Alex T Archibald

List of Publications by Year
in descending order

99 papers	5,578 citations	126708 33 h-index	91712 69 g-index
191 all docs	191 docs citations	191 times ranked	6660 citing authors

#	Article	IF	Citations
1	Tropospheric ozone and its precursors from the urban to the global scale from air quality to short-lived climate forcer. Atmospheric Chemistry and Physics, 2015, 15, 8889-8973.	1.9	942
2	Pre-industrial to end 21st century projections of tropospheric ozone from the Atmospheric Chemistry and Climate Model Intercomparison Project (ACCMIP). Atmospheric Chemistry and Physics, 2013, 13, 2063-2090.	1.9	570
3	UKESM1: Description and Evaluation of the U.K. Earth System Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 4513-4558.	1.3	448
4	Nitrate radicals and biogenic volatile organic compounds: oxidation, mechanisms, and organic aerosol. Atmospheric Chemistry and Physics, 2017, 17, 2103-2162.	1.9	307
5	Review of the global models used within phase 1 of the Chemistryâ€"Climate Model Initiative (CCMI). Geoscientific Model Development, 2017, 10, 639-671.	1.3	277
6	Impacts of mechanistic changes on HO_x formation and recycling in the oxidation of isoprene. Atmospheric Chemistry and Physics, 2010, 10, 8097-8118.	1.9	138
7	Estimates of ozone return dates from Chemistry-Climate Model Initiative simulations. Atmospheric Chemistry and Physics, 2018, 18, 8409-8438.	1.9	128
8	Description and evaluation of the UKCA stratosphereâ€"troposphere chemistry scheme (StratTrop vn) Tj ETQq0 0 0 rgBT /Overlock 10 T	1.3	109
9	Regional and global impacts of Criegee intermediates on atmospheric sulphuric acid concentrations and first steps of aerosol formation. Faraday Discussions, 2013, 165, 45.	1.6	103
10	Tropospheric ozone in CMIP6 simulations. Atmospheric Chemistry and Physics, 2021, 21, 4187-4218.	1.9	89
11	Implementation of the Fast-JX Photolysis scheme (v6.4) into the UKCA component of the MetUM chemistry-climate model (v7.3). Geoscientific Model Development, 2013, 6, 161-177.	1.3	84
12	Sourceâ€"Receptor Relationship Revealed by the Halted Traffic and Aggravated Haze in Beijing during the COVID-19 Lockdown. Environmental Science & Technology, 2020, 54, 15660-15670.	4.6	83
13	Implementation of U.K. Earth System Models for CMIP6. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001946.	1.3	83
14	Atlantic Multidecadal Variability and the U.K. ACSIS Program. Bulletin of the American Meteorological Society, 2018, 99, 415-425.	1.7	80
15	Impacts of HO_xregeneration and recycling in the oxidation of isoprene: Consequences for the composition of past, present and future atmospheres. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	78
16	Lightning NO_x, a key chemistryâ€"climate interaction: impacts of future climate change and consequences for tropospheric oxidising capacity. Atmospheric Chemistry and Physics, 2014, 14, 9871-9881.	1.9	74
17	Molecular composition of organic aerosols in central Amazonia: an ultra-high-resolution mass spectrometry study. Atmospheric Chemistry and Physics, 2016, 16, 11899-11913.	1.9	73
18	Influence of isoprene chemical mechanism on modelled changes in tropospheric ozone due to climate and land use over the 21st century. Atmospheric Chemistry and Physics, 2015, 15, 5123-5143.	1.9	70

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19	Stratospheric ozone loss over the Eurasian continent induced by the polar vortex shift. Nature Communications, 2018, 9, 206.	5.8	69
20	Drivers of changes in stratospheric and tropospheric ozone between year 2000 and 2100. Atmospheric Chemistry and Physics, 2016, 16, 2727-2746.	1.9	66
21	Heterogeneous uptake of gaseous hydrogen peroxide by Gobi and Saharan dust aerosols: a potential missing sink for H₂O₂ in the troposphere. Atmospheric Chemistry and Physics, 2010, 10, 7127-7136.	1.9	58
22	Atmospheric transformation of enols: A potential secondary source of carboxylic acids in the urban troposphere. Geophysical Research Letters, 2007, 34, .	1.5	55
23	Inter-model comparison of global hydroxyl radical (OH) distributions and their impact on atmospheric methane over the 2000â€“2016 period. Atmospheric Chemistry and Physics, 2019, 19, 13701-13723.	1.9	52
24	Tropospheric Ozone Assessment Report. Elementa, 2020, 8, .	1.1	52
25	A multi-model intercomparison of halogenated very short-lived substances (TransCom-VSLS): linking oceanic emissions and tropospheric transport for a reconciled estimate of the stratospheric source gas injection of bromine. Atmospheric Chemistry and Physics, 2016, 16, 9163-9187.	1.9	51
26	Revisiting the Mystery of Recent Stratospheric Temperature Trends. Geophysical Research Letters, 2018, 45, 9919-9933.	1.5	51
27	Acid-yield measurements of the gas-phase ozonolysis of ethene as a function of humidity using Chemical Ionisation Mass Spectrometry (CIMS). Atmospheric Chemistry and Physics, 2012, 12, 469-479.	1.9	44
28	Structureâ€“activity relationship (SAR) for the gas-phase ozonolysis of aliphatic alkenes and dialkenes. Physical Chemistry Chemical Physics, 2008, 10, 1757.	1.3	42
29	Multimodel estimates of atmospheric lifetimes of longâ€lived ozoneâ€depleting substances: Present and future. Journal of Geophysical Research D: Atmospheres, 2014, 119, 2555-2573.	1.2	42
30	On the importance of the reaction between OH and RO₂ radicals. Atmospheric Science Letters, 2009, 10, 102-108.	0.8	40
31	Effects of climate-induced changes in isoprene emissions after the eruption of Mount Pinatubo. Atmospheric Chemistry and Physics, 2010, 10, 7117-7125.	1.9	39
32	Climate-driven chemistry and aerosol feedbacks in CMIP6 Earth system models. Atmospheric Chemistry and Physics, 2021, 21, 1105-1126.	1.9	39
33	Novel Method for Ozone Isopleth Construction and Diagnosis for the Ozone Control Strategy of Chinese Cities. Environmental Science & Technology, 2021, 55, 15625-15636.	4.6	39
34	Tropospheric jet response to Antarctic ozone depletion: An update with Chemistry-Climate Model Initiative (CCMI) models. Environmental Research Letters, 2018, 13, 054024.	2.2	38
35	Influence of future climate and cropland expansion on isoprene emissions and tropospheric ozone. Atmospheric Chemistry and Physics, 2014, 14, 1011-1024.	1.9	37
36	Reconciling the changes in atmospheric methane sources and sinks between the Last Glacial Maximum and the pre-industrial era. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	36

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37	How sensitive is the recovery of stratospheric ozone to changes in concentrations of very short-lived bromocarbons?. Atmospheric Chemistry and Physics, 2014, 14, 10431-10438.	1.9	34
38	Cloud impacts on photochemistry: building a climatology of photolysis rates from the Atmospheric Tomography mission. Atmospheric Chemistry and Physics, 2018, 18, 16809-16828.	1.9	34
39	ROOOH: a missing piece of the puzzle for OH measurements in low-NO environments?. Atmospheric Chemistry and Physics, 2019, 19, 349-362.	1.9	32
40	Structureâ€“activity relationship (SAR) for the prediction of gas-phase ozonolysis rate coefficients: an extension towards heteroatomic unsaturated species. Physical Chemistry Chemical Physics, 2011, 13, 2842-2849.	1.3	31
41	Heterogeneous reaction of N₂O₅ with airborne TiO₂ particles and its implication for stratospheric particle injection. Atmospheric Chemistry and Physics, 2014, 14, 6035-6048.	1.9	31
42	Global modelling of the total OH reactivity: investigations on the â€œmissingâ€• OH sink and its atmospheric implications. Atmospheric Chemistry and Physics, 2018, 18, 7109-7129.	1.9	31
43	Minimal Climate Impacts From Shortâ€Lived Climate Forcers Following Emission Reductions Related to the COVIDâ€19 Pandemic. Geophysical Research Letters, 2020, 47, e2020GL090326.	1.5	30
44	Circulation anomalies in the Southern Hemisphere and ozone changes. Atmospheric Chemistry and Physics, 2013, 13, 10677-10688.	1.9	29
45	The impact of local surface changes in Borneo on atmospheric composition at wider spatial scales: coastal processes, land-use change and air quality. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 3210-3224.	1.8	27
46	Tropospheric ozone in CCMI models and Gaussian process emulation to understand biases in the SOCOLv3 chemistryâ€“climate model. Atmospheric Chemistry and Physics, 2018, 18, 16155-16172.	1.9	27
47	Spatial Resolved Surface Ozone with Urban and Rural Differentiation during 1990â€“2019: A Spaceâ€“Time Bayesian Neural Network Downscaler. Environmental Science & Technology, 2022, 56, 7337-7349.	4.6	25
48	Modelling the impact of megacities on local, regional and global tropospheric ozone and the deposition of nitrogen species. Atmospheric Chemistry and Physics, 2013, 13, 12215-12231.	1.9	24
49	Airborne observations of trace gases over boreal Canada during BORTAS: campaign climatology, air mass analysis and enhancement ratios. Atmospheric Chemistry and Physics, 2013, 13, 12451-12467.	1.9	24
50	Evaluation of tropospheric ozone and ozone precursors in simulations from the HTAPII and CCMI model intercomparisons â€“ a focus on the Indian subcontinent. Atmospheric Chemistry and Physics, 2019, 19, 6437-6458.	1.9	23
51	Methane Emissions in a Chemistryâ€Climate Model: Feedbacks and Climate Response. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS002019.	1.3	23
52	Clear-sky ultraviolet radiation modelling using output from the Chemistry Climate Model Initiative. Atmospheric Chemistry and Physics, 2019, 19, 10087-10110.	1.9	22
53	CRI-HOM: A novel chemical mechanism for simulating highly oxygenated organic molecules (HOMs) in global chemistryâ€“aerosolâ€“climate models. Atmospheric Chemistry and Physics, 2020, 20, 10889-10910.	1.9	19
54	Impacts of formaldehyde photolysis rates on tropospheric chemistry. Atmospheric Science Letters, 2010, 11, 33-38.	0.8	18

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55	A world avoided: impacts of changes in anthropogenic emissions on the burden and effects of air pollutants in Europe and North America. Faraday Discussions, 2017, 200, 475-500.	1.6	18
56	On the changes in surface ozone over the twenty-first century: sensitivity to changes in surface temperature and chemical mechanisms. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190329.	1.6	18
57	On the Changing Role of the Stratosphere on the Tropospheric Ozone Budget: 1979â€“2010. Geophysical Research Letters, 2020, 47, e2019GL086901.	1.5	18
58	The role of future anthropogenic methane emissions in air quality and climate. Npj Climate and Atmospheric Science, 2022, 5, .	2.6	18
59	Co-emission of volcanic sulfur and halogens amplifies volcanic effective radiative forcing. Atmospheric Chemistry and Physics, 2021, 21, 9009-9029.	1.9	17
60	Multi-stage ensemble-learning-based model fusion for surface ozone simulations: A focus on CMIP6 models. Environmental Science and Ecotechnology, 2021, 8, 100124.	6.7	17
61	A global model study of the impact of land-use change in Borneo on atmospheric composition. Atmospheric Chemistry and Physics, 2013, 13, 9183-9194.	1.9	16
62	Simulating the climate response to atmospheric oxygen variability in the Phanerozoic: a focus on the Holocene, Cretaceous and Permian. Climate of the Past, 2019, 15, 1463-1483.	1.3	16
63	Description and Evaluation of the specified-dynamics experiment in the Chemistry-Climate Model Initiative. Atmospheric Chemistry and Physics, 2020, 20, 3809-3840.	1.9	16
64	Projecting ozone hole recovery using an ensemble of chemistryâ€“climate models weighted by model performance and independence. Atmospheric Chemistry and Physics, 2020, 20, 9961-9977.	1.9	16
65	Reconciling the climate and ozone response to the 1257 CE Mount Samalas eruption. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 26651-26659.	3.3	15
66	Modelling the oxidation of seventeen volatile organic compounds to track yields of CO and CO2. Atmospheric Environment, 2010, 44, 3797-3804.	1.9	14
67	Temperature and pressure dependence of the rate coefficient for the reaction between ClO and CH3O2 in the gas-phase. Physical Chemistry Chemical Physics, 2012, 14, 3425.	1.3	13
68	Sensitivity of modeled Indian monsoon to Chinese and Indian aerosol emissions. Atmospheric Chemistry and Physics, 2021, 21, 3593-3605.	1.9	13
69	Corrigendum to "Pre-industrial to end 21st century projections of tropospheric ozone from the Atmospheric Chemistry and Climate Model Intercomparison Project (ACCMIP)" published in Atmos. Chem. Phys., 13, 2063â€“2090, 2013. Atmospheric Chemistry and Physics, 2013, 13, 5401-5402.	1.9	12
70	Detection and identification of Criegee intermediates from the ozonolysis of biogenic and anthropogenic VOCs: comparison between experimental measurements and theoretical calculations. Faraday Discussions, 2017, 200, 559-578.	1.6	12
71	Potential impacts of emissions associated with unconventional hydrocarbon extraction on UK air quality and human health. Air Quality, Atmosphere and Health, 2018, 11, 627-637.	1.5	12
72	Improvements to the representation of BVOC chemistryâ€“climate interactions in UKCA (v11.5) with the CRI-StratÂ2 mechanism: incorporation and evaluation. Geoscientific Model Development, 2021, 14, 5239-5268.	1.3	12

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73	Evaluation of biospheric components in Earth system models using modern and palaeo-observations: the state-of-the-art. Biogeosciences, 2013, 10, 8305-8328.	1.3	11
74	Impacts of Hydroperoxymethyl Thioformate on the Global Marine Sulfur Budget. ACS Earth and Space Chemistry, 2021, 5, 2577-2586.	1.2	11
75	Modelling the potential impacts of the recent, unexpected increase in CFC-11 emissions on total column ozone recovery. Atmospheric Chemistry and Physics, 2020, 20, 7153-7166.	1.9	10
76	Cohort-based long-term ozone exposure-associated mortality risks with adjusted metrics: A systematic review and meta-analysis. Innovation(China), 2022, 3, 100246.	5.2	10
77	Energy and ozone fluxes over sea ice. Atmospheric Environment, 2012, 47, 218-225.	1.9	9
78	Quasi-Newton methods for atmospheric chemistry simulations: implementation in UKCA UM vn10.8. Geoscientific Model Development, 2018, 11, 3089-3108.	1.3	9
79	Projected changes in seasonal and extreme summertime temperature and precipitation in India in response to COVID-19 recovery emissions scenarios. Environmental Research Letters, 2021, 16, 114025.	2.2	9
80	Description and Evaluation of an Emissionâ€Driven and Fully Coupled Methane Cycle in UKESM1. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	9
81	The Evaluation of the North Atlantic Climate System in UKESM1 Historical Simulations for CMIP6. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002126.	1.3	8
82	On the Impact of HO2-H2O Complexes in the Marine Boundary Layer: A Possible Sink for HO2. Terrestrial, Atmospheric and Oceanic Sciences, 2011, 22, 049.	0.3	7
83	Global Budget and Distribution of Peroxyacetyl Nitrate (PAN) for Present and Preindustrial Scenarios. International Journal of Earth & Environmental Sciences, 2017, 2, .	0.2	7
84	Corrigendum to "Heterogeneous reaction of N₂O₅ with airborne TiO₂ particles and its implication for stratospheric particle injection" published in Atmos. Chem. Phys., 14, 6035â€"6048, 2014. Atmospheric Chemistry and Physics, 2014, 14, 8233-8234.	1.9	6
85	The Common Representative Intermediates Mechanism Version 2 in the United Kingdom Chemistry and Aerosols Model. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002420.	1.3	6
86	Ultraviolet Radiation modelling using output from the Chemistry Climate Model Initiative. , 2019, 19, 10087-10110.		5
87	Intercomparison of the representations of the atmospheric chemistry of pre-industrial methane and ozone in earth system and other global chemistry-transport models. Atmospheric Environment, 2021, 248, 118248.	1.9	5
88	Attribution of Stratospheric and Tropospheric Ozone Changes Between 1850 and 2014 in CMIP6 Models. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	5
89	Wake-up call for isoprene emissions. Nature Geoscience, 2011, 4, 659-660.	5.4	4
90	Determination of the Photolysis Rate Coefficient of Monochlorodimethyl Sulfide (MClDMS) in the Atmosphere and Its Implications for the Enhancement of SO₂ Production from the DMS + Cl₂ Reaction. Environmental Science & Technology, 2014, 48, 1557-1565.	4.6	4

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91	Modelling the oxidation of 15 VOCs to track yields of hydrogen. Atmospheric Science Letters, 2010, 11, 265-269.	0.8	3
92	Using a virtual machine environment for developing, testing, and training for the UM-UKCA composition-climate model, using Unified Model version 10.9 and above. Geoscientific Model Development, 2018, 11, 3647-3657.	1.3	3
93	Constraining emission estimates of carbon monoxide using a perturbed emissions ensemble with observations: a focus on Beijing. Air Quality, Atmosphere and Health, 2021, 14, 1587-1603.	1.5	2
94	Atmospheric chemistry and the biosphere: general discussion. Faraday Discussions, 2017, 200, 195-228.	1.6	1
95	The air we breathe: Past, present, and future: general discussion. Faraday Discussions, 2017, 200, 501-527.	1.6	1
96	Using Machine Learning to Make Computationally Inexpensive Projections of 21st Century Stratospheric Column Ozone Changes in the Tropics. Frontiers in Earth Science, 2021, 8, .	0.8	1
97	Improving NO_{<i>x</i>} emission estimates in Beijing using network observations and a perturbed emissions ensemble. Atmospheric Chemistry and Physics, 2022, 22, 8617-8637.	1.9	1
98	Atmospheric chemistry processes: general discussion. Faraday Discussions, 2017, 200, 353-378.	1.6	0
99	New tools for atmospheric chemistry: general discussion. Faraday Discussions, 2017, 200, 663-691.	1.6	0