

# Britton B Stephens

## List of Publications by Year in descending order

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Version: 2024-02-01

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	Vertical profiles of biospheric and fossil fuel-derived CO <sub>2</sub> and fossil fuel CO <sub>2</sub> :CO ratios from airborne measurements of $\delta^{14}\text{C}$ , CO <sub>2</sub> and CO above Colorado, USA. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 61, 536.	1.6	39
2	Shipboard measurements of atmospheric oxygen using a vacuum-ultraviolet absorption technique. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022, 55, 857.	1.6	12
3	The NASA Atmospheric Tomography (ATom) Mission: Imaging the Chemistry of the Global Atmosphere. <i>Bulletin of the American Meteorological Society</i> , 2022, 103, E761-E790.	3.3	39
4	A multi-city urban atmospheric greenhouse gas measurement data synthesis. <i>Scientific Data</i> , 2022, 9, .	5.3	5
5	A mass-weighted isentropic coordinate for mapping chemical tracers and computing atmospheric inventories. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 217-238.	4.9	5
6	Carbon Monitoring System Flux Net Biosphere Exchange 2020 (CMS-Flux NBE 2020). <i>Earth System Science Data</i> , 2021, 13, 299-330.	9.9	40
7	Airborne measurements of oxygen concentration from the surface to the lower stratosphere and pole to pole. <i>Atmospheric Measurement Techniques</i> , 2021, 14, 2543-2574.	3.1	10
8	Unpiloted Aircraft System Instrument for the Rapid Collection of Whole Air Samples and Measurements for Environmental Monitoring and Air Quality Studies. <i>Environmental Science &amp; Technology</i> , 2021, 55, 5657-5667.	10.0	6
9	Coupled Air Quality and Boundary-Layer Meteorology in Western U.S. Basins during Winter: Design and Rationale for a Comprehensive Study. <i>Bulletin of the American Meteorological Society</i> , 2021, 102, E2012-E2033.	3.3	14
10	Impact of stratospheric air and surface emissions on tropospheric nitrous oxide during ATom. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 11113-11132.	4.9	5
11	Strong Southern Ocean carbon uptake evident in airborne observations. <i>Science</i> , 2021, 374, 1275-1280.	12.6	44
12	Gravitational separation of Ar <sup>36</sup> and age of air in the lowermost stratosphere in airborne observations and a chemical transport model. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 12391-12408.	4.9	9
13	A Surface Ocean CO <sub>2</sub> Reference Network, SOCONET and Associated Marine Boundary Layer CO <sub>2</sub> Measurements. <i>Frontiers in Marine Science</i> , 2019, 6, .	2.5	26
14	The 2015–2016 carbon cycle as seen from OCO-2 and the global in situ network. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 9797-9831.	4.9	113
15	Global atmospheric CO <sub>2</sub> inverse models converging on neutral tropical land exchange, but disagreeing on fossil fuel and atmospheric growth rate. <i>Biogeosciences</i> , 2019, 16, 117-134.	3.3	77
16	Cloud Phase and Relative Humidity Distributions over the Southern Ocean in Austral Summer Based on In Situ Observations and CAM5 Simulations. <i>Journal of Climate</i> , 2019, 32, 2781-2805.	3.2	30
17	Novel approaches to improve estimates of short-lived halocarbon emissions during summer from the Southern Ocean using airborne observations. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 14071-14090.	4.9	5
18	Summertime Atmospheric Boundary Layer Gradients of O <sub>2</sub> and CO <sub>2</sub> over the Southern Ocean. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 13439-13456.	3.3	2

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19	The Wintertime Covariation of CO <sub>2</sub> and Criteria Pollutants in an Urban Valley of the Western United States. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 2684-2703.	3.3	47
20	Long-term urban carbon dioxide observations reveal spatial and temporal dynamics related to urban characteristics and growth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 2912-2917.	7.1	120
21	The O <sub>2</sub> /N <sub>2</sub> Ratio and CO <sub>2</sub> Airborne Southern Ocean Study. <i>Bulletin of the American Meteorological Society</i> , 2018, 99, 381-402.	3.3	28
22	Utilizing the Drake Passage Time-series to understand variability and change in subpolar Southern Ocean CO <sub>2</sub> . <i>Biogeosciences</i> , 2018, 15, 3841-3855.	3.3	32
23	Revision of global carbon fluxes based on a reassessment of oceanic and riverine carbon transport. <i>Nature Geoscience</i> , 2018, 11, 504-509.	12.9	95
24	Influence of El Niño on atmospheric CO <sub>2</sub> over the tropical Pacific Ocean: Findings from NASA's OCO-2 mission. <i>Science</i> , 2017, 358, .	12.6	90
25	Atmospheric CO <sub>2</sub> observations and models suggest strong carbon uptake by forests in New Zealand. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 47-76.	4.9	11
26	Lower-tropospheric CO <sub>2</sub> from near-infrared ACOS-GOSAT observations. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 5407-5438.	4.9	15
27	How can mountaintop CO <sub>2</sub> observations be used to constrain regional carbon fluxes?. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 5561-5581.	4.9	27
28	Evaluating CMIP5 ocean biogeochemistry and Southern Ocean carbon uptake using atmospheric potential oxygen: Present-day performance and future projection. <i>Geophysical Research Letters</i> , 2016, 43, 2077-2085.	4.0	22
29	Constraints on oceanic meridional heat transport from combined measurements of oxygen and carbon. <i>Climate Dynamics</i> , 2016, 47, 3335-3357.	3.8	16
30	Recent evidence for a strengthening CO <sub>2</sub> sink in the Southern Ocean from carbonate system measurements in the Drake Passage (2002-2015). <i>Geophysical Research Letters</i> , 2015, 42, 7623-7630.	4.0	70
31	Effect of increasing CO <sub>2</sub> on the terrestrial carbon cycle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 436-441.	7.1	487
32	Estimates of net community production in the Southern Ocean determined from time series observations (2002-2011) of nutrients, dissolved inorganic carbon, and surface ocean pCO <sub>2</sub> in Drake Passage. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 2015, 114, 49-63.	1.4	43
33	Evaluation of the airborne quantum cascade laser spectrometer (QCLS) measurements of the carbon and greenhouse gas suite " CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, and CO " during the CalNex and HIPPO campaigns. <i>Atmospheric Measurement Techniques</i> , 2014, 7, 1509-1526.	3.1	75
34	Interview with Britton Stephens. <i>Carbon Management</i> , 2014, 5, 109-113.	2.4	0
35	Observational evidence for interhemispheric hydroxyl-radical parity. <i>Nature</i> , 2014, 513, 219-223.	27.8	121
36	Ecological processes dominate the <sup>13</sup> C land disequilibrium in a Rocky Mountain subalpine forest. <i>Global Biogeochemical Cycles</i> , 2014, 28, 352-370.	4.9	27

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37	Persistent reduced ecosystem respiration after insect disturbance in high elevation forests. <i>Ecology Letters</i> , 2013, 16, 731-737.	6.4	90
38	Enhanced Seasonal Exchange of CO <sub>2</sub> by Northern Ecosystems Since 1960. <i>Science</i> , 2013, 341, 1085-1089.	12.6	329
39	Atmospheric Carbon Dioxide Variability in the Community Earth System Model: Evaluation and Transient Dynamics during the Twentieth and Twenty-First Centuries. <i>Journal of Climate</i> , 2013, 26, 4447-4475.	3.2	48
40	Global CO <sub>2</sub> fluxes estimated from GOSAT retrievals of total column CO <sub>2</sub> . <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 8695-8717.	4.9	251
41	Comparison of improved Aura Tropospheric Emission Spectrometer CO <sub>2</sub> with HIPPO and SGP aircraft profile measurements. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 3205-3225.	4.9	22
42	Analysis of a 39-year continuous atmospheric CO <sub>2</sub> record from Baring Head, New Zealand. <i>Biogeosciences</i> , 2013, 10, 2683-2697.	3.3	24
43	Long-term continuous atmospheric CO <sub>2</sub> measurements at Baring Head, New Zealand. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 3109-3117.	3.1	26
44	Assessment of ground-based atmospheric observations for verification of greenhouse gas emissions from an urban region. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 8423-8428.	7.1	202
45	Assessing filtering of mountaintop CO <sub>2</sub> mole fractions for application to inverse models of biosphere-atmosphere carbon exchange. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 2099-2115.	4.9	20
46	The imprint of surface fluxes and transport on variations in total column carbon dioxide. <i>Biogeosciences</i> , 2012, 9, 875-891.	3.3	98
47	Urban carbon dioxide cycles within the Salt Lake Valley: A multiple-box model validated by observations. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	57
48	Seasonal pattern of regional carbon balance in the central Rocky Mountains from surface and airborne measurements. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	33
49	Greenhouse gas emissions: how to manage what cannot be measured. <i>Carbon Management</i> , 2011, 2, 1-4.	2.4	6
50	Atmospheric Stability Effects on Wind Fields and Scalar Mixing Within and Just Above a Subalpine Forest in Sloping Terrain. <i>Boundary-Layer Meteorology</i> , 2011, 138, 231-262.	2.3	41
51	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, 2073-2086.	3.4	351
52	Atmospheric CO <sub>2</sub> monitoring with single-cell NDIR-based analyzers. <i>Atmospheric Measurement Techniques</i> , 2011, 4, 2737-2748.	3.1	50
53	Black carbon over Mexico: the effect of atmospheric transport on mixing state, mass absorption cross-section, and BC/CO ratios. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 219-237.	4.9	140
54	A Multiscale and Multidisciplinary Investigation Of Ecosystemâ€™s Atmosphere CO <sub>2</sub> Exchange Over the Rocky Mountains of Colorado. <i>Bulletin of the American Meteorological Society</i> , 2010, 91, 209-230.	3.3	29

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55	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.	2.5	20
56	Calibration of the Total Carbon Column Observing Network using aircraft profile data. <i>Atmospheric Measurement Techniques</i> , 2010, 3, 1351-1362.	3.1	441
57	An Evaluation of Calibration Techniques for In Situ Carbon Dioxide Measurements Using a Programmable Portable Trace-Gas Measuring System. <i>Journal of Atmospheric and Oceanic Technology</i> , 2009, 26, 291-316.	1.3	8
58	A preliminary investigation of boundary layer effects on daytime atmospheric CO <sub>2</sub> concentrations at a mountaintop location in the Rocky Mountains. <i>Acta Geophysica</i> , 2009, 57, 904-922.	2.0	21
59	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. <i>Atmospheric Environment</i> , 2008, 42, 7579-7589.	4.1	98
60	Emissions of CH <sub>4</sub> and N <sub>2</sub> O over the United States and Canada based on a receptor-oriented modeling framework and COBRA atmospheric observations. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	132
61	Application of a Differential Fuel-Cell Analyzer for Measuring Atmospheric Oxygen Variations. <i>Journal of Atmospheric and Oceanic Technology</i> , 2007, 24, 82-94.	1.3	74
62	Weak Northern and Strong Tropical Land Carbon Uptake from Vertical Profiles of Atmospheric CO <sub>2</sub> . <i>Science</i> , 2007, 316, 1732-1735.	12.6	775
63	CO <sub>2</sub> transport over complex terrain. <i>Agricultural and Forest Meteorology</i> , 2007, 145, 1-21.	4.8	93
64	Measuring fluxes of trace gases at regional scales by Lagrangian observations: Application to the CO <sub>2</sub> Budget and Rectification Airborne (COBRA) study. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	73
65	Shipboard measurements of atmospheric oxygen using a vacuum-ultraviolet absorption technique. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2003, 55, 857-878.	1.6	52
66	Toward constraining regional-scale fluxes of CO <sub>2</sub> 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.	3.3	162
67	Strategies for measurement of atmospheric column means of carbon dioxide from aircraft using discrete sampling. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	23
68	Toward constraining regional-scale fluxes of CO <sub>2</sub> 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.	3.3	186
69	THE ROLE OF CARBON CYCLE OBSERVATIONS AND KNOWLEDGE IN CARBON MANAGEMENT. <i>Annual Review of Environment and Resources</i> , 2003, 28, 521-558.	13.4	37
70	Antarctic sea ice and the control of Pleistocene climate instability. <i>Paleoceanography</i> , 2001, 16, 112-131.	3.0	134
71	The influence of Antarctic sea ice on glacial-interglacial CO <sub>2</sub> variations. <i>Nature</i> , 2000, 404, 171-174.	27.8	449
72	The CO <sub>2</sub> budget and rectification airborne study: Strategies for measuring rectifiers and regional fluxes. <i>Geophysical Monograph Series</i> , 2000, , 311-324.	0.1	25

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73	Seasonal variations in the atmospheric O <sub>2</sub> /N <sub>2</sub> ratio in relation to the kinetics of air-sea gas exchange. Global Biogeochemical Cycles, 1998, 12, 141-163.	4.9	116
74	Testing global ocean carbon cycle models using measurements of atmospheric O <sub>2</sub> and CO <sub>2</sub> concentration. Global Biogeochemical Cycles, 1998, 12, 213-230.	4.9	145
75	Winter CO <sub>2</sub> fluxes in a boreal forest. Journal of Geophysical Research, 1997, 102, 28795-28804.	3.3	133