

Steven C Wofsy

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106
papers

12,387
citations

54
h-index

111
g-index

111
ext. papers

13,899
ext. citations

10.3
avg, IF

5.66
L-index

#	Paper	IF	Citations
106	Measurements of carbon sequestration by long-term eddy covariance: methods and a critical evaluation of accuracy. <i>Global Change Biology</i> , 1996 , 2, 169-182	11.4	1124
105	Net Exchange of CO ₂ in a Mid-Latitude Forest. <i>Science</i> , 1993 , 260, 1314-7	33.3	765
104	Sensitivity of boreal forest carbon balance to soil thaw. <i>Science</i> , 1998 , 279, 214-7	33.3	651
103	Exchange of Carbon Dioxide by a Deciduous Forest: Response to Interannual Climate Variability. <i>Science</i> , 1996 , 271, 1576-1578	33.3	595
102	Factors controlling long- and short-term sequestration of atmospheric CO ₂ in a mid-latitude forest. <i>Science</i> , 2001 , 294, 1688-91	33.3	472
101	Modelling the soil-plant-atmosphere continuum in a Quercus/Acer stand at Harvard Forest: the regulation of stomatal conductance by light, nitrogen and soil/plant hydraulic properties. <i>Plant, Cell and Environment</i> , 1996 , 19, 911-927	8.4	442
100	Mechanistic scaling of ecosystem function and dynamics in space and time: Ecosystem Demography model version 2. <i>Journal of Geophysical Research</i> , 2009 , 114,		336
99	Assessment of methane emissions from the U.S. oil and gas supply chain. <i>Science</i> , 2018 , 361, 186-188	33.3	334
98	A near-field tool for simulating the upstream influence of atmospheric observations: The Stochastic Time-Inverted Lagrangian Transport (STILT) model. <i>Journal of Geophysical Research</i> , 2003 , 108, ACH 2-1-ACH 2-17		310
97	HIAPER Pole-to-Pole Observations (HIPPO): fine-grained, global-scale measurements of climatically important atmospheric gases and aerosols. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2011 , 369, 2073-86	3	300
96	The terrestrial biosphere as a net source of greenhouse gases to the atmosphere. <i>Nature</i> , 2016 , 531, 225-8	50.4	278
95	Precision requirements for space-based data. <i>Journal of Geophysical Research</i> , 2007 , 112,		269
94	Site-level evaluation of satellite-based global terrestrial gross primary production and net primary production monitoring. <i>Global Change Biology</i> , 2005 , 11, 666-684	11.4	264
93	A cross-biome comparison of daily light use efficiency for gross primary production. <i>Global Change Biology</i> , 2003 , 9, 383-395	11.4	258
92	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. <i>Scientific Data</i> , 2020 , 7, 225	8.2	256
91	Cold season emissions dominate the Arctic tundra methane budget. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 40-5	11.5	217
90	On the use of MODIS EVI to assess gross primary productivity of North American ecosystems. <i>Journal of Geophysical Research</i> , 2006 , 111,		215

89	Stratospheric Mean Ages and Transport Rates from Observations of Carbon Dioxide and Nitrous Oxide. <i>Science</i> , 1996 , 274, 1340-3	33.3	198
88	Atmospheric CH ₄ in the first decade of the 21st century: Inverse modeling analysis using SCIAMACHY satellite retrievals and NOAA surface measurements. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 7350-7369	4.4	191
87	How climate and vegetation type influence evapotranspiration and water use efficiency in Canadian forest, peatland and grassland ecosystems. <i>Agricultural and Forest Meteorology</i> , 2012 , 153, 14-30	5.8	177
86	Comparison of carbon dioxide fluxes over three boreal black spruce forests in Canada. <i>Global Change Biology</i> , 2007 , 13, 89-107	11.4	177
85	Methane emissions from natural gas infrastructure and use in the urban region of Boston, Massachusetts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 1941-6	11.5	173
84	A satellite-based biosphere parameterization for net ecosystem CO ₂ exchange: Vegetation Photosynthesis and Respiration Model (VPRM). <i>Global Biogeochemical Cycles</i> , 2008 , 22, n/a-n/a	5.9	167
83	Seasonal controls on the exchange of carbon and water in an Amazonian rain forest. <i>Journal of Geophysical Research</i> , 2007 , 112, n/a-n/a		155
82	Uncertainties in, and interpretation of, carbon flux estimates using the eddy covariance technique. <i>Journal of Geophysical Research</i> , 2006 , 111,		151
81	Seasonality of temperate forest photosynthesis and daytime respiration. <i>Nature</i> , 2016 , 534, 680-3	50.4	147
80	Quantifying sources of methane using light alkanes in the Los Angeles basin, California. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 4974-4990	4.4	146
79	Global methane and nitrous oxide emissions from terrestrial ecosystems due to multiple environmental changes. <i>Ecosystem Health and Sustainability</i> , 2015 , 1, 1-20	3.7	138
78	Toward constraining regional-scale fluxes of CO ₂ with atmospheric observations over a continent: 2. Analysis of COBRA data using a receptor-oriented framework. <i>Journal of Geophysical Research</i> , 2003 , 108, n/a-n/a		135
77	Toward constraining regional-scale fluxes of CO ₂ with atmospheric observations over a continent: 1. Observed spatial variability from airborne platforms. <i>Journal of Geophysical Research</i> , 2003 , 108, n/a-n/a		128
76	Coupled weather research and forecasting stochastic time-inverted lagrangian transport (WRFBTILT) model. <i>Meteorology and Atmospheric Physics</i> , 2010 , 107, 51-64	2	124
75	Emissions of CH ₄ and N ₂ O over the United States and Canada based on a receptor-oriented modeling framework and COBRA-NA atmospheric observations. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	120
74	Carbon dioxide sources from Alaska driven by increasing early winter respiration from Arctic tundra. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 5361-5366	11.5	115
73	Antarctic O ₃ : Chemical mechanisms for the spring decrease. <i>Geophysical Research Letters</i> , 1986 , 13, 1296-1299	6.1	112
72	Validation of MOPITT Version 5 thermal-infrared, near-infrared, and multispectral carbon monoxide profile retrievals for 2000-2011. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 6710-6725	4.4	103

71	The effects of biomass burning aerosols and clouds on the CO ₂ flux in Amazonia. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2007 , 59, 338-349	3.3	101
70	Environmental controls on the photosynthesis and respiration of a boreal lichen woodland: a growing season of whole-ecosystem exchange measurements by eddy correlation. <i>Oecologia</i> , 1995 , 102, 443-452	2.9	101
69	Observational evidence for interhemispheric hydroxyl-radical parity. <i>Nature</i> , 2014 , 513, 219-23	50.4	100
68	Atmospheric observations of Arctic Ocean methane emissions up to 82° north. <i>Nature Geoscience</i> , 2012 , 5, 318-321	18.3	95
67	A large increase in U.S. methane emissions over the past decade inferred from satellite data and surface observations. <i>Geophysical Research Letters</i> , 2016 , 43, 2218-2224	4.9	94
66	Climatic variability and vegetation vulnerability in Amazonia. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	87
65	Latitudinal patterns of magnitude and interannual variability in net ecosystem exchange regulated by biological and environmental variables. <i>Global Change Biology</i> , 2009 , 15, 2905-2920	11.4	84
64	North American terrestrial CO uptake largely offset by CH ₄ and NO emissions: toward a full accounting of the greenhouse gas budget. <i>Climatic Change</i> , 2015 , 129, 413-426	4.5	76
63	Denitrification in the Antarctic stratosphere. <i>Nature</i> , 1989 , 339, 525-527	50.4	75
62	Anthropogenic and biogenic CO fluxes in the Boston urban region. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 7491-7496	11.5	71
61	Tropospheric distribution and variability of N ₂ O: Evidence for strong tropical emissions. <i>Geophysical Research Letters</i> , 2011 , 38,	4.9	65
60	Estimating regional carbon exchange in New England and Quebec by combining atmospheric, ground-based and satellite data. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2006 , 58, 344-358	3.3	65
59	Soil respiration in a northeastern US temperate forest: a 22-year synthesis. <i>Ecosphere</i> , 2013 , 4, art140	3.1	61
58	Loss of ozone in the Arctic vortex for the winter of 1989. <i>Geophysical Research Letters</i> , 1990 , 17, 561-564	4.9	60
57	Evaluation of the airborne quantum cascade laser spectrometer (QCLS) measurements of the carbon and greenhouse gas suite [CO ₂ , CH ₄ , N ₂ O, and CO] during the CalNex and HIPPO campaigns. <i>Atmospheric Measurement Techniques</i> , 2014 , 7, 1509-1526	4	59
56	Fluxes of nitrogen oxides over a temperate deciduous forest. <i>Journal of Geophysical Research</i> , 2004 , 109,		59
55	Measuring fluxes of trace gases at regional scales by Lagrangian observations: Application to the CO ₂ Budget and Rectification Airborne (COBRA) study. <i>Journal of Geophysical Research</i> , 2004 , 109,		58
54	A High-Precision Fast-Response Airborne CO ₂ Analyzer for In Situ Sampling from the Surface to the Middle Stratosphere. <i>Journal of Atmospheric and Oceanic Technology</i> , 2002 , 19, 1532-1543	2	56

53	Seasonal fluxes of carbonyl sulfide in a midlatitude forest. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 14162-7	11.5	54
52	Global atmospheric CO inverse models converging on neutral tropical land exchange, but disagreeing on fossil fuel and atmospheric growth rate. <i>Biogeosciences</i> , 2019 , 16, 117-134	4.6	53
51	Methane emissions from Alaska in 2012 from CARVE airborne observations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 16694-9	11.5	49
50	Airborne observations of methane emissions from rice cultivation in the Sacramento Valley of California. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		48
49	Interannual, seasonal, and diel variation in soil respiration relative to ecosystem respiration at a wetland to upland slope at Harvard Forest. <i>Journal of Geophysical Research</i> , 2010 , 115, n/a-n/a		48
48	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. <i>Nature Climate Change</i> , 2020 , 10, 555-560	21.4	44
47	Simultaneous measurements of atmospheric HONO and NO ₂ via absorption spectroscopy using tunable mid-infrared continuous-wave quantum cascade lasers. <i>Applied Physics B: Lasers and Optics</i> , 2011 , 102, 417-423	1.9	44
46	Radon fluxes in tropical forest ecosystems of Brazilian Amazonia: night-time CO ₂ net ecosystem exchange derived from radon and eddy covariance methods. <i>Global Change Biology</i> , 2004 , 10, 618-629	11.4	44
45	Severe chemical ozone loss inside the Arctic Polar Vortex during winter 1999-2000 Inferred from in situ airborne measurements. <i>Geophysical Research Letters</i> , 2001 , 28, 2197-2200	4.9	44
44	Global emissions of refrigerants HCFC-22 and HFC-134a: unforeseen seasonal contributions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 17379-84	11.5	42
43	Measurements of stratospheric carbon dioxide and water vapor at northern midlatitudes: Implications for troposphere-to-stratosphere transport. <i>Geophysical Research Letters</i> , 1995 , 22, 2737-2740	4.9	41
42	Contemporary and projected biogenic fluxes of methane and nitrous oxide in North American terrestrial ecosystems. <i>Frontiers in Ecology and the Environment</i> , 2012 , 10, 528-536	5.5	39
41	Historical and projected carbon balance of mature black spruce ecosystems across North America: the role of carbon-nitrogen interactions. <i>Plant and Soil</i> , 2002 , 242, 15-32	4.2	37
40	Attributing uncertainties in simulated biospheric carbon fluxes to different error sources. <i>Global Biogeochemical Cycles</i> , 2011 , 25, n/a-n/a	5.9	36
39	Estimating photosynthetic ¹³ C discrimination in terrestrial CO ₂ exchange from canopy to regional scales. <i>Global Biogeochemical Cycles</i> , 2004 , 18, n/a-n/a	5.9	35
38	WRF Simulations of the Urban Circulation in the Salt Lake City Area for CO ₂ Modeling. <i>Journal of Applied Meteorology and Climatology</i> , 2013 , 52, 323-340	2.7	34
37	Continuing global significance of emissions of Montreal Protocol restricted halocarbons in the United States and Canada. <i>Journal of Geophysical Research</i> , 2006 , 111,		33
36	Influence of polar stratospheric clouds on the depletion of Antarctic ozone. <i>Geophysical Research Letters</i> , 1988 , 15, 871-874	4.9	33

35	Modeling analysis of primary controls on net ecosystem productivity of seven boreal and temperate coniferous forests across a continental transect. <i>Global Change Biology</i> , 2008 , 14, 1765-1784	11.4	30
34	Detecting regional patterns of changing CO ₂ flux in Alaska. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 7733-8	11.5	29
33	Atmospheric Acetaldehyde: Importance of Air-Sea Exchange and a Missing Source in the Remote Troposphere. <i>Geophysical Research Letters</i> , 2019 , 46, 5601-5613	4.9	28
32	What have we learned from intensive atmospheric sampling field programmes of CO ₂ ?. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2006 , 58, 331-343	3.3	28
31	A multi-year estimate of methane fluxes in Alaska from CARVE atmospheric observations. <i>Global Biogeochemical Cycles</i> , 2016 , 30, 1441-1453	5.9	27
30	Modeling the carbon balance of Amazonian rain forests: resolving ecological controls on net ecosystem productivity. <i>Ecological Monographs</i> , 2009 , 79, 445-463	9	27
29	Anthropogenic emissions of nonmethane hydrocarbons in the northeastern United States: Measured seasonal variations from 1992-1996 and 1999-2001. <i>Journal of Geophysical Research</i> , 2006 , 111,		26
28	A chemical survey of the Mississippi estuary. <i>Estuaries and Coasts</i> , 1987 , 10, 1		26
27	Carbon budget of the Harvard Forest Long-Term Ecological Research site: pattern, process, and response to global change. <i>Ecological Monographs</i> , 2020 , 90, e01423	9	26
26	Mass fluxes and isofluxes of methane (CH ₄) at a New Hampshire fen measured by a continuous wave quantum cascade laser spectrometer. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		25
25	An empirical analysis of the spatial variability of atmospheric CO ₂ : Implications for inverse analyses and space-borne sensors. <i>Geophysical Research Letters</i> , 2004 , 31,	4.9	24
24	Nitrous oxide (N ₂ O) emissions from California based on 2010 CalNex airborne measurements. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 2809-2820	4.4	23
23	Atmospheric constraints on 2004 emissions of methane and nitrous oxide in North America from atmospheric measurements and a receptor-oriented modeling framework. <i>Journal of Integrative Environmental Sciences</i> , 2010 , 7, 125-133	3	19
22	The CO ₂ Budget and Rectification Airborne Study: Strategies for Measuring Rectifiers and Regional Fluxes. <i>Geophysical Monograph Series</i> , 2000 , 311-324	1.1	19
21	Carbonyl sulfide in the planetary boundary layer: Coastal and continental influences. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013 , 118, 8001-8009	4.4	17
20	Satellite-based survey of extreme methane emissions in the Permian basin. <i>Science Advances</i> , 2021 , 7,	14.3	14
19	Ecosystem fluxes of hydrogen in a mid-latitude forest driven by soil microorganisms and plants. <i>Global Change Biology</i> , 2017 , 23, 906-919	11.4	11
18	Reevaluating the Use of O ₂ -A ₁ Band in Spaceborne Remote Sensing of Greenhouse Gases. <i>Geophysical Research Letters</i> , 2018 , 45, 5779-5787	4.9	11

17	Designing Lagrangian experiments to measure regional-scale trace gas fluxes <i>Journal of Geophysical Research</i> , 2007 , 112,		10
16	The Global Budget of Atmospheric Methanol: New Constraints on Secondary, Oceanic, and Terrestrial Sources. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021 , 126, e2020JD033439	4.4	10
15	Effects of atmospheric transport on column abundances of nitrogen and chlorine compounds in the Arctic stratosphere. <i>Geophysical Research Letters</i> , 1990 , 17, 533-536	4.9	9
14	Global Atmospheric Budget of Acetone: Air-Sea Exchange and the Contribution to Hydroxyl Radicals. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020 , 125, e2020JD032553	4.4	8
13	Chemical evidence of inter-hemispheric air mass intrusion into the Northern Hemisphere mid-latitudes. <i>Scientific Reports</i> , 2018 , 8, 4669	4.9	7
12	Comparison of upper tropospheric carbon monoxide from MOPITT, ACE-FTS, and HIPPO-QCLS. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014 , 119, 14,144-14,164	4.4	7
11	THE NASA ATMOSPHERIC TOMOGRAPHY (ATom) MISSION: Imaging the Chemistry of the Global Atmosphere. <i>Bulletin of the American Meteorological Society</i> , 2021 , 1-53	6.1	6
10	Strong Southern Ocean carbon uptake evident in airborne observations. <i>Science</i> , 2021 , 374, 1275-1280	33.3	6
9	Large contribution of biomass burning emissions to ozone throughout the global remote troposphere.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	6
8	Evidence for an Oceanic Source of Methyl Ethyl Ketone to the Atmosphere. <i>Geophysical Research Letters</i> , 2020 , 47, e2019GL086045	4.9	5
7	Using Lidar Technology To Assess Urban Air Pollution and Improve Estimates of Greenhouse Gas Emissions in Boston. <i>Environmental Science & Technology</i> , 2019 , 53, 8957-8966	10.3	4
6	Majority of US urban natural gas emissions unaccounted for in inventories. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	4
5	Listening to the Forest: An Artificial Neural Network-Based Model of Carbon Uptake at Harvard Forest. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2019 , 124, 461-478	3.7	3
4	Evaluation of the Airborne Quantum Cascade Laser Spectrometer (QCLS) measurements of the carbon and greenhouse gas suite [CO ₂ , CH ₄ , N ₂ O, and CO] during the CalNex and HIPPO campaigns 2013 ,		3
3	Atmospheric Chemistry and Global Change. <i>Eos</i> , 1999 , 80, 468	1.5	1
2	Spectral calibration of the MethaneAIR instrument. <i>Atmospheric Measurement Techniques</i> , 2021 , 14, 3737-3751		1
1	Earlier snowmelt may lead to late season declines in plant productivity and carbon sequestration in Arctic tundra ecosystems.. <i>Scientific Reports</i> , 2022 , 12, 3986	4.9	0