Susan E Strahan

List of Publications by Citations

117 papers	6,072 citations	41 h-index	76 g-index
138 ext. papers	6,704 ext. citations	6.8 avg, IF	5.02 L-index

#	Paper	IF	Citations
117	Nitrogen and sulfur deposition on regional and global scales: A multimodel evaluation. *Global Biogeochemical Cycles*, **2006**, 20, n/a-n/a	5.9	731
116	Multimodel ensemble simulations of present-day and near-future tropospheric ozone. *Journal of Geophysical Research*, **2006**, 111,		625
115	The global atmospheric environment for the next generation. *Environmental Science & Technology*, **2006**, 40, 3586-94	10.3	298
114	Multimodel simulations of carbon monoxide: Comparison with observations and projected near-future changes. *Journal of Geophysical Research*, **2006**, 111,		220
113	Dehydration in the lower Antarctic stratosphere during late winter and early spring, 1987. *Journal of Geophysical Research*, **1989**, 94, 11317		179
112	Mean ages of stratospheric air derived from in situ observations of CO2, CH4, and N2O. *Journal of Geophysical Research*, **2001**, 106, 32295-32314		158
111	Model study of the cross-tropopause transport of biomass burning pollution. *Atmospheric Chemistry and Physics*, **2007**, 7, 3713-3736	6.8	145
110	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	6.8	139
109	Multi-model ensemble simulations of tropospheric NO₂ compared with GOME retrievals for the year 2000. *Atmospheric Chemistry and Physics*, **2006**, 6, 2943-2979	6.8	118
108	Chemical loss of ozone in the arctic polar vortex in the winter of 1991-1992. *Science*, **1993**, 261, 1146-9	33.3	114
107	A diagnostic for denitrification in the winter polar stratospheres. *Nature*, **1990**, 345, 698-702	50.4	113
106	Nitrous oxide as a dynamical tracer in the 1987 Airborne Antarctic Ozone Experiment. *Journal of Geophysical Research*, **1989**, 94, 11589		106
105	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	6.8	104
104	The Network for the Detection of Atmospheric Composition Change (NDACC): history, status and perspectives. *Atmospheric Chemistry and Physics*, **2018**, 18, 4935-4964	6.8	98
103	Reconstruction of the constituent distribution and trends in the Antarctic polar vortex from ER-2 flight observations. *Journal of Geophysical Research*, **1989**, 94, 16815		98
102	Polar stratospheric cloud processed air and potential voracity in the northern hemisphere lower stratosphere at mid-latitudes during winter. *Journal of Geophysical Research*, **1992**, 97, 7883		91
101	Measuring and modeling the lifetime of nitrous oxide including its variability. *Journal of Geophysical Research D: Atmospheres*, **2015**, 120, 5693-5705	4.4	90

100	Water vapor and cloud water measurements over Darwin during the STEP 1987 tropical mission. *Journal of Geophysical Research*, **1993**, 98, 8713-8723		85
99	A trajectory-based estimate of the tropospheric ozone column using the residual method. *Journal of Geophysical Research*, **2007**, 112,		83
98	A comparison of ER-2 measurements of stratospheric water vapor between the 1987 Antarctic and 1989 Arctic airborne missions. *Geophysical Research Letters*, **1990**, 17, 465-468	4.9	80
97	Transport into the south polar vortex in early spring. *Journal of Geophysical Research*, **1989**, 94, 16779		77
96	Trends and variability in surface ozone over the United States. *Journal of Geophysical Research D: Atmospheres*, **2015**, 120, 9020-9042	4.4	74
95	Sensitivity of aerosol optical thickness and aerosol direct radiative effect to relative humidity. *Atmospheric Chemistry and Physics*, **2009**, 9, 2375-2386	6.8	74
94	Comparison of lower stratospheric tropical mean vertical velocities. *Journal of Geophysical Research* , **2008**, 113,		71
93	Uncertainties in global aerosol simulations: Assessment using three meteorological data sets. *Journal of Geophysical Research*, **2007**, 112,		70
92	Using transport diagnostics to understand chemistry climate model ozone simulations. *Journal of Geophysical Research*, **2011**, 116,		64
91	Choosing meteorological input for the global modeling initiative assessment of high-speed aircraft. *Journal of Geophysical Research*, **1999**, 104, 27545-27564		63
90	Evidence for diabatic cooling and poleward transport within and around the 1987 Antarctic ozone hole. *Journal of Geophysical Research*, **1989**, 94, 16797		60
89	Loss of ozone in the Arctic vortex for the winter of 1989. *Geophysical Research Letters*, **1990**, 17, 561-564	4.9	60
88	Decline in Antarctic Ozone Depletion and Lower Stratospheric Chlorine Determined From Aura Microwave Limb Sounder Observations. *Geophysical Research Letters*, **2018**, 45, 382-390	4.9	59
87	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	4.4	55
86	Stratospheric constituent trends from ER-2 profile data. *Geophysical Research Letters*, **1990**, 17, 469-472	4.9	55
85	Empirical age spectra for the midlatitude lower stratosphere from in situ observations of CO2: Quantitative evidence for a subtropical barrier to horizontal transport. *Journal of Geophysical Research*, **2001**, 106, 10257-10274		54
84	N2O as a dynamical tracer in the Arctic vortex. *Geophysical Research Letters*, **1990**, 17, 477-480	4.9	54
83	Measurement of the rotational spectrum of the water cation (H2O+) by laser magnetic resonance. *Journal of Chemical Physics*, **1986**, 85, 1252-1260	3.9	53

82	Quantifying errors in trace species transport modeling. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 19617-21	11.5	52
81	Radicals and reservoirs in the GMI chemistry and transport model: Comparison to measurements. *Journal of Geophysical Research*, **2004**, 109,		50
80	Stratospheric nitrous oxide distribution in the southern hemisphere. *Journal of Geophysical Research*, **1989**, 94, 16767		47
79	Potential vorticity and mixing in the south polar vortex during spring. *Journal of Geophysical Research*, **1989**, 94, 11625		45
78	NEw observations of the NOy/N2O correlation in the lower stratosphere. *Geophysical Research Letters*, **1993**, 20, 2531-2534	4.9	43
77	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		42
76	Reconstruction of O3 and N2O fields from ER-2, DC-8, and balloon observations. *Geophysical Research Letters*, **1990**, 17, 521-524	4.9	41
75	Multimodel estimates of atmospheric lifetimes of long-lived ozone-depleting substances: Present and future. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 2555-2573	4.4	40
74	Global ozone and air quality: a multi-model assessment of risks to human health and crops		40
73	Large-Scale Atmospheric Transport in GEOS Replay Simulations. *Journal of Advances in Modeling Earth Systems*, **2017**, 9, 2545-2560	7.1	39
72	The global structure of upper troposphere-lower stratosphere ozone in GEOS-5: A multiyear assimilation of EOS Aura data. *Journal of Geophysical Research D: Atmospheres*, **2015**, 120, 2013-2036	4.4	39
71	The CO2 seasonal cycle as a tracer of transport. *Journal of Geophysical Research*, **1998**, 103, 13729-13741		39
70	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	4.4	34
69	Tropospheric ozone variability in the tropics from ENSO to MJO and shorter timescales. *Atmospheric Chemistry and Physics*, **2015**, 15, 8037-8049	6.8	33
68	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	7.1	32
67	Meteorological implementation issues in chemistry and transport models. *Atmospheric Chemistry and Physics*, **2006**, 6, 2895-2910	6.8	31
66	Tropospheric SF6: Age of air from the Northern Hemisphere midlatitude surface. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 11,429-11,441	4.4	30
65	Response of trace gases to the disrupted 2015–2016 quasi-biennial oscillation. *Atmospheric Chemistry and Physics*, **2017**, 17, 6813-6823	6.8	29

64	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		29
63	Modulation of Antarctic vortex composition by the quasi-biennial oscillation. *Geophysical Research Letters*, **2015**, 42, 4216-4223	4.9	27
62	Seasonal variations of stratospheric age spectra in the Goddard Earth Observing System Chemistry Climate Model (GEOSCCM). *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		26
61	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,		25
60	Climatology and small-scale structure of lower stratospheric N2O based on in situ observations. *Journal of Geophysical Research*, **1999**, 104, 2195-2208		25
59	Global three-dimensional constituent fields derived from profile data. *Geophysical Research Letters*, **1990**, 17, 525-528	4.9	25
58	Large-scale tropospheric transport in the Chemistry□Climate Model Initiative (CCMI) simulations. *Atmospheric Chemistry and Physics*, **2018**, 18, 7217-7235	6.8	25
57	Using beryllium-7 to assess cross-tropopause transport in global models. *Atmospheric Chemistry and Physics*, **2016**, 16, 4641-4659	6.8	24
56	Interpreting space-based trends in carbon monoxide with multiple models. *Atmospheric Chemistry and Physics*, **2016**, 16, 7285-7294	6.8	24
55	Chemical and Dynamical Impacts of Stratospheric Sudden Warmings on Arctic Ozone Variability. *Journal of Geophysical Research D: Atmospheres*, **2016**, 121, 11836-11851	4.4	24
54	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		22
53	Correlation of N2O and ozone in the southern polar vortex during the Airborne Antarctic Ozone Experiment. *Journal of Geophysical Research*, **1989**, 94, 16749		21
52	Long-term changes in stratospheric age spectra in the 21st century in the Goddard Earth Observing System Chemistry-Climate Model (GEOSCCM). *Journal of Geophysical Research*, **2012**, 117,		20
51	Sensitivity of stratospheric inorganic chlorine to differences in transport. *Atmospheric Chemistry and Physics*, **2007**, 7, 4935-4941	6.8	20
50	Climatologies of lower stratospheric NO y and O3 and correlations with N2O based on in situ observations. *Journal of Geophysical Research*, **1999**, 104, 30463-30480		20
49	Long-lived tracer transport in the Antarctic stratosphere. *Journal of Geophysical Research*, **1996**, 101, 26615-26629		19
48	COVID-19 Crisis Reduces Free Tropospheric Ozone Across the Northern Hemisphere. *Geophysical Research Letters*, **2021**, 48, e2020GL091987	4.9	19
47	Understanding differences in chemistry climate model projections of stratospheric ozone. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 4922-4939	4.4	18

46	Inorganic chlorine variability in the Antarctic vortex and implications for ozone recovery. *Journal of Geophysical Research D: Atmospheres*, **2014**, 119, 14,098-14,109	4.4	18
45	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	4.4	17
44	Modeling the Frozen-In Anticyclone in the 2005 Arctic Summer Stratosphere. *Atmospheric Chemistry and Physics*, **2011**, 11, 4557-4576	6.8	16
43	Understanding differences in upper stratospheric ozone response to changes in chlorine and temperature as computed using CCMVal-2 models. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		15
42	ATLAS instrument characterization: Accuracy of the AASE and AAOE nitrous oxide data sets. *Geophysical Research Letters*, **1990**, 17, 481-484	4.9	15
41	The impact of tropical recirculation on polar composition. *Atmospheric Chemistry and Physics*, **2009**, 9, 2471-2480	6.8	14
40	Evolution of the 1991–1992 Arctic vortex and comparison with the Geophysical Fluid Dynamics Laboratory SKYHI general circulation model. *Journal of Geophysical Research*, **1994**, 99, 20713		14
39	Disentangling the Drivers of the Summertime Ozone-Temperature Relationship Over the United States. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 10503-10524	4.4	13
38	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	12
37	Concerns for ozone recovery. *Science*, **2017**, 358, 1257-1258	33.3	12
36	The spring 2011 final stratospheric warming above Eureka: anomalous dynamics and chemistry. *Atmospheric Chemistry and Physics*, **2013**, 13, 611-624	6.8	12
35	A machine learning examination of hydroxyl radical differences among model simulations for CCMI-1. *Atmospheric Chemistry and Physics*, **2020**, 20, 1341-1361	6.8	11
34	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,	4.9	11
33	Validation of SAGE III/ISS Solar Occultation Ozone Products With Correlative Satellite and Ground-Based Measurements. *Journal of Geophysical Research D: Atmospheres*, **2020**, 125, e2020JD032430	4.4	9
32	Global O-CO Correlations in a Chemistry and Transport Model During July-August: Evaluation with TES Satellite Observations and Sensitivity to Input Meteorological Data and Emissions. *Atmospheric Chemistry and Physics*, **2017**, 17, 8429-8452	6.8	9
31	Effects of Pinatubo aerosol on stratospheric ozone at mid-latitudes. *Geophysical Research Letters*, **1993**, 20, 2515-2518	4.9	9
30	Northern hemisphere nitrous oxide morphology during the 1989 AASE and the 1991–1992 AASE II campaigns. *Geophysical Research Letters*, **1993**, 20, 2535-2538	4.9	9
29	Effects of atmospheric transport on column abundances of nitrogen and chlorine compounds in the Arctic stratosphere. *Geophysical Research Letters*, **1990**, 17, 533-536	4.9	9

28	Observed Hemispheric Asymmetry in Stratospheric Transport Trends From 1994 to 2018. *Geophysical Research Letters*, **2020**, 47, e2020GL088567	4.9	9
27	The Effects of a 1998 Observing System Change on MERRA-2-Based Ozone Profile Simulations. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 7429	4.4	8
26	Multi-decadal records of stratospheric composition and their relationship to stratospheric circulation change. *Atmospheric Chemistry and Physics*, **2017**, 17, 12081-12096	6.8	8
25	Sensitivity of Global Modeling Initiative model predictions of Antarctic ozone recovery to input meteorological fields. *Journal of Geophysical Research*, **2004**, 109,		8
24	Large-scale transport into the Arctic: the roles of the midlatitude jet and the Hadley Cell. *Atmospheric Chemistry and Physics*, **2019**, 19, 5511-5528	6.8	7
23	Why Do Antarctic Ozone Recovery Trends Vary?. *Journal of Geophysical Research D: Atmospheres*, **2019**, 124, 8837-8850	4.4	7
22	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		7
21	Using satellite measurements of N₂O to remove dynamical variability from HCl measurements. *Atmospheric Chemistry and Physics*, **2018**, 18, 5691-5697	6.8	7
20	On the stratospheric chemistry of midlatitude wildfire smoke.. *Proceedings of the National Academy of Sciences of the United States of America*, **2022**, 119, e2117325119	11.5	7
19	A Cloud-Ozone Data Product from Aura OMI and MLS Satellite Measurements. *Atmospheric Measurement Techniques*, **2017**, 10, 4067-4078	4	5
18	How Atmospheric Chemistry and Transport Drive Surface Variability of N2O and CFC-11. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2020JD033979	4.4	5
17	The large-scale frozen-in anticyclone in the 2011 Arctic summer stratosphere. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 2656-2672	4.4	4
16	Observationally derived transport diagnostics for the lowermost stratosphere and their application to the GMI chemistry and transport model		4
15	Surface Ozone-Meteorology Relationships: Spatial Variations and the Role of the Jet Stream. *Journal of Geophysical Research D: Atmospheres*, **2020**, 125, e2020JD032735	4.4	3
14	The Network for the Detection of Atmospheric Composition Change (NDACC): History, status and perspectives **2017**,		3
13	Stratospheric Fluorine as a Tracer of Circulation Changes: Comparison Between Infrared Remote-Sensing Observations and Simulations With Five Modern Reanalyses. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2021JD034995	4.4	3
12	Large-Scale Tropospheric Transport in the Chemistry Climate Model Initiative (CCMI) Simulations **2017**,		2
11	Using beryllium-7 to assess cross-tropopause transport in global models		2

10	Model study of the cross-tropopause transport of biomass burning pollution		2
9	Seasonal Variation of the Quasi-Biennial Oscillation Descent. *Journal of Geophysical Research D: Atmospheres*, **2020**, 125, e2020JD033077	4.4	2
8	An estimate of the relative magnitude of small-scale tracer fluxes. *Geophysical Research Letters*, **1992**, 19, 1101-1104	4.9	1
7	Transport and modeling of stratospheric inorganic chlorine		1
6	Sensitivity of aerosol optical thickness and aerosol direct radiative effect to relative humidity		1
5	Large-scale transport into the Arctic: the roles of the midlatitude jet and the Hadley Cell **2018**,		1
4	Surface ozone-meteorology relationships: Spatial variations and the role of the jet stream		1
3	Optimized Umkehr profile algorithm for ozone trend analyses. *Atmospheric Measurement Techniques*, **2022**, 15, 1849-1870	4	1
2	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*, **2021**, 73, 1-18	3.3	0
1	Tropospheric Age-of-Air: Influence of SF6 Emissions on Recent Surface Trends and Model Biases. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2021JD035451	4.4	0