Susan Solomon

List of Publications by Year
in descending order

104 papers	17,449 citations	38660 50 h-index	28224 105 g-index
108 all docs	108 docs citations	108 times ranked	13428 citing authors

#	Article	IF	Citations
1	Irreversible climate change due to carbon dioxide emissions. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 1704-1709.	3.3	2,294
2	Interpretation of Recent Southern Hemisphere Climate Change. Science, 2002, 296, 895-899.	6.0	1,594
3	Stratospheric ozone depletion: A review of concepts and history. Reviews of Geophysics, 1999, 37, 275-316.	9.0	1,552
4	On the depletion of Antarctic ozone. Nature, 1986, 321, 755-758.	13.7	1,382
5	Contributions of Stratospheric Water Vapor to Decadal Changes in the Rate of Global Warming. Science, 2010, 327, 1219-1223.	6.0	975
6	Signatures of the Antarctic ozone hole in Southern Hemisphere surface climate change. Nature Geoscience, 2011, 4, 741-749.	5.4	781
7	Ozone destruction through heterogeneous chemistry following the eruption of El ChichÃ³n. Journal of Geophysical Research, 1989, 94, 5029-5041.	3.3	488
8	The Persistently Variable â€œBackgroundâ€•Stratospheric Aerosol Layer and Global Climate Change. Science, 2011, 333, 866-870.	6.0	481
9	Emergence of healing in the Antarctic ozone layer. Science, 2016, 353, 269-274.	6.0	462
10	Heterogeneous reactions in sulfuric acid aerosols: A framework for model calculations. Journal of Geophysical Research, 1994, 99, 3615.	3.3	411
11	On the role of iodine in ozone depletion. Journal of Geophysical Research, 1994, 99, 20491.	3.3	381
12	Volcanic contribution to decadal changes in tropospheric temperature. Nature Geoscience, 2014, 7, 185-189.	5.4	364
13	The role of aerosol variations in anthropogenic ozone depletion at northern midlatitudes. Journal of Geophysical Research, 1996, 101, 6713-6727.	3.3	330
14	The role of molecular hydrogen and methane oxidation in the water vapour budget of the stratosphere. Quarterly Journal of the Royal Meteorological Society, 1988, 114, 281-295.	1.0	224
15	Early onset of significant local warming in low latitude countries. Environmental Research Letters, 2011, 6, 034009.	2.2	211
16	Visible spectroscopy at McMurdo Station, Antarctica: 2. Observations of OClO. Journal of Geophysical Research, 1987, 92, 8329-8338.	3.3	207
17	A comparison of model-simulated trends in stratospheric temperatures. Quarterly Journal of the Royal Meteorological Society, 2003, 129, 1565-1588.	1.0	189
18	Stratosphereâ€“Troposphere Coupling in the Southern Hemisphere. Journals of the Atmospheric Sciences, 2005, 62, 708-715.	0.6	182

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19	Antarctic Ocean and Sea Ice Response to Ozone Depletion: A Two-Time-Scale Problem. Journal of Climate, 2015, 28, 1206-1226.	1.2	179
20	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
21	Heterogeneous chlorine chemistry in the tropopause region. Journal of Geophysical Research, 1997, 102, 21411-21429.	3.3	163
22	Total volcanic stratospheric aerosol optical depths and implications for global climate change. Geophysical Research Letters, 2014, 41, 7763-7769.	1.5	159
23	Incorporating model quality information in climate change detection and attribution studies. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 14778-14783.	3.3	156
24	Separating signal and noise in atmospheric temperature changes: The importance of timescale. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	149
25	Persistence of climate changes due to a range of greenhouse gases. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 18354-18359.	3.3	144
26	The potential of cirrus clouds for heterogeneous chlorine activation. Geophysical Research Letters, 1996, 23, 2133-2136.	1.5	135
27	Simulation of polar ozone depletion: An update. Journal of Geophysical Research D: Atmospheres, 2015, 120, 7958-7974.	1.2	132
28	Role of aerosol variations in anthropogenic ozone depletion in the polar regions. Journal of Geophysical Research, 1996, 101, 22991-23006.	3.3	121
29	Identifying human influences on atmospheric temperature. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 26-33.	3.3	117
30	Ozone depletion at mid-latitudes: Coupling of volcanic aerosols and temperature variability to anthropogenic chlorine. Geophysical Research Letters, 1998, 25, 1871-1874.	1.5	105
31	Human influence on the seasonal cycle of tropospheric temperature. Science, 2018, 361, .	6.0	103
32	Four decades of ozonesonde measurements over Antarctica. Journal of Geophysical Research, 2005, 110, .	3.3	102
33	On the distributions of longâ€lived tracers and chlorine species in the middle atmosphere. Journal of Geophysical Research, 1984, 89, 11633-11644.	3.3	98
34	Historical Antarctic mean sea ice area, sea ice trends, and winds in CMIP5 simulations. Journal of Geophysical Research D: Atmospheres, 2013, 118, 5105-5110.	1.2	91
35	Recent anthropogenic increases in SO₂ from Asia have minimal impact on stratospheric aerosol. Geophysical Research Letters, 2013, 40, 999-1004.	1.5	89
36	Volcanic Radiative Forcing From 1979 to 2015. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12491-12508.	1.2	87

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37	Analysis of the August 1972 Solar Proton Event including chlorine chemistry. Journal of Geophysical Research, 1981, 86, 1140-1146.	3.3	84
38	Human and natural influences on the changing thermal structure of the atmosphere. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17235-17240.	3.3	84
39	Transport processes and ozone perturbations. Journal of Geophysical Research, 1985, 90, 12981-12989.	3.3	81
40	On the surface impact of Arctic stratospheric ozone extremes. Environmental Research Letters, 2015, 10, 094003.	2.2	79
41	Centuries of thermal sea-level rise due to anthropogenic emissions of short-lived greenhouse gases. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 657-662.	3.3	76
42	Effects of ozone cooling in the tropical lower stratosphere and upper troposphere. Geophysical Research Letters, 2007, 34, .	1.5	75
43	Comparing Tropospheric Warming in Climate Models and Satellite Data. Journal of Climate, 2017, 30, 373-392.	1.2	72
44	Quantifying contributions of chlorofluorocarbon banks to emissions and impacts on the ozone layer and climate. Nature Communications, 2020, 11, 1380.	5.8	72
45	Understanding Recent Stratospheric Climate Change. Journal of Climate, 2009, 22, 1934-1943.	1.2	70
46	Temperature Trend Patterns in Southern Hemisphere High Latitudes: Novel Indicators of Stratospheric Change. Journal of Climate, 2009, 22, 6325-6341.	1.2	65
47	Observed connections of Arctic stratospheric ozone extremes to Northern Hemisphere surface climate. Environmental Research Letters, 2017, 12, 024004.	2.2	61
48	Changes in Inorganic Fine Particulate Matter Sensitivities to Precursors Due to Large-Scale US Emissions Reductions. Environmental Science & Technology, 2015, 49, 4834-4841.	4.6	59
49	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
50	On the relationship between stratospheric aerosols and nitrogen dioxide. Geophysical Research Letters, 1993, 20, 1187-1190.	1.5	52
51	Climate model uncertainty in impact assessments for agriculture: A multiâ€ensemble case study on maize in subâ€Saharan Africa. Earth's Future, 2017, 5, 337-353.	2.4	51
52	Observational evidence of strengthening of the Brewerâ€Dobson circulation since 1980. Journal of Geophysical Research D: Atmospheres, 2015, 120, 10,214.	1.2	48
53	Simulation of polar stratospheric clouds in the specified dynamics version of the whole atmosphere community climate model. Journal of Geophysical Research D: Atmospheres, 2013, 118, 4991-5002.	1.2	47
54	Changes in Stratospheric Temperatures and Their Implications for Changes in the Brewerâ€“Dobson Circulation, 1979â€“2005. Journal of Climate, 2012, 25, 1759-1772.	1.2	45

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55	On the stratospheric chemistry of midlatitude wildfire smoke. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2117325119.	3.3	45
56	Impact of Changes in Climate and Halocarbons on Recent Lower Stratosphere Ozone and Temperature Trends. Journal of Climate, 2010, 23, 2599-2611.	1.2	42
57	Influences of the Antarctic Ozone Hole on Southern Hemispheric Summer Climate Change. Journal of Climate, 2014, 27, 6245-6264.	1.2	42
58	On the Identification of Ozone Recovery. Geophysical Research Letters, 2018, 45, 5158-5165.	1.5	39
59	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
60	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
61	Quantifying stochastic uncertainty in detection time of human-caused climate signals. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 19821-19827.	3.3	32
62	Uncertainties in the evolution of stratospheric ozone and implications for recent temperature changes in the tropical lower stratosphere. Geophysical Research Letters, 2012, 39, .	1.5	31
63	Comparison of three vertically resolved ozone data sets: climatology, trends and radiative forcings. Atmospheric Chemistry and Physics, 2013, 13, 5533-5550.	1.9	31
64	Present and future sources and emissions of halocarbons: Toward new constraints. Journal of Geophysical Research, 2007, 112, .	3.3	30
65	Radiative and Dynamical Influences on Polar Stratospheric Temperature Trends. Journal of Climate, 2016, 29, 4927-4938.	1.2	29
66	An assessment of changing ozone loss rates at South Pole: Twenty-five years of ozonesonde measurements. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	28
67	The signature of ozone depletion on tropical temperature trends, as revealed by their seasonal cycle in model integrations with single forcings. Journal of Geophysical Research, 2012, 117, .	3.3	28
68	On Recent Large Antarctic Ozone Holes and Ozone Recovery Metrics. Geophysical Research Letters, 2021, 48, e2021GL095232.	1.5	28
69	New Insights on the Impact of Ozoneâ€Depleting Substances on the Brewerâ€Dobson Circulation. Journal of Geophysical Research D: Atmospheres, 2019, 124, 2435-2451.	1.2	26
70	Emergence of Southern Hemisphere stratospheric circulation changes in response to ozone recovery. Nature Geoscience, 2021, 14, 638-644.	5.4	24
71	Monsoon circulations and tropical heterogeneous chlorine chemistry in the stratosphere. Geophysical Research Letters, 2016, 43, 12,624.	1.5	23
72	Observed changes in Brewerâ€“Dobson circulation for 1980â€“2018. Environmental Research Letters, 2019, 14, 114026.	2.2	23

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73	Unfinished business after five decades of ozone-layer science and policy. Nature Communications, 2020, 11, 4272.	5.8	22
74	Stratospheric Temperature and Ozone Anomalies Associated With the 2020 Australian New Year Fires. Geophysical Research Letters, 2021, 48, e2021GL095898.	1.5	21
75	Prediction of Northern Hemisphere Regional Surface Temperatures Using Stratospheric Ozone Information. Journal of Geophysical Research D: Atmospheres, 2019, 124, 5922-5933.	1.2	18
76	The Brewerâ€Dobson Circulation During the Last Glacial Maximum. Geophysical Research Letters, 2020, 47, e2019GL086271.	1.5	17
77	Climate Impacts and Potential Drivers of the Unprecedented Antarctic Ozone Holes of 2020 and 2021. Geophysical Research Letters, 2022, 49, .	1.5	16
78	Joint inference of CFC lifetimes and banks suggests previously unidentified emissions. Nature Communications, 2021, 12, 2920.	5.8	15
79	The influence of iodine on the Antarctic stratospheric ozone hole. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	15
80	An Arctic ozone hole in 2020 if not for the Montreal Protocol. Atmospheric Chemistry and Physics, 2021, 21, 15771-15781.	1.9	13
81	Stratospheric Ozone in the Last Glacial Maximum. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032929.	1.2	12
82	Interannual SAM Modulation of Antarctic Sea Ice Extent Does Not Account for Its Longâ€Term Trends, Pointing to a Limited Role for Ozone Depletion. Geophysical Research Letters, 2021, 48, e2021GL094871.	1.5	12
83	Water under a Changing and Uncertain Climate: Lessons from Climate Model Ensembles*. Journal of Climate, 2015, 28, 9561-9582.	1.2	11
84	On the Role of Heterogeneous Chemistry in Ozone Depletion and Recovery. Geophysical Research Letters, 2018, 45, 7835-7842.	1.5	11
85	Modeling the climate impact of Southern Hemisphere ozone depletion: The importance of the ozone data set. Geophysical Research Letters, 2014, 41, 9033-9039.	1.5	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	An Exceptional Summer during the South Pole Race of 1911/12. Bulletin of the American Meteorological Society, 2017, 98, 2189-2200.	1.7	9
88	Risks to the stratospheric ozone shield in the Anthropocene. Ambio, 2021, 50, 44-48.	2.8	9
89	Quantifying the Lead Time Required for a Linear Trend to Emerge from Natural Climate Variability. Journal of Climate, 2017, 30, 10179-10191.	1.2	8
90	Unexpected Repartitioning of Stratospheric Inorganic Chlorine After the 2020 Australian Wildfires. Geophysical Research Letters, 2022, 49, .	1.5	8

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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	Decadal Attribution of Historic Temperature and Ocean Heat Content Change to Anthropogenic Emissions. Geophysical Research Letters, 2020, 47, e2019GL085905.	1.5	5
93	On the effects of the ocean on atmospheric CFC-11 lifetimes and emissions. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2021528118.	3.3	5
94	Prediction of Northern Hemisphere Regional Sea Ice Extent and Snow Depth Using Stratospheric Ozone Information. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031770.	1.2	4
95	The Key Role of Coupled Chemistryâ€“Climate Interactions in Tropical Stratospheric Temperature Variability. Journal of Climate, 2020, 33, 7619-7629.	1.2	4
96	Evaluating Stratospheric Tropical Width Using Tracer Concentrations. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033081.	1.2	3
97	Paul J. Crutzen (1933â€“2021). Science, 2021, 371, 892-892.	6.0	3
98	On the Southern Hemisphere Stratospheric Response to ENSO and Its Impacts on Tropospheric Circulation. Journal of Climate, 2022, 35, 1963-1981.	1.2	2
99	Stratosphereâ€Troposphere Exchanges of Air Mass and Ozone Concentration in the Last Glacial Maximum. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	2
100	Sensitivity of inorganic aerosol radiative effects to U.S. emissions. Journal of Geophysical Research D: Atmospheres, 2017, 122, 6379-6390.	1.2	1
101	Time of Steady Climate Change. Geophysical Research Letters, 2019, 46, 5445-5451.	1.5	1
102	Atmospheric Chemistry Signatures of an Equatorially Symmetric Matsunoâ€“Gill Circulation Pattern. Journals of the Atmospheric Sciences, 2021, 78, 107-116.	0.6	1
103	Quantifying the Imprints of Stratospheric Contributions to Interhemispheric Differences in Tropospheric CFCâ€11, CFCâ€12, and N 2 O Abundances. Geophysical Research Letters, 2021, 48, e2021GL093700.	1.5	1
104	Subpolar Activation of Halogen Heterogeneous Chemistry in Austral Spring. Geophysical Research Letters, 2021, 48, e2020GL090036.	1.5	1