Susan E Strahan

List of Publications by Year
in descending order

108 papers	7,267 citations	61984 43 h-index	64796 79 g-index
138 all docs	138 docs citations	138 times ranked	6212 citing authors

#	Article	IF	Citations
1	Evolution of observed ozone, trace gases, and meteorological variables over Arrival Heights, Antarctica (77.8°S, 166.7°E) during the 2019 Antarctic stratospheric sudden warming. Tellus, Series B: Chemical and Physical Meteorology, 2022, 73, 1933783.	1.6	3
2	Optimized Umkehr profile algorithm for ozone trend analyses. Atmospheric Measurement Techniques, 2022, 15, 1849-1870.	3.1	4
3	On the stratospheric chemistry of midlatitude wildfire smoke. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2117325119.	7.1	45
4	Unexpected Repartitioning of Stratospheric Inorganic Chlorine After the 2020 Australian Wildfires. Geophysical Research Letters, 2022, 49, .	4.0	8
5	COVIDâ€19 Crisis Reduces Free Tropospheric Ozone Across the Northern Hemisphere. Geophysical Research Letters, 2021, 48, e2020GL091987.	4.0	51
6	How Atmospheric Chemistry and Transport Drive Surface Variability of N 2 O and CFCâ€11. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033979.	3.3	11
7	Stratospheric fluorine as a tracer of circulation changes: comparison between infrared remoteâ€sensing observations and simulations with five modern reanalyses. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034995.	3.3	8
8	Tropospheric Ageâ€ofâ€Air: Influence of SF₆ Emissions on Recent Surface Trends and Model Biases. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035451.	3.3	3
9	Seasonal Variation of the Quasiâ€Biennial Oscillation Descent. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD033077.	3.3	13
10	Observed Hemispheric Asymmetry in Stratospheric Transport Trends From 1994 to 2018. Geophysical Research Letters, 2020, 47, e2020GL088567.	4.0	13
11	Surface Ozoneâ€Meteorology Relationships: Spatial Variations and the Role of the Jet Stream. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032735.	3.3	12
12	Validation of SAGE III/ISS Solar Occultation Ozone Products With Correlative Satellite and Groundâ€Based Measurements. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032430.	3.3	24
13	A machine learning examination of hydroxyl radical differences among model simulations for CCMI-1. Atmospheric Chemistry and Physics, 2020, 20, 1341-1361.	4.9	24
14	Disentangling the Drivers of the Summertime Ozoneâ€Temperature Relationship Over the United States. Journal of Geophysical Research D: Atmospheres, 2019, 124, 10503-10524.	3.3	24
15	Why Do Antarctic Ozone Recovery Trends Vary?. Journal of Geophysical Research D: Atmospheres, 2019, 124, 8837-8850.	3.3	12
16	The Effects of a 1998 Observing System Change on MERRAâ€2â€Based Ozone Profile Simulations. Journal of Geophysical Research D: Atmospheres, 2019, 124, 7429.	3.3	14
17	Large-scale transport into the Arctic: the roles of the midlatitude jet and the Hadley Cell. Atmospheric Chemistry and Physics, 2019, 19, 5511-5528.	4.9	8
18	Decline in Antarctic Ozone Depletion and Lower Stratospheric Chlorine Determined From Aura Microwave Limb Sounder Observations. Geophysical Research Letters, 2018, 45, 382-390.	4.0	79

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19	The Network for the Detection of Atmospheric Composition Change (NDACC): history, status and perspectives. Atmospheric Chemistry and Physics, 2018, 18, 4935-4964.	4.9	162
20	Using satellite measurements of N₂O to remove dynamical variability from HCl measurements. Atmospheric Chemistry and Physics, 2018, 18, 5691-5697.	4.9	9
21	Large-scale tropospheric transport in the Chemistryâ€“Climate Model Initiative (CCMI) simulations. Atmospheric Chemistry and Physics, 2018, 18, 7217-7235.	4.9	32
22	Changes in Global Tropospheric OH Expected as a Result of Climate Change Over the Last Several Decades. Journal of Geophysical Research D: Atmospheres, 2018, 123, 10,774.	3.3	31
23	A 4 U laser heterodyne radiometer for methane (CH₄) and carbon dioxide (CO₂) measurements from an occultation-viewing CubeSat. Measurement Science and Technology, 2017, 28, 035902.	2.6	21
24	Concerns for ozone recovery. Science, 2017, 358, 1257-1258.	12.6	15
25	Multi-decadal records of stratospheric composition and their relationship to stratospheric circulation change. Atmospheric Chemistry and Physics, 2017, 17, 12081-12096.	4.9	9
26	Response of trace gases to the disrupted 2015â€“2016 quasi-biennial oscillation. Atmospheric Chemistry and Physics, 2017, 17, 6813-6823.	4.9	39
27	Global O₃â€“CO correlations in a chemistry and transport model during Julyâ€“August: evaluation with TES satellite observations and sensitivity to input meteorological data and emissions. Atmospheric Chemistry and Physics, 2017, 17, 8429-8452.	4.9	10
28	Largeâ€Scale Atmospheric Transport in <scp>GEOS</scp> Replay Simulations. Journal of Advances in Modeling Earth Systems, 2017, 9, 2545-2560.	3.8	64
29	Chemical Mechanisms and Their Applications in the Goddard Earth Observing System (GEOS) Earth System Model. Journal of Advances in Modeling Earth Systems, 2017, 9, 3019-3044.	3.8	47
30	A cloud-ozone data product from Aura OMI and MLS satellite measurements. Atmospheric Measurement Techniques, 2017, 10, 4067-4078.	3.1	13
31	Chemical and dynamical impacts of stratospheric sudden warmings on Arctic ozone variability. Journal of Geophysical Research D: Atmospheres, 2016, 121, 11836-11851.	3.3	31
32	Using beryllium-7 to assess cross-tropopause transport in global models. Atmospheric Chemistry and Physics, 2016, 16, 4641-4659.	4.9	31
33	Interpreting space-based trends in carbon monoxide with multiple models. Atmospheric Chemistry and Physics, 2016, 16, 7285-7294.	4.9	31
34	Trends and variability in surface ozone over the United States. Journal of Geophysical Research D: Atmospheres, 2015, 120, 9020-9042.	3.3	90
35	Modulation of Antarctic vortex composition by the quasiâ€biennial oscillation. Geophysical Research Letters, 2015, 42, 4216-4223.	4.0	38
36	Measuring and modeling the lifetime of nitrous oxide including its variability. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5693-5705.	3.3	151

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37	Tropospheric ozone variability in the tropics from ENSO to MJO and shorter timescales. Atmospheric Chemistry and Physics, 2015, 15, 8037-8049.	4.9	47
38	The global structure of upper troposphereâ€lower stratosphere ozone in GEOSâ€5: A multiyear assimilation of EOS Aura data. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2013-2036.	3.3	46
39	Inorganic chlorine variability in the Antarctic vortex and implications for ozone recovery. Journal of Geophysical Research D: Atmospheres, 2014, 119, 14,098.	3.3	22
40	Assessment and applications of NASA ozone data products derived from Aura OMI/MLS satellite measurements in context of the GMI chemical transport model. Journal of Geophysical Research D: Atmospheres, 2014, 119, 5671-5699.	3.3	40
41	Multimodel estimates of atmospheric lifetimes of longâ€lived ozoneâ€depleting substances: Present and future. Journal of Geophysical Research D: Atmospheres, 2014, 119, 2555-2573.	3.3	42
42	Understanding differences in chemistry climate model projections of stratospheric ozone. Journal of Geophysical Research D: Atmospheres, 2014, 119, 4922-4939.	3.3	18
43	The spring 2011 final stratospheric warming above Eureka: anomalous dynamics and chemistry. Atmospheric Chemistry and Physics, 2013, 13, 611-624.	4.9	13
44	The largeâ€scale frozenâ€in anticyclone in the 2011 Arctic summer stratosphere. Journal of Geophysical Research D: Atmospheres, 2013, 118, 2656-2672.	3.3	5
45	Tropospheric SF₆: Age of air from the Northern Hemisphere midlatitude surface. Journal of Geophysical Research D: Atmospheres, 2013, 118, 11,429.	3.3	37
46	The contributions of chemistry and transport to low arctic ozone in March 2011 derived from Aura MLS observations. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1563-1576.	3.3	60
47	Understanding differences in upper stratospheric ozone response to changes in chlorine and temperature as computed using CCMValâ€2 models. Journal of Geophysical Research, 2012, 117, .	3.3	18
48	Seasonal variations of stratospheric age spectra in the Goddard Earth Observing System Chemistry Climate Model (GEOSCCM). Journal of Geophysical Research, 2012, 117, .	3.3	29
49	Longâ€term changes in stratospheric age spectra in the 21st century in the Goddard Earth Observing System Chemistryâ€Climate Model (GEOSCCM). Journal of Geophysical Research, 2012, 117, .	3.3	24
50	Using transport diagnostics to understand chemistry climate model ozone simulations. Journal of Geophysical Research, 2011, 116, .	3.3	68
51	Modeling the Frozen-In Anticyclone in the 2005 Arctic Summer Stratosphere. Atmospheric Chemistry and Physics, 2011, 11, 4557-4576.	4.9	18
52	Sensitivity of aerosol optical thickness and aerosol direct radiative effect to relative humidity. Atmospheric Chemistry and Physics, 2009, 9, 2375-2386.	4.9	87
53	The impact of tropical recirculation on polar composition. Atmospheric Chemistry and Physics, 2009, 9, 2471-2480.	4.9	14
54	Comparison of lower stratospheric tropical mean vertical velocities. Journal of Geophysical Research, 2008, 113, .	3.3	81

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55	Quantifying errors in trace species transport modeling. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 19617-19621.	7.1	59
56	Sensitivity of stratospheric inorganic chlorine to differences in transport. Atmospheric Chemistry and Physics, 2007, 7, 4935-4941.	4.9	24
57	Observationally derived transport diagnostics for the lowermost stratosphere and their application to the GMI chemistry and transport model. Atmospheric Chemistry and Physics, 2007, 7, 2435-2445.	4.9	167
58	Multi-model simulations of the impact of international shipping on Atmospheric Chemistry and Climate in 2000 and 2030. Atmospheric Chemistry and Physics, 2007, 7, 757-780.	4.9	133
59	Model study of the cross-tropopause transport of biomass burning pollution. Atmospheric Chemistry and Physics, 2007, 7, 3713-3736.	4.9	176
60	Uncertainties in global aerosol simulations: Assessment using three meteorological data sets. Journal of Geophysical Research, 2007, 112, .	3.3	79
61	A trajectoryâ€based estimate of the tropospheric ozone column using the residual method. Journal of Geophysical Research, 2007, 112, .	3.3	93
62	Nitrogen and sulfur deposition on regional and global scales: A multimodel evaluation. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	4.9	846
63	Multimodel ensemble simulations of present-day and near-future tropospheric ozone. Journal of Geophysical Research, 2006, 111, .	3.3	743
64	Sensitivity of Arctic ozone loss to polar stratospheric cloud volume and chlorine and bromine loading in a chemistry and transport model. Geophysical Research Letters, 2006, 33, .	4.0	12
65	Multimodel simulations of carbon monoxide: Comparison with observations and projected near-future changes. Journal of Geophysical Research, 2006, 111, .	3.3	254
66	The Global Atmospheric Environment for the Next Generation. Environmental Science & Technology, 2006, 40, 3586-3594.	10.0	338
67	Meteorological implementation issues in chemistry and transport models. Atmospheric Chemistry and Physics, 2006, 6, 2895-2910.	4.9	35
68	Multi-model ensemble simulations of tropospheric NO₂ compared with GOME retrievals for the year 2000. Atmospheric Chemistry and Physics, 2006, 6, 2943-2979.	4.9	127
69	Evaluating the credibility of transport processes in simulations of ozone recovery using the Global Modeling Initiative three-dimensional model. Journal of Geophysical Research, 2004, 109, .	3.3	31
70	Sensitivity of Global Modeling Initiative model predictions of Antarctic ozone recovery to input meteorological fields. Journal of Geophysical Research, 2004, 109, .	3.3	9
71	Radicals and reservoirs in the GMI chemistry and transport model: Comparison to measurements. Journal of Geophysical Research, 2004, 109, .	3.3	59
72	Influence of planetary wave transport on Arctic ozone as observed by Polar Ozone and Aerosol Measurement (POAM) III. Journal of Geophysical Research, 2002, 107, ACL 2-1.	3.3	8

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73	Mean ages of stratospheric air derived from in situ observations of CO2, CH4, and N2O. Journal of Geophysical Research, 2001, 106, 32295-32314.	3.3	181
74	Empirical age spectra for the midlatitude lower stratosphere from in situ observations of CO2: Quantitative evidence for a subtropical â€œbarrierâ€•to horizontal transport. Journal of Geophysical Research, 2001, 106, 10257-10274.	3.3	60
75	Climatologies of lower stratospheric NOyand O3and correlations with N2O based on in situ observations. Journal of Geophysical Research, 1999, 104, 30463-30480.	3.3	25
76	Climatology and small-scale structure of lower stratospheric N2O based on in situ observations. Journal of Geophysical Research, 1999, 104, 2195-2208.	3.3	29
77	Choosing meteorological input for the global modeling initiative assessment of high-speed aircraft. Journal of Geophysical Research, 1999, 104, 27545-27564.	3.3	76
78	The CO2seasonal cycle as a tracer of transport. Journal of Geophysical Research, 1998, 103, 13729-13741.	3.3	41
79	Long-lived tracer transport in the Antarctic stratosphere. Journal of Geophysical Research, 1996, 101, 26615-26629.	3.3	20
80	Evaluation of the SKYHI general circulation model using aircraft N2O measurements: 1. Polar winter stratospheric meteorology and tracer morphology. Journal of Geophysical Research, 1994, 99, 10305.	3.3	30
81	Evaluation of the SKYHI general circulation model using aircraft N2O measurements: 2. Tracer variability and diabatic meridional circulation. Journal of Geophysical Research, 1994, 99, 10319.	3.3	23
82	Evolution of the 1991â€“1992 Arctic vortex and comparison with the Geophysical Fluid Dynamics Laboratory SKYHI general circulation model. Journal of Geophysical Research, 1994, 99, 20713.	3.3	15
83	Chemical Loss of Ozone in the Arctic Polar Vortex in the Winter of 1991-1992. Science, 1993, 261, 1146-1149.	12.6	131
84	Water vapor and cloud water measurements over Darwin during the STEP 1987 tropical mission. Journal of Geophysical Research, 1993, 98, 8713-8723.	3.3	95
85	Effects of Pinatubo aerosol on stratospheric ozone at midâ€latitudes. Geophysical Research Letters, 1993, 20, 2515-2518.	4.0	9
86	NEw observations of the NO_y/N₂O correlation in the lower stratosphere. Geophysical Research Letters, 1993, 20, 2531-2534.	4.0	47
87	Northern hemisphere nitrous oxide morphology during the 1989 AASE and the 1991â€“1992 AASE II campaigns. Geophysical Research Letters, 1993, 20, 2535-2538.	4.0	11
88	Polar stratospheric cloud processed air and potential voracity in the northern hemisphere lower stratosphere at midâ€latitudes during winter. Journal of Geophysical Research, 1992, 97, 7883-7904.	3.3	100
89	An estimate of the relative magnitude of smallâ€scale tracer fluxes. Geophysical Research Letters, 1992, 19, 1101-1104.	4.0	2
90	A diagnostic for denitrification in the winter polar stratospheres. Nature, 1990, 345, 698-702.	27.8	116

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91	A comparison of ERâ€2 measurements of stratospheric water vapor between the 1987 Antarctic and 1989 Arctic airborne missions. Geophysical Research Letters, 1990, 17, 465-468.	4.0	86
92	Stratospheric constituent trends from ERâ€2 profile data. Geophysical Research Letters, 1990, 17, 469-472.	4.0	59
93	N₂O as a dynamical tracer in the Arctic vortex. Geophysical Research Letters, 1990, 17, 477-480.	4.0	57
94	ATLAS instrument characterization: Accuracy of the AASE and AAOE nitrous oxide data sets. Geophysical Research Letters, 1990, 17, 481-484.	4.0	16
95	Reconstruction of O₃ and N₂O fields from ERâ€2, DCâ€8, and balloon observations. Geophysical Research Letters, 1990, 17, 521-524.	4.0	49
96	Global threeâ€dimensional constituent fields derived from profile data. Geophysical Research Letters, 1990, 17, 525-528.	4.0	28
97	Effects of atmospheric transport on column abundances of nitrogen and chlorine compounds in the Arctic stratosphere. Geophysical Research Letters, 1990, 17, 533-536.	4.0	9
98	Loss of ozone in the Arctic vortex for the winter of 1989. Geophysical Research Letters, 1990, 17, 561-564.	4.0	65
99	Dehydration in the lower Antarctic stratosphere during late winter and early spring, 1987. Journal of Geophysical Research, 1989, 94, 11317-11357.	3.3	191
100	Nitrous oxide as a dynamical tracer in the 1987 Airborne Antarctic Ozone Experiment. Journal of Geophysical Research, 1989, 94, 11589-11598.	3.3	113
101	Potential vorticity and mixing in the south polar vortex during spring. Journal of Geophysical Research, 1989, 94, 11625-11640.	3.3	46
102	Indicators of transport and vertical motion from correlations between in situ measurements in the Airborne Antarctic Ozone Experiment. Journal of Geophysical Research, 1989, 94, 11669-11685.	3.3	42
103	Correlation of N₂O and ozone in the southern polar vortex during the Airborne Antarctic Ozone Experiment. Journal of Geophysical Research, 1989, 94, 16749-16756.	3.3	21
104	Stratospheric nitrous oxide distribution in the southern hemisphere. Journal of Geophysical Research, 1989, 94, 16767-16772.	3.3	49
105	Transport into the south polar vortex in early spring. Journal of Geophysical Research, 1989, 94, 16779-16795.	3.3	83
106	Evidence for diabatic cooling and poleward transport within and around the 1987 Antarctic ozone hole. Journal of Geophysical Research, 1989, 94, 16797-16813.	3.3	65
107	Reconstruction of the constituent distribution and trends in the Antarctic polar vortex from ERâ€2 flight observations. Journal of Geophysical Research, 1989, 94, 16815-16845.	3.3	112
108	Measurement of the rotational spectrum of the water cation (H2O+) by laser magnetic resonance. Journal of Chemical Physics, 1986, 85, 1252-1260.	3.0	53