

Rebecca S Hornbrook

List of Publications by Year in descending order

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97
papers

3,480
citations

108306

34
h-index

157643

53
g-index

170
all docs

170
docs citations

170
times ranked

4377
citing authors

#	ARTICLE	IF	CITATIONS
1	Rapid cycling of reactive nitrogen in the marine boundary layer. <i>Nature</i> , 2016, 532, 489-491.	35.8	177
2	Global airborne sampling reveals a previously unobserved dimethyl sulfide oxidation mechanism in the marine atmosphere. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 4505-4510.	7.5	136
3	Heterogeneous N ₂ O ₅ Uptake During Winter: Aircraft Measurements During the 2015 WINTER Campaign and Critical Evaluation of Current Parameterizations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 4345-4372.	3.3	111
4	High levels of molecular chlorine in the Arctic atmosphere. <i>Nature Geoscience</i> , 2014, 7, 91-94.	11.7	107
5	Upper tropospheric ozone production from lightning NO _x -impacted convection: Smoke ingestion case study from the DC3 campaign. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 2505-2523.	3.3	92
6	Active and widespread halogen chemistry in the tropical and subtropical free troposphere. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 9281-9286.	7.5	92
7	Observations of nonmethane organic compounds during ARCTAS â Part 1: Biomass burning emissions and plume enhancements. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 11103-11130.	4.9	83
8	Comparison of different real time VOC measurement techniques in a ponderosa pine forest. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 2893-2906.	4.9	83
9	Hazardous Air Pollutants in Fresh and Aged Western US Wildfire Smoke and Implications for Long-Term Exposure. <i>Environmental Science & Technology</i> , 2020, 54, 11838-11847.	10.3	81
10	Widespread biomass burning smoke throughout the remote troposphere. <i>Nature Geoscience</i> , 2020, 13, 422-427.	11.7	76
11	Sources and Secondary Production of Organic Aerosols in the Northeastern United States during WINTER. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 7771-7796.	3.3	75
12	Observations of glyoxal and formaldehyde as metrics for the anthropogenic impact on rural photochemistry. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 9529-9543.	4.9	73
13	Atmospheric benzene observations from oil and gas production in the DenverâJulesburg Basin in July and August 2014. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 11,055.	3.3	72
14	Nitrous acid (HONO) during polar spring in Barrow, Alaska: A net source of OH radicals?. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.2	71
15	Origin of oxidized mercury in the summertime free troposphere over the southeastern US. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 1511-1530.	4.9	70
16	Overview of the Manitou Experimental Forest Observatory: site description and selected science results from 2008 to 2013. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 6345-6367.	4.9	64
17	Emissions of Trace Organic Gases From Western U.S. Wildfires Based on WECAN Aircraft Measurements. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033838.	3.3	64
18	Airborne flux measurements of methane and volatile organic compounds over the Haynesville and Marcellus shale gas production regions. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 6271-6289.	3.3	63

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19	HONO Emissions from Western U.S. Wildfires Provide Dominant Radical Source in Fresh Wildfire Smoke. <i>Environmental Science & Technology</i> , 2020, 54, 5954-5963.	10.3	62
20	The relative importance of chlorine and bromine radicals in the oxidation of atmospheric mercury at Barrow, Alaska. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.2	61
21	Missing peroxy radical sources within a summertime ponderosa pine forest. <i>Atmospheric Chemistry and Physics</i> , 2014, 14, 4715-4732.	4.9	58
22	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, .	7.5	58
23	Measurements of tropospheric HO ₂ and RO ₂ by oxygen dilution modulation and chemical ionization mass spectrometry. <i>Atmospheric Measurement Techniques</i> , 2011, 4, 735-756.	3.1	55
24	Observation of Road Salt Aerosol Driving Inland Wintertime Atmospheric Chlorine Chemistry. <i>ACS Central Science</i> , 2020, 6, 684-694.	12.1	48
25	Daytime Oxidized Reactive Nitrogen Partitioning in Western U.S. Wildfire Smoke Plumes. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033484.	3.3	44
26	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.	3.3	43
27	Atmospheric Acetaldehyde: Importance of Air-Sea Exchange and a Missing Source in the Remote Troposphere. <i>Geophysical Research Letters</i> , 2019, 46, 5601-5613.	3.9	42
28	Constraining remote oxidation capacity with ATom observations. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 7753-7781.	4.9	39
29	Importance of reactive halogens in the tropical marine atmosphere: a regional modelling study using WRF-Chem. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 3161-3189.	4.9	38
30	A pervasive role for biomass burning in tropical high ozone/low water structures. <i>Nature Communications</i> , 2016, 7, 10267.	13.0	37
31	Formaldehyde in the Tropical Western Pacific: Chemical Sources and Sinks, Convective Transport, and Representation in CAM-Chem and the CCM1 Models. <i>Journal of Geophysical Research D: Atmospheres</i> , 2017, 122, 11201-11226.	3.3	36
32	BrO and inferred Br ₂ profiles over the western Pacific: relevance of inorganic bromine sources and a Br ₂ minimum in the aged tropical tropopause layer. <i>Atmospheric Chemistry and Physics</i> , 2017, 17, 15245-15270.	4.9	36
33	Impact of the deep convection of isoprene and other reactive trace species on radicals and ozone in the upper troposphere. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 1135-1150.	4.9	34
34	On the sources and sinks of atmospheric VOCs: an integrated analysis of recent aircraft campaigns over North America. <i>Atmospheric Chemistry and Physics</i> , 2019, 19, 9097-9123.	4.9	33
35	Interactions of bromine, chlorine, and iodine photochemistry during ozone depletions in Barrow, Alaska. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 9651-9679.	4.9	32
36	Wet scavenging of soluble gases in DC3 deep convective storms using WRF-Chem simulations and aircraft observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 4233-4257.	3.3	31

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37	Formaldehyde evolution in US wildfire plumes during the Fire Influence on Regional to Global Environments and Air Quality experiment (FIREX-AQ). <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 18319-18331.	4.9	29
38	Evaluating the Impact of Chemical Complexity and Horizontal Resolution on Tropospheric Ozone Over the Conterminous US With a Global Variable Resolution Chemistry Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2022, 14, .	3.7	29
39	Airborne intercomparison of HO ₂ measurements using laser-induced fluorescence and chemical ionization mass spectrometry during ARCTAS. <i>Atmospheric Measurement Techniques</i> , 2012, 5, 2025-2037.	3.1	28
40	Airborne quantification of upper tropospheric NO _x production from lightning in deep convective storms over the United States Great Plains. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 2002-2028.	3.3	28
41	Missing OH reactivity in the global marine boundary layer. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 4013-4029.	4.9	28
42	A comparison of very short lived halocarbon (VSLs) and DMS aircraft measurements in the tropical west Pacific from CAST, ATTREX and CONTRAST. <i>Atmospheric Measurement Techniques</i> , 2016, 9, 5213-5225.	3.1	27
43	Exploring Oxidation in the Remote Free Troposphere: Insights From Atmospheric Tomography (ATom). <i>Journal of Geophysical Research D: Atmospheres</i> , 2020, 125, e2019JD031685.	3.3	25
44	Impacts of the Denver Cyclone on regional air quality and aerosol formation in the Colorado Front Range during FRAPP ²⁰¹⁴ . <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 12039-12058.	4.9	24
45	Tropospheric HONO distribution and chemistry in the southeastern US. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 9107-9120.	4.9	24
46	The NO ₂ dependence of bromine chemistry in the Arctic atmospheric boundary layer. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 10799-10809.	4.9	23
47	Validation of satellite formaldehyde (HCHO) retrievals using observations from 12 aircraft campaigns. <i>Atmospheric Chemistry and Physics</i> , 2020, 20, 12329-12345.	4.9	23
48	A complete dynamical ozone budget measured in the tropical marine boundary layer during PASE. <i>Journal of Atmospheric Chemistry</i> , 2011, 68, 55-70.	3.1	22
49	An observationally constrained evaluation of the oxidative capacity in the tropical western Pacific troposphere. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 7461-7488.	3.3	20
50	Arctic springtime observations of volatile organic compounds during the OASIS ²⁰⁰⁹ campaign. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 9789-9813.	3.3	20
51	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.	3.3	20
52	Ocean Biogeochemistry Control on the Marine Emissions of Brominated Very Short-Lived Ozone-Depleting Substances: A Machine-Learning Approach. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 12319-12339.	3.3	19
53	Effects of Fire Diurnal Variation and Plume Rise on U.S. Air Quality During FIREX-AQ and WE-CAN Based on the Multi-Scale Infrastructure for Chemistry and Aerosols (MUSICAv0). <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, .	3.3	19
54	Inferring ozone production in an urban atmosphere using measurements of peroxyacetic acid. <i>Atmospheric Chemistry and Physics</i> , 2009, 9, 3697-3707.	4.9	18

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55	Exposure to Particulate Matter and Estimation of Volatile Organic Compounds across Wildland Firefighter Job Tasks. <i>Environmental Science & Technology</i> , 2021, 55, 11795-11804.	10.3	17
56	Chemical Tomography in a Fresh Wildland Fire Plume: A Large Eddy Simulation (LES) Study. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2021JD035203.	3.3	17
57	Airborne measurements of BrO and the sum of HOBr and Br ₂ over the Tropical West Pacific from 1 to 15 km during the CONvective TRansport of Active Species in the Tropics (CONTRAST) experiment. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 12,560.	3.3	16
58	Wintertime Overnight NO _x Removal in a Southeastern United States Coal-fired Power Plant Plume: A Model for Understanding Winter NO _x Processing and its Implications. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 1412-1425.	3.3	15
59	HCOOH in the Remote Atmosphere: Constraints from Atmospheric Tomography (ATom) Airborne Observations. <i>ACS Earth and Space Chemistry</i> , 2021, 5, 1436-1454.	2.8	15
60	Aerosol optical extinction during the Front Range Air Pollution and Photochemistry Experiment (FRAPP) 2014 summertime field campaign, Colorado, USA. <i>Atmospheric Chemistry and Physics</i> , 2016, 16, 11207-11217.	4.9	13
61	Sources and characteristics of summertime organic aerosol in the Colorado Front Range: perspective from measurements and WRF-Chem modeling. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 8293-8312.	4.9	13
62	Empirical Insights Into the Fate of Ammonia in Western U.S. Wildfire Smoke Plumes. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033730.	3.3	13
63	Ozone depletion due to dust release of iodine in the free troposphere. <i>Science Advances</i> , 2021, 7, eabj6544.	10.8	11
64	Source and variability of formaldehyde (HCHO) at northern high latitudes: an integrated satellite, aircraft, and model study. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 7163-7178.	4.9	11
65	Pyrocumulonimbus affect average stratospheric aerosol composition. <i>Science</i> , 2023, 379, 815-820.	19.8	10
66	Identifying and correcting interferences to PTR-ToF-MS measurements of isoprene and other urban volatile organic compounds. <i>Atmospheric Measurement Techniques</i> , 2024, 17, 801-825.	3.1	10
67	Evidence of Nighttime Production of Organic Nitrates During SEAC ⁴ RS, FRAPP, and KORUS-AQ. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087860.	3.9	9
68	Freezing Enhances Leaching of Ferrous Ions but Hinders Reductive Dissolution of Ferric Ions from Iron Oxides. <i>ACS Earth and Space Chemistry</i> , 2021, 5, 1544-1551.	2.8	9
69	Ni ^{±0.4} West (Ni ^{±0.4} W) Sea Surface Temperature Variability. <i>Journal of Geophysical Research: Oceans</i> , 2021, 126, e2021JC017591.	2.6	9
70	The CU Airborne Solar Occultation Flux Instrument: Performance Evaluation during BB-FLUX. <i>ACS Earth and Space Chemistry</i> , 2022, 6, 582-596.	2.8	9
71	Use of Airborne In Situ VOC Measurements to Estimate Transit Time Spectrum: An Observation-Based Diagnostic of Convective Transport. <i>Geophysical Research Letters</i> , 2018, 45, 13,150.	3.9	8
72	Urban Snowpack ClNO ₂ Production and Fate: A One-Dimensional Modeling Study. <i>ACS Earth and Space Chemistry</i> , 2020, 4, 1140-1148.	2.8	8

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73	Evidence for an Oceanic Source of Methyl Ethyl Ketone to the Atmosphere. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL086045.	3.9	8
74	Unpiloted Aircraft System Instrument for the Rapid Collection of Whole Air Samples and Measurements for Environmental Monitoring and Air Quality Studies. <i>Environmental Science & Technology</i> , 2021, 55, 5657-5667.	10.3	7
75	Atmospheric OH reactivity in the western United States determined from comprehensive gas-phase measurements during WE-CAN. <i>Environmental Science Atmospheres</i> , 2023, 3, 97-114.	2.1	7
76	Constraining emissions of volatile organic compounds from western US wildfires with WE-CAN and FIREX-AQ airborne observations. <i>Atmospheric Chemistry and Physics</i> , 2023, 23, 5969-5991.	4.9	7
77	An aerosol particle containing enriched uranium encountered in the remote upper troposphere. <i>Journal of Environmental Radioactivity</i> , 2018, 184-185, 95-100.	1.8	6
78	Wintertime Transport of Reactive Trace Gases From East Asia Into the Deep Tropics. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 12,877.	3.3	6
79	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	6
80	The Role of Snow in Controlling Halogen Chemistry and Boundary Layer Oxidation During Arctic Spring: A 1D Modeling Case Study. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, .	3.3	6
81	Composition and reactivity of volatile organic compounds in the South Coast Air Basin and San Joaquin Valley of California. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 10937-10954.	4.9	6
82	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
83	Wildfire-driven changes in the abundance of gas-phase pollutants in the city of Boise, ID during summer 2018. <i>Atmospheric Pollution Research</i> , 2022, 13, 101269.	3.9	5
84	An improved representation of fire non-methane organic gases (NMOGs) in models: emissions to reactivity. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 12093-12111.	4.9	5
85	Heterogeneity and chemical reactivity of the remote troposphere defined by aircraft measurements. <i>Atmospheric Chemistry and Physics</i> , 2021, 21, 13729-13746.	4.9	4
86	Constraints from observations and modeling on atmosphere–surface exchange of mercury in eastern North America. <i>Elementa</i> , 2016, 4, .	3.2	4
87	Synthesizing evidence for the external cycling of NO _x in high- to low-NO _x atmospheres. <i>Nature Communications</i> , 2023, 14, .	13.0	4
88	Deriving Tropospheric Transit Time Distributions Using Airborne Trace Gas Measurements: Uncertainty and Information Content. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD034358.	3.3	3
89	Global seasonal distribution of CH ₂ Br ₂ and CHBr ₃ in the upper troposphere and lower stratosphere. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 15049-15070.	4.9	3
90	Heterogeneity and chemical reactivity of the remote troposphere defined by aircraft measurements – corrected. <i>Atmospheric Chemistry and Physics</i> , 2023, 23, 99-117.	4.9	3

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91	Parameterizations of US wildfire and prescribed fire emission ratios and emission factors based on FIREX-AQ aircraft measurements. <i>Atmospheric Chemistry and Physics</i> , 2024, 24, 929-956.	4.9	3
92	Emission Factors for Crop Residue and Prescribed Fires in the Eastern US During FIREX-AQ. <i>Journal of Geophysical Research D: Atmospheres</i> , 2023, 128, .	3.3	2
93	East Asian summer monsoon delivers large abundances of very short-lived organic chlorine substances to the lower stratosphere. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2024, 121, .	7.5	1
94	Measurements and Modeling of the Interhemispheric Differences of Atmospheric Chlorinated Very Short-Lived Substances. <i>Journal of Geophysical Research D: Atmospheres</i> , 2024, 129, .	3.3	0
95	Observationally constrained analysis of sulfur cycle in the marine atmosphere with NASA ATom measurements and AeroCom model simulations. <i>Atmospheric Chemistry and Physics</i> , 2024, 24, 1717-1741.	4.9	0
96	Air Quality Monitoring and the Safety of Farmworkers in Wildfire Mandatory Evacuation Zones. <i>GeoHealth</i> , 2024, 8, .	4.0	0
97	Chloromethanes in the North American Troposphere and Lower Stratosphere Over the Past Two Decades. <i>Geophysical Research Letters</i> , 2024, 51, .	3.9	0