUS/HadCM3 climate model with a focus on the radiative transfer algorithm. <i>Geoscientific Model Development</i> , 2011, 4, 835-844.	3.6	14
78	The HadGEM2-ES implementation of CMIP5 centennial simulations. <i>Geoscientific Model Development</i> , 2011, 4, 543-570.	3.6	803
79	Effects of absorbing aerosols in cloudy skies: a satellite study over the Atlantic Ocean. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 1393-1404.	4.9	49
80	Highly contrasting effects of different climate forcing agents on terrestrial ecosystem services. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2011, 369, 2026-2037.	3.4	49
81	Creation of the WATCH Forcing Data and Its Use to Assess Global and Regional Reference Crop Evaporation over Land during the Twentieth Century. <i>Journal of Hydrometeorology</i> , 2011, 12, 823-848.	1.9	746
82	Which of satellite- or model-based estimates is closer to reality for aerosol indirect forcing?. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, E1099-E1099.	7.1	9
83	The HadGEM2 family of Met Office Unified Model climate configurations. <i>Geoscientific Model Development</i> , 2011, 4, 723-757.	3.6	765
84	Development and evaluation of an Earth-System model " HadGEM2. <i>Geoscientific Model Development</i> , 2011, 4, 1051-1075.	3.6	1,141
85	Parameterization of contrails in the UK Met Office Climate Model. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	59
86	Precipitation, radiative forcing and global temperature change. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	259
87	Observations of the eruption of the Sarychev volcano and simulations using the HadGEM2 climate model. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	128
88	Impact of changes in diffuse radiation on the global land carbon sink. <i>Nature</i> , 2009, 458, 1014-1017.	27.8	858
89	Variability of marine aerosol fine-mode fraction and estimates of anthropogenic aerosol component over cloud-free oceans from the Moderate Resolution Imaging Spectroradiometer (MODIS). <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	86
90	Aerosol indirect effects " general circulation model intercomparison and evaluation with satellite data. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 8697-8717.	4.9	418

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91	Satellite-based estimate of the direct and indirect aerosol climate forcing. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	267
92	Updated estimate of aerosol direct radiative forcing from satellite observations and comparison against the Hadley Centre climate model. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	140
93	Vertical distribution and radiative effects of mineral dust and biomass burning aerosol over West Africa during DABEX. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	77
94	Sensitivity of global sulphate aerosol production to changes in oxidant concentrations and climate. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	19
95	In situ and remote-sensing measurements of the mean microphysical and optical properties of industrial pollution aerosol during ADRIEX. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2007, 133, 17-32.	2.7	31
96	Comparison of the radiative properties and direct radiative effect of aerosols from a global aerosol model and remote sensing data over ocean. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2007, 59, 115-129.	1.6	235
97	Comparison of the radiative properties and direct radiative effect of aerosols from a global aerosol model and remote sensing data over ocean. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2007, 59, .	1.6	3
98	A review of measurement-based assessments of the aerosol direct radiative effect and forcing. <i>Atmospheric Chemistry and Physics</i> , 2006, 6, 613-666.	4.9	745
99	Global estimate of aerosol direct radiative forcing from satellite measurements. <i>Nature</i> , 2005, 438, 1138-1141.	27.8	436
100	An "A-Train" Strategy for Quantifying Direct Climate Forcing by Anthropogenic Aerosols. <i>Bulletin of the American Meteorological Society</i> , 2005, 86, 1795-1810.	3.3	138
101	Estimates of global multicomponent aerosol optical depth and direct radiative perturbation in the Laboratoire de Météorologie Dynamique general circulation model. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	144
102	Estimating the direct aerosol radiative perturbation: Impact of ocean surface representation and aerosol non-sphericity. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2004, 130, 2217-2232.	2.7	19
103	General circulation model estimates of aerosol transport and radiative forcing during the Indian Ocean Experiment. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	53
104	Aerosol absorption over the clear-sky oceans deduced from POLDER-1 and AERONET observations. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	43