Britton B Stephens

List of Publications by Year
in descending order

75 papers	6,876 citations	87888 38 h-index	74163 75 g-index
107 all docs	107 docs citations	107 times ranked	7779 citing authors

#	Article	IF	Citations
1	Weak Northern and Strong Tropical Land Carbon Uptake from Vertical Profiles of Atmospheric CO2. Science, 2007, 316, 1732-1735.	12.6	775
2	Effect of increasing CO ₂ on the terrestrial carbon cycle. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 436-441.	7.1	487
3	The influence of Antarctic sea ice on glacialâ€“interglacial CO2 variations. Nature, 2000, 404, 171-174.	27.8	449
4	Calibration of the Total Carbon Column Observing Network using aircraft profile data. Atmospheric Measurement Techniques, 2010, 3, 1351-1362.	3.1	441
5	HIAPER Pole-to-Pole Observations (HIPPO): fine-grained, global-scale measurements of climatically important atmospheric gases and aerosols. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 2073-2086.	3.4	351
6	Enhanced Seasonal Exchange of CO ₂ by Northern Ecosystems Since 1960. Science, 2013, 341, 1085-1089.	12.6	329
7	Global CO₂ fluxes estimated from GOSAT retrievals of total column CO₂. Atmospheric Chemistry and Physics, 2013, 13, 8695-8717.	4.9	251
8	Assessment of ground-based atmospheric observations for verification of greenhouse gas emissions from an urban region. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 8423-8428.	7.1	202
9	Toward constraining regional-scale fluxes of CO2with atmospheric observations over a continent: 2. Analysis of COBRA data using a receptor-oriented framework. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	186
10	Toward constraining regional-scale fluxes of CO2with atmospheric observations over a continent: 1. Observed spatial variability from airborne platforms. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	162
11	Testing global ocean carbon cycle models using measurements of atmospheric O2and CO2concentration. Global Biogeochemical Cycles, 1998, 12, 213-230.	4.9	145
12	Black carbon over Mexico: the effect of atmospheric transport on mixing state, mass absorption cross-section, and BC/CO ratios. Atmospheric Chemistry and Physics, 2010, 10, 219-237.	4.9	140
13	Antarctic sea ice and the control of Pleistocene climate instability. Paleoceanography, 2001, 16, 112-131.	3.0	134
14	Winter CO2fluxes in a boreal forest. Journal of Geophysical Research, 1997, 102, 28795-28804.	3.3	133
15	Emissions of CH₄ and N₂O over the United States and Canada based on a receptorâ€oriented modeling framework and COBRAâ€NA atmospheric observations. Geophysical Research Letters, 2008, 35, .	4.0	132
16	Observational evidence for interhemispheric hydroxyl-radical parity. Nature, 2014, 513, 219-223.	27.8	121
17	Long-term urban carbon dioxide observations reveal spatial and temporal dynamics related to urban characteristics and growth. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2912-2917.	7.1	120
18	Seasonal variations in the atmospheric O2/N2ratio in relation to the kinetics of air-sea gas exchange. Global Biogeochemical Cycles, 1998, 12, 141-163.	4.9	116

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19	The 2015â€“2016 carbon cycle as seen from OCO-2 and the global in situ network. Atmospheric Chemistry and Physics, 2019, 19, 9797-9831.	4.9	113
20	Atmospheric mercury concentrations at Storm Peak Laboratory in the Rocky Mountains: Evidence for long-range transport from Asia, boundary layer contributions, and plant mercury uptake. Atmospheric Environment, 2008, 42, 7579-7589.	4.1	98
21	The imprint of surface fluxes and transport on variations in total column carbon dioxide. Biogeosciences, 2012, 9, 875-891.	3.3	98
22	Revision of global carbon fluxes based on a reassessment of oceanic and riverine carbon transport. Nature Geoscience, 2018, 11, 504-509.	12.9	95
23	CO2 transport over complex terrain. Agricultural and Forest Meteorology, 2007, 145, 1-21.	4.8	93
24	Persistent reduced ecosystem respiration after insect disturbance in high elevation forests. Ecology Letters, 2013, 16, 731-737.	6.4	90
25	Influence of El NiÃ±o on atmospheric CO ₂ over the tropical Pacific Ocean: Findings from NASAâ€™s OCO-2 mission. Science, 2017, 358, .	12.6	90
26	Global atmospheric CO₂ inverse models converging on neutral tropical land exchange, but disagreeing on fossil fuel and atmospheric growth rate. Biogeosciences, 2019, 16, 117-134.	3.3	77
27	Evaluation of the airborne quantum cascade laser spectrometer (QCLS) measurements of the carbon and greenhouse gas suite â€“ CO₂, CH₄, N₂O, and CO â€“ during the CalNex and HIPPO campaigns. Atmospheric Measurement Techniques, 2014, 7, 1509-1526.	3.1	75
28	Application of a Differential Fuel-Cell Analyzer for Measuring Atmospheric Oxygen Variations. Journal of Atmospheric and Oceanic Technology, 2007, 24, 82-94.	1.3	74
29	Measuring fluxes of trace gases at regional scales by Lagrangian observations: Application to the CO2Budget and Rectification Airborne (COBRA) study. Journal of Geophysical Research, 2004, 109, .	3.3	73
30	Recent evidence for a strengthening CO₂ sink in the Southern Ocean from carbonate system measurements in the Drake Passage (2002â€“2015). Geophysical Research Letters, 2015, 42, 7623-7630.	4.0	70
31	Urban carbon dioxide cycles within the Salt Lake Valley: A multiple-box model validated by observations. Journal of Geophysical Research, 2011, 116, .	3.3	57
32	Shipboard measurements of atmospheric oxygen using a vacuum-ultraviolet absorption technique. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 857-878.	1.6	52
33	Atmospheric CO₂ monitoring with single-cell NDIR-based analyzers. Atmospheric Measurement Techniques, 2011, 4, 2737-2748.	3.1	50
34	Atmospheric Carbon Dioxide Variability in the Community Earth System Model: Evaluation and Transient Dynamics during the Twentieth and Twenty-First Centuries. Journal of Climate, 2013, 26, 4447-4475.	3.2	48
35	The Wintertime Covariation of CO₂ and Criteria Pollutants in an Urban Valley of the Western United States. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2684-2703.	3.3	47
36	Strong Southern Ocean carbon uptake evident in airborne observations. Science, 2021, 374, 1275-1280.	12.6	44

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37	Estimates of net community production in the Southern Ocean determined from time series observations (2002â€“2011) of nutrients, dissolved inorganic carbon, and surface ocean pCO2 in Drake Passage. Deep-Sea Research Part II: Topical Studies in Oceanography, 2015, 114, 49-63.	1.4	43
38	Atmospheric Stability Effects on Wind Fields and Scalar Mixing Within and Just Above a Subalpine Forest in Sloping Terrain. Boundary-Layer Meteorology, 2011, 138, 231-262.	2.3	41
39	Carbon Monitoring System Flux Net Biosphere Exchange 2020 (CMS-Flux NBE 2020). Earth System Science Data, 2021, 13, 299-330.	9.9	40
40	Vertical profiles of biospheric and fossil fuel-derived CO₂ and fossil fuel CO₂ :CO ratios from airborne measurements of Î”¹⁴C, CO₂ and CO above Colorado, USA. Tellus, Series B: Chemical and Physical Meteorology, 2022, 61, 536.	1.6	39
41	The NASA Atmospheric Tomography (ATom) Mission: Imaging the Chemistry of the Global Atmosphere. Bulletin of the American Meteorological Society, 2022, 103, E761-E790.	3.3	39
42	THEROLE OFCARBONCYCLEOBSERVATIONS ANDKNOWLEDGE INCARBONMANAGEMENT. Annual Review of Environment and Resources, 2003, 28, 521-558.	13.4	37
43	Seasonal pattern of regional carbon balance in the central Rocky Mountains from surface and airborne measurements. Journal of Geophysical Research, 2011, 116, .	3.3	33
44	Utilizing the Drake Passage Time-series to understand variability and change in subpolar Southern Ocean <i>p</i>CO₂. Biogeosciences, 2018, 15, 3841-3855.	3.3	32
45	Cloud Phase and Relative Humidity Distributions over the Southern Ocean in Austral Summer Based on In Situ Observations and CAM5 Simulations. Journal of Climate, 2019, 32, 2781-2805.	3.2	30
46	A Multiscale and Multidisciplinary Investigation Of Ecosystemâ€“Atmosphere CO2 Exchange Over the Rocky Mountains of Colorado. Bulletin of the American Meteorological Society, 2010, 91, 209-230.	3.3	29
47	The O2/N2 Ratio and CO2 Airborne Southern Ocean Study. Bulletin of the American Meteorological Society, 2018, 99, 381-402.	3.3	28
48	Ecological processes dominate the ¹³C land disequilibrium in a Rocky Mountain subalpine forest. Global Biogeochemical Cycles, 2014, 28, 352-370.	4.9	27
49	How can mountaintop CO₂ observations be used to constrain regional carbon fluxes?. Atmospheric Chemistry and Physics, 2017, 17, 5561-5581.	4.9	27
50	Long-term continuous atmospheric CO₂ measurements at Baring Head, New Zealand. Atmospheric Measurement Techniques, 2012, 5, 3109-3117.	3.1	26
51	A Surface Ocean CO2 Reference Network, SOCONET and Associated Marine Boundary Layer CO2 Measurements. Frontiers in Marine Science, 2019, 6, .	2.5	26
52	The CO2 budget and rectification airborne study: Strategies for measuring rectifiers and regional fluxes. Geophysical Monograph Series, 2000, , 311-324.	0.1	25
53	Analysis of a 39-year continuous atmospheric CO₂ record from Baring Head, New Zealand. Biogeosciences, 2013, 10, 2683-2697.	3.3	24
54	Strategies for measurement of atmospheric column means of carbon dioxide from aircraft using discrete sampling. Journal of Geophysical Research, 2003, 108, .	3.3	23

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55	Comparison of improved Aura Tropospheric Emission Spectrometer CO₂ with HIPPO and SGP aircraft profile measurements. Atmospheric Chemistry and Physics, 2013, 13, 3205-3225.	4.9	22
56	Evaluating CMIP5 ocean biogeochemistry and Southern Ocean carbon uptake using atmospheric potential oxygen: Presentâ€day performance and future projection. Geophysical Research Letters, 2016, 43, 2077-2085.	4.0	22
57	A preliminary investigation of boundary layer effects on daytime atmospheric CO2 concentrations at a mountaintop location in the Rocky Mountains. Acta Geophysica, 2009, 57, 904-922.	2.0	21
58	Atmospheric constraints on 2004 emissions of methane and nitrous oxide in North America from atmospheric measurements and a receptor-oriented modeling framework. Journal of Integrative Environmental Sciences, 2010, 7, 125-133.	2.5	20
59	Assessing filtering of mountaintop CO₂ mole fractions for application to inverse models of biosphere-atmosphere carbon exchange. Atmospheric Chemistry and Physics, 2012, 12, 2099-2115.	4.9	20
60	Constraints on oceanic meridional heat transport from combined measurements of oxygen and carbon. Climate Dynamics, 2016, 47, 3335-3357.	3.8	16
61	Lower-tropospheric CO₂ from near-infrared ACOS-GOSAT observations. Atmospheric Chemistry and Physics, 2017, 17, 5407-5438.	4.9	15
62	Coupled Air Quality and Boundary-Layer Meteorology in Western U.S. Basins during Winter: Design and Rationale for a Comprehensive Study. Bulletin of the American Meteorological Society, 2021, 102, E2012-E2033.	3.3	14
63	Shipboard measurements of atmospheric oxygen using a vacuum-ultraviolet absorption technique. Tellus, Series B: Chemical and Physical Meteorology, 2022, 55, 857.	1.6	12
64	Atmospheric CO₂ observations and models suggest strong carbon uptake by forests in New Zealand. Atmospheric Chemistry and Physics, 2017, 17, 47-76.	4.9	11
65	Airborne measurements of oxygen concentration from the surface to the lower stratosphere and pole to pole. Atmospheric Measurement Techniques, 2021, 14, 2543-2574.	3.1	10
66	Gravitational separation of Arâ€•N₂ and age of air in the lowermost stratosphere in airborne observations and a chemical transport model. Atmospheric Chemistry and Physics, 2020, 20, 12391-12408.	4.9	9
67	An Evaluation of Calibration Techniques for In Situ Carbon Dioxide Measurements Using a Programmable Portable Trace-Gas Measuring System. Journal of Atmospheric and Oceanic Technology, 2009, 26, 291-316.	1.3	8
68	Greenhouse gas emissions: how to manage what cannot be measured. Carbon Management, 2011, 2, 1-4.	2.4	6
69	Unpiloted Aircraft System Instrument for the Rapid Collection of Whole Air Samples and Measurements for Environmental Monitoring and Air Quality Studies. Environmental Science & Technology, 2021, 55, 5657-5667.	10.0	6
70	Novel approaches to improve estimates of short-lived halocarbon emissions during summer from the Southern Ocean using airborne observations. Atmospheric Chemistry and Physics, 2019, 19, 14071-14090.	4.9	5
71	A mass-weighted isentropic coordinate for mapping chemical tracers and computing atmospheric inventories. Atmospheric Chemistry and Physics, 2021, 21, 217-238.	4.9	5
72	Impact of stratospheric air and surface emissions on tropospheric nitrous oxide during ATom. Atmospheric Chemistry and Physics, 2021, 21, 11113-11132.	4.9	5

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73	A multi-city urban atmospheric greenhouse gas measurement data synthesis. Scientific Data, 2022, 9, .	5.3	5
74	Summertime Atmospheric Boundary Layer Gradients of O 2 and CO 2 over the Southern Ocean. Journal of Geophysical Research D: Atmospheres, 2019, 124, 13439-13456.	3.3	2
75	Interview with Britton Stephens. Carbon Management, 2014, 5, 109-113.	2.4	0