Nicolas Bellouin

List of Publications by Year
in descending order

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		30070	31849
104	21,557	54	101
papers	citations	h-index	g-index

172	172	172	18078
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Bounding the role of black carbon in the climate system: A scientific assessment. Journal of Geophysical Research D: Atmospheres, 2013, 118, 5380-5552.	3.3	4,319
2	Development and evaluation of an Earth-System model â€“ HadGEM2. Geoscientific Model Development, 2011, 4, 1051-1075.	3.6	1,141
3	Impact of changes in diffuse radiation on the global land carbon sink. Nature, 2009, 458, 1014-1017.	27.8	858
4	Aerosols implicated as a prime driver of twentieth-century North Atlantic climate variability. Nature, 2012, 484, 228-232.	27.8	857
5	The WFDEI meteorological forcing data set: WATCH Forcing Data methodology applied to ERAâ€Interim reanalysis data. Water Resources Research, 2014, 50, 7505-7514.	4.2	816
6	The HadGEM2-ES implementation of CMIP5 centennial simulations. Geoscientific Model Development, 2011, 4, 543-570.	3.6	803
7	Radiative forcing of the direct aerosol effect from AeroCom Phase II simulations. Atmospheric Chemistry and Physics, 2013, 13, 1853-1877.	4.9	779
8	The HadGEM2 family of Met Office Unified Model climate configurations. Geoscientific Model Development, 2011, 4, 723-757.	3.6	765
9	Creation of the WATCH Forcing Data and Its Use to Assess Global and Regional Reference Crop Evaporation over Land during the Twentieth Century. Journal of Hydrometeorology, 2011, 12, 823-848.	1.9	746
10	A review of measurement-based assessments of the aerosol direct radiative effect and forcing. Atmospheric Chemistry and Physics, 2006, 6, 613-666.	4.9	745
11	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	9.9	663
12	Global estimate of aerosol direct radiative forcing from satellite measurements. Nature, 2005, 438, 1138-1141.	27.8	436
13	Bounding Global Aerosol Radiative Forcing of Climate Change. Reviews of Geophysics, 2020, 58, e2019RG000660.	23.0	424
14	Aerosol indirect effects â€“ general circulation model intercomparison and evaluation with satellite data. Atmospheric Chemistry and Physics, 2009, 9, 8697-8717.	4.9	418
15	Aerosol forcing in the Climate Model Intercomparison Project (CMIP5) simulations by HadGEM2-ES and the role of ammonium nitrate. Journal of Geophysical Research, 2011, 116, .	3.3	369
16	Evaluating the climate and air quality impacts of short-lived pollutants. Atmospheric Chemistry and Physics, 2015, 15, 10529-10566.	4.9	365
17	The AeroCom evaluation and intercomparison of organic aerosol in global models. Atmospheric Chemistry and Physics, 2014, 14, 10845-10895.	4.9	363
18	Asymmetric forcing from stratospheric aerosols impacts Sahelian rainfall. Nature Climate Change, 2013, 3, 660-665.	18.8	269

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19	Satelliteâ€based estimate of the direct and indirect aerosol climate forcing. Journal of Geophysical Research, 2008, 113, .	3.3	267
20	Precipitation, radiative forcing and global temperature change. Geophysical Research Letters, 2010, 37, .	4.0	259
21	Comparison of the radiative properties and direct radiative effect of aerosols from a global aerosol model and remote sensing data over ocean. Tellus, Series B: Chemical and Physical Meteorology, 2007, 59, 115-129.	1.6	235
22	Black carbon vertical profiles strongly affect its radiative forcing uncertainty. Atmospheric Chemistry and Physics, 2013, 13, 2423-2434.	4.9	223
23	Estimates of aerosol radiative forcing from the MACC re-analysis. Atmospheric Chemistry and Physics, 2013, 13, 2045-2062.	4.9	194
24	Strong constraints on aerosolâ€"cloud interactions from volcanic eruptions. Nature, 2017, 546, 485-491.	27.8	191
25	WFDE5: bias-adjusted ERA5 reanalysis data for impact studies. Earth System Science Data, 2020, 12, 2097-2120.	9.9	179
26	Modelled black carbon radiative forcing and atmospheric lifetime in AeroCom Phase II constrained by aircraft observations. Atmospheric Chemistry and Physics, 2014, 14, 12465-12477.	4.9	157
27	The Met Office Unified Model Global Atmosphere 4.0 and JULES Global Land 4.0 configurations. Geoscientific Model Development, 2014, 7, 361-386.	3.6	154
28	Natural aerosol direct and indirect radiative effects. Geophysical Research Letters, 2013, 40, 3297-3301.	4.0	150
29	Intercomparison and evaluation of global aerosol microphysical properties among AeroCom models of a range of complexity. Atmospheric Chemistry and Physics, 2014, 14, 4679-4713.	4.9	148
30	Estimates of global multicomponent aerosol optical depth and direct radiative perturbation in the Laboratoire de MÃ©tÃ©orologie Dynamique general circulation model. Journal of Geophysical Research, 2005, 110, .	3.3	144
31	Host model uncertainties in aerosol radiative forcing estimates: results from the AeroCom Prescribed intercomparison study. Atmospheric Chemistry and Physics, 2013, 13, 3245-3270.	4.9	143
32	Updated estimate of aerosol direct radiative forcing from satellite observations and comparison against the Hadley Centre climate model. Journal of Geophysical Research, 2008, 113, .	3.3	140
33	An â€œA-Trainâ€• Strategy for Quantifying Direct Climate Forcing by Anthropogenic Aerosols. Bulletin of the American Meteorological Society, 2005, 86, 1795-1810.	3.3	138
34	Constraining the aerosol influence on cloud fraction. Journal of Geophysical Research D: Atmospheres, 2016, 121, 3566-3583.	3.3	129
35	Observations of the eruption of the Sarychev volcano and simulations using the HadGEM2 climate model. Journal of Geophysical Research, 2010, 115, .	3.3	128
36	A multi-model evaluation of aerosols over South Asia: common problems and possible causes. Atmospheric Chemistry and Physics, 2015, 15, 5903-5928.	4.9	113

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37	Weak average liquid-cloud-water response to anthropogenic aerosols. Nature, 2019, 572, 51-55.	27.8	111
38	Impact of the modal aerosol scheme GLOMAP-mode on aerosol forcing in the Hadley Centre Global Environmental Model. Atmospheric Chemistry and Physics, 2013, 13, 3027-3044.	4.9	106
39	Improved Aerosol Processes and Effective Radiative Forcing in HadGEM3 and UKESM1. Journal of Advances in Modeling Earth Systems, 2018, 10, 2786-2805.	3.8	106
40	Sources, sinks, and transatlantic transport of North African dust aerosol: A multimodel analysis and comparison with remote sensing data. Journal of Geophysical Research D: Atmospheres, 2014, 119, 6259-6277.	3.3	88
41	Variability of marine aerosol fineâ€mode fraction and estimates of anthropogenic aerosol component over cloudâ€free oceans from the Moderate Resolution Imaging Spectroradiometer (MODIS). Journal of Geophysical Research, 2009, 114, .	3.3	86
42	An AeroCom assessment of black carbon in Arctic snow and sea ice. Atmospheric Chemistry and Physics, 2014, 14, 2399-2417.	4.9	86
43	Biomass burning aerosols in most climate models are too absorbing. Nature Communications, 2021, 12, 277.	12.8	84
44	Description and evaluation of aerosol in UKESM1 and HadGEM3-GC3.1 CMIP6 historical simulations. Geoscientific Model Development, 2020, 13, 6383-6423.	3.6	83
45	What controls the vertical distribution of aerosol? Relationships between process sensitivity in HadGEM3â€"UKCA and inter-model variation from AeroCom Phase II. Atmospheric Chemistry and Physics, 2016, 16, 2221-2241.	4.9	82
46	Advancements in decadal climate predictability: The role of nonoceanic drivers. Reviews of Geophysics, 2015, 53, 165-202.	23.0	81
47	Evaluation of the aerosol vertical distribution in global aerosol models through comparison against CALIOP measurements: AeroCom phase II results. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7254-7283.	3.3	80
48	Vertical distribution and radiative effects of mineral dust and biomass burning aerosol over West Africa during DABEX. Journal of Geophysical Research, 2008, 113, .	3.3	77
49	Aerosol and physical atmosphere model parameters are both important sources of uncertainty in aerosol ERF. Atmospheric Chemistry and Physics, 2018, 18, 9975-10006.	4.9	75
50	The importance of vertical velocity variability for estimates of the indirect aerosol effects. Atmospheric Chemistry and Physics, 2014, 14, 6369-6393.	4.9	73
51	Impacts of increasing the aerosol complexity in the Met Office global numerical weather prediction model. Atmospheric Chemistry and Physics, 2014, 14, 4749-4778.	4.9	65
52	Aerosol microphysics simulations of the Mt.~Pinatubo eruption with the UM-UKCA composition-climate model. Atmospheric Chemistry and Physics, 2014, 14, 11221-11246.	4.9	62
53	Modelled and observed changes in aerosols and surface solar radiation over Europe between 1960 and 2009. Atmospheric Chemistry and Physics, 2015, 15, 9477-9500.	4.9	61
54	Parameterization of contrails in the UK Met Office Climate Model. Journal of Geophysical Research, 2010, 115, .	3.3	59

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55	Aerosols at the poles: an AeroCom Phase II multi-model evaluation. Atmospheric Chemistry and Physics, 2017, 17, 12197-12218.	4.9	58
56	The CLoudâ€“Aerosolâ€“Radiation Interaction and Forcing: YearÂ2017 (CLARIFY-2017) measurement campaign. Atmospheric Chemistry and Physics, 2021, 21, 1049-1084.	4.9	57
57	The roles of aerosol, water vapor and cloud in future global dimming/brightening. Journal of Geophysical Research, 2011, 116, .	3.3	56
58	Volcano and Ship Tracks Indicate Excessive Aerosolâ€Induced Cloud Water Increases in a Climate Model. Geophysical Research Letters, 2017, 44, 12492-12500.	4.0	55
59	General circulation model estimates of aerosol transport and radiative forcing during the Indian Ocean Experiment. Journal of Geophysical Research, 2004, 109, .	3.3	53
60	The impact of European legislative and technology measures to reduce air pollutants on air quality, human health and climate. Environmental Research Letters, 2016, 11, 024010.	5.2	50
61	Quantifying Progress Across Different CMIP Phases With the ESMValTool. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD032321.	3.3	50
62	Effects of absorbing aerosols in cloudy skies: a satellite study over the Atlantic Ocean. Atmospheric Chemistry and Physics, 2011, 11, 1393-1404.	4.9	49
63	Highly contrasting effects of different climate forcing agents on terrestrial ecosystem services. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 2026-2037.	3.4	49
64	A multimodel assessment of the influence of regional anthropogenic emission reductions on aerosol direct radiative forcing and the role of intercontinental transport. Journal of Geophysical Research D: Atmospheres, 2013, 118, 700-720.	3.3	49
65	Black carbon and atmospheric feedbacks. Nature, 2015, 519, 167-168.	27.8	49
66	Regional and global temperature response to anthropogenic SO₂ emissions from China in three climate models. Atmospheric Chemistry and Physics, 2016, 16, 9785-9804.	4.9	46
67	Aerosol absorption over the clear-sky oceans deduced from POLDER-1 and AERONET observations. Geophysical Research Letters, 2003, 30, .	4.0	43
68	Detection of solar dimming and brightening effects on Northern Hemisphere river flow. Nature Geoscience, 2014, 7, 796-800.	12.9	42
69	Evaluation of biomass burning aerosols in the HadGEM3 climate model with observations from the SAMBBA field campaign. Atmospheric Chemistry and Physics, 2016, 16, 14657-14685.	4.9	41
70	Studying the impact of biomass burning aerosol radiative and climate effects on the Amazon rainforest productivity with an Earth system model. Atmospheric Chemistry and Physics, 2019, 19, 1301-1326.	4.9	41
71	Aerosol direct radiative effect of smoke over clouds over the southeast Atlantic Ocean from 2006 to 2009. Geophysical Research Letters, 2014, 41, 7723-7730.	4.0	38
72	Regional emission metrics for short-lived climate forcers from multiple models. Atmospheric Chemistry and Physics, 2016, 16, 7451-7468.	4.9	34

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73	Fast and slow shifts of the zonalâ€mean intertropical convergence zone in response to an idealized anthropogenic aerosol. Journal of Advances in Modeling Earth Systems, 2017, 9, 870-892.	3.8	33
74	Ensembles of Global Climate Model Variants Designed for the Quantification and Constraint of Uncertainty in Aerosols and Their Radiative Forcing. Journal of Advances in Modeling Earth Systems, 2019, 11, 3728-3754.	3.8	33
75	Anthropogenic aerosol forcing â€“ insights from multiple estimates from aerosol-climate models with reduced complexity. Atmospheric Chemistry and Physics, 2019, 19, 6821-6841.	4.9	33
76	In situ and remote-sensing measurements of the mean microphysical and optical properties of industrial pollution aerosol during ADRIEX. Quarterly Journal of the Royal Meteorological Society, 2007, 133, 17-32.	2.7	31
77	Diurnal cycle of the semi-direct effect from a persistent absorbing aerosol layer over marine stratocumulus in large-eddy simulations. Atmospheric Chemistry and Physics, 2020, 20, 1317-1340.	4.9	30
78	Oceanâ€“Atmosphere Interactions of Particles. Springer Earth System Sciences, 2014, , 171-246.	0.2	29
79	Energy Budget Constraints on the Time History of Aerosol Forcing and Climate Sensitivity. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033622.	3.3	25
80	Asian and Transâ€Pacific Dust: A Multimodel and Multiremote Sensing Observation Analysis. Journal of Geophysical Research D: Atmospheres, 2019, 124, 13534-13559.	3.3	24
81	Comparison of aerosol optical properties above clouds between POLDER and AeroCom models over the South East Atlantic Ocean during the fire season. Geophysical Research Letters, 2016, 43, 3991-4000.	4.0	23
82	A process-based evaluation of dust-emitting winds in the CMIP5 simulation of HadGEM2-ES. Climate Dynamics, 2016, 46, 1107-1130.	3.8	23
83	Radiative forcing of climate change from the Copernicus reanalysis of atmospheric composition. Earth System Science Data, 2020, 12, 1649-1677.	9.9	22
84	Constraining Uncertainty in Aerosol Direct Forcing. Geophysical Research Letters, 2020, 47, e2020GL087141.	4.0	21
85	Assessing the Influence of COVIDâ€19 on the Shortwave Radiative Fluxes Over the East Asian Marginal Seas. Geophysical Research Letters, 2021, 48, e2020GL091699.	4.0	20
86	Estimating the direct aerosol radiative perturbation: Impact of ocean surface representation and aerosol non-sphericity. Quarterly Journal of the Royal Meteorological Society, 2004, 130, 2217-2232.	2.7	19
87	Sensitivity of global sulphate aerosol production to changes in oxidant concentrations and climate. Journal of Geophysical Research, 2007, 112, .	3.3	19
88	Multi-model evaluation of short-lived pollutant distributions over east Asia during summer 2008. Atmospheric Chemistry and Physics, 2016, 16, 10765-10792.	4.9	17
89	Regional and seasonal radiative forcing by perturbations to aerosol and ozone precursor emissions. Atmospheric Chemistry and Physics, 2016, 16, 13885-13910.	4.9	17
90	Contrasting fast precipitation responses to tropospheric and stratospheric ozone forcing. Geophysical Research Letters, 2016, 43, 1263-1271.	4.0	15

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91	FAMOUS, faster: using parallel computing techniques to accelerate the FAMOUS/HadCM3 climate model with a focus on the radiative transfer algorithm. Geoscientific Model Development, 2011, 4, 835-844.	3.6	14
92	Changes in Clearâ€Sky Shortwave Aerosol Direct Radiative Effects Since 2002. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034090.	3.3	12
93	Disentangling the Impacts of Anthropogenic Aerosols on Terrestrial Carbon Cycle During 1850â€"2014. Earth's Future, 2021, 9, e2021EF002035.	6.3	11
94	Largeâ€Scale Industrial Cloud Perturbations Confirm Bidirectional Cloud Water Responses to Anthropogenic Aerosols. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032575.	3.3	10
95	Aerosolâ€"light interactions reduce the carbon budget imbalance. Environmental Research Letters, 2021, 16, 124072.	5.2	10
96	Which of satellite- or model-based estimates is closer to reality for aerosol indirect forcing?. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E1099-E1099.	7.1	9
97	Cloudy-sky contributions to the direct aerosol effect. Atmospheric Chemistry and Physics, 2020, 20, 8855-8865.	4.9	8
98	The colour of smoke. Nature Geoscience, 2014, 7, 619-620.	12.9	5
99	Comparison of the radiative properties and direct radiative effect of aerosols from a global aerosol model and remote sensing data over ocean. Tellus, Series B: Chemical and Physical Meteorology, 2007, 59, .	1.6	3
100	AEROSOLS | Role in Climate Change. , 2015, , 76-85.		2
101	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. Geoscientific Model Development, 2021, 14, 2029-2039.	3.6	2
102	AEROSOLS | Climatology of Tropospheric Aerosols. , 2015, , 40-47.		1
103	Climatology of Tropospheric Aerosols. , 2020, , .		1
104	Southeast Atlantic Ocean aerosol direct radiative effects over clouds: Comparison of observations and simulations. AIP Conference Proceedings, 2017, , .	0.4	0