Michael J Mills

List of Publications by Year
in descending order

97 papers	7,349 citations	61857 43 h-index	58464 82 g-index
130 all docs	130 docs citations	130 times ranked	6221 citing authors

#	Article	IF	Citations
1	The Community Earth System Model Version 2 (CESM2). Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001916.	1.3	935
2	Climate Change from 1850 to 2005 Simulated in CESM1(WACCM). Journal of Climate, 2013, 26, 7372-7391.	1.2	706
3	Emergence of healing in the Antarctic ozone layer. Science, 2016, 353, 269-274.	6.0	462
4	The Whole Atmosphere Community Climate Model Version 6 (WACCM6). Journal of Geophysical Research D: Atmospheres, 2019, 124, 12380-12403.	1.2	261
5	Do Hydrofluorocarbons Destroy Stratospheric Ozone?. Science, 1994, 263, 71-75.	6.0	256
6	High Climate Sensitivity in the Community Earth System Model Version 2 (CESM2). Geophysical Research Letters, 2019, 46, 8329-8337.	1.5	249
7	The hydrological impact of geoengineering in the Geoengineering Model Intercomparison Project (GeoMIP). Journal of Geophysical Research D: Atmospheres, 2013, 118, 11,036.	1.2	202
8	The Chemistry Mechanism in the Community Earth System Model Version 2 (CESM2). Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001882.	1.3	189
9	Global volcanic aerosol properties derived from emissions, 1990â€"2014, using CESM1(WACCM). Journal of Geophysical Research D: Atmospheres, 2016, 121, 2332-2348.	1.2	175
10	On the evaluation of ozone depletion potentials. Journal of Geophysical Research, 1992, 97, 825-842.	3.3	148
11	The Model Intercomparison Project on the climatic response to Volcanic forcing (VolMIP): experimental design and forcing input data for CMIP6. Geoscientific Model Development, 2016, 9, 2701-2719.	1.3	138
12	CESM1(WACCM) Stratospheric Aerosol Geoengineering Large Ensemble Project. Bulletin of the American Meteorological Society, 2018, 99, 2361-2371.	1.7	129
13	Radiative and Chemical Response to Interactive Stratospheric Sulfate Aerosols in Fully Coupled CESM1(WACCM). Journal of Geophysical Research D: Atmospheres, 2017, 122, 13,061.	1.2	128
14	Massive global ozone loss predicted following regional nuclear conflict. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 5307-5312.	3.3	114
15	First Simulations of Designing Stratospheric Sulfate Aerosol Geoengineering to Meet Multiple Simultaneous Climate Objectives. Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,616.	1.2	114
16	Atmospheric lifetimes and ozone depletion potentials of methyl bromide (CH₃Br) and dibromomethane (CH₂Br₂). Geophysical Research Letters, 1992, 19, 2059-2062.	1.5	103
17	The Climate Response to Stratospheric Aerosol Geoengineering Can Be Tailored Using Multiple Injection Locations. Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,574.	1.2	95
18	Recent anthropogenic increases in SO_{2} from Asia have minimal impact on stratospheric aerosol. Geophysical Research Letters, 2013, 40, 999-1004.	1.5	89

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19	Volcanic Radiative Forcing From 1979 to 2015. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12491-12508.	1.2	87
20	Climate Forcing and Trends of Organic Aerosols in the Community Earth System Model (CESM2). Journal of Advances in Modeling Earth Systems, 2019, 11, 4323-4351.	1.3	87
21	Systemic swings in end-Permian climate from Siberian Traps carbon and sulfur outgassing. Nature Geoscience, 2018, 11, 949-954.	5.4	85
22	Electron impact ionization: A new parameterization for 100 eV to 1 MeV electrons. Journal of Geophysical Research, 2008, 113, .	3.3	84
23	Microphysical simulations of sulfur burdens from stratospheric sulfur geoengineering. Atmospheric Chemistry and Physics, 2012, 12, 4775-4793.	1.9	83
24	Microphysical simulations of large volcanic eruptions: Pinatubo and Toba. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1880-1895.	1.2	80
25	Sensitivity of Aerosol Distribution and Climate Response to Stratospheric SO₂ Injection Locations. Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,591.	1.2	79
26	Multidecadal global cooling and unprecedented ozone loss following a regional nuclear conflict. Earth's Future, 2014, 2, 161-176.	2.4	74
27	The Regional Hydroclimate Response to Stratospheric Sulfate Geoengineering and the Role of Stratospheric Heating. Journal of Geophysical Research D: Atmospheres, 2019, 124, 12587-12616.	1.2	73
28	Microphysical simulations of new particle formation in the upper troposphere and lower stratosphere. Atmospheric Chemistry and Physics, 2011, 11, 9303-9322.	1.9	70
29	Stratospheric Dynamical Response and Ozone Feedbacks in the Presence of SO₂ Injections. Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,557.	1.2	69
30	Effective radiative forcing from emissions of reactive gases and aerosols â€“ a multi-model comparison. Atmospheric Chemistry and Physics, 2021, 21, 853-874.	1.9	65
31	Potential climate impact of black carbon emitted by rockets. Geophysical Research Letters, 2010, 37, .	1.5	63
32	Effects of Different Stratospheric SO₂ Injection Altitudes on Stratospheric Chemistry and Dynamics. Journal of Geophysical Research D: Atmospheres, 2018, 123, 4654-4673.	1.2	58
33	The Interactive Stratospheric Aerosol Model Intercomparison ProjectÂ(ISA-MIP): motivation and experimental design. Geoscientific Model Development, 2018, 11, 2581-2608.	1.3	57
34	Comparing Surface and Stratospheric Impacts of Geoengineering With Different SO₂ Injection Strategies. Journal of Geophysical Research D: Atmospheres, 2019, 124, 7900-7918.	1.2	56
35	An Evaluation of the Largeâ€Scale Atmospheric Circulation and Its Variability in CESM2 and Other CMIP Models. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032835.	1.2	55
36	Evaluating stratospheric ozone and water vapour changes in CMIP6 models from 1850 to 2100. Atmospheric Chemistry and Physics, 2021, 21, 5015-5061.	1.9	54

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37	The influence of the Calbuco eruption on the 2015 Antarctic ozone hole in a fully coupled chemistryâ€climate model. Geophysical Research Letters, 2017, 44, 2556-2561.	1.5	53
38	On the relationship between stratospheric aerosols and nitrogen dioxide. Geophysical Research Letters, 1993, 20, 1187-1190.	1.5	52
39	A new Geoengineering Model Intercomparison Project (GeoMIP) experiment designed for climate and chemistry models. Geoscientific Model Development, 2015, 8, 43-49.	1.3	51
40	Persisting volcanic ash particles impact stratospheric SO2 lifetime and aerosol optical properties. Nature Communications, 2020, 11, 4526.	5.8	51
41	Reaching 1.5 and 2.0â€‰Â°C global surface temperature targets using stratospheric aerosol geoengineering. Earth System Dynamics, 2020, 11, 579-601.	2.7	50
42	Intraâ€seasonal variability of polar mesospheric clouds due to interâ€hemispheric coupling. Geophysical Research Letters, 2009, 36, .	1.5	49
43	Implications of extinction due to meteoritic smoke in the upper stratosphere. Geophysical Research Letters, 2011, 38, .	1.5	49
44	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.	1.9	45
45	On the age of stratospheric air and ozone depletion potentials in polar regions. Journal of Geophysical Research, 1992, 97, 12993-12999.	3.3	44
46	Upper limit for the UV absorption cross sections of H2SO4. Geophysical Research Letters, 2000, 27, 2493-2496.	1.5	44
47	Historical total ozone radiative forcing derived from CMIP6 simulations. Npj Climate and Atmospheric Science, 2020, 3, .	2.6	44
48	A 2D microphysical model of the polar stratospheric CN layer. Geophysical Research Letters, 1999, 26, 1133-1136.	1.5	42
49	Photolysis of sulfuric acid vapor by visible light as a source of the polar stratospheric CN layer. Journal of Geophysical Research, 2005, 110, .	3.3	42
50	Multi-model comparison of the volcanic sulfate deposition from the 1815 eruption of Mt.ÂTambora. Atmospheric Chemistry and Physics, 2018, 18, 2307-2328.	1.9	41
51	Stratospheric Sulfate Aerosol Geoengineering Could Alter the Highâ€Latitude Seasonal Cycle. Geophysical Research Letters, 2019, 46, 14153-14163.	1.5	40
52	Soil Moisture and Other Hydrological Changes in a Stratospheric Aerosol Geoengineering Large Ensemble. Journal of Geophysical Research D: Atmospheres, 2019, 124, 12773-12793.	1.2	38
53	Mirrored changes in Antarctic ozone and stratospheric temperature in the late 20th versus early 21st centuries. Journal of Geophysical Research D: Atmospheres, 2017, 122, 8940-8950.	1.2	35
54	Timescale for Detecting the Climate Response to Stratospheric Aerosol Geoengineering. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1233-1247.	1.2	34

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55	Mystery of the volcanic mass-independent sulfur isotope fractionation signature in the Antarctic ice core. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	33
56	Mesospheric sulfate aerosol layer. Journal of Geophysical Research, 2005, 110, .	3.3	33
57	Evaluations of tropospheric aerosol properties simulated by the community earth system model with a sectional aerosol microphysics scheme. Journal of Advances in Modeling Earth Systems, 2015, 7, 865-914.	1.3	33
58	Model physics and chemistry causing intermodel disagreement within the VolMIP-Tambora Interactive Stratospheric Aerosol ensemble. Atmospheric Chemistry and Physics, 2021, 21, 3317-3343.	1.9	33
59	Observing the Impact of Calbuco Volcanic Aerosols on South Polar Ozone Depletion in 2015. Journal of Geophysical Research D: Atmospheres, 2017, 122, 11,862.	1.2	32
60	Modeling the 1783â€"1784 Laki Eruption in Iceland: 2. Climate Impacts. Journal of Geophysical Research D: Atmospheres, 2019, 124, 6770-6790.	1.2	32
61	Stratospheric Aerosols, Polar Stratospheric Clouds, and Polar Ozone Depletion After the Mount Calbuco Eruption in 2015. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12,308.	1.2	31
62	Persistent polar ocean warming in a strategically geoengineered climate. Nature Geoscience, 2018, 11, 910-914.	5.4	29
63	Seasonal Injection Strategies for Stratospheric Aerosol Geoengineering. Geophysical Research Letters, 2019, 46, 7790-7799.	1.5	29
64	Decadal reduction of Chinese agriculture after a regional nuclear war. Earth's Future, 2015, 3, 37-48.	2.4	28
65	On Recent Large Antarctic Ozone Holes and Ozone Recovery Metrics. Geophysical Research Letters, 2021, 48, e2021GL095232.	1.5	28
66	Seasonally Modulated Stratospheric Aerosol Geoengineering Alters the Climate Outcomes. Geophysical Research Letters, 2020, 47, e2020GL088337.	1.5	27
67	A climatology of cold air outbreaks over North America: WACCM and ERA-40 comparison and analysis. Journal of Geophysical Research, 2011, 116, .	3.3	25
68	Monsoon circulations and tropical heterogeneous chlorine chemistry in the stratosphere. Geophysical Research Letters, 2016, 43, 12,624.	1.5	23
69	The potential impacts of a sulfur- and halogen-rich supereruption such as Los Chocoyos on the atmosphere and climate. Atmospheric Chemistry and Physics, 2020, 20, 6521-6539.	1.9	19
70	Development of a Polar Stratospheric Cloud Model within the Community Earth System Model using constraints on Type I PSCs from the 2010â€"2011 Arctic winter. Journal of Advances in Modeling Earth Systems, 2015, 7, 551-585.	1.3	18
71	Catastrophic ozone loss during passage of the Solar system through an interstellar cloud. Geophysical Research Letters, 2005, 32, .	1.5	17
72	Reconciling modeled and observed temperature trends over Antarctica. Geophysical Research Letters, 2012, 39, .	1.5	17

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73	Stratospheric Response in the First Geoengineering Simulation Meeting Multiple Surface Climate Objectives. Journal of Geophysical Research D: Atmospheres, 2018, 123, 5762-5782.	1.2	17
74	Multi-century dynamics of the climate and carbon cycle under both high and net negative emissions scenarios. Earth System Dynamics, 2022, 13, 885-909.	2.7	17
75	Nitrate deposition to surface snow at Summit, Greenland, following the 9 November 2000 solar proton event. Journal of Geophysical Research D: Atmospheres, 2014, 119, 6938-6957.	1.2	16
76	The role of sulfur dioxide in stratospheric aerosol formation evaluated by using in situ measurements in the tropical lower stratosphere. Geophysical Research Letters, 2017, 44, 4280-4286.	1.5	16
77	Future changes in isoprene-epoxydiol-derived secondary organic aerosol (IEPOX SOA) under the Shared Socioeconomic Pathways: the importance of physicochemical dependency. Atmospheric Chemistry and Physics, 2021, 21, 3395-3425.	1.9	16
78	Atmospheric Photolysis of Sulfuric Acid. Advances in Quantum Chemistry, 2008, 55, 137-158.	0.4	15
79	Characteristics of Future Warmer Base States in CESM2. Earth and Space Science, 2020, 7, e2020EA001296.	1.1	14
80	Decadal Disruption of the QBO by Tropical Volcanic Supereruptions. Geophysical Research Letters, 2021, 48, e2020GL089687.	1.5	13
81	Extreme Ozone Loss Following Nuclear War Results in Enhanced Surface Ultraviolet Radiation. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035079.	1.2	13
82	Climatology of mesopause region nocturnal temperature, zonal wind and sodium density observed by sodium lidar over Hefei, China (32Â°â€‰N, 117Â°â€‰E). Atmospheric Chemistry and Physics, 2018, 18, 11683-11695.	1.9	12
83	Modeling the 1783â€“1784 Laki Eruption in Iceland: 1. Aerosol Evolution and Global Stratospheric Circulation Impacts. Journal of Geophysical Research D: Atmospheres, 2019, 124, 6750-6769.	1.2	12
84	On the Role of Heterogeneous Chemistry in Ozone Depletion and Recovery. Geophysical Research Letters, 2018, 45, 7835-7842.	1.5	11
85	Impacts of meteoric sulfur in the Earth's atmosphere. Journal of Geophysical Research D: Atmospheres, 2017, 122, 7678-7701.	1.2	10
86	Detectability of the impacts of ozone-depleting substances and greenhouse gases upon stratospheric ozone accounting for nonlinearities in historical forcings. Atmospheric Chemistry and Physics, 2018, 18, 143-166.	1.9	10
87	Asia Treads the Nuclear Path, Unaware That Self-Assured Destruction Would Result from Nuclear War. Journal of Asian Studies, 2017, 76, 437-456.	0.0	9
88	The global extent of the mid stratospheric CN layer: A threeâ€dimensional modeling study. Journal of Geophysical Research D: Atmospheres, 2014, 119, 1015-1030.	1.2	8
89	Assessing terrestrial biogeochemical feedbacks in a strategically geoengineered climate. Environmental Research Letters, 2020, 15, 104043.	2.2	8
90	Meteoric smoke and H₂SO₄ aerosols in the upper stratosphere and mesosphere. Geophysical Research Letters, 2017, 44, 1150-1157.	1.5	7

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91	Modeled and Observed Volcanic Aerosol Control on Stratospheric NO_y and Cl_y. Journal of Geophysical Research D: Atmospheres, 2019, 124, 10283-10303.	1.2	7
92	Limitations of assuming internal mixing between different aerosol species: a case study with sulfate geoengineering simulations. Atmospheric Chemistry and Physics, 2022, 22, 1739-1756.	1.9	6
93	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
94	Holistic Assessment of SO 2 Injections Using CESM1(WACCM): Introduction to the Special Issue. Journal of Geophysical Research D: Atmospheres, 2019, 124, 444-450.	1.2	2
95	Corrigendum to "Microphysical simulations of new particle formation in the upper troposphere and lower stratosphere" published in Atmos. Chem. Phys., 11, 9303â€“9322, 2011. Atmospheric Chemistry and Physics, 2011, 11, 10125-10125.	1.9	1
96	Climatic Consequences and Agricultural Impacts of Nuclear Conflicts. , 0, , 328-340.		0
97	Stratospheric Sulfate Aerosols and Planetary Albedo. , 2014, , 771-776.		0