Helen M Worden

List of Publications by Year
in descending order

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97 papers	5,072 citations	81839 39 h-index	110317 64 g-index
174 all docs	174 docs citations	174 times ranked	4528 citing authors

#	Article	IF	Citations
1	Indonesian fire activity and smoke pollution in 2015 show persistent nonlinear sensitivity to El NiÃ±o-induced drought. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9204-9209.	3.3	253
2	Tropospheric Ozone Assessment Report: Present-day distribution and trends of tropospheric ozone relevant to climate and global atmospheric chemistry model evaluation. Elementa, 2018, 6, .	1.1	240
3	Decadal record of satellite carbon monoxide observations. Atmospheric Chemistry and Physics, 2013, 13, 837-850.	1.9	207
4	Comparisons of Tropospheric Emission Spectrometer (TES) ozone profiles to ozonesondes: Methods and initial results. Journal of Geophysical Research, 2007, 112, .	3.3	184
5	Validation of Tropospheric Emission Spectrometer (TES) nadir ozone profiles using ozonesonde measurements. Journal of Geophysical Research, 2008, 113, .	3.3	181
6	Tropospheric Emission Spectrometer observations of the tropospheric HDO/H2O ratio: Estimation approach and characterization. Journal of Geophysical Research, 2006, 111, .	3.3	167
7	Predicted errors of tropospheric emission spectrometer nadir retrievals from spectral window selection. Journal of Geophysical Research, 2004, 109, .	3.3	165
8	Observations of nearâ€surface carbon monoxide from space using MOPITT multispectral retrievals. Journal of Geophysical Research, 2010, 115, .	3.3	137
9	Unexpected slowdown of US pollutant emission reduction in the past decade. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 5099-5104.	3.3	137
10	Reduced biomass burning emissions reconcile conflicting estimates of the post-2006 atmospheric methane budget. Nature Communications, 2017, 8, 2227.	5.8	129
11	Validation of MOPITT Version 5 thermalâ€infrared, nearâ€infrared, and multispectral carbon monoxide profile retrievals for 2000â€“2011. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6710-6725.	1.2	119
12	Measured and modeled CO and NO y in DISCOVER-AQ: An evaluation of emissions and chemistry over the eastern US. Atmospheric Environment, 2014, 96, 78-87.	1.9	114
13	Effects of the 2006 El NiÃ±o on tropospheric composition as revealed by data from the Tropospheric Emission Spectrometer (TES). Geophysical Research Letters, 2008, 35, .	1.5	113
14	Global atmospheric carbon monoxide budget 2000â€“2017 inferred from multi-species atmospheric inversions. Earth System Science Data, 2019, 11, 1411-1436.	3.7	96
15	Rapid decline in carbon monoxide emissions and export from East Asia between years 2005 and 2016. Environmental Research Letters, 2018, 13, 044007.	2.2	95
16	Ozone-CO correlations determined by the TES satellite instrument in continental outflow regions. Geophysical Research Letters, 2006, 33, n/a-n/a.	1.5	92
17	The MOPITT Version 6 product: algorithm enhancements and validation. Atmospheric Measurement Techniques, 2014, 7, 3623-3632.	1.2	92
18	A 15-year record of CO emissions constrained by MOPITT CO observations. Atmospheric Chemistry and Physics, 2017, 17, 4565-4583.	1.9	92

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19	Capturing time and vertical variability of tropospheric ozone: A study using TES nadir retrievals. Journal of Geophysical Research, 2002, 107, ACH 21-1-ACH 21-11.	3.3	87
20	Improved tropospheric ozone profile retrievals using OMI and TES radiances. Geophysical Research Letters, 2007, 34, .	1.5	85
21	Satellite measurements of the clear-sky greenhouse effect from tropospheric ozone. Nature Geoscience, 2008, 1, 305-308.	5.4	84
22	Nadir measurements of carbon monoxide distributions by the Tropospheric Emission Spectrometer instrument onboard the Aura Spacecraft: Overview of analysis approach and examples of initial results. Geophysical Research Letters, 2006, 33, .	1.5	82
23	Validation of Tropospheric Emission Spectrometer (TES) measurements of the total, stratospheric, and tropospheric column abundance of ozone. Journal of Geophysical Research, 2008, 113, .	3.3	80
24	A climate-scale satellite record for carbon monoxide: the MOPITT Version 7 product. Atmospheric Measurement Techniques, 2017, 10, 2533-2555.	1.2	69
25	Impact of model errors in convective transport on CO source estimates inferred from MOPITT CO retrievals. Journal of Geophysical Research D: Atmospheres, 2013, 118, 2073-2083.	1.2	62
26	MOPITT multispectral CO retrievals: Origins and effects of geophysical radiance errors. Journal of Geophysical Research, 2011, 116, .	3.3	61
27	Evaluation of ACCMIP outgoing longwave radiation from tropospheric ozone using TES satellite observations. Atmospheric Chemistry and Physics, 2013, 13, 4057-4072.	1.9	61
28	Evaluation of MOPITT retrievals of lowerâ€tropospheric carbon monoxide over the United States. Journal of Geophysical Research, 2012, 117, .	3.3	60
29	Radiance-based retrieval bias mitigation for the MOPITT instrument: the version 8 product. Atmospheric Measurement Techniques, 2019, 12, 4561-4580.	1.2	60
30	Observed vertical distribution of tropospheric ozone during the Asian summertime monsoon. Journal of Geophysical Research, 2009, 114, .	3.3	59
31	Multi-spectral sensitivity studies for the retrieval of tropospheric and lowermost tropospheric ozone from simulated clear-sky GEO-CAPE measurements. Atmospheric Environment, 2011, 45, 7151-7165.	1.9	59
32	Toward anthropogenic combustion emission constraints from spaceâ€based analysis of urban CO₂/CO sensitivity. Geophysical Research Letters, 2013, 40, 4971-4976.	1.5	59
33	Trends in emissions and concentrations of air pollutants in the lower troposphere in the Baltimore/Washington airshed from 1997 to 2011. Atmospheric Chemistry and Physics, 2013, 13, 7859-7874.	1.9	55
34	Updated tropospheric chemistry reanalysis and emission estimates, TCR-2, for 2005â€“2018. Earth System Science Data, 2020, 12, 2223-2259.	3.7	54
35	An examination of the long-term CO records from MOPITT and IASI: comparison of retrieval methodology. Atmospheric Measurement Techniques, 2015, 8, 4313-4328.	1.2	50
36	Chinese Regulations Are Workingâ€"Why Is Surface Ozone Over Industrialized Areas Still High? Applying Lessons From Northeast US Air Quality Evolution. Geophysical Research Letters, 2021, 48, e2021GL092816.	1.5	50

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37	Chemical Feedback From Decreasing Carbon Monoxide Emissions. Geophysical Research Letters, 2017, 44, 9985-9995.	1.5	49
38	High-resolution tropospheric carbon monoxide profiles retrieved from CrIS and TROPOMI. Atmospheric Measurement Techniques, 2016, 9, 2567-2579.	1.2	46
39	Validation of MOPITT carbon monoxide using ground-based Fourier transform infrared spectrometer data from NDACC. Atmospheric Measurement Techniques, 2017, 10, 1927-1956.	1.2	44
40	Satelliteâ€based estimates of reduced CO and CO₂ emissions due to traffic restrictions during the 2008 Beijing Olympics. Geophysical Research Letters, 2012, 39, .	1.5	41
41	Air pollution trends measured from Terra: CO and AOD over industrial, fire-prone, and background regions. Remote Sensing of Environment, 2021, 256, 112275.	4.6	41
42	Lightning NO_x emissions over the USA constrained by TES ozone observations and the GEOS-Chem model. Atmospheric Chemistry and Physics, 2010, 10, 107-119.	1.9	40
43	The vertical distribution of ozone instantaneous radiative forcing from satellite and chemistry climate models. Journal of Geophysical Research, 2011, 116, .	3.3	40
44	El NiÃ±o, the 2006 Indonesian peat fires, and the distribution of atmospheric methane. Geophysical Research Letters, 2013, 40, 4938-4943.	1.5	40
45	CH₄ and CO distributions over tropical fires during October 2006 as observed by the Aura TES satellite instrument and modeled by GEOS-Chem. Atmospheric Chemistry and Physics, 2013, 13, 3679-3692.	1.9	39
46	Tropospheric Emission Spectrometer nadir spectral radiance comparisons. Journal of Geophysical Research, 2008, 113, .	3.3	38
47	Toward a chemical reanalysis in a coupled chemistryâ€climate model: An evaluation of MOPITT CO assimilation and its impact on tropospheric composition. Journal of Geophysical Research D: Atmospheres, 2016, 121, 7310-7343.	1.2	37
48	Sensitivity of outgoing longwave radiative flux to the global vertical distribution of ozone characterized by instantaneous radiative kernels from Aura-TES. Journal of Geophysical Research, 2011, 116, .	3.3	36
49	Correcting model biases of CO in East Asia: impact on oxidant distributions during KORUS-AQ. Atmospheric Chemistry and Physics, 2020, 20, 14617-14647.	1.9	34
50	Sensitivity of top-down CO source estimates to the modeled vertical structure in atmospheric CO. Atmospheric Chemistry and Physics, 2015, 15, 1521-1537.	1.9	33
51	A global comparison of carbon monoxide profiles and column amounts from Tropospheric Emission Spectrometer (TES) and Measurements of Pollution in the Troposphere (MOPITT). Journal of Geophysical Research, 2009, 114, .	3.3	31
52	Interpreting space-based trends in carbon monoxide with multiple models. Atmospheric Chemistry and Physics, 2016, 16, 7285-7294.	1.9	31
53	Regional data assimilation of multi-spectral MOPITT observations of CO over North America. Atmospheric Chemistry and Physics, 2015, 15, 6801-6814.	1.9	30
54	Fire decline in dry tropical ecosystems enhances decadal land carbon sink. Nature Communications, 2020, 11, 1900.	5.8	30

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55	1.5Âyears of TROPOMI CO measurements: comparisons to MOPITT and ATom. Atmospheric Measurement Techniques, 2020, 13, 4841-4864.	1.2	29
56	Improved monitoring of surface ozone by joint assimilation of geostationary satellite observations of ozone and CO. Atmospheric Environment, 2014, 84, 254-261.	1.9	28
57	Lagged effects regulate the inter-annual variability of the tropical carbon balance. Biogeosciences, 2020, 17, 6393-6422.	1.3	26
58	Information content of MOPITT CO profile retrievals: Temporal and geographical variability. Journal of Geophysical Research D: Atmospheres, 2015, 120, 12723-12738.	1.2	23
59	Remote-sensing constraints on South America fire traits by Bayesian fusion of atmospheric and surface data. Geophysical Research Letters, 2015, 42, 1268-1274.	1.5	22
60	Averaging kernel prediction from atmospheric and surface state parameters based on multiple regression for nadir-viewing satellite measurements of carbon monoxide and ozone. Atmospheric Measurement Techniques, 2013, 6, 1633-1646.	1.2	21
61	Impact of Southern California anthropogenic emissions on ozone pollution in the mountain states: Model analysis and observational evidence from space. Journal of Geophysical Research D: Atmospheres, 2013, 118, 12,784.	1.2	21
62	Assessing the impacts of assimilating IASI and MOPITT CO retrievals using CESMâ€CAMâ€chem and DART. Journal of Geophysical Research D: Atmospheres, 2015, 120, 10,501.	1.2	21
63	Quantification of CO emissions from the city of Madrid using MOPITT satellite retrievals and WRF simulations. Atmospheric Chemistry and Physics, 2017, 17, 14675-14694.	1.9	21
64	Evaluation of MOPITT VersionÂ7 joint TIRâ€“NIR X_{CO} retrievals with TCCON. Atmospheric Measurement Techniques, 2019, 12, 5547-5572.	1.2	21
65	Sectorâ€Based Topâ€Down Estimates of NO_x, SO₂, and CO Emissions in East Asia. Geophysical Research Letters, 2022, 49, .	1.5	21
66	Extending the satellite data record of tropospheric ozone profiles from Aura-TES to MetOp-IASI: characterisation of optimal estimation retrievals. Atmospheric Measurement Techniques, 2014, 7, 4223-4236.	1.2	19
67	Technical Note: Temporal change in averaging kernels as a source of uncertainty in trend estimates of carbon monoxide retrieved from MOPITT. Atmospheric Chemistry and Physics, 2013, 13, 11307-11316.	1.9	18
68	13 years of MOPITT operations: lessons from MOPITT retrieval algorithm development. Annals of Geophysics, 2014, , .	0.5	18
69	New seasonal pattern of pollution emerges from changing North American wildfires. Nature Communications, 2022, 13, 2043.	5.8	18
70	A joint data record of tropospheric ozone from Aura-TES and MetOp-IASI. Atmospheric Chemistry and Physics, 2016, 16, 10229-10239.	1.9	17
71	Assessing Measurements of Pollution in the Troposphere (MOPITT) carbon monoxide retrievals over urban versus non-urban regions. Atmospheric Measurement Techniques, 2020, 13, 1337-1356.	1.2	16
72	Lower-tropospheric CO₂ from near-infrared ACOS-GOSAT observations. Atmospheric Chemistry and Physics, 2017, 17, 5407-5438.	1.9	15

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73	Links Between Carbon Monoxide and Climate Indices for the Southern Hemisphere and Tropical Fire Regions. Journal of Geophysical Research D: Atmospheres, 2018, 123, 9786-9800.	1.2	15
74	Satellite data reveal a common combustion emission pathway for major cities in China. Atmospheric Chemistry and Physics, 2019, 19, 4269-4288.	1.9	15
75	Instantaneous longwave radiative impact of ozone: an application on IASI/MetOp observations. Atmospheric Chemistry and Physics, 2015, 15, 12971-12987.	1.9	14
76	Decadal Variabilities in Tropospheric Nitrogen Oxides Over United States, Europe, and China. Journal of Geophysical Research D: Atmospheres, 2022, 127, e2021JD035872.	1.2	14
77	The MOPITT Version 9 CO product: sampling enhancements and validation. Atmospheric Measurement Techniques, 2022, 15, 2325-2344.	1.2	14
78	Satellite Observations of the Tropical Terrestrial Carbon Balance and Interactions With the Water Cycle During the 21st Century. Reviews of Geophysics, 2021, 59, e2020RG000711.	9.0	13
79	New constraints on biogenic emissions using satellite-based estimates of carbon monoxide fluxes. Atmospheric Chemistry and Physics, 2019, 19, 13569-13579.	1.9	12
80	Regional and Urban Column CO Trends and Anomalies as Observed by MOPITT Over 16ÂYears. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033967.	1.2	10
81	Comparison of upper tropospheric carbon monoxide from MOPITT, ACEâ€FTS, and HIPPOâ€QCLS. Journal of Geophysical Research D: Atmospheres, 2014, 119, 14,144.	1.2	9
82	Quantifying Emissions of CO and NO_x Using Observations From MOPITT, OMI, TES, and OSIRIS. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1170-1193.	1.2	9
83	First satellite identification of volcanic carbon monoxide. Geophysical Research Letters, 2012, 39, .	1.5	8
84	On the feasibility of monitoring carbon monoxide in the lower troposphere from a constellation of Northern Hemisphere geostationary satellites. (Part 1). Atmospheric Environment, 2015, 113, 63-77.	1.9	8
85	On the feasibility of monitoring carbon monoxide in the lower troposphere from a constellation of northern hemisphere geostationary satellites: Global scale assimilation experiments (Part II). Atmospheric Environment, 2016, 140, 188-201.	1.9	7
86	Attribution of Chemistry-Climate Model Initiative (CCMI) ozone radiative flux bias from satellites. Atmospheric Chemistry and Physics, 2020, 20, 281-301.	1.9	6
87	Assessing sub-grid variability within satellite pixels over urban regions using airborne mapping spectrometer measurements. Atmospheric Measurement Techniques, 2021, 14, 4639-4655.	1.2	6
88	Deep Learning to Evaluate US NO_x Emissions Using Surface Ozone Predictions. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	6
89	Hydrological controls on the tropospheric ozone greenhouse gas effect. Elementa, 2017, 5, .	1.1	5
90	Interannual Variation of Upper Tropospheric CO over the Western Pacific Linked with Indonesian Fires. Scientific Online Letters on the Atmosphere, 2019, 15, 205-210.	0.6	5

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91	Validation and error estimation of AIRS MUSES CO profiles with HIPPO, ATom, and NOAA GML aircraft observations. Atmospheric Measurement Techniques, 2022, 15, 205-223.	1.2	4
92	The CHRONOS mission: capability for sub-hourly synoptic observations of carbon monoxide and methane to quantify emissions and transport of air pollution. Atmospheric Measurement Techniques, 2018, 11, 1061-1085.	1.2	3
93	Fate of Pollution Emitted During the 2015 Indonesian Fire Season. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033474.	1.2	3
94	Commentary on â€œO 3 variability in the troposphere as observed by IASI over 2008â€“2016: Contribution of atmospheric chemistry and dynamicsâ€•by Wespes et al.. Journal of Geophysical Research D: Atmospheres, 2017, 122, 6130-6134.	1.2	1
95	Analysis of improvements in MOPITT observational coverage over Canada. Atmospheric Measurement Techniques, 2022, 15, 701-719.	1.2	1
96	The impact of MOPITT data on tropospheric chemistry. , 2010, , .		0
97	Retrieval algorithm development and product validation for TERRA/MOPITT. , 2014, , .		0