Artículos Publicados

Divulgación

[2] Magaldi A, Salcedo D. 2020. Red Universitaria de Observatorios Atmosféricos (RUOA). *Gaceta UNAM Juriquilla* 35, 11-12.

[1] Peralta O, Adams D, Castro T, Grutter M, Varela A. 2016. Mexico's University Network of Atmospheric Observatories, *Eos* 97. https://doi:10.1029/2016EO045273.

Artículos científicos

2025

[73] Aquino-Martínez LP, Ortega-Guerrero B, Quintanar AI, Díaz Y. 2025. Synoptic patterns and heatwaves: Intensifying urban heat islands in the Mexico Basin. *Urban Climate* 59, 102318. https://doi.org/10.1016/j.uclim.2025.102318.

[72] Rosas D, Silva MM, Figueroa B, Morton-Bermea O, Miranda J, Álvarez H, Pi Puig T, Morales J, Uuh J, Hernández Álvarez E, Novelo S, Olivares J, Salcedo D, Rosas I, Ponce C, Raga GB, Ladino LA. 2025. African dust particles over the western Caribbean: chemical characterization. *Atmospheric Environment* 349, 121095. https://doi.org/10.1016/j.atmosenv.2025.121095.

2024

[71] Canul-Macario C, Pacheco-Castro R, Hernández-Espriú A, González-Herrera R, Salles P. 2024. Saltwater intrusion simulations in coastal karstic aquifers related to climate change scenarios. *Environ Earth Sci* 83, 609. https://doi.org/10.1007/s12665-024-11899-2.

[70] Castro T, Peralta O, Prieto C, Santiago N. Alvarez-Ospina H, García R, Saavedra I, Espinosa ML, Hernández E, Miranda J, Gómez V, Solís C, Salcedo D, Torres-Jardón R, Martínez-Arroyo A, Ortínez-Álvarez A, Ruíz-Suárez G, Ortiz E. 2024. Characterization of PM2.5 during ACU15 campaign in Mexico City. *Geofísica Internacional* 63, 1225–1238. https://doi.org/10.22201/igeof.2954436xe.2024.63.4.1745.

[69] Fuerte-Velázquez DJ, Seguí-Amórtegui L, Gómez-Tagle A, Guerrero-García-Rojas H. 2024. Avocado Water Footprint for Two Municipalities in Michoacán, Mexico: A Research of the Blue and Green WF. *Agriculture* 14, 981. https://doi.org/10.3390/agriculture14070981.

[68] García-Martínez R, Calvo-Ramos DK, Muñoz-Torres C, Carrillo-Chávez A, Hernández-Solís JM, López-Carrasco M. 2024. ¿El agua de lluvia sin tratar es apta para su consumo? *Enseñanza y Comunicación de las Geociencias* 3, 10-14. https://doi.org/10.22201/cgeo.29928087e.2024.3.1.3.

[67] Mendo-Pérez G, Arciniega-Ceballos A, Matoza RS, Rosado-Fuentes A, Sanderson RW, Claypool MR. 2024. Seismoacoustic wavefield at Popocatépetl Volcano, Mexico, captured by a temporary broadband network from 2021 to 2022. *Seismological Research Letters* 95, 2689–2706. https://doi.org/10.1785/0220240199.

[66] Miranda-Claudes BA, Montero-Martínez G. 2024. The influence of relative humidity and pollution on the meteorological optical range during rainy and dry months in Mexico City. *Atmosphere* 15, 1382. https://doi.org/10.3390/atmos15111382.

[65] Orozco-Uribe LC, Ortega-Guerrero MA, Maass M, Paz H. 2024. Groundwater in fractured granite: implications for tropical dry forest development and water sustainability. *EGUsphere* [preprint]. https://doi.org/10.5194/egusphere-2024-3117.

[64] Pablo-Pablo MA, Franco-Ramos O, Vázquez-Selem L, Cerano-Paredes J. 2024. Using dendrogeomorphic and lichenometric approaches for rockfall analysis in the high mountains of Central Mexico. *The Holocene* 27:09596836241266433. https://doi.org/10.1177/09596836241266433.

[63] Santiago-de la Rosa N, Prieto C, Pavia R, Peralta O, Alvarez-Ospina H, Saavedra I, Castro T, García R, Espinosa ML, Ortínez-Álvarez A, Ruíz-Suárez G, Martínez-Arroyo A. 2024. Carbonaceous particles and PM2.5 optical properties in Mexico City during the ACU15 campaign. *Atmósfera* 38, 369–380. https://doi.org/10.20937/ATM.53270.

[62] Taquet N, Stremme W, González del Castillo ME, Almanza V, Bezanilla A, Laurent O, Alberti C, Hase F, Ramonet M, Lauvaux T, Che K, Grutter M. 2024. CO_2 and CO temporal variability over Mexico City from ground-based total column and surface measurements, *Atmos. Chem. Phys*. 24, 11823–11848. https://doi.org/10.5194/acp-24-11823-2024.

[61] Vizuete-Jaramillo E, Robles-Morua A, Meza-Figueroa D, Schiavo B, González-Grijalva B. 2024. Seasonal quantification of Zn2+, Pb2+ and Cu2+ in urban dusts in a semiarid city in northwest Mexico. *Atmospheric Pollution Research* 15, 102074. https://doi.org/10.1016/j.apr.2024.102074.

2023

[60] Abrica-González P, Gómez-Arroyo S, Jazcilevich-Diamant A, Sotelo-López A, Flores-Márquez AR, Cortés-Eslava J. 2023. Evaluation of toxicological effects of ZnO and CuO nanoparticles with Taraxacum officinale as bioindicator. *Water Air Soil Pollut*. 234, 443. https://doi.org/10.1007/s11270-023-06432-3.

[59] Aquino-Martínez LP, Ortega Guerrero B, Quintanar AI, Ochoa-Moya CA, Barrón-Fernández R. 2023. High-performance computing with the Weather Research and Forecasting system model: a case study under stable conditions over Mexico basin. *Comput. Sist*. 27, 627-641. https://doi.org/10.13053/CyS-27-3-4035.

[58] Burgos-Cuevas A, Magaldi A, Adams DK, Grutter M, García Franco JL, Ruiz-Angulo A. 2023. Boundary layer height characteristics in Mexico City from two remote sensing techniques. *Bound. Lay. Meteorol*. 186, 287-304. https://doi.org/10.1007/s10546-022-00759-w.

[57] Espinosa Fuentes MLL, Peralta O, García R, González del Castillo E, Cerón Bretón RM, Cerón Bretón JG, Tun Camal E, Zavala García F. 2023. Soil dynamics in an urban forest and its contribution as an ecosystem service. *Land* 12, 2098. https://doi.org/10.3390/land12122098.

[56] Granados-Hernández LA, Pisanty I, Raventós J, Excurra E. 2023. An evolutionary approach by second derivatives of the population growth rate of Castilleja tenuiflora, a hemiparasitic plant with and without hosts. *Evol. Ecol*. 37, 457-476. https://doi.org/10.1007/s10682-022-10224-2.

[55] Orozco-Uribe LC, Ortega-Guerrero MA, Maass M, Paz H. 2023. Dinámica hidrológica ecosistémica en un bosque tropical seco asociado a un medio fracturado. *Bosque (Valdivia)* [en línea], 44, 547-561. http://dx.doi.org/10.4067/S0717-92002023000300547.

[54] Rosen K, Ángeles-Camacho C, Elvira V, Guillén-Burguete ST. 2023. Intra-hour photovoltaic forecasting through a time-varying Markov switching model. *Energy* 278, Part B: 127952. https://doi.org/10.1016/j.energy.2023.127952.

[53] Salcedo D, Alvarez-Ospina H, Olivares-Salazar S, Liñan-Abanto R, Castro T. 2023. PM chemical characterization at a semi-arid urban environment in Central Mexico. *Urban Climate* 52, 101723. https://doi.org/10.1016/j.uclim.2023.101723.

[52] Schiavo B, Meza-Figueroa D, Morton-Bermea O, Vizuete-Jaramillo E, Robles-Morua A. 2023. Seasonal variation of mercury in settled dust from brick kiln pollution in Sonora, Mexico: Ecological risk and human health implication. *Atmos. Pollut. Res*. 14, 101787. https://doi.org/10.1016/j.apr.2023.101787.

2022

[51] Álvarez-Vázquez P, Peña-Ramos FM, Flores-Naveda A, Camposeco-Montejo N, García-López J I, Guerrero-Rodríguez J de D. 2022. Mathematical models to estimate forage production in southeastern Coahuila, Mexico. *Agro Productividad* 15, 11-18. https://doi.org/10.32854/agrop.v15i7.2312.

[50] Cabrera-Segoviano D et al. 2022. Inter-annual variability of ice-nucleating particles in Mexico City. *Atmos. Environ*. 273, 118964. https://doi.org/10.1016/j.atmosenv.2022.118964.

[49] Calderón-Garcidueñas L et al. 2022. Hemispheric cortical, cerebellar and caudate atrophy associated to cognitive impairment in Metropolitan Mexico City young adults exposed to fine particulate matter air pollution. *Toxics* 10, 156. https://doi.org/10.3390/toxics10040156.

[48] Calderón-Garcidueñas L et al. 2022. Metals, Nanoparticles, Particulate Matter, and Cognitive Decline. *Front. Neurol*. 12, 794071. https://doi.org/10.3389/fneur.2021.794071.

[47] Herrera-Becerril CA, Sánchez-Cabeza JA, Álvarez-Sánchez LF, Lara-Cera AR, Ruiz-Fernández AC, Cardoso-Mohedano JG, Machain-Castillo ML, Colas F. 2022. Statistical identification of coastal hypoxia events controlled by wind-induced upwelling. Cont. Shelf Res. 233, 104634. https://doi.org/10.1016/j.csr.2021.104634.

[46] Leyte-Lugo M, Sandoval B, Salcedo D, Peralta O, Castro T, Alvarez-Ospina H. 2022. Variations of Black Carbon concentrations in two sites in Mexico: A high-altitude national park and a semi-urban site. Atmosphere 13, 216. https://doi.org/10.3390/atmos13020216.

[45] Salas-Acosta ER, Andrade JL, Perera-Burgos JA, Us-Santamaría R, Figueroa-Espinoza B, Uuh-Sonda JM, Cejudo E. 2022. Transpiration of a tropical dry deciduous forest in Yucatan, Mexico. Atmosphere 13, 271. https://doi.org/10.3390/atmos13020271.

[44] Torres-Freyermuth A et al. 2022. Hazard assessment and hydrodynamic, morphodynamic, and hydrological response to Hurricane Gamma and Hurricane Delta on the northern Yucatán Peninsula, Nat. Hazards Earth Syst. Sci. 22, 4063–4085. https://doi.org/10.5194/nhess-22-4063-2022.

2021

[43] Alvarez-Ospina et al. 2021. Particle-bound polycyclic aromatic hydrocarbons (pPAHs) in Merida, Mexico. Aerosol Air Qual. Res. 21, 200245. https://doi.org/10.4209/aaqr.200245.

[42] Calderón-Ezquerro MC, Serrano-Silva N, Brunner-Mendoza C. 2021. Aerobiological study of bacterial and fungal community composition in the atmosphere of Mexico City throughout an annual cycle. Environ. Pollut. 278, 116858. https://doi.org/10.1016/j.envpol.2021.116858.

[41] Carabali G et al. 2021. Characterization of aerosol particles during a high pollution episode over Mexico City. Sci. Rep. 11, 22533. https://doi.org/10.1038/s41598-021-01873-4.

[40] Córdoba F et al. 2021. Ice nucleating abilities of biomass burning, African dust, and sea spray aerosol particles over the Yucatan Peninsula. Atm. Chem. Phys. 21, 4453-4470. https://doi.org/10.5194/acp-2020-783.

[39] Coviello V et al. 2021. Earthquake-induced debris flows at Popocatépetl Volcano, Mexico. Earth Surf. Dynam. 9, 393–412. https://doi.org/10.5194/esurf-9-393-2021.

[38] González del Castillo E et al. 2021. CO2 variability in the Mexico City region from in situ measurements at an urban and a background site. Atmósfera 35, 377-393. https://doi.org/10.20937/ATM.52956.

[37] Hernández-López AE et al. 2021. A study of PM2.5 elemental composition in Southwest Mexico City and development of receptor models with positive matrix factorization. Rev. Int. Contam. Ambient. 37, 67-88. https://doi.org/10.20937/RICA.54066.

[36] Liñán-Abanto RN et al. 2021. Temporal variations of black carbon, carbon monoxide, and carbon dioxide in Mexico City: Mutual correlations and evaluation of emissions inventories. Urban Clim. 37, 100855. https://doi.org/10.1016/j.uclim.2021.100855.

[35] Medellín G, Torres-Freyermuth A. 2021. Foredune formation and evolution on a prograding sea-breeze dominated beach. Cont. Shelf Res. 226, 104495. https://doi.org/10.1016/j.csr.2021.104495.

[34] Mendo-Pérez G et al. 2021. Ground-coupled airwaves template match detection using broadband seismic records of explosive eruptions at Popocatépetl volcano, Mexico. J. Volcanol. Geother. Res. 419, 107378. https://doi.org/10.1016/j.jvolgeores.2021.107378.

[33] Montero-Martínez G, Gómez-Balvás SS, García-García F. 2021. Study of rain classification and the tendency of gamma DSD parameterizations in Mexico. Atmos. Res. 252, 105431. https://doi.org/10.1016/j.atmosres.2020.105431.

[32] Montero-Martínez M. 2021. The effect of altitude on the prediction of momentum for rainfall erosivity studies in Mexico. Catena 207, 105604. https://doi.org/10.1016/j.catena.2021.105604.

[31] Pereira D et al. 2021. Characterization of ice nucleating particles in rainwater, cloud water, and aerosol samples at two different tropical latitudes. Atmos. Res. 250, 105356. https://doi.org/10.1016/j.atmosres.2020.105356.

[30] Raga GB et al. 2021. ADABBOY: African Dust and Biomass Burning over the Yucatan. Bull. Am. Meteorol. Soc. 102, E1543–E1556. https://doi.org/10.1175/BAMS-D-20-0172.1.

[29] Ramírez-Romero C et al. 2021. African Dust Particles over the western Caribbean Part I: Impact on air quality over the Yucatan Peninsula. Atm. Chem. Phys. 21, 239–253. https://doi.org/10.5194/acp-21-239-2021.

[28] Rozanes-Valenzuela DA, Magaldi AV, Salcedo D. 2021. Regional flow climatology for central Mexico (Queretaro): a first case study. Atmósfera. En prensa. https://doi.org/10.20937/ATM.53038.

[27] Schiavo B et al. 2021. In vitro assessment oral and respiratory bioaccessibility of Mn in school dust: Insight of seasonality in a semiarid environment. Appl. Geochem. 134, 105102. https://doi.org/10.1016/j.apgeochem.2021.105102.

2020

[26] Amador-Muñoz O et al. 2020. Current situation of polycyclic aromatic hydrocarbons (PAH) in PM2.5 in a receptor site in Mexico City and estimation of carcinogenic PAH by combining non-real-time and real-time measurement techniques. Sci. Total Environ. 703, 134526. https://doi.org/10.1016/j.scitotenv.2019.134526.

[25] Canul Macario et al. 2020. Empirical relationships of groundwater head–salinity response to variations of sea level and vertical recharge in coastal confined karst aquifers. Hydrogeol. J. 28, 1679-1694. https://doi.org/10.1007/s10040-020-02151-9.

[24] Carrasco-Mijarez NI, Torres-Jardón R, Barrera-Huertas HA. 2020. Correlación PAN-O3 en el suroeste de la Ciudad de México. Rev. Int. Contam. Ambient. 36, 907–925. https://doi.org/10.20937/RICA.53581.

[23] Caudillo L et al. 2020. Nanoparticle size distributions in Mexico City. Atmos. Pollut. Res. 11, 78-84. https://doi.org/10.1016/j.apr.2019.09.017.

[22] De los Ríos K et al. 2020. Preliminary measurements of Be-10/Be-7 ratio in rainwater for atmospheric transport analysis. J. Nucl. Phys. Mat. Sci. Rad. A. 7, 145–151. https://doi.org/10.15415/jnp.2020.72018.

[21] García-Franco JL. 2020. Air quality in Mexico City during the fuel shortage of January 2019. Atmos. Environ. 222, 117131. https://doi.org/10.1016/j.atmosenv.2019.117131.

[20] Liñán Abanto RN et al. 2020. Mediciones continuas de carbono negro, monóxido de carbono y dióxido de carbono, durante la temporada seca caliente 2016, en un sitio periurbano de Querétaro, México. Ciencia y Desarrollo 26, 68–76. https://doi.org/10.33326/26176033.2020.26.934.

[19] Montero-Martínez G, García-García F, Arenal-Casas S. 2020. The change of rainfall kinetic energy with altitude. J. Hydrol. 584, 124685. https://doi.org/10.1016/j.jhydrol.2020.124685.

[18] Muñoz-Salazar J et al. 2020. Ultrafine Aerosol Particles in the Western Caribbean: A first case study in Merida. Atmos. Pollut. Res. 11, 1767-1775. https://doi.org/10.1016/j.apr.2020.07.008.

[17] Ortega Rosas CI, Calderón-Ezquerro MC, Gutiérrez-Ruacho OG. 2020. Fungal spores and pollen are correlated with meteorological variables: effects in human health at Hermosillo, Sonora, Mexico. Intl. J. Environ. Health Res. 30, 677-695. https://doi.org/10.1080/09603123.2019.1625031.

[16] Ortega-Rosas CI et al. 2020. Association of airborne particulate matter with pollen, fungal spores, and allergic symptoms in an arid urbanized area. Environ. Geochem. Health. 43, 1761-1782. https://doi.org/10.1007/s10653-020-00752-7.

[15] Rodríguez Gómez C et al. 2020. Characterization of culturable airborne microorganisms in the Yucatan Peninsula. Atmos. Environ. 223, 117183. https://doi.org/10.1016/j.atmosenv.2019.117183.

[14] Schiavo B et al. 2020. Evaluation of possible impact on human health of atmospheric mercury emanations from the Popocatépetl volcano. Environ. Geochem. Health 42, 3717–3729. https://doi.org/10.1007/s10653-020-00610-6.

2019

[13] Liñán-Abanto RN et al. 2019. Optical properties of atmospheric particles over an urban site in Mexico City and a peri-urban site in Queretaro. J. Atmos. Chem. 76, 201–228. https://doi.org/10.1007/s10874-019-09394-1.

[12] Peralta O et al. 2019. Atmospheric black carbon concentrations in Mexico. Atmos. Res. 230, 104626. https://doi.org/10.1016/j.atmosres.2019.104626.

[11] Sanchez-Cabeza JA et al. 2019. A low-cost long-term model of coastal observatories of global change. J. Oper. Oceanogr. 12, 34-46. https://doi.org/10.1080/1755876X.2018.1533723.

[10] Villagómez F et al. 2019. Effect of tree identity, temporal variation and edaphic parameters on the structure of the edaphic community of oribatid mites in an evergreen tropical forest

of Mexico. Appl. Ecol. Environ. Res. 17, 14621-14639. http://dx.doi.org/10.15666/aeer/1706_1462114639.

2018

[9] Arredondo-Amezcua L et al. 2018. Hummingbirds in high alpine habitats of the tropical Mexican mountains: new elevational records and ecological considerations. Avian Conserv. Ecol. 13, 14. https://doi.org/10.5751/ACE-01202-130114.

[8] García-Franco JL et al. 2018. Variability of the mixed-layer height over Mexico City. Boundary-Layer Meteorol. 167, 493-507. https://doi.org/10.1007/s10546-018-0334-x.

[7] Ladino LA, Raga GB, Baumgardner D. 2018. On particle-bound polycyclic aromatic hydrocarbons (PPAH) and links to gaseous emissions in Mexico City. Atmos. Environ. 194, 31-40. https://doi.org/10.1016/j.atmosenv.2018.09.022.

[6] Parker G et al. 2018. Effects of hurricane disturbance on a tropical dry forest canopy in western Mexico. For. Ecol. Manag. 426, 39-52. https://doi.org/10.1016/j.foreco.2017.11.037.

2017

[5] Baylon JL et al. 2017. Background CO2 levels and error analysis from ground-based solar absorption IR measurements in central Mexico. Atmos. Meas. Tech. 10, 2425-2434. https://doi.org/10.5194/amt-10-2425-2017.

[4] Gómez-Arroyo S et al. 2017. In situ biomonitoring of air quality in rural and urban environments of Mexico Valley through genotoxicity evaluated in wild plants. Atmos. Pollut. Res. 9, 119-125. https://doi.org/10.1016/j.apr.2017.06.009.

[3] Plaza-Medina EF et al. 2017. Ground-based remote sensing of O_3 by high and medium resolution FTIR spectrometers over the Mexico City basin. Atmos. Meas. Tech. 10, 2703-2725. https://doi.org/10.5194/amt-10-2703-2017.

2016

[2] Arellano J et al. 2016. The MAX-DOAS network in Mexico City to measure atmospheric pollutants. Atmosfera 29, 157-167. https://doi.org/10.20937/ATM.2016.29.02.05.

[1] Montero-Martínez G, Torres-Pérez EF, García-García F. 2016. A comparison of two optical precipitation sensors with different operating principles: The PWS100 and the OAP-2DP. Atmos. Res. 178-179, 550-558. https://doi.org/10.1016/j.atmosres.2016.05.007.