Rebecca S Hornbrook

List of Publications by Year
in descending order

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	Measurements and Modeling of the Interhemispheric Differences of Atmospheric Chlorinated Very Shortâ€Lived Substances. Journal of Geophysical Research D: Atmospheres, 2024, 129, .	3.3	0
2	Parameterizations of US wildfire and prescribed fire emission ratios and emission factors based on FIREX-AQ aircraft measurements. Atmospheric Chemistry and Physics, 2024, 24, 929-956.	4.9	3
3	Identifying and correcting interferences to PTR-ToF-MS measurements of isoprene and other urban volatile organic compounds. Atmospheric Measurement Techniques, 2024, 17, 801-825.	3.1	10
4	Observationally constrained analysis of sulfur cycle in the marine atmosphere with NASA ATom measurements and AeroCom model simulations. Atmospheric Chemistry and Physics, 2024, 24, 1717-1741.	4.9	0
5	East Asian summer monsoon delivers large abundances of very short-lived organic chlorine substances to the lower stratosphere. Proceedings of the National Academy of Sciences of the United States of America, 2024, 121, .	7.5	1
6	Air Quality Monitoring and the Safety of Farmworkers in Wildfire Mandatory Evacuation Zones. GeoHealth, 2024, 8, .	4.0	0
7	Chloromethanes in the North American Troposphere and Lower Stratosphere Over the Past Two Decades. Geophysical Research Letters, 2024, 51, .	3.9	0
8	Atmospheric OH reactivity in the western United States determined from comprehensive gas-phase measurements during WE-CAN. Environmental Science Atmospheres, 2023, 3, 97-114.	2.1	7
9	Heterogeneity and chemical reactivity of the remote troposphere defined by aircraft measurements â€“ corrected. Atmospheric Chemistry and Physics, 2023, 23, 99-117.	4.9	3
10	Pyrocumulonimbus affect average stratospheric aerosol composition. Science, 2023, 379, 815-820.	19.8	10
11	Constraining emissions of volatile organic compounds from western US wildfires with WE-CAN and FIREX-AQ airborne observations. Atmospheric Chemistry and Physics, 2023, 23, 5969-5991.	4.9	7
12	Emission Factors for Crop Residue and Prescribed Fires in the Eastern US During FIREXâ€AQ. Journal of Geophysical Research D: Atmospheres, 2023, 128, .	3.3	2
13	Synthesizing evidence for the external cycling of NOx in high- to low-NOx atmospheres. Nature Communications, 2023, 14, .	13.0	4
14	Wildfire-driven changes in the abundance of gas-phase pollutants in the city of Boise, ID during summer 2018. Atmospheric Pollution Research, 2022, 13, 101269.	3.9	5
15	The CU Airborne Solar Occultation Flux Instrument: Performance Evaluation during BB-FLUX. ACS Earth and Space Chemistry, 2022, 6, 582-596.	2.8	9
16	The Role of Snow in Controlling Halogen Chemistry and Boundary Layer Oxidation During Arctic Spring: A 1D Modeling Case Study. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	6
17	Evaluating the Impact of Chemical Complexity and Horizontal Resolution on Tropospheric Ozone Over the Conterminous US With a Global Variable Resolution Chemistry Model. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.7	29
18	Source and variability of formaldehyde (HCHO) at northern high latitudes: an integrated satellite, aircraft, and model study. Atmospheric Chemistry and Physics, 2022, 22, 7163-7178.	4.9	11

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19	Effects of Fire Diurnal Variation and Plume Rise on U.S. Air Quality During FIREXâ€AQ and WEâ€CAN Based on the Multiâ€Scale Infrastructure for Chemistry and Aerosols (MUSICAv0). Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	19
20	An improved representation of fire non-methane organic gases (NMOGs) in models: emissions to reactivity. Atmospheric Chemistry and Physics, 2022, 22, 12093-12111.	4.9	5
21	Composition and reactivity of volatile organic compounds in the South Coast Air Basin and San Joaquin Valley of California. Atmospheric Chemistry and Physics, 2022, 22, 10937-10954.	4.9	6
22	Global seasonal distribution of CH₂Br₂ and CHBr₃ in the upper troposphere and lower stratosphere. Atmospheric Chemistry and Physics, 2022, 22, 15049-15070.	4.9	3
23	Daytime Oxidized Reactive Nitrogen Partitioning in Western U.S. Wildfire Smoke Plumes. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033484.	3.3	44
24	The Global Budget of Atmospheric Methanol: New Constraints on Secondary, Oceanic, and Terrestrial Sources. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033439.	3.3	43
25	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.	10.3	7
26	HCOOH in the Remote Atmosphere: Constraints from Atmospheric Tomography (ATom) Airborne Observations. ACS Earth and Space Chemistry, 2021, 5, 1436-1454.	2.8	15
27	Freezing Enhances Leaching of Ferrous Ions but Hinders Reductive Dissolution of Ferric Ions from Iron Oxides. ACS Earth and Space Chemistry, 2021, 5, 1544-1551.	2.8	9
28	Emissions of Trace Organic Gases From Western U.S. Wildfires Based on WEâ€CAN Aircraft Measurements. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033838.	3.3	64
29	Empirical Insights Into the Fate of Ammonia in Western U.S. Wildfire Smoke Plumes. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033730.	3.3	13
30	Impact of stratospheric air and surface emissions on tropospheric nitrous oxide during ATom. Atmospheric Chemistry and Physics, 2021, 21, 11113-11132.	4.9	6
31	Exposure to Particulate Matter and Estimation of Volatile Organic Compounds across Wildland Firefighter Job Tasks. Environmental Science & Technology, 2021, 55, 11795-11804.	10.3	17
32	Chemical Tomography in a Fresh Wildland Fire Plume: A Large Eddy Simulation (LES) Study. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035203.	3.3	17
33	NiÃ±o 4 West (NiÃ±oâ€4W) Sea Surface Temperature Variability. Journal of Geophysical Research: Oceans, 2021, 126, e2021JC017591.	2.6	9
34	Heterogeneity and chemical reactivity of the remote troposphere defined by aircraft measurements. Atmospheric Chemistry and Physics, 2021, 21, 13729-13746.	4.9	4
35	Deriving Tropospheric Transit Time Distributions Using Airborne Trace Gas Measurements: Uncertainty and Information Content. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034358.	3.3	3
36	Large contribution of biomass burning emissions to ozone throughout the global remote troposphere. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.5	58

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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). Atmospheric Chemistry and Physics, 2021, 21, 18319-18331.	4.9	29
38	Ozone depletion due to dust release of iodine in the free troposphere. Science Advances, 2021, 7, eabj6544.	10.8	11
39	Exploring Oxidation in the Remote Free Troposphere: Insights From Atmospheric Tomography (ATom). Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031685.	3.3	25
40	Global Atmospheric Budget of Acetone: Airâ€Sea Exchange and the Contribution to Hydroxyl Radicals. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032553.	3.3	20
41	Urban Snowpack ClNO2 Production and Fate: A One-Dimensional Modeling Study. ACS Earth and Space Chemistry, 2020, 4, 1140-1148.	2.8	8
42	Hazardous Air Pollutants in Fresh and Aged Western US Wildfire Smoke and Implications for Long-Term Exposure. Environmental Science & Technology, 2020, 54, 11838-11847.	10.3	81
43	Widespread biomass burning smoke throughout the remote troposphere. Nature Geoscience, 2020, 13, 422-427.	11.7	76
44	Missing OH reactivity in the global marine boundary layer. Atmospheric Chemistry and Physics, 2020, 20, 4013-4029.	4.9	28
45	Evidence of Nighttime Production of Organic Nitrates During SEAC⁴RS, FRAPPÃ‰, and KORUSâ€AQ. Geophysical Research Letters, 2020, 47, e2020GL087860.	3.9	9
46	Observation of Road Salt Aerosol Driving Inland Wintertime Atmospheric Chlorine Chemistry. ACS Central Science, 2020, 6, 684-694.	12.1	48
47	Evidence for an Oceanic Source of Methyl Ethyl Ketone to the Atmosphere. Geophysical Research Letters, 2020, 47, e2019GL086045.	3.9	8
48	HONO Emissions from Western U.S. Wildfires Provide Dominant Radical Source in Fresh Wildfire Smoke. Environmental Science & Technology, 2020, 54, 5954-5963.	10.3	62
49	Global airborne sampling reveals a previously unobserved dimethyl sulfide oxidation mechanism in the marine atmosphere. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 4505-4510.	7.5	136
50	Validation of satellite formaldehyde (HCHO) retrievals using observations from 12 aircraft campaigns. Atmospheric Chemistry and Physics, 2020, 20, 12329-12345.	4.9	23
51	Constraining remote oxidation capacity with ATom observations. Atmospheric Chemistry and Physics, 2020, 20, 7753-7781.	4.9	39
52	Ocean Biogeochemistry Control on the Marine Emissions of Brominated Very Shortâ€Lived Ozoneâ€Depleting Substances: A Machineâ€Learning Approach. Journal of Geophysical Research D: Atmospheres, 2019, 124, 12319-12339.	3.3	19
53	On the sources and sinks of atmospheric VOCs: an integrated analysis of recent aircraft campaigns over North America. Atmospheric Chemistry and Physics, 2019, 19, 9097-9123.	4.9	33
54	Importance of reactive halogens in the tropical marine atmosphere: aÂregional modelling study using WRF-Chem. Atmospheric Chemistry and Physics, 2019, 19, 3161-3189.	4.9	38

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55	Atmospheric Acetaldehyde: Importance of Airâ€Sea Exchange and a Missing Source in the Remote Troposphere. Geophysical Research Letters, 2019, 46, 5601-5613.	3.9	42
56	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
57	Heterogeneous N₂O₅ Uptake During Winter: Aircraft Measurements During the 2015 WINTER Campaign and Critical Evaluation of Current Parameterizations. Journal of Geophysical Research D: Atmospheres, 2018, 123, 4345-4372.	3.3	111
58	An aerosol particle containing enriched uranium encountered in the remote upper troposphere. Journal of Environmental Radioactivity, 2018, 184-185, 95-100.	1.8	6
59	Wintertime Overnight NO_x Removal in a Southeastern United States Coalâ€fired Power Plant Plume: A Model for Understanding Winter NO_x Processing and its Implications. Journal of Geophysical Research D: Atmospheres, 2018, 123, 1412-1425.	3.3	15
60	Wintertime Transport of Reactive Trace Gases From East Asia Into the Deep Tropics. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12,877.	3.3	6
61	Use of Airborne In Situ VOC Measurements to Estimate Transit Time Spectrum: An Observationâ€Based Diagnostic of Convective Transport. Geophysical Research Letters, 2018, 45, 13,150.	3.9	8
62	Sources and characteristics of summertime organic aerosol in the Colorado Front Range: perspective from measurements and WRF-Chem modeling. Atmospheric Chemistry and Physics, 2018, 18, 8293-8312.	4.9	13
63	Tropospheric HONO distribution and chemistry in the southeastern US. Atmospheric Chemistry and Physics, 2018, 18, 9107-9120.	4.9	24
64	Sources and Secondary Production of Organic Aerosols in the Northeastern United States during WINTER. Journal of Geophysical Research D: Atmospheres, 2018, 123, 7771-7796.	3.3	75
65	Formaldehyde in the Tropical Western Pacific: Chemical Sources and Sinks, Convective Transport, and Representation in CAMâ€Chem and the CCMI Models. Journal of Geophysical Research D: Atmospheres, 2017, 122, 11201-11226.	3.3	36
66	BrO and inferred Br_{<i>y</i>} profiles over the western Pacific: relevance of inorganic bromine sources and a Br_{<i>y</i>} minimum in the aged tropical tropopause layer. Atmospheric Chemistry and Physics, 2017, 17, 15245-15270.	4.9	36
67	A comparison of very short lived halocarbon (VSLS) and DMS aircraft measurements in the tropical west Pacific from CAST, ATTREX and CONTRAST. Atmospheric Measurement Techniques, 2016, 9, 5213-5225.	3.1	27
68	An observationally constrained evaluation of the oxidative capacity in the tropical western Pacific troposphere. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7461-7488.	3.3	20
69	Rapid cycling of reactive nitrogen in the marine boundary layer. Nature, 2016, 532, 489-491.	35.8	177
70	Arctic springtime observations of volatile organic compounds during the OASISâ€2009 campaign. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9789-9813.	3.3	20
71	Airborne quantification of upper tropospheric NO_x production from lightning in deep convective storms over the United States Great Plains. Journal of Geophysical Research D: Atmospheres, 2016, 121, 2002-2028.	3.3	28
72	Atmospheric benzene observations from oil and gas production in the Denverâ€Julesburg Basin in July and August 2014. Journal of Geophysical Research D: Atmospheres, 2016, 121, 11,055.	3.3	72

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73	Airborne measurements of BrO and the sum of HOBr and Br₂ over the Tropical West Pacific from 1 to 15â€‰km during the CONvective TRansport of Active Species in the Tropics (CONTRAST) experiment. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,560.	3.3	16
74	Origin of oxidized mercury in the summertime free troposphere over the southeastern US. Atmospheric Chemistry and Physics, 2016, 16, 1511-1530.	4.9	70
75	Aerosol optical extinction during the Front Range Air Pollution and Photochemistry Ã‰xperiment (FRAPPÃ‰) 2014 summertime field campaign, Colorado, USA. Atmospheric Chemistry and Physics, 2016, 16, 11207-11217.	4.9	13
76	Impacts of the Denver Cyclone on regional air quality and aerosol formation in the Colorado Front Range during FRAPPÃ‰Â2014. Atmospheric Chemistry and Physics, 2016, 16, 12039-12058.	4.9	24
77	Wet scavenging of soluble gases in DC3 deep convective storms using WRFâ€Chem simulations and aircraft observations. Journal of Geophysical Research D: Atmospheres, 2016, 121, 4233-4257.	3.3	31
78	A pervasive role for biomass burning in tropical high ozone/low water structures. Nature Communications, 2016, 7, 10267.	13.0	37
79	Constraints from observations and modeling on atmosphereâ€“surface exchange of mercury in eastern North America. Elementa, 2016, 4, .	3.2	4
80	Airborne flux measurements of methane and volatile organic compounds over the Haynesville and Marcellus shale gas production regions. Journal of Geophysical Research D: Atmospheres, 2015, 120, 6271-6289.	3.3	63
81	Upper tropospheric ozone production from lightning NO_xâ€impacted convection: Smoke ingestion case study from the DC3 campaign. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2505-2523.	3.3	92
82	Interactions of bromine, chlorine, and iodine photochemistry during ozone depletions in Barrow, Alaska. Atmospheric Chemistry and Physics, 2015, 15, 9651-9679.	4.9	32
83	The NO_{<i>x</i>} dependence of bromine chemistry in the Arctic atmospheric boundary layer. Atmospheric Chemistry and Physics, 2015, 15, 10799-10809.	4.9	23
84	Active and widespread halogen chemistry in the tropical and subtropical free troposphere. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9281-9286.	7.5	92
85	High levels of molecular chlorine in the Arctic atmosphere. Nature Geoscience, 2014, 7, 91-94.	11.7	107
86	Missing peroxy radical sources within a summertime ponderosa pine forest. Atmospheric Chemistry and Physics, 2014, 14, 4715-4732.	4.9	58
87	Overview of the Manitou Experimental Forest Observatory: site description and selected science results from 2008 to 2013. Atmospheric Chemistry and Physics, 2014, 14, 6345-6367.	4.9	64
88	Comparison of different real time VOC measurement techniques in a ponderosa pine forest. Atmospheric Chemistry and Physics, 2013, 13, 2893-2906.	4.9	83
89	Airborne intercomparison of HO_x measurements using laser-induced fluorescence and chemical ionization mass spectrometry during ARCTAS. Atmospheric Measurement Techniques, 2012, 5, 2025-2037.	3.1	28
90	Observations of glyoxal and formaldehyde as metrics for the anthropogenic impact on rural photochemistry. Atmospheric Chemistry and Physics, 2012, 12, 9529-9543.	4.9	73

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91	Impact of the deep convection of isoprene and other reactive trace species on radicals and ozone in the upper troposphere. Atmospheric Chemistry and Physics, 2012, 12, 1135-1150.	4.9	34
92	The relative importance of chlorine and bromine radicals in the oxidation of atmospheric mercury at Barrow, Alaska. Journal of Geophysical Research, 2012, 117, .	3.2	61
93	Nitrous acid (HONO) during polar spring in Barrow, Alaska: A net source of OH radicals?. Journal of Geophysical Research, 2011, 116, .	3.2	71
94	Observations of nonmethane organic compounds during ARCTAS â˜' Part 1: Biomass burning emissions and plume enhancements. Atmospheric Chemistry and Physics, 2011, 11, 11103-11130.	4.9	83
95	A complete dynamical ozone budget measured in the tropical marine boundary layer during PASE. Journal of Atmospheric Chemistry, 2011, 68, 55-70.	3.1	22
96	Measurements of tropospheric HO₂ and RO₂ by oxygen dilution modulation and chemical ionization mass spectrometry. Atmospheric Measurement Techniques, 2011, 4, 735-756.	3.1	55
97	Inferring ozone production in an urban atmosphere using measurements of peroxynitric acid. Atmospheric Chemistry and Physics, 2009, 9, 3697-3707.	4.9	18