# Robert M Yantosca

List of Publications by Year
in descending order



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|---|---|---|---|
| 81 papers | 15,091 citations | 23544 58 h-index | 60583 81 g-index |
| 109 all docs | 109 docs citations | 109 times ranked | 8309 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Global modeling of tropospheric chemistry with assimilated meteorology: Model description and evaluation. Journal of Geophysical Research, 2001, 106, 23073-23095. | 3.3 | 1,927 |
| 2 | Natural and transboundary pollution influences on sulfate-nitrate-ammonium aerosols in the United States: Implications for policy. Journal of Geophysical Research, 2004, 109, . | 3.3 | 791 |
| 3 | Constraints from210Pb and7Be on wet deposition and transport in a global three-dimensional chemical tracer model driven by assimilated meteorological fields. Journal of Geophysical Research, 2001, 106, 12109-12128. | 3.3 | 637 |
| 4 | Global and regional decreases in tropospheric oxidants from photochemical effects of aerosols. Journal of Geophysical Research, 2003, 108, n/a-n/a. | 3.3 | 457 |
| 5 | Gas-particle partitioning of atmospheric Hg(II) and its effect on global mercury deposition. Atmospheric Chemistry and Physics, 2012, 12, 591-603. | 1.9 | 371 |
| 6 | An improved retrieval of tropospheric nitrogen dioxide from GOME. Journal of Geophysical Research, 2002, 107, ACH 9-1. | 3.3 | 355 |
| 7 | Background ozone over the United States in summer: Origin, trend, and contribution to pollution episodes. Journal of Geophysical Research, 2002, 107, ACH 11-1. | 3.3 | 353 |
| 8 | Chemical cycling and deposition of atmospheric mercury: Global constraints from observations. Journal of Geophysical Research, 2007, 112, . | 3.3 | 351 |
| 9 | Transport pathways for Asian pollution outflow over the Pacific: Interannual and seasonal variations. Journal of Geophysical Research, 2003, 108, . | 3.3 | 331 |
| 10 | Why do models overestimate surface ozone in the Southeast United States?. Atmospheric Chemistry and Physics, 2016, 16, 13561-13577. | 1.9 | 320 |
| 11 | Air mass factor formulation for spectroscopic measurements from satellites: Application to formaldehyde retrievals from the Global Ozone Monitoring Experiment. Journal of Geophysical Research, 2001, 106, 14539-14550. | 3.3 | 318 |
| 12 | Asian chemical outflow to the Pacific in spring: Origins, pathways, and budgets. Journal of Geophysical Research, 2001, 106, 23097-23113. | 3.3 | 294 |
| 13 | Atmospheric budget of acetone. Journal of Geophysical Research, 2002, 107, ACH 5-1-ACH 5-17. | 3.3 | 290 |
| 14 | Global estimates of CO sources with high resolution by adjoint inversion of multiple satellite datasets (MOPITT, AIRS, SCIAMACHY, TES). Atmospheric Chemistry and Physics, 2010, 10, 855-876. | 1.9 | 288 |
| 15 | Atmospheric peroxyacetyl nitrate (PAN): a global budget and source attribution. Atmospheric Chemistry and Physics, 2014, 14, 2679-2698. | 1.9 | 259 |
| 16 | Why are there large differences between models in global budgets of tropospheric ozone?. Journal of Geophysical Research, 2007, 112, . | 3.3 | 257 |
| 17 | Transatlantic transport of pollution and its effects on surface ozone in Europe and North America. Journal of Geophysical Research, 2002, 107, ACH 4-1. | 3.3 | 253 |
| 18 | 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. Atmospheric Chemistry and Physics, 2010, 10, 9739-9760. | 1.9 | 234 |

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|---|---|---|---|
| 19 | Fifteen-Year Global Time Series of Satellite-Derived Fine Particulate Matter. Environmental Science & Technology, 2014, 48, 11109-11118. | 4.6 | 233 |
| 20 | An Improved Global Model for Air-Sea Exchange of Mercury: High Concentrations over the North Atlantic. Environmental Science & Technology, 2010, 44, 8574-8580. | 4.6 | 225 |
| 21 | Regional visibility statistics in the United States: Natural and transboundary pollution influences, and implications for the Regional Haze Rule. Atmospheric Environment, 2006, 40, 5405-5423. | 1.9 | 223 |
| 22 | Chemistry of hydrogen oxide radicals (HO<sub>x</sub>) in the Arctic troposphere in spring. Atmospheric Chemistry and Physics, 2010, 10, 5823-5838. | 1.9 | 220 |
| 23 | Sources, seasonality, and trends of southeast US aerosol: an integrated analysis of surface, aircraft, and satellite observations with the GEOS-Chem chemical transport model. Atmospheric Chemistry and Physics, 2015, 15, 10411-10433. | 1.9 | 217 |
| 24 | Regional CO pollution and export in China simulated by the high-resolution nested-grid GEOS-Chem model. Atmospheric Chemistry and Physics, 2009, 9, 3825-3839. | 1.9 | 207 |
| 25 | Convective outflow of South Asian pollution: A global CTM simulation compared with EOS MLS observations. Geophysical Research Letters, 2005, 32, n/a-n/a. | 1.5 | 206 |
| 26 | Sources, distribution, and acidity of sulfateâ€“ammonium aerosol in the Arctic in winterâ€“spring. Atmospheric Environment, 2011, 45, 7301-7318. | 1.9 | 206 |
| 27 | Transpacific transport of Asian anthropogenic aerosols and its impact on surface air quality in the United States. Journal of Geophysical Research, 2006, 111, . | 3.3 | 203 |
| 28 | Inventory of boreal fire emissions for North America in 2004: Importance of peat burning and pyroconvective injection. Journal of Geophysical Research, 2007, 112, . | 3.3 | 194 |
| 29 | Air-sea exchange in the global mercury cycle. Global Biogeochemical Cycles, 2007, 21, . | 1.9 | 193 |
| 30 | Validation of OMI tropospheric NO2 observations during INTEX-B and application to constrain NOxNOx emissions over the eastern United States and Mexico. Atmospheric Environment, 2008, 42, 4480-4497. | 1.9 | 190 |
| 31 | Source attribution and interannual variability of Arctic pollution in spring constrained by aircraft (ARCTAS, ARCPAC) and satellite (AIRS) observations of carbon monoxide. Atmospheric Chemistry and Physics, 2010, 10, 977-996. | 1.9 | 189 |
| 32 | Inverting for emissions of carbon monoxide from Asia using aircraft observations over the western Pacific. Journal of Geophysical Research, 2003, 108, . | 3.3 | 178 |
| 33 | Interpretation of TOMS observations of tropical tropospheric ozone with a global model and in situ observations. Journal of Geophysical Research, 2002, 107, ACH 4-1. | 3.3 | 174 |
| 34 | Global 3â€D landâ€oceanâ€atmosphere model for mercury: Presentâ€day versus preindustrial cycles and anthropogenic enrichment factors for deposition. Global Biogeochemical Cycles, 2008, 22, . | 1.9 | 174 |
| 35 | HEMCO v1.0: a versatile, ESMF-compliant component for calculating emissions in atmospheric models. Geoscientific Model Development, 2014, 7, 1409-1417. | 1.3 | 173 |
| 36 | Organic nitrate chemistry and its implications for nitrogen budgets in an isoprene- and monoterpene-rich atmosphere: constraints from aircraft (SEAC<sup>4</sup>RS) and ground-based (SOAS) observations in the Southeast US. Atmospheric Chemistry and Physics, 2016, 16, 5969-5991. | 1.9 | 173 |

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|---|---|---|---|
| 37 | Global budget of ethane and regional constraints on U.S. sources. Journal of Geophysical Research, 2008, 113, . | 3.3 | 164 |
| 38 | Evaluating the contribution of changes in isoprene emissions to surface ozone trends over the eastern United States. Journal of Geophysical Research, 2005, 110, . | 3.3 | 163 |
| 39 | Atmospheric hydrogen cyanide (HCN): Biomass burning source, ocean sink?. Geophysical Research Letters, 2000, 27, 357-360. | 1.5 | 159 |
| 40 | North American pollution outflow and the trapping of convectively lifted pollution by upper-level anticyclone. Journal of Geophysical Research, 2005, 110, . | 3.3 | 156 |
| 41 | A 3-D model analysis of the slowdown and interannual variability in the methane growth rate from 1988 to 1997. Global Biogeochemical Cycles, 2004, 18, n/a-n/a. | 1.9 | 147 |
| 42 | A nested grid formulation for chemical transport over Asia: Applications to CO. Journal of Geophysical Research, 2004, 109, n/a-n/a. | 3.3 | 141 |
| 43 | Improved quantification of Chinese carbon fluxes using CO2/CO correlations in Asian outflow. Journal of Geophysical Research, 2004, 109, . | 3.3 | 131 |
| 44 | Spatial distributions of particle number concentrations in the global troposphere: Simulations, observations, and implications for nucleation mechanisms. Journal of Geophysical Research, 2010, 115, . | 3.3 | 129 |
| 45 | A global three-dimensional model analysis of the atmospheric budgets of HCN and CH3CN: Constraints from aircraft and ground measurements. Journal of Geophysical Research, 2003, 108, . | 3.3 | 126 |
| 46 | A tropospheric ozone maximum over the Middle East. Geophysical Research Letters, 2001, 28, 3235-3238. | 1.5 | 122 |
| 47 | Sources of tropospheric ozone along the Asian Pacific Rim: An analysis of ozonesonde observations. Journal of Geophysical Research, 2002, 107, ACH 3-1-ACH 3-19. | 3.3 | 121 |
| 48 | Modeling global atmospheric CO<sub>2</sub> with improved emission inventories and CO<sub>2</sub> production from the oxidation of other carbon species. Geoscientific Model Development, 2010, 3, 689-716. | 1.3 | 117 |
| 49 | Observing atmospheric formaldehyde (HCHO) from space: validation and intercomparison of six retrievals from four satellites (OMI, GOME2A, GOME2B, OMPS) with SEAC<sup>4</sup>RS aircraft observations over the southeast US. Atmospheric Chemistry and Physics, 2016, 16, 13477-13490. | 1.9 | 99 |
| 50 | GPS phase fluctuations in the equatorial region during sunspot minimum. Radio Science, 1997, 32, 1535-1550. | 0.8 | 96 |
| 51 | Estimating Fine Particulate Matter Component Concentrations and Size Distributions Using Satellite-Retrieved Fractional Aerosol Optical Depth: Part 2â€"A Case Study. Journal of the Air and Waste Management Association, 2007, 57, 1360-1369. | 0.9 | 91 |
| 52 | Evaluating a 3-D transport model of atmospheric CO<sub>2</sub> using ground-based, aircraft, and space-borne data. Atmospheric Chemistry and Physics, 2011, 11, 2789-2803. | 1.9 | 84 |
| 53 | Transâ€Pacific transport of mercury. Journal of Geophysical Research, 2008, 113, . | 3.3 | 83 |
| 54 | Positive but variable sensitivity of August surface ozone to large-scale warming in the southeast United States. Nature Climate Change, 2015, 5, 454-458. | 8.1 | 83 |

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|---|---|---|---|
| 55 | Potential of observations from the Tropospheric Emission Spectrometer to constrain continental sources of carbon monoxide. Journal of Geophysical Research, 2003, 108, n/a-n/a. | 3.3 | 77 |
| 56 | Export of NOyfrom the North American boundary layer: Reconciling aircraft observations and global model budgets. Journal of Geophysical Research, 2004, 109, . | 3.3 | 75 |
| 57 | Public Health, Climate, and Economic Impacts of Desulfurizing Jet Fuel. Environmental Science & Technology, 2012, 46, 4275-4282. | 4.6 | 74 |
| 58 | Global budget of tropospheric ozone: Evaluating recent model advances with satellite (OMI), aircraft (IAGOS), and ozonesonde observations. Atmospheric Environment, 2017, 167, 323-334. | 1.9 | 74 |
| 59 | Modeling dust and soluble iron deposition to the South Atlantic Ocean. Journal of Geophysical Research, 2010, 115, . | 3.3 | 72 |
| 60 | Development of a grid-independent GEOS-Chem chemical transport model (v9-02) as an atmospheric chemistry module for Earth system models. Geoscientific Model Development, 2015, 8, 595-602. | 1.3 | 62 |
| 61 | Sensitivity to grid resolution in the ability of a chemical transport model to simulate observed oxidant chemistry under high-isoprene conditions. Atmospheric Chemistry and Physics, 2016, 16, 4369-4378. | 1.9 | 60 |
| 62 | GEOS-Chem High Performance (GCHP v11-02c): a next-generation implementation of the GEOS-Chem chemical transport model for massively parallel applications. Geoscientific Model Development, 2018, 11, 2941-2953. | 1.3 | 58 |
| 63 | Global methane budget and trend, 2010â€“2017: complementarity of inverse analyses using in situ (GLOBALVIEWplus CH<sub>4</sub> ObsPack) and satellite (GOSAT) observations. Atmospheric Chemistry and Physics, 2021, 21, 4637-4657. | 1.9 | 55 |
| 64 | Impact of 2050 climate change on North American wildfire: consequences for ozone air quality. Atmospheric Chemistry and Physics, 2015, 15, 10033-10055. | 1.9 | 54 |
| 65 | Stratospheric versus pollution influences on ozone at Bermuda: Reconciling past analyses. Journal of Geophysical Research, 2002, 107, ACH 1-1. | 3.3 | 53 |
| 66 | A three-dimensional global model study of atmospheric methyl chloride budget and distributions. Journal of Geophysical Research, 2004, 109, . | 3.3 | 51 |
| 67 | Radiative effect of clouds on tropospheric chemistry in a global three-dimensional chemical transport model. Journal of Geophysical Research, 2006, 111, . | 3.3 | 49 |
| 68 | Can a â€œstate of the artâ€• chemistry transport model simulate Amazonian tropospheric chemistry?. Journal of Geophysical Research, 2011, 116, . | 3.3 | 47 |
| 69 | Constraints on Asian and European sources of methane from CH4-C2H6-CO correlations in Asian outflow. Journal of Geophysical Research, 2004, 109, . | 3.3 | 40 |
| 70 | Factors driving mercury variability in the Arctic atmosphere and ocean over the past 30 years. Global Biogeochemical Cycles, 2013, 27, 1226-1235. | 1.9 | 37 |
| 71 | Using beryllium-7 to assess cross-tropopause transport in global models. Atmospheric Chemistry and Physics, 2016, 16, 4641-4659. | 1.9 | 31 |
| 72 | Simulation of radon-222 with the GEOS-Chem global model: emissions, seasonality, and convective transport. Atmospheric Chemistry and Physics, 2021, 21, 1861-1887. | 1.9 | 25 |

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| --- | --- | --- | --- |
| 73 | WRF-GC (v1.0): online coupling of WRF (v3.9.1.1) and GEOS-Chem (v12.2.1) for regional atmospheric chemistry modeling â€“ Part 1: Description of the one-way model. Geoscientific Model Development, 2020, 13, 3241-3265. | 1.3 | 25 |
| 74 | Correction to â€œGlobal 3â€D landâ€oceanâ€atmosphere model for mercury: Presentâ€day versus preindustrial cycles and anthropogenic enrichment factors for depositionâ€. Global Biogeochemical Cycles, 2008, 22, . | 1.9 | 24 |
| 75 | 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. Tellus, Series B: Chemical and Physical Meteorology, 2022, 61, 394. | 0.8 | 23 |
| 76 | Enabling Highâ€Performance Cloud Computing for Earth Science Modeling on Over a Thousand Cores: Application to the GEOSâ€Chem Atmospheric Chemistry Model. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002064. | 1.3 | 23 |
| 77 | Constraints on the sources of tropospheric ozone from210Pb-7Be-O3correlations. Journal of Geophysical Research, 2004, 109, . | 3.3 | 21 |
| 78 | Decreasing particle number concentrations in a warming atmosphere and implications. Atmospheric Chemistry and Physics, 2012, 12, 2399-2408. | 1.9 | 17 |
| 79 | Enabling Immediate Access to Earth Science Models through Cloud Computing: Application to the GEOS-Chem Model. Bulletin of the American Meteorological Society, 2019, 100, 1943-1960. | 1.7 | 14 |
| 80 | Sensitivity of photolysis frequencies and key tropospheric oxidants in a global model to cloud vertical distributions and optical properties. Journal of Geophysical Research, 2009, 114, . | 3.3 | 9 |
| 81 | Estimating numerical errors due to operator splitting in global atmospheric chemistry models: Transport and chemistry. Journal of Computational Physics, 2016, 305, 372-386. | 1.9 | 5 |