Paul Steele

List of Publications by Citations

114 papers	11,729 citations	47 h-index	108 g-index
123 ext. papers	12,798 ext. citations	8.4 avg, IF	5.13 L-index

#	Paper	IF	Citations
114	Contribution of anthropogenic and natural sources to atmospheric methane variability. *Nature*, **2006**, 443, 439-43	50.4	762
113	Natural and anthropogenic changes in atmospheric CO2 over the last 1000 years from air in Antarctic ice and firn. *Journal of Geophysical Research*, **1996**, 101, 4115-4128		758
112	Three-dimensional model synthesis of the global methane cycle. *Journal of Geophysical Research*, **1991**, 96, 13033		716
111	Weak northern and strong tropical land carbon uptake from vertical profiles of atmospheric CO2. *Science*, **2007**, 316, 1732-5	33.3	663
110	The global methane budget 2000–2012. *Earth System Science Data*, **2016**, 8, 697-751	10.5	641
109	A history of chemically and radiatively important gases in air deduced from ALE/GAGE/AGAGE. *Journal of Geophysical Research*, **2000**, 105, 17751-17792		563
108	The growth rate and distribution of atmospheric methane. *Journal of Geophysical Research*, **1994**, 99, 17021		407
107	. *Tellus, Series B: Chemical and Physical Meteorology*, **1999**, 51, 170-193	3.3	388
106	Renewed growth of atmospheric methane. *Geophysical Research Letters*, **2008**, 35,	4.9	371
105	Atmospheric methane between 1000 A.D. and present: Evidence of anthropogenic emissions and climatic variability. *Journal of Geophysical Research*, **1998**, 103, 15979-15993		364
104	A 1000-year high precision record of δ13C in atmospheric CO2. *Tellus, Series B: Chemical and Physical Meteorology*, **1999**, 51, 170-193	3.3	350
103	Conversion of NOAA atmospheric dry air CH4 mole fractions to a gravimetrically prepared standard scale. *Journal of Geophysical Research*, **2005**, 110,		282
102	Slowing down of the global accumulation of atmospheric methane during the 1980s. *Nature*, **1992**, 358, 313-316	50.4	271
101	The global distribution of methane in the troposphere. *Journal of Atmospheric Chemistry*, **1987**, 5, 125-171	3.12	265
100	Observations and modelling of the global distribution and long-term trend of atmospheric 14CO2. *Tellus, Series B: Chemical and Physical Meteorology*, **2010**, 62, 26-46	3.3	243
99	Source attribution of the changes in atmospheric methane for 2006–2008. *Atmospheric Chemistry and Physics*, **2011**, 11, 3689-3700	6.8	224
98	CO2 surface fluxes at grid point scale estimated from a global 21 year reanalysis of atmospheric measurements. *Journal of Geophysical Research*, **2010**, 115,		224

97	Interannual growth rate variations of atmospheric CO2 and its δ13C, H2, CH4, and CO between 1992 and 1999 linked to biomass burning. *Global Biogeochemical Cycles*, **2002**, 16, 21-1-21-22	5.9	221
96	Carbon isotopic composition of atmospheric CH4: Fossil and biomass burning source strengths. *Global Biogeochemical Cycles*, **1991**, 5, 25-47	5.9	200
95	A dramatic decrease in the growth rate of atmospheric methane in the northern hemisphere during 1992. *Geophysical Research Letters*, **1994**, 21, 45-48	4.9	177
94	Trends and seasonal cycles in the isotopic composition of nitrous oxide since 1940. *Nature Geoscience*, **2012**, 5, 261-265	18.3	174
93	Airborne gas chromatograph for in situ measurements of long-lived species in the upper troposphere and lower stratosphere. *Geophysical Research Letters*, **1996**, 23, 347-350	4.9	142
92	A revised 1000 year atmospheric δ13C-CO2 record from Law Dome and South Pole, Antarctica. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 8482-8499	4.4	135
91	Precision trace gas analysis by FT-IR spectroscopy. 1. Simultaneous analysis of CO2, CH4, N2O, and CO in air. *Analytical Chemistry*, **2000**, 72, 206-15	7.8	128
90	Distribution of halon-1211 in the upper troposphere and lower stratosphere and the 1994 total bromine budget. *Journal of Geophysical Research*, **1998**, 103, 1513-1526		122
89	In situ measurements of atmospheric methane at GAGE/AGAGE sites during 1985–2000 and resulting source inferences. *Journal of Geophysical Research*, **2002**, 107, ACH 20-1		116
88	History of atmospheric SF₆ from 1973 to 2008. *Atmospheric Chemistry and Physics*, **2010**, 10, 10305-10320	6.8	111
87	Modeling air movement and bubble trapping in firn. *Journal of Geophysical Research*, **1997**, 102, 6747-6763		109
86	Gas transport in firn: multiple-tracer characterisation and model intercomparison for NEEM, Northern Greenland. *Atmospheric Chemistry and Physics*, **2012**, 12, 4259-4277	6.8	108
85	Perfluorocarbons in the global atmosphere: tetrafluoromethane, hexafluoroethane, and octafluoropropane. *Atmospheric Chemistry and Physics*, **2010**, 10, 5145-5164	6.8	106
84	The global SF₆ source inferred from long-term high precision atmospheric measurements and its comparison with emission inventories. *Atmospheric Chemistry and Physics*, **2010**, 10, 2655-2662	6.8	103
83	Observational evidence for interhemispheric hydroxyl-radical parity. *Nature*, **2014**, 513, 219-23	50.4	100
82	Variations in global methane sources and sinks during 1910–2010. *Atmospheric Chemistry and Physics*, **2015**, 15, 2595-2612	6.8	91
81	Characterization of uncertainties in atmospheric trace gas inversions using hierarchical Bayesian methods. *Atmospheric Chemistry and Physics*, **2014**, 14, 3855-3864	6.8	89
80	Re-evaluation of the lifetimes of the major CFCs and CH₃CCl₃ using atmospheric trends. *Atmospheric Chemistry and Physics*, **2013**, 13, 2691-2702	6.8	85

79	Recent and future trends in synthetic greenhouse gas radiative forcing. *Geophysical Research Letters*, **2014**, 41, 2623-2630	4.9	82
78	Precision trace gas analysis by FT-IR spectroscopy. 2. The 13C/12C isotope ratio of CO2. *Analytical Chemistry*, **2000**, 72, 216-21	7.8	82
77	NOAA/CSIRO Flask Air Intercomparison Experiment: A strategy for directly assessing consistency among atmospheric measurements made by independent laboratories. *Journal of Geophysical Research*, **2001**, 106, 20445-20464		80
76	Estimating regional methane surface fluxes: the relative importance of surface and GOSAT mole fraction measurements. *Atmospheric Chemistry and Physics*, **2013**, 13, 5697-5713	6.8	77
75	Global and regional emissions estimates for N₂O. *Atmospheric Chemistry and Physics*, **2014**, 14, 4617-4641	6.8	76
74	Using high temporal frequency data for CO2 inversions. *Global Biogeochemical Cycles*, **2002**, 16, 1-1-1-18	5.9	72
73	On the consistency between global and regional methane emissions inferred from SCIAMACHY, TANSO-FTS, IASI and surface measurements. *Atmospheric Chemistry and Physics*, **2014**, 14, 577-592	6.8	70
72	An internally consistent set of globally distributed atmospheric carbon monoxide mixing ratios developed using results from an intercomparison of measurements. *Journal of Geophysical Research*, **1998**, 103, 19285-19293		67
71	Growth Rate, Seasonal, Synoptic, Diurnal Variations and Budget of Methane in the Lower Atmosphere. *Journal of the Meteorological Society of Japan*, **2009**, 87, 635-663	2.8	65
70	HFC-23 (CHF₃) emission trend response to HCFC-22 (CHClF₂) production and recent HFC-23 emission abatement measures. *Atmospheric Chemistry and Physics*, **2010**, 10, 7875-7890	6.8	62
69	A history of δ13C in atmospheric CH4 from the Cape Grim Air Archive and Antarctic firn air. *Journal of Geophysical Research*, **1999**, 104, 23631-23643		53
68	Nitrous oxide emissions 1999 to 2009 from a global atmospheric inversion. *Atmospheric Chemistry and Physics*, **2014**, 14, 1801-1817	6.8	48
67	Continuous high-frequency observations of hydrogen at the Mace Head baseline atmospheric monitoring station over the 1994–1998 period. *Journal of Geophysical Research*, **2000**, 105, 12105-12121		47
66	Exploring causes of interannual variability in the seasonal cycles of tropospheric nitrous oxide. *Atmospheric Chemistry and Physics*, **2011**, 11, 3713-3730	6.8	46
65	Partitioning of the global fossil CO2 sink using a 19-year trend in atmospheric O2. *Geophysical Research Letters*, **1999**, 26, 1897-1900	4.9	44
64	Carbon dioxide and methane in the Arctic atmosphere. *Journal of Atmospheric Chemistry*, **1989**, 9, 81-99	3.2	43
63	Optimal estimation of the soil uptake rate of molecular hydrogen from the Advanced Global Atmospheric Gases Experiment and other measurements. *Journal of Geophysical Research*, **2007**, 112,		42
62	Tropospheric methane in the mid-latitudes of the Southern Hemisphere. *Journal of Atmospheric Chemistry*, **1984**, 1, 125-135	3.2	41

61	TransCom N₂O model inter-comparison Part 2: Atmospheric inversion estimates of N₂O emissions. *Atmospheric Chemistry and Physics*, **2014**, 14, 6177-6194	6.8	37
60	Nitrogen trifluoride global emissions estimated from updated atmospheric measurements. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 2029-34	11.5	37
59	Atmospheric CO2 inversion validation using vertical profile measurements: Analysis of four independent inversion models. *Journal of Geophysical Research*, **2011**, 116,		37
58	Global and regional emissions of HFC-125 (CHF2CF3) from in situ and air archive atmospheric observations at AGAGE and SOGE observatories. *Journal of Geophysical Research*, **2009**, 114,		37
57	Results from the International Halocarbons in Air Comparison Experiment (IHALACE). *Atmospheric Measurement Techniques*, **2014**, 7, 469-490	4	32
56	Global and regional emission estimates for HCFC-22. *Atmospheric Chemistry and Physics*, **2012**, 12, 10033-10050	6.8	32
55	Low atmospheric CO2 levels during the Little Ice Age due to cooling-induced terrestrial uptake. *Nature Geoscience*, **2016**, 9, 691-694	18.3	31
54	Global emissions of HFC-143a (CH₃CF₃) and HFC-32 (CH₂F₂) from in situ and air archive atmospheric observations. *Atmospheric Chemistry and Physics*, **2014**, 14, 9249-9258	6.8	31
53	Changing trends and emissions of hydrochlorofluorocarbons (HCFCs) and their hydrofluorocarbon (HFCs) replacements. *Atmospheric Chemistry and Physics*, **2017**, 17, 4641-4655	6.8	31
52	TransCom N₂O model inter-comparison Part 1: Assessing the influence of transport and surface fluxes on tropospheric N₂O variability. *Atmospheric Chemistry and Physics*, **2014**, 14, 4349-4368	6.8	28
51	Atmospheric three-dimensional inverse modeling of regional industrial emissions and global oceanic uptake of carbon tetrachloride. *Atmospheric Chemistry and Physics*, **2010**, 10, 10421-10434	6.8	28
50	Modification of air standard composition by diffusive and surface processes. *Journal of Geophysical Research*, **2005**, 110,		27
49	High Precision Long-Term Monitoring of Radiatively Active and Related Trace Gases at Surface Sites and from Aircraft in the Southern Hemisphere Atmosphere. *Journals of the Atmospheric Sciences*, **1999**, 56, 279-285	2.1	27
48	Data and modelling requirements for CO2 inversions using high-frequency data. *Tellus, Series B: Chemical and Physical Meteorology*, **2003**, 55, 512-521	3.3	25
47	Measurements of biomass burning influences in the troposphere over southeast Australia during the SAFARI 2000 dry season campaign. *Journal of Geophysical Research*, **2003**, 108, n/a-n/a		25
46	Global and regional emissions estimates of 1,1-difluoroethane (HFC-152a, CH₃CHF₂) from in situ and air archive observations. *Atmospheric Chemistry and Physics*, **2016**, 16, 365-382	6.8	24
45	A 60 yr record of atmospheric carbon monoxide reconstructed from Greenland firn air. *Atmospheric Chemistry and Physics*, **2013**, 13, 7567-7585	6.8	24
44	Global modelling of H₂ mixing ratios and isotopic compositions with the TM5 model. *Atmospheric Chemistry and Physics*, **2011**, 11, 7001-7026	6.8	22

43	A determination of the CH4, NO x and CO2 emissions from the Prudhoe Bay, Alaska oil development. *Journal of Atmospheric Chemistry*, **1995**, 20, 213-227	3.2	22
42	Ground-based infrared solar spectroscopic measurements of carbon monoxide during 1994 Measurement of Air Pollution From Space flights. *Journal of Geophysical Research*, **1998**, 103, 19317-19325		19
41	Biomass burning emissions of trace gases and particles in marine air at Cape Grim, Tasmania. *Atmospheric Chemistry and Physics*, **2015**, 15, 13393-13411	6.8	18
40	Reassessing the variability in atmospheric H2 using the two-way nested TM5 model. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 3764-3780	4.4	18
39	Atmospheric histories and growth trends of C₄F₁₀, C₅F₁₂, C₆F₁₄, C₇F₁₆ and	6.8	17
38	Long-term air quality monitoring at the South Pole by the NOAA Program Geophysical Monitoring for Climatic Change. *Reviews of Geophysics*, **1988**, 26, 63	23.1	15
37	Precursors to Particles (P2P) at Cape Grim 2006: campaign overview. *Environmental Chemistry*, **2007**, 4, 143	3.2	15
36	Seasonal changes in the tropospheric carbon monoxide profile over the remote Southern Hemisphere evaluated using multi-model simulations and aircraft observations. *Atmospheric Chemistry and Physics*, **2015**, 15, 3217-3239	6.8	14
35	Gas transport in firn: multiple-tracer characterisation and model intercomparison for NEEM, Northern Greenland		14
34	PFC and Carbon Dioxide Emissions from an Australian Aluminium Smelter Using Time-Integrated Stack Sampling and GC-MS, GC-FID Analysis871-876		14
33	Simulation of atmospheric N₂O with GEOS-Chem and its adjoint: evaluation of observational constraints. *Geoscientific Model Development*, **2015**, 8, 3179-3198	6.3	13
32	Increase in HFC-134a emissions in response to the success of the Montreal Protocol. *Journal of Geophysical Research D: Atmospheres*, **2015**, 120, 11,728-11,742	4.4	12
31	Interannual variability in tropospheric nitrous oxide. *Geophysical Research Letters*, **2013**, 40, 4426-4431	4.9	10
30	Correction to A dramatic decrease in the growth rate of atmospheric methane in the northern hemisphere during 1992 by E. J. Dlugokencky, K. A. Masarie, P. M. Lang, P. P. Tans, L. P. Steele, and E. G. Nisbet. *Geophysical Research Letters*, **1994**, 21, 507-507	4.9	9
29	Reply to Comments on A dramatic decrease in the growth rate of atmospheric methane in the northern hemisphere during 1992' *Geophysical Research Letters*, **1994**, 21, 2447-2448	4.9	8
28	Global and regional emissions estimates for N₂O		8
27	Simulations of atmospheric methane for Cape Grim, Tasmania, to constrain southeastern Australian methane emissions. *Atmospheric Chemistry and Physics*, **2015**, 15, 305-317	6.8	5
26	Global modelling of H₂ mixing ratios and isotopic compositions with the TM5 model		5

25	Corrigendum to "Global and regional emission estimates for HCFC-22", Atmos. Chem. Phys., 12, 10033–10050, 2012. *Atmospheric Chemistry and Physics*, **2014**, 14, 4857-4858	6.8	4
24	Results from the International Halocarbons in Air Comparison Experiment (IHALACE) **2013**,		4
23	Global emissions of HFC-143a (CH₃CF₃) and HFC-32 (CH₂F₂) from in situ and air archive atmospheric observations		4
22	Unexpected nascent atmospheric emissions of three ozone-depleting hydrochlorofluorocarbons. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	4
21	Perfluorocarbons in the global atmosphere: tetrafluoromethane, hexafluoroethane, and octafluoropropane		3
20	Global and regional emissions estimates for HCFC-22		3
19	Nitrous oxide emissions 1999–2009 from a global atmospheric inversion		3
18	Growing Atmospheric Emissions of Sulfuryl Fluoride. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2020JD034327	4.4	3
17	Corrigendum to ‘‘Gas transport in firn: multiple-tracer characterisation and model intercomparison for NEEM, Northern Greenland’’ published in Atmos. Chem. Phys., 12, 4259–4277, 2012. *Atmospheric Chemistry and Physics*, **2014**, 14, 3571-3572	6.8	2
16	Atmospheric three-dimensional inverse modeling of regional industrial emissions and global oceanic uptake of carbon tetrachloride		2
15	Re-evaluation of the lifetimes of the major CFCs and CH₃CCl₃ using atmospheric trends		2
14	TransCom N₂O model inter-comparison, Part II: Atmospheric inversion estimates of N₂O emissions		2
13	PFC and Carbon Dioxide Emissions from an Australian Aluminium Smelter Using Time-Integrated Stack Sampling and GC-MS, GC-FID Analysis. *Minerals, Metals and Materials Series*, **2003**, 871-876	0.3	2
12	The Global Distribution of Methane in the Troposphere **1987**, 417-463		2
11	Seasonal changes in the tropospheric carbon monoxide profile over the remote Southern Hemisphere evaluated using multi-model simulations and aircraft observations		2
10	A 60-yr record of atmospheric carbon monoxide reconstructed from Greenland firn air		2
9	Recent increases in the atmospheric growth rate and emissions of HFC-23 (CHF₃) and the link to HCFC-22 (CHClF₂) production **2017**,		1
8	Data and modelling requirements for CO2 inversions using high-frequency data. *Tellus, Series B: Chemical and Physical Meteorology*, **2003**, 55, 512-521	3.3	1

7	Source attribution of the changes in atmospheric methane for 2006–2008	1
6	Estimating regional methane surface fluxes: the relative importance of surface and GOSAT mole fraction measurements	1
5	Atmospheric histories and growth trends of C₄F₁₀, C₅F₁₂, C₆F₁₄, C₇F₁₆ and C₈F₁₈	1
4	Variations in global methane sources and sinks during 1910–2010	1
3	Biomass burning emissions of trace gases and particles in marine air at Cape Grim, Tasmania, 41°S	1
2	TransCom N₂O model inter-comparison – Part 1: Assessing the influence of transport and surface fluxes on tropospheric N₂O variability	1
1	Corrigendum to "Source attribution of the changes in atmospheric methane for 2006–2008" published in Atmos. Chem. Phys., 11, 3689–3700, 2011. *Atmospheric Chemistry and Physics*, **2012**, 12, 9381-9382	6.8