



# Sergio Ibarra Espinosa

Other names ▶

University of Colorado, CIRES /

NOAA

, GML

Emissions

Air Pollution

R

Modeling

	All	Since 2020
Citations	1248	1030
h-index	17	16
i10-index	19	19

5 articles

15 articles

not available

available

Based on funding mandates

TITLE	CITED BY	YEAR
<b>Effect of idling and power demand on fuel consumption and CO<sub>2</sub> emissions from taxis</b> Z Mera, F Rosero, R Rosero, F Tapia, S Ibarra-Espinosa Enfoque UTE 16 (1), 1-9		2025
<b>Air regulation service is affected by green areas cover and fragmentation: An analysis using demand, supply and flow during COVID-19 quarantine</b> NA Pimiento-Quiroga, PR Prist, S Ibarra-Espinosa, LV Barrozo, ... Landscape and Urban Planning 254, 105230	1	2025
<b>Package 'EmissV'</b> D Schuch, S Ibarra-Espinosa		2025
<b>Improving spatial disaggregation of vehicular emission inventories</b> B Meotti, S Ibarra-Espinosa, L Hoinaski Environmental Technology, 1-14		2025
<b>Chapter 3 - Sources and emissions of air pollution</b> S Ibarra-Espinosa, M Gavidia-Calderon, P Perez Martinez, L Martins, ... Air Quality Science, Impacts, and Management, 81-106		2025
<b>Global Pollution Modeling with Enhanced Resolution in South America</b> SI Espinosa, ED de Freitas, P Lichtig, B Gaubert, J Nascimento, ... AGU24		2024
<b>Comparison of associations between air pollution and cardiovascular mortality risks by exposure method in Rio de Janeiro, Brazil</b> S Heo, D Schuch, W Junger, S Ibarra Espinosa, Y Zhang, ML Bell ISEE Conference Abstracts 2024 (1)		2024
<b>Multiscale CO budget estimates across South America: quantifying local sources and long range transport</b> P Lichtig, B Gaubert, LK Emmons, DS Jo, P Callaghan, S Ibarra-Espinosa, ... Journal of Geophysical Research: Atmospheres 129 (8), e2023JD040434	2	2024
<b>QUALAMET: Modelagem do Impacto das Emissões Veiculares com diferentes combustíveis na qualidade do ar utilizando informações de medições ambientais e de inventários de emissões ...</b> ED Freitas, MF Andrade, SAI Espinosa, T Nogueira, R Squizzato, ...	1	2024
<b>COVID-19 impacts on the US methane emissions</b> SI Espinosa, L Hu, S Miller, C Harkins, BC McDonald, Y Oh, L Bruhwiler, ... AGU23		2023

TITLE	CITED BY	YEAR
<a href="#">Road transportation emissions in Brazil between 1960 and 2100 and impacts on air quality</a> SI Espinosa, ED de Freitas, B Gaubert, P Lichtig, LK Emmons, ... AGU23		2023
<a href="#">Road transportation emissions in Brazil between 1960 and 2100 and impacts on air quality</a> S Ibarra Espinosa, ED Freitas, B Gaubert, P Lichtig, LK Emmons, ... AGU Fall Meeting Abstracts 2023 (2386), A13P-2386		2023
<a href="#">COVID-19 impacts on the US methane emissions</a> S Ibarra Espinosa, L Hu, S Miller, C Harkins, BC McDonald, Y Oh, ... AGU Fall Meeting Abstracts 2023 (2159), A51O-2159		2023
<a href="#">An unexpected seasonal cycle of US anthropogenic methane emissions</a> L Hu, A Andrews, SA Montzka, S Ibarra Espinosa, S Miller, L Bruhwiler, ... AGU Fall Meeting Abstracts 2023, A53E-03		2023
<a href="#">Trend and seasonal cycle of US methane emissions</a> L Hu, A Andrews, S Montzka, E Dlugokencky, S Miller, S Ibarra-Espinosa, ... EGU General Assembly Conference Abstracts, EGU-10367		2023
<a href="#">Acknowledgment to the Reviewers of <i>Atmosphere</i> in 2022</a> Atmosphere Editorial Office Atmosphere 14 (2), 204		2023
<a href="#">Meta-Analysis as Early Evidence on the Particulate Emissions Impact of EURO VI on Battery Electric Bus Fleet Transitions</a> J Tivey, HC Davies, JG Levine, J Zietsman, S Bartington, ... Sustainability 15 (2), 1522	1	2023
<a href="#">Quantification of the COVID-19 impact on US methane emissions</a> SI Espinosa, L Hu, E Dlugokencky, K McKain, SM Miller, C Sweeney, ... 103rd AMS Annual Meeting		2023
<a href="#">Air pollution simulation in South America using the Multi-Scale Infrastructure for Chemistry and Aerosols (MUSICA) model</a> SI Espinosa, LK Emmons, P Lichtig, GP Brasseur Fall Meeting 2022		2022
<a href="#">Quantification of the COVID-19 impact on US methane emissions</a> S Ibarra-Espinosa, L Hu, L Dlugokencky, K McKain, S Miller, C Sweeney, ... AGU Fall Meeting 2022		2022
<a href="#">Air pollution simulation in South America using the Multi-Scale Infrastructure for Chemistry and Aerosols (MUSICA) model</a> S Ibarra Espinosa, LK Emmons, P Lichtig, GP Brasseur AGU Fall Meeting Abstracts 2022, A52O-1183		2022
<a href="#">US non-CO2 greenhouse gas emissions for 2007-2020 derived from atmospheric observations</a> L Hu, SA Montzka, A Andrews, EJ Dlugokencky, IJ Vimont, C Sweeney, ... AGU Fall Meeting Abstracts 2022, A55G-02		20
<a href="#">Changes in a bottom-up vehicular emissions inventory and its impact on air pollution during COVID-19 lockdown in São Paulo, Brazil</a> S Ibarra-Espinosa, A Rehbein, E Dias de Freitas, L Martins, MF Andrade, ...	1	2022

TITLE	CITED BY	YEAR
Frontiers in Sustainable Cities 4, 883112		
<a href="#">Package 'raytracing'</a> A Rehbein, T Ambrizzi, S Ibarra-Espinosa, LMM Dutra, MA Rehbein		2022
<a href="#">Photochemical sensitivity to emissions and local meteorology in Bogotá, Santiago, and São Paulo: An analysis of the initial COVID-19 lockdowns</a> RJ Seguel, L Gallardo, M Osses, NY Rojas, T Nogueira, C Menares, ... Elem Sci Anth 10 (1), 00044	17	2022
<a href="#">Negative-Binomial and quasi-poisson regressions between COVID-19, mobility and environment in São Paulo, Brazil</a> S Ibarra-Espinosa, ED de Freitas, K Ropkins, F Dominici, A Rehbein Environmental research 204, 112369	28	2022
<a href="#">Modeling Air Quality over Two Major Urban Centers in Brazil Using Combined Bottom-up and Top-down Inventories with New Temporal Profiles</a> D Schuch, Y Zhang, M de Fatima Andrade, S Ibarra-Espinosa, ... 102nd American Meteorological Society Annual Meeting		2022
<a href="#">Effects of evaporative emissions control measurements on ozone concentrations in Brazil</a> S Ibarra-Espinosa, ED Freitas, MF Andrade, E Landulfo Atmosphere 13 (1), 82	3	2022
<a href="#">Atmospheric effects of air pollution during dry and wet periods in São Paulo</a> S Ibarra-Espinosa, GAM da Silva, A Rehbein, A Vara-Vela, ED de Freitas Environmental Science: Atmospheres 2 (2), 215-229	5	2022
<a href="#">A global observational analysis to understand changes in air quality during exceptionally low anthropogenic emission conditions</a> RS Sokhi, V Singh, X Querol, S Finardi, AC Targino, M de Fatima Andrade, ... Environment international 157, 106818	203	2021
<a href="#">Spatial and temporal characterization of vehicular emissions in Ecuador using VEIN</a> S Ibarra-Espinosa, Z Mera, R Rosero, MV Díaz 2021 Congreso Colombiano y Conferencia Internacional de Calidad de Aire y ...	2	2021
<a href="#">Association between COVID-19, mobility and environment in Brazilian capitals</a> S Ibarra, ED de Freitas EMS2021		2021
<a href="#">Evolution of vehicle emission factors in a megacity affected by extensive biofuel use: results of tunnel measurements in São Paulo, Brazil</a> T Nogueira, LY Kamigauti, GM Pereira, ME Gavidia-Calderon, ... Environmental Science & Technology 55 (10), 6677-6687	26	2021
<a href="#">Coupled models using radar network database to assess vehicular emissions in current and future scenarios</a> JA Pinto, P Kumar, MF Alonso, WL Andreão, R Pedruzzi, ... Science of the Total Environment 761, 143207	5	2021
<a href="#">Association between COVID-19, mobility and environment in São Paulo, Brazil</a> S Ibarra-Espinosa, ED de Freitas, K Ropkins, F Dominici, A Rehbein	2	2021

TITLE	CITED BY	YEAR
medRxiv, 2021.02. 08.21250113		
<b>Modelo VEIN para estimar emisiones vehiculares no Brasil</b> S Ibarra-Espinosa, E Landulfo, M de Fatim Andrade Galoá		2021
<b>A comprehensive spatial and temporal vehicular emissions for northeast China</b> S Ibarra-Espinosa, X Zhang, A Xiu, C Gao, S Wang, Q Ba, C Gao, W Chen Atmospheric Environment 244, 117952	13	2021
<b>Increment Of O<sub>3</sub> During Lockdown Related To Spatial-Temporal Variability Of VOC/NO<sub>2</sub> Emissions-Ratio In São Paulo, Brazil</b> SI Espinosa, ED de Freitas AGU Fall Meeting 2020		2020
<b>Contaminación por Ozono y escenarios de movilidad urbana en la megaciudad de São Paulo</b> JB Chiquetto, RY Ynoue, SA Ibarra-Espinosa, FND Ribeiro, ... Ambiente & Sociedade 23, e00082		2020
<b>Poluição por Ozônio e Cenários de Mobilidade Urbana na Megacidade de São Paulo</b> JB Chiquetto, RY Ynoue, SA Ibarra-Espinosa, FND Ribeiro, ... Ambiente & Sociedade 23, e00082		2020
<b>Ozone pollution and urban mobility scenarios in the São Paulo Megacity</b> JB Chiquetto, RY Ynoue, SA Ibarra-Espinosa, FND Ribeiro, ... Ambiente & Sociedade 23, e00082	9	2020
<b>Increment Of O<sub>3</sub> During Lockdown Related To Spatial-Temporal Variability Of VOC/NO<sub>2</sub> Emissions-Ratio In São Paulo, Brazil</b> S Ibarra Espinosa, EDD Freitas AGU Fall Meeting Abstracts 2020, A066-0009		2020
<b>Spread of SARS-CoV-2 through Latin America and the Caribbean region: a look from its economic conditions, climate and air pollution indicators</b> TR Bolano-Ortiz, Y Camargo-Caicedo, SE Puliafito, MF Ruggeri, ... Environmental research 191, 109938	131	2020
<b>Simulation of O<sub>3</sub> and NO<sub>x</sub> in Sao Paulo street urban canyons with VEIN (v0.2.2) and MUNICH (v1.0)</b> ME Gavidia-Calderón, S Ibarra-Espinosa, Y Kim, Y Zhang, MF Andrade Geoscientific Model Development Discussions 2020, 1-32	7	2020
<b>Kriging method application and traffic behavior profiles from local radar network database: A proposal to support traffic solutions and air pollution control strategies</b> JA Pinto, P Kumar, MF Alonso, WL Andreao, R Pedruzzi, SI Espinosa, ... Sustainable Cities and Society 56, 102062	46	2020
<b>Mobility restrictions and air quality under COVID-19 pandemic in São Paulo, Brazil</b> ED Freitas, SA Ibarra-Espinosa, ME Gavidia-Calderón, A Rehbein, ... Preprints	35	2020

TITLE	CITED BY	YEAR
<a href="#">High spatial and temporal resolution vehicular emissions in south-east Brazil with traffic data from real-time GPS and travel demand models</a> S Ibarra-Espinosa, RY Ynoue, K Ropkins, X Zhang, ED de Freitas Atmospheric Environment 222, 117136	55	2020
<a href="#">Mobility restrictions and air quality under COVID-19 pandemic in São Paulo, Brazil</a> Edmilson D. Freitas, Sergio A. Ibarra-Espinosa, Mario E. Gavidia-Calderón, Amanda Rehbein ... MF Andrade, RIF Trindade		2020
<a href="#">Raytracing: An R package for identification and tracking the atmospheric Rossby waves</a> A Rehbein, T Ambrizzi, S Ibarra-Espinosa, L Dutra R package version 0.1. 0	4	2020
<a href="#">Vehicle emissions measurement and modeling</a> K Ropkins, S Ibarra-Espinosa, Y Bernard Traffic-Related Air Pollution, 75-109	4	2020
<a href="#">Mesoscale convective systems over the Amazon basin: The GoAmazon2014/5 program</a> A Rehbein, T Ambrizzi, CR Mechoso, SAI Espinosa, TA Myers International Journal of Climatology 39 (15), 5599-5618	19	2019
<a href="#">Multimodel simulations of a springtime dust storm over northeastern China: implications of an evaluation of four commonly used air quality models (CMAQ v5. 2.1, CAMx v6. 50 ...</a> S Ma, X Zhang, C Gao, DQ Tong, A Xiu, G Wu, X Cao, L Huang, H Zhao, ... Geoscientific Model Development 12 (11), 4603-4625	35	2019
<a href="#">A two decades study on ozone variability and trend over the main urban areas of the São Paulo state, Brazil</a> D Schuch, ED de Freitas, SI Espinosa, LD Martins, VSB Carvalho, ... Environmental Science and Pollution Research 26, 31699-31716	35	2019
<a href="#">Air quality standards and extreme ozone events in the São Paulo megacity</a> JB Chiquetto, MES Silva, W Cabral-Miranda, FND Ribeiro, ... Sustainability 11 (13), 3725	23	2019
<a href="#">High spatial resolution vehicular emissions inventory for China using VEIN model</a> SI Espinosa, X Zhang, A Xiu, ED de Freitas Japan Geoscience Union		2019
<a href="#">Generating traffic flow and speed regional model data using internet GPS vehicle records</a> S Ibarra-Espinosa, R Ynoue, M Giannotti, K Ropkins, ED de Freitas MethodsX 6, 2065-2075	25	2019
<a href="#">Multi-model simulations of springtime dust storms in East Asia: Implications of an evaluation of four commonly used air quality models (CMAQ v5. 2.1, CAMx v6. 50, CHIMERE ...</a> S Ma, X Zhang, C Gao, DQ Tong, A Xiu, G Wu, X Cao, L Huang, H Zhao, ... Geosci. Model Dev. Discuss	3	2019

TITLE	CITED BY	YEAR
<a href="#">EmissV: An r package to create vehicular and other emissions for air quality models</a> D Schuch, S Ibarra-Espinosa, ED de Freitas Journal of Open Source Software 3 (30), 662	2	2018
<a href="#">VEIN v0. 2.2: an R package for bottom–up vehicular emissions inventories</a> S Ibarra-Espinosa, R Ynoue, S O'Sullivan, E Pebesma, MF Andrade, ... Geoscientific Model Development 11 (6), 2209-2229	64	2018
<a href="#">eixport: An R package to export emissions to atmospheric models</a> S Ibarra-Espinosa, D Schuch, ED de Freitas Journal of Open Source Software 3 (24), 607	7	2018
<a href="#">Using Internet GPS traffic data for vehicular emissions inventories and air pollution modeling</a> S Ibarra, R Ynoue, M Giannotti, M de Fatima Andrade, E Freitas, ... EGU General Assembly Conference Abstracts, 18528		2018
<a href="#">VEIN, EmissV and eixport R packages for multiscale emissions inventories</a> S Ibarra-Espinosa, D Schuch, R Ynoue, E Freitas EGU General Assembly Conference Abstracts, 18440		2018
<a href="#">Recent development and perspectives of the VEIN model</a> S Ibarra, R Ynoue, M de Fátima Andrade, E Freitas EGU General Assembly Conference Abstracts, 18498		2018
<a href="#">Driving restriction policies in São Paulo: simulation and impacts on ozone air quality in its metropolitan area</a> JB Chiquetto, RY Ynoue, SAI Espinosa, FND Ribeiro, WC Miranda, ... Anais [do] 1º Encontro Regional Sudeste da Associação Nacional de Pós ...		2018
<a href="#">VEIN v0. 2.2: an R package for bottom–up vehicular emissions inventories, Geosci. Model Dev., 11, 2209–2229, 10.5194</a> S Ibarra-Espinosa, R Ynoue, S O'Sullivan, E Pebesma, MDF Andrade, ... gmd-11-2209-2018	8	2018
<a href="#">EmissV: A preprocessor for WRF-Chem model</a> D Schuch, ED Freitas, MF Andrade Journal of the Atmospheric Science Research 1 (1), online	2	2018
<a href="#">VEIN v0. 2.2: an R package for bottom–up vehicular emissions inventories, Geosci. Model Dev., 11, 2209–2229</a> S Ibarra-Espinosa, R Ynoue, S O'sullivan, E Pebesma, MDF Andrade, ...	15	2018
<a href="#">Integrating internet GPS vehicle tracking data into a bottom-up vehicular emissions inventory and atmospheric simulation in South-East, Brazil</a> SI Espinosa, R Ynoue, M Giannotti 2017 AGU Fall Meeting	1	2017
<a href="#">Integrating internet GPS vehicle tracking data into a bottom-up vehicular emissions inventory and atmospheric simulation in South-East, Brazil</a> S Ibarra Espinosa, R Ynoue, M Giannotti AGU Fall Meeting Abstracts 2017, A43F-2525	1	2017
<a href="#">Air pollution modeling in São Paulo using bottom-up vehicular emissions inventories</a>	3	2017



TITLE	CITED BY	YEAR
S Ibarra-Espinosa Sao Paulo, Brazil		
<a href="#">Air pollution modeling in São Paulo using bottom-up vehicular emissions inventories</a> SIA Espinosa Universidade de São Paulo: São Paulo, Brazil	1	2017
<a href="#">REMI model: Bottom-up emissions inventories for cities with lack of data</a> S Ibarra-Espinosa, R Ynoue Earth Sci. Geotech. Eng 1, 277-288	7	2017
<a href="#">Air pollution in Latin America: Bottom-up Vehicular Emissions Inventory and Atmospheric Modeling</a> SI Espinosa, AV Vela, MG Calderon, CM González, R Ynoue 2016 AGU Fall Meeting		2016
<a href="#">Air pollution in Latin America: Bottom-up Vehicular Emissions Inventory and Atmospheric Modeling</a> S Ibarra Espinosa, AV Vela, MG Calderon, G Carlos, R Ynoue AGU Fall Meeting Abstracts 2016, A21C-0041		2016
<a href="#">Air quality forecasting system for Southeastern Brazil</a> MF Andrade, RY Ynoue, ED Freitas, E Todesco, A Vara Vela, S Ibarra, ... Frontiers in environmental Science 3, 9	94	2015
<a href="#">High resolution air pollution simulation for the Metropolitan Region of Porto Alegre</a> S Ibarra, A Vara-Vela, A Rehbein, RY Ynoue	1	2015
<a href="#">Air quality forecasting system for Southeastern Brazil, Frontiers in Environmental Science, 3, 6975</a> MDF Andrade, RY Ynoue, ED Freitas, E Todesco, A Vara Vela, S Ibarra, ...	5	2015
<a href="#">Development and evaluation of a vehicular emissions inventory based in traffic counts for metropolitan region of São Paulo</a> SI Espinosa, RY Ynoue, A Vara-Vela Changing chemistry in a changing world: Scientific Program		2014
<a href="#">Operational air quality forecast based on vehicular emissions inventory for some metropolitan areas of Southeastern Brazil</a> RY Ynoue, ÁLV Vela, SI Espinosa, E Todesco, MF Andrade Changing chemistry in a changing world: Scientific Program		2014
<a href="#">A five-year study of particulate matter (PM<sub>2.5</sub>) and cerebrovascular diseases</a> DA Santibañez, S Ibarra, P Matus, R Seguel Environmental pollution 181, 1-6	276	2013
<a href="#">Atmospheric pollution and mortality. A comparative study between two Latin American cities: Buenos Aires (Argentina) and Santiago (Chile)</a> R Abrutzky, S Ibarra, P Matus, P Romero-Lankao, V Pereyra, ... International Journal of Environment and Health 6 (4), 363-380	18	20

TITLE	CITED BY	YEAR
<p>Políticas de Restrição Veicular em São Paulo: Simulação e Impactos na Qualidade do Ar por Ozônio em sua Região Metropolitana</p> <p>JB Chiquetto, RY Ynoue, SAI Espinosa, FND Ribeiro, WC Miranda</p>		
<p>MÉTODO DE ESTIMACIÓN DE CARBONO ORGÁNICO PARTICULADO (COP) TOTAL EN LA COLUMNA DE AGUA (COPT (Z)) EN SISTEMAS OCEÁNICOS, CON EL APOYO DEL SENSOR SeaWiFS (450nm–550nm)</p> <p>E Mera, P Rodrigo, L Da Silva, S Ibarra, C Godoy</p>		
<p>MÉTODO DE ESTIMACIÓN DE CARBONO ORGÁNICO PARTICULADO (COP) TOTAL EN LA COLUMNA DE AGUA (COPT (Z)) EN SISTEMAS OCEÁNICOS, CON EL APOYO DEL SENSOR SeaWiFS (450nm a 550nm)</p> <p>E Mera, P Rodrigo, L Da Silva, S Ibarra, C Godoy</p>		
<p>Multi-model simulations of springtime dust storms in East Asia: Implications of an evaluation of four commonly used air quality models (CMAQ, CAMx, CHIMERE, and WRF-chem ...</p> <p>S Ma, X Zhang, C Gao, DQ Tong, A Xiu, G Wu, X Cao, H Zhao, S Zhang, ...</p>		
<p>Material Particulado MP2. 5 e Infecciones Respiratorias Agudas Sesión (I)</p> <p>S Ibarra</p>		
<p>APLICACIÓN DEL ENFOQUE DE SITUACIÓN DE TRÁFICO EN LA ESTIMACIÓN DE EMISIONES VEHICULARES EN SANTIAGO</p> <p>S Ibarra, M Préndez</p>		
<p>Estimación de las emisiones de dióxido de Azufre del Volcán Chaitén</p> <p>L Gutiérrez, S Ibarra, R Rojas, C Recabarren, S Salazar, L Da Silva, ...</p>		
<p>EFFECTO DE LA CONTAMINACIÓN ATMOSFÉRICA EN LAS ENFERMEDADES RESPIRATORIAS EN LA COMUNA DE PUDAHUEL, 2001 AL 2005</p> <p>P Matus, S Ibarra</p>	2	
<p>Efectos de contaminantes atmosféricos en enfermedades respiratorias de mayores de 65 años en Pudahuel. Estudio de series con interacción Ozono-Temperatura.</p> <p>S Ibarra, P Matus, L Gutiérrez, E Mera</p>		
<p>EFFECTO DE LA CONTAMINACIÓN ATMOSFÉRICA EN LAS ENFERMEDADES RESPIRATORIAS AGUDAS EN LA COMUNA DE PUDAHUEL, 2001 AL 2005</p> <p>P Matus, S Ibarra</p>		