

Robert M Yantosca

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96
papers

12,497
citations

58
h-index

109
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109
ext. papers

13,907
ext. citations

6.4
avg, IF

5.63
L-index

#	Paper	IF	Citations
96	Global modeling of tropospheric chemistry with assimilated meteorology: Model description and evaluation. <i>Journal of Geophysical Research</i> , 2001 , 106, 23073-23095		1601
95	Natural and transboundary pollution influences on sulfate-nitrate-ammonium aerosols in the United States: Implications for policy. <i>Journal of Geophysical Research</i> , 2004 , 109,		648
94	Constraints from ²¹⁰ Pb and ⁷ Be on wet deposition and transport in a global three-dimensional chemical tracer model driven by assimilated meteorological fields. <i>Journal of Geophysical Research</i> , 2001 , 106, 12109-12128		538
93	Global and regional decreases in tropospheric oxidants from photochemical effects of aerosols. <i>Journal of Geophysical Research</i> , 2003 , 108, n/a-n/a		390
92	Background ozone over the United States in summer: Origin, trend, and contribution to pollution episodes. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 11-1		303
91	Transport pathways for Asian pollution outflow over the Pacific: Interannual and seasonal variations. <i>Journal of Geophysical Research</i> , 2003 , 108,		302
90	Chemical cycling and deposition of atmospheric mercury: Global constraints from observations. <i>Journal of Geophysical Research</i> , 2007 , 112,		294
89	An improved retrieval of tropospheric nitrogen dioxide from GOME. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 9-1		293
88	Gas-particle partitioning of atmospheric Hg(II) and its effect on global mercury deposition. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 591-603	6.8	282
87	Air mass factor formulation for spectroscopic measurements from satellites: Application to formaldehyde retrievals from the Global Ozone Monitoring Experiment. <i>Journal of Geophysical Research</i> , 2001 , 106, 14539-14550		269
86	Asian chemical outflow to the Pacific in spring: Origins, pathways, and budgets. <i>Journal of Geophysical Research</i> , 2001 , 106, 23097-23113		257
85	Atmospheric budget of acetone. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 5-1-ACH 5-17		251
84	Global estimates of CO sources with high resolution by adjoint inversion of multiple satellite datasets (MOPITT, AIRS, SCIAMACHY, TES). <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 855-876	6.8	241
83	Why do Models Overestimate Surface Ozone in the Southeastern United States?. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 13561-13577	6.8	239
82	Why are there large differences between models in global budgets of tropospheric ozone?. <i>Journal of Geophysical Research</i> , 2007 , 112,		221
81	Transatlantic transport of pollution and its effects on surface ozone in Europe and North America. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 4-1		220
80	Regional visibility statistics in the United States: Natural and transboundary pollution influences, and implications for the Regional Haze Rule. <i>Atmospheric Environment</i> , 2006 , 40, 5405-5423	5.3	201

79	Atmospheric peroxyacetyl nitrate (PAN): a global budget and source attribution. <i>Atmospheric Chemistry and Physics</i> , 2014 , 14, 2679-2698	6.8	194
78	Fifteen-year global time series of satellite-derived fine particulate matter. <i>Environmental Science & Technology</i> , 2014 , 48, 11109-18	10.3	193
77	An improved global model for air-sea exchange of mercury: high concentrations over the North Atlantic. <i>Environmental Science & Technology</i> , 2010 , 44, 8574-80	10.3	193
76	Nitrogen oxides and PAN in plumes from boreal fires during ARCTAS-B and their impact on ozone: an integrated analysis of aircraft and satellite observations. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 9739-9760	6.8	188
75	Chemistry of hydrogen oxide radicals (HO _x) in the Arctic troposphere in spring. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 5823-5838	6.8	184
74	Regional CO pollution and export in China simulated by the high-resolution nested-grid GEOS-Chem model. <i>Atmospheric Chemistry and Physics</i> , 2009 , 9, 3825-3839	6.8	182
73	Convective outflow of South Asian pollution: A global CTM simulation compared with EOS MLS observations. <i>Geophysical Research Letters</i> , 2005 , 32, n/a-n/a	4.9	182
72	Transpacific transport of Asian anthropogenic aerosols and its impact on surface air quality in the United States. <i>Journal of Geophysical Research</i> , 2006 , 111,		176
71	Sources, distribution, and acidity of sulfate-ammonium aerosol in the Arctic in winter-spring. <i>Atmospheric Environment</i> , 2011 , 45, 7301-7318	5.3	170
70	Inventory of boreal fire emissions for North America in 2004: Importance of peat burning and pyroconvective injection. <i>Journal of Geophysical Research</i> , 2007 , 112,		170
69	Sources, seasonality, and trends of southeast US aerosol: an integrated analysis of surface, aircraft, and satellite observations with the GEOS-Chem chemical transport model. <i>Atmospheric Chemistry and Physics</i> , 2015 , 15, 10411-10433	6.8	168
68	Source attribution and interannual variability of Arctic pollution in spring constrained by aircraft (ARCTAS, ARCPAC) and satellite (AIRS) observations of carbon monoxide. <i>Atmospheric Chemistry and Physics</i> , 2010 , 10, 977-996	6.8	168
67	Air-sea exchange in the global mercury cycle. <i>Global Biogeochemical Cycles</i> , 2007 , 21,	5.9	160
66	Validation of OMI tropospheric NO ₂ observations during INTEX-B and application to constrain NO _x emissions over the eastern United States and Mexico. <i>Atmospheric Environment</i> , 2008 , 42, 4480-4497	5.2	158
65	Inverting for emissions of carbon monoxide from Asia using aircraft observations over the western Pacific. <i>Journal of Geophysical Research</i> , 2003 , 108,		157
64	Interpretation of TOMS observations of tropical tropospheric ozone with a global model and in situ observations. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 4-1		154
63	North American pollution outflow and the trapping of convectively lifted pollution by upper-level anticyclone. <i>Journal of Geophysical Research</i> , 2005 , 110,		139
62	Atmospheric hydrogen cyanide (HCN): Biomass burning source, ocean sink?. <i>Geophysical Research Letters</i> , 2000 , 27, 357-360	4.9	138

61	Evaluating the contribution of changes in isoprene emissions to surface ozone trends over the eastern United States. <i>Journal of Geophysical Research</i> , 2005 , 110,		136
60	Global budget of ethane and regional constraints on U.S. sources. <i>Journal of Geophysical Research</i> , 2008 , 113,		134
59	Global 3-D land-ocean-atmosphere model for mercury: Present-day versus preindustrial cycles and anthropogenic enrichment factors for deposition. <i>Global Biogeochemical Cycles</i> , 2008 , 22, n/a-n/a	5.9	130
58	Organic nitrate chemistry and its implications for nitrogen budgets in an isoprene- and monoterpene-rich atmosphere: constraints from aircraft (SEACRS) and ground-based (SOAS) observations in the Southeast US. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 5969-5991	6.8	129
57	A 3-D model analysis of the slowdown and interannual variability in the methane growth rate from 1988 to 1997. <i>Global Biogeochemical Cycles</i> , 2004 , 18, n/a-n/a	5.9	126
56	A nested grid formulation for chemical transport over Asia: Applications to CO. <i>Journal of Geophysical Research</i> , 2004 , 109, n/a-n/a		118
55	Improved quantification of Chinese carbon fluxes using CO ₂ /CO correlations in Asian outflow. <i>Journal of Geophysical Research</i> , 2004 , 109,		113
54	A tropospheric ozone maximum over the Middle East. <i>Geophysical Research Letters</i> , 2001 , 28, 3235-3238	4.9	113
53	Spatial distributions of particle number concentrations in the global troposphere: Simulations, observations, and implications for nucleation mechanisms. <i>Journal of Geophysical Research</i> , 2010 , 115,		110
52	HEMCO v1.0: a versatile, ESMF-compliant component for calculating emissions in atmospheric models. <i>Geoscientific Model Development</i> , 2014 , 7, 1409-1417	6.3	108
51	Sources of tropospheric ozone along the Asian Pacific Rim: An analysis of ozonesonde observations. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 3-1-ACH 3-19		107
50	A global three-dimensional model analysis of the atmospheric budgets of HCN and CH ₃ CN: Constraints from aircraft and ground measurements. <i>Journal of Geophysical Research</i> , 2003 , 108,		106
49	Modeling global atmospheric CO ₂ with improved emission inventories and CO ₂ production from the oxidation of other carbon species. <i>Geoscientific Model Development</i> , 2010 , 3, 689-716	6.3	95
48	GPS phase fluctuations in the equatorial region during sunspot minimum. <i>Radio Science</i> , 1997 , 32, 1535-1550	1.5	79
47	Observing atmospheric formaldehyde (HCHO) from space: validation and intercomparison of six retrievals from four satellites (OMI, GOME2A, GOME2B, OMPS) with SEACRS aircraft observations over the Southeast US. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 13477-13490	6.8	75
46	Estimating fine particulate matter component concentrations and size distributions using satellite-retrieved fractional aerosol optical depth: part 2--a case study. <i>Journal of the Air and Waste Management Association</i> , 2007 , 57, 1360-9	2.4	74
45	Trans-Pacific transport of mercury. <i>Journal of Geophysical Research</i> , 2008 , 113,		73
44	Evaluating a 3-D transport model of atmospheric CO ₂ using ground-based, aircraft, and space-borne data. <i>Atmospheric Chemistry and Physics</i> , 2011 , 11, 2789-2803	6.8	70

43	Export of NO _y from the North American boundary layer: Reconciling aircraft observations and global model budgets. <i>Journal of Geophysical Research</i> , 2004 , 109,		67
42	Potential of observations from the Tropospheric Emission Spectrometer to constrain continental sources of carbon monoxide. <i>Journal of Geophysical Research</i> , 2003 , 108, n/a-n/a		67
41	Public health, climate, and economic impacts of desulfurizing jet fuel. <i>Environmental Science & Technology</i> , 2012 , 46, 4275-82	10.3	66
40	Modeling dust and soluble iron deposition to the South Atlantic Ocean. <i>Journal of Geophysical Research</i> , 2010 , 115,		62
39	Positive but variable sensitivity of August surface ozone to large-scale warming in the southeast United States. <i>Nature Climate Change</i> , 2015 , 5, 454-458	21.4	59
38	Global budget of tropospheric ozone: Evaluating recent model advances with satellite (OMI), aircraft (IAGOS), and ozonesonde observations. <i>Atmospheric Environment</i> , 2017 , 167, 323-334	5.3	50
37	Stratospheric versus pollution influences on ozone at Bermuda: Reconciling past analyses. <i>Journal of Geophysical Research</i> , 2002 , 107, ACH 1-1		49
36	Sensitivity to grid resolution in the ability of a chemical transport model to simulate observed oxidant chemistry under high-isoprene conditions. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 4369-4378	6.8	45
35	Radiative effect of clouds on tropospheric chemistry in a global three-dimensional chemical transport model. <i>Journal of Geophysical Research</i> , 2006 , 111,		44
34	A three-dimensional global model study of atmospheric methyl chloride budget and distributions. <i>Journal of Geophysical Research</i> , 2004 , 109,		44
33	Can a state-of-the-art chemistry transport model simulate Amazonian tropospheric chemistry?. <i>Journal of Geophysical Research</i> , 2011 , 116,		43
32	Development of a grid-independent GEOS-Chem chemical transport model (v9-02) as an atmospheric chemistry module for Earth system models. <i>Geoscientific Model Development</i> , 2015 , 8, 595-602	6.3	41
31	Impact of 2050 climate change on North American wildfire: consequences for ozone air quality. <i>Atmospheric Chemistry and Physics</i> , 2015 , 15, 10033-10055	6.8	38
30	Constraints on Asian and European sources of methane from CH ₄ -C ₂ H ₆ -CO correlations in Asian outflow. <i>Journal of Geophysical Research</i> , 2004 , 109,		35
29	Factors driving mercury variability in the Arctic atmosphere and ocean over the past 30 years. <i>Global Biogeochemical Cycles</i> , 2013 , 27, 1226-1235	5.9	32
28	GEOS-Chem High Performance (GCHP v11-02c): a next-generation implementation of the GEOS-Chem chemical transport model for massively parallel applications. <i>Geoscientific Model Development</i> , 2018 , 11, 2941-2953	6.3	27
27	Using beryllium-7 to assess cross-tropopause transport in global models. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 4641-4659	6.8	24
26	Exploring CO pollution episodes observed at Rishiri Island by chemical weather simulations and AIRS satellite measurements: long-range transport of burning plumes and implications for emissions inventories. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2009 , 61, 394-407	3.3	21

25	Constraints on the sources of tropospheric ozone from ^{210}Pb - ^7Be - O_3 correlations. <i>Journal of Geophysical Research</i> , 2004 , 109,		19
24	Global methane budget and trend, 2010–2017: complementarity of inverse analyses using in situ (GLOBALVIEWplus CH ₄ and ObsPack) and satellite (GOSAT) observations. <i>Atmospheric Chemistry and Physics</i> , 2021 , 21, 4637-4657	6.8	17
23	Decreasing particle number concentrations in a warming atmosphere and implications. <i>Atmospheric Chemistry and Physics</i> , 2012 , 12, 2399-2408	6.8	14
22	Correction to Global 3-D land-ocean-atmosphere model for mercury: Present-day versus preindustrial cycles and anthropogenic enrichment factors for deposition <i>Global Biogeochemical Cycles</i> , 2008 , 22, n/a-n/a	5.9	13
21	WRF-GC (v1.0): online coupling of WRF (v3.9.1.1) and GEOS-Chem (v12.2.1) for regional atmospheric chemistry modeling [Part 1: Description of the one-way model. <i>Geoscientific Model Development</i> , 2020 , 13, 3241-3265	6.3	12
20	Enabling High-Performance Cloud Computing for Earth Science Modeling on Over a Thousand Cores: Application to the GEOS-Chem Atmospheric Chemistry Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2020 , 12, e2020MS002064	7.1	10
19	NO _x emissions, isoprene oxidation pathways, vertical mixing, and implications for surface ozone in the Southeast United States 2016 ,		8
18	Sensitivity of photolysis frequencies and key tropospheric oxidants in a global model to cloud vertical distributions and optical properties. <i>Journal of Geophysical Research</i> , 2009 , 114,		8
17	Global estimates of CO sources with high resolution by adjoint inversion of multiple satellite datasets (MOPITT, AIRS, SCIAMACHY, TES)		7
16	Regional CO pollution in China simulated by the high-resolution nested-grid GEOS-Chem model		7
15	Enabling Immediate Access to Earth Science Models through Cloud Computing: Application to the GEOS-Chem Model. <i>Bulletin of the American Meteorological Society</i> , 2019 , 100, 1943-1960	6.1	6
14	Modeling global atmospheric CO ₂ with improved emission inventories and CO ₂ production from the oxidation of other carbon species 2010 ,		6
13	Observing atmospheric formaldehyde (HCHO) from space: validation and intercomparison of six retrievals from four satellites (OMI, GOME2A, GOME2B, OMPS) with SEAC ⁴ RS aircraft observations over the Southeast US 2016 ,		6
12	Simulation of radon-222 with the GEOS-Chem global model: emissions, seasonality, and convective transport. <i>Atmospheric Chemistry and Physics</i> , 2021 , 21, 1861-1887	6.8	6
11	Estimating numerical errors due to operator splitting in global atmospheric chemistry models: Transport and chemistry. <i>Journal of Computational Physics</i> , 2016 , 305, 372-386	4.1	4
10	Gas-particle partitioning of atmospheric Hg(II) and its effect on global mercury deposition		4
9	Organic nitrate chemistry and its implications for nitrogen budgets in an isoprene- and monoterpene-rich atmosphere: constraints from aircraft (SEAC ⁴ RS) and ground-based (SOAS) observations in the Southeast US 2016 ,		3
8	Sensitivity to grid resolution in the ability of a chemical transport model to simulate observed oxidant chemistry under high-isoprene conditions 2016 ,		2

7	Global methane budget and trend, 2010–2017: complementarity of inverse analyses using in situ (GLOBALVIEWplus CH ₄ ; ObsPack) and satellite (GOSAT) observations	2
6	HEMCO v1.0: A versatile, ESMF-compliant component for calculating emissions in atmospheric models	2
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