Paper #	Title	Citation APA	DOI	Author	Publication Year	Publication date	Temporal Extent	Geographical Area of Study	Areal unit	Cases	Deaths	Reproductive ratio	Case fatality rate	Hospitalizations	Other outcome	Statistical methods	PM2.5	PM10	O3	NO2	SO2	CO	AQI	Other air pollutant	Covariates or Possible Confounders	Code Availability (link)
1	Assessing nitrogen dioxide (NO2) levels as a contributing factor to the coronavirus (COVID-19) fatality rate *Science of the Total Environment*	Ogen, Y. (2020). Assessing nitrogen dioxide (NO2) levels as a contributing factor to coronavirus (COVID-19) fatality. *Science of the Total Environment* , *726*, 138605.	https://doi.org/10.1016/j.scitotenv.2020.138605	Ogen	2020	4/11/2020		1	Italy, Spain, France, Ge	66 Administrative Region						Descriptive	0	0	0	2	0	0	0	0	None	No
2	Incidence of COVID-19 and connections with air pollution exposure: evidence from the Netherlands (medRxiv)	Andree, B. P. J. (2020). Incidence of COVID-19 and connections with air pollution exposure: evidence from the Netherlands. *World Bank Policy Research Working Paper* , (9221).	https://doi.org/10.1596/1813-9450-9448	Andree	2020	12/3/2020		1	Netherlands	355 municipalities	1			1		Non-parametric penalized kernel regression	2	0	0	0	0	0	0		Population density, gender, age structure, pri	No
3	Initial evidence of higher morbidity and mortality due to SARS-CoV-2 in regions with lower air quality (Frontiers in Public Health)	Paraskevis, D., & Tsiodras, S. (2020). Initial evidence of higher morbidity and mortality due to SARS-CoV-2 in regions with lower air quality. *Frontiers of Public Health*	10.3389/fpubh.2020.597753	Paraskevis	2021	1/22/2021		1	United States, Italy, C	United States: counties, It	1	1				Kendall tau correlation	2	2	2	0	1	2	0	6	ECHO - 2, Aerosol- 1	None	No
4	Early Spread of COVID-19 in the Air-Polluted Regions of Eight Severely Affected Countries (Atmosphere)	Paraskevis, D., & Tsiodras, S. (2021). Early spread of COVID-19 in the air-polluted regions of eight severely affected countries. *Atmosphere* , *12*(6), 755.	https://doi.org/10.3390/atmos12060795	Paraskevis	2021	6/21/2021		1	China, Italy, Iran, United	equivalent of county-leve	1	1	1			Kendall tau correlation	2	2	1	2	1	2	0	0	None	No
5	Urban air pollution may enhance COVID-19 case fatality and mortality rates in the United States (The Innovation)	Liang, D., Shi, L., Zhao, J., Liu, P., Sarmat, J. A., Gao, S., ... & Chang, H. H. (2020). Urban air pollution may enhance COVID-19 case-fatality and mortality rates in the United States. *The Innovation* , *1*(3), 100047.	https://doi.org/10.1016/j.xinn.2020.100047	Liang et al.,	2020	9/21/2020		1	United States	3122 counties						Negative binomial mixed model	1	0	1	2	0	0	0		State-level test positive rate, county-level hea	No
6	Air Pollution and COVID-19 Mortality in the United States: Strengths and Limitations of an Ecological Regression Analysis (Science Advances)	Wu, X., Nethery, R. C., Sabath, M. B., Braun, D., & Dominici, F. (2020). Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis. *Science advances* , *6*(45), eabb8049.	https://doi.org/10.1126/sciadv.abb8049	Wu et al.,	2020	11/5/2020		1	United States	3089 counties		1				Negative binomial mixed model	2	0	0	0	0	0	0		Days since first COVID-19 case reported (epidi	Yes (https://github.com/wwwx993/PM_COVID)
7	Links between air pollution and COVID-19 in England (Environmental Pollution)	Travaglio, M., Yu, Y., Popovic, R., Selley, L., Leal, N. S., & Martins, L. M. (2021). Links between air pollution and COVID-19 in England. *Environmental Pollution* , *268*, 115893.	https://doi.org/10.1016/j.envpol.2020.115893	Travaglio et al.,	2020	10/19/2020		1	England	7 regions, 343 local autho	1	1				Multivariate negative binomial regression	2	2	1	2	2	0	0	6	NO - 2	Regional and sub-regional level: population d	Yes (https://github.com/MLigus/AirPollutionCOVID19, https://m1gus.github.io/AirPollutionCOVID19/)
8	Risk of COVID-19 is associated with long-term exposure to air pollution (medRxiv)	Zhang, W., Liu, Y., Song, H., Wu, C. H., Lu, B., Kissinger, M. U., ... & Jia, G. (2020). Risk of COVID-19 is associated with long-term exposure to air pollution.	https://doi.org/10.1101/2020.04.21.20073700	Zhang et al.,	2020	4/25/2020		1	China	124 cities					1	Multivariate Poisson regression model	2	1	1	2	1	1	0		Gross domestic product per capita, age comp	No
9	Role of the chronic air pollutions in the COVID-19 outbreak risk in Italy (Environmental Pollution)	Fattorini, D., & Regoli, F. (2020). Role of the chronic air pollution levels in the Covid-19 outbreak risk in Italy. *Environmental pollution* , *264*, 114732.	https://doi.org/10.1016/j.envpol.2020.114732	Fattorini and Regoli	2020	5/4/2020		1	Italy	71 provinces		1				Univariate linear regression	2	2	2	2	0	0	0		None	No
10	Factors determining the diffusion of COVID-19 and suggested strategy to prevent future accelerated viral infectivity similar to COVID (Sci Total Env)	Coccia, M. (2020). Factors determining the diffusion of COVID-19 and suggested strategy to prevent future accelerated viral infectivity similar to COVID. *Science of the Total Environment* , *729*, 138474.	https://doi.org/10.1016/j.scitotenv.2020.138474	Coccia et al.,	2020	4/20/2020		1	Italy	15 provincial capitals		1				Multiple linear regression	0	2	2	0	0	0	0		Temperature, percent moisture, wind speed	No
11	Association between environmental pollution and prevalence of coronavirus disease 2019 (COVID-19) in Italy (medRxiv)	Lippi, G., Sanchis-Gomar, F., & Henry, B. M. (2020). Association between environmental pollution and prevalence of coronavirus disease 2019 (COVID-19) in Italy. *MedRxiv* .	https://doi.org/10.1101/2020.04.22.20073986	Lippi et al.,	2020	4/27/2020		1	Italy	provinces with greater th	1					Univariate linear regression	0	2	2	0	0	0	0		None	No
12	Risk factors associated with mortality of COVID-19 in 3125 counties of the United States (Infectious Disease of Poverty)	Tian, Y., Zhang, J., Hu, L., Jiang, Y., Qiuxia, C., Li, Z., ... & Zhang, H. (2021). Risk factors associated with mortality of COVID-19 in 3125 counties of the United States. *Infectious diseases of poverty* , *10*(1), 1-8.	https://doi.org/10.1186/s40249-020-00786-0	Tian et al.,	2021	1/4/2021		1	United States	2692 counties		1				Partitioning Around Medoids (PAM) clustering algorithm and multivariate negative binomial regression	2	0	0	0	0	0	0		Proportion with access to exercise opportunit	No
13	Air Pollution aggravating COVID-19 lethality? Exploration in Asian Cities using Statistical Models (Environment, Development, and Sustainability)	Gupta, A., Bherwani, H., Gautam, S., Anjum, S., Kumar, N., ... & Kumar, R. (2021). Air pollution aggravating COVID-19 lethality? Exploration in Asian cities using statistical models. *Environment, Development and Sustainability* , *23*(6), 6403-6417.	https://doi.org/10.1007/s10668-020-00878-9	Gupta et al.,	2020	7/15/2020		1	India, China, Pakistan,	3 Indian Cities, 3 Chinese		1				Univariate Linear Regression	2	1	0	0	0	0	0		None	No
14	Air Pollution exposure and COVID-19: A look at mortality in Mexico City using individual-level data (Science of the Total Environment)	López-Feldman, A., Heres, D., & Marquez-Padilla, F. (2021). Air pollution exposure and COVID-19: a look at mortality in Mexico City using individual-level data. *Science of the Total Environment* , *756*, 143929.	https://doi.org/10.1016/j.scitotenv.2020.143929	Lopez-Feldman et al,	2020	11/26/2020		1	Mexico City	196,273 individuals in the Mexico City Metropoli		1				Probit Model	2	0	0	0	0	0	0		Municipal-Level: population density, density	No
15	Air Pollution Exposure and COVID-19 in Dutch Municipalities (Environmental and Resource Economics)	Cole, M. A., Ozgen, C., & Strobl, E. (2020). Air pollution exposure and Covid-19 in Dutch municipalities. *Environmental and Resource Economics* , *76*(4), 581-610.	https://doi.org/10.1007/s10640-020-00491-4	Cole et al,	2020	8/4/2020		1	Netherlands	355 municipalities		1	1			Negative Binomial	2	0	0	1	1	0	0		Proximity to carnival events, bordering Germ	No
16	Air Pollution is Associated with COVID-19 Incidence and Mortality in Vienna Austria (International Journal of Environmental Research and Public Health)	Hutter, H. P., Poscher, M., Moshammer, H., Lemmerer, K., Mayer, M., Weitensfelder, L., ... & Kundi, M. (2020). Air pollution is associated with COVID-19 incidence and mortality in Vienna, Austria. *International Journal of Environmental Research and Public Health* , *17*(24), 9275.	https://doi.org/10.3390/ijerph17249275	Hutter et al,	2020	12/14/2020		1	Vienna	Austria: 23 Districts		1				Cox Proportional Hazard	0	2	0	2	0	0	0		Percent aged 65+, percent foreigners, unemp	No
17	Air Pollution, sociodemographic and health conditions effects on COVID-19 mortality in Colombia: An ecological study (Science of the Total Environment)	Rodríguez-Villamizar, L. A., Belalcázar-Ceballos, L. C., Fernández-Niño, J. A., Marín-Pineda, D. M., Rojas-Sánchez, O. A., Acuña-Merchán, L. A., ... & Herrera-Galindo, V. M. (2021). Air pollution, sociodemographic and health conditions effects on COVID-19 mortality in Colombia: an ecological study. *Science of the Total Environment* , *756*, 144020.	https://doi.org/10.1016/j.scitotenv.2020.144020	Rodriguez-Villamizar et al,	2020	11/26/2020		1	Columbia	1122 municipalities		1			1	Logit-Negative Binomial Hurdle Model	1	0	0	0	0	0	0		Percent aged 65+, percent urban population,	No
18	Ambient Air Pollutants and their Effects on COVID-19 Mortality in the United States of America	Liu, G., & Li, M. (2020). Ambient air pollutants and their effect on COVID-19 mortality in the United States of America. *Revista Panamericana de Salud Pública* , *44*.	https://doi.org/10.26633/RPSP.2020.159	Liu and Li,	2020	11/20/2020		1	United States	2522 counties		1				Multivariate Linear Regression	0	0	2	2	2	1	0		Median household income, number of hospit	No
19	A Model of Disparities: Risk Factors Associated with COVID-19 Infection	Rozenfeld, Y., Beam, J., Maier, H., Haggerson, W., Boudreau, K., Carlson, J., & Medows, R. (2020). A model of disparities: risk factors associated with COVID-19 infection. *International journal for equity in health* , *19*(1), 1-10.	https://doi.org/10.1186/s12939-020-01242-z	Rozenfeld et al,	2020	7/29/2020		1	United States	34,503 cases of laboratory confirmed positive or negative COVID-19 infections					1	Multivariate Logistic Regression	0	0	0	0	0	0	2		Age, gender, education, employment, race, w	No
20	Association Between Air Pollution in Lima and the High Incidence of COVID-19: Findings from a Post-Hoc Analysis (BMC Public Health)	Vasquez-Apestegui et al., (2021). Association between air pollution in Lima and the high incidence of COVID-19: findings from a post-hoc analysis. *BMC Public Health* , *21*(1), 1-13.	https://doi.org/10.1186/s12889-021-11232-7	Vasquez-Apestegui et al,	2021	6/16/2021		1	Peru	24 districts in Lima	1	1		1		Linear Regression	2	0	0	0	0	0	0		Sex ratio, age, food markets, population, elev	No
21	Geographical Pattern of COVID-19-Related Outcomes over the Pandemic Period in France: A Nationwide Socio-Environmental Study	Deguen, S., & Rihan-Tabenkiote, M. (2021). Geographical pattern of COVID-19-Related outcomes over the pandemic period in France: a nationwide Socio-Environmental study. *International Journal of Environmental Research and Public Health* , *18*(4), 1624.	https://doi.org/10.3390/ijerph18041624	Séverine Deguen and Wahida Kihal-Talantikite,	2021	2/14/2021		1	France	95 Departments		1			1	Linear Regression	0	0	0	2	0	0	0		Proportion of population over 60 and popula	No
22	Are environmental pollution and biodiversity levels associated to the spread and mortality of COVID-19? A four-month global analysis	Fernández, D., Giné-Vázquez, I., Liu, L., Yücel, R., Rusacche, M. N., Moreira, M., ... & Tynoslos, S. (2021). Are environmental pollution and biodiversity levels associated to the spread and mortality of COVID-19? A four-month global analysis. *Environmental pollution* , *271*, 116326.	https://doi.org/10.1016/j.envpol.2020.116326	D. Fernandez, I.Gine-Vazquez, L.Liu et al.,	2020	12/21/2020		1	218 countries		1	1				Spatio temporal models	2	2	2	0	0	0	0		Days since the first case, Days since the last c	No
23	Vulnerability and Burden of All-Cause Mortality Associated with Particulate Air Pollution during COVID-19 Pandemic: A Nationwide Observed Study in Italy	Yu, Y., Xu, R., Yu, W., Chen, Z., Guo, Y., & Li, S. (2021). Vulnerability and burden of all-cause mortality associated with particulate air pollution during covid-19 pandemic: a nationwide observed study in Italy. *Toxics* , *9*(3), 56.	https://doi.org/10.3390/toxics9030056	Tingting Yu,Rongbin Xu, Wenhua Yu, Zhaoyue Chen, Yuming Guo, and Shanshan Li	2021	3/16/2021		1	Italy	107 provinces		1	1			A time stratified case-cross design was utilized alongside a distributed lag nonlinear model	2	2	0	0	0	0	0		Temperature, Relative humidity, NO2, CO, CO	No
24	Population-weighted exposure to air pollution and COVID-19 incidence in Germany	Huang, G., & Brown, P. E. (2021). Population-weighted exposure to air pollution and COVID-19 incidence in Germany. *Spatial statistics* , *47*, 100480.	https://doi.org/10.1016/j.spasta.2020.100480	G Huang, PE Brown	2020	11/3/2020		1	Germany	401 administrative Distric	1	1				Poisson Log Linear Model	1	1	0	2	1	0	0		Population Density, Temperature, Age, Sex	Yes (https://github.com/hgw0610209/Germany-covid-paper)
25	Long-term exposure to air-pollution and COVID-19 mortality in England: A hierarchical spatial analysis	Konstantinoudis, G., Padellini, T., Bennett, J., Davies, B., Ezzati, M., & Blangiardo, M. (2021). Long-term exposure to air-pollution and COVID-19 mortality in England: a hierarchical spatial analysis. *Environment international* , *145*, 106316.	https://doi.org/10.1016/j.envint.2020.106316	G Konstantinoudis, T Padellini, J Bennett	2020	12/7/2020		1	England	32,844 LSOAs		1				Bayesian Hierarchical Poisson Log-Linear Model	1	0	0	1	0	0	0		Many relevant confounders including meteor	Yes (https://github.com/gkonstantinoudis/COVID19AirPollutionEn)
26	Effects of air pollution on the potential transmission and mortality of COVID-19: A preliminary case-study in Tarragona Province (Catalonia, Spain)	Marquès, M., Rovira, J., Nadal, M., & Domingo, J. L. (2021). Effects of air pollution on the potential transmission and mortality of COVID-19: a preliminary case-study in Tarragona Province (Catalonia, Spain). *Environmental Research* , *192*, 110315.	https://doi.org/10.1016/j.envres.2020.110315	M Marquès, J Rovira, M Nadal, JL Domingo	2020	10/12/2020		1	Spain	Tarragona Province		1	1			Pearson Correlation	1	0	1	2	0	0	0		None	No
27	Regional and global contributions of air pollution to risk of death from COVID-19	Fouzder, A., Dominici, F., Haneuse, A., Willi, C., Mizoue, T., & Lefevre, J. (2020). Regional and global contributions of air pollution to risk of death from COVID-19. *Cardiovascular Research* , *116*(14), 2247-2253.	https://doi.org/10.1093/cvr/cvaa288	A Fouzder, F Dominici, A Haine, C Witt	2020	10/1/2020		1	East Asia, Europe, North America, Africa, West Asia, South Asia, South			1				Exposure response function of the WHO to estimate relative risk	2	0	0	0	0	0	0		None	No
28	The Effects of Air Pollution on COVID-19 Related Mortality in Northern Italy	Coker, E. S., Cavalli, L., Fabrizi, E., Guastella, G., Lippi, E., Parisi, M. L., ... & Vergalli, S. (2020). The effects of air pollution on COVID-19 related mortality in northern Italy. *Environmental Resource Economics* , *76*(4), 611-634.	https://doi.org/10.1007/s10640-020-00486-1	ES Coker, L Cavalli, E Fabrizi, G Guastella	2020	8/4/2020		1	Italy	Northern Italy: 4041 municipalities					1	Negative Binomial Regression	2	0	0	0	0	0	0		Population Density, Income, Percent Industrial Land, Percent of Companies with less than 10 employees, Temperature, Male Percentage, Age, Hospital Beds, Number of university students, Share of EU residents	
29	Air pollutants and risk of death due to COVID-19 in Italy (Environmental Research)	Dettori, M., Deiana, G., Balotta, C., Borrazzo, G., Murgianu, B., Arghittu, A., ... & Castiglia, P. (2021). Air pollutants and risk of death due to COVID-19 in Italy. *Environmental Research* , *192*, 110459.	https://doi.org/10.1016/j.envres.2020.110459	M Dettori, G Deiana, G Balletto, G Borrusso	2020	11/11/2020		1	Italy	107 provinces		1	1		1	Linear Regression	1	2	0	1	0	0	0		Tree Density, Pedestrianized Areas, Soil Cons	No
30	Initial COVID-19 Transmissibility and Three Gaseous Air Pollutants (NO2, SO2, and CO): a Nationwide Ecological Study in China	Rao, J., Zhao, S., Han, L., Peng, Z., Wang, M. H., Qiu, Y., & He, D. (2020). Initial COVID-19 transmissibility and three gaseous air pollutants (NO2, SO2, and CO): a nationwide ecological study in China. *Frontiers in medicine* , *571*.	https://doi.org/10.3389/fmed.2020.575839	J Rao, S Zhao, L Han, Z Peng, MH Wang, Y Qiu	2020	9/24/2020		1	China	154 cities				1		Linear Regression	0	0	0	-1	1	1	0		Temperature and Humidity	No
31	Hazardous air pollutant exposure as a contributing factor to COVID-19 mortality in the United States (Environmental Research Letters)	Petroni, M., Bell, M., Horney, J., Molinelli, A., Nichols, G., Haskett, L., Howell, I. B., ... & Collins, M. B. (2020). Hazardous air pollutant exposure as a contributing factor to COVID-19 mortality in the United States. *Environmental Research Letters* , *15*(9), 094040.	https://doi.org/10.1088/1748-9326/abaf86	M Petroni, D Hill, L Younes, L Barkman	2020	9/11/2020		1	United States	3006 counties			1			Negative Binomial Mixed Models	2	0	2	0	0	0	0		Hazardous Air Pollutants- 2, Acetaldehyde- 2, Naphthalene	
32	Particulate matter pollution and the COVID-19 outbreak: results from Italian regions and provinces (Archives of Medical Science)	Bianconi, V., Bronzo, P., Banach, M., Sahebkar, A., Mannarino, M. R., & Pirro, M. (2020). Particulate matter pollution and the COVID-19 outbreak: results from Italian regions and provinces. *Archives of Medical Science: AMS* , *16*(5), 985.	https://doi.org/10.5114/aoms.2020.95336	V Bianconi, P Bronzo, M Banach	2020	5/22/2020		1	Italy	20 regions		1	1			Multiple Linear Regression	2	2	0	0	0	0	0		Age, Sex, Temperature, Humidity	No
33	COVID-19 prevalence and fatality rates in association with air pollution emission concentrations and emission sources (Environmental Pollution)	Hendryx, M., & Luo, J. (2020). COVID-19 prevalence and fatality rates in association with air pollution emission concentrations and emission sources. *Environmental Pollution* , *265*, 115126.	https://doi.org/10.1016/j.envpol.2020.115126	M Hendryx, J Luo	2020	6/27/2020		1	United States	3143 counties		1	1			Mixed Model	2	0	1	0	0	0	0	6	Diesel Particulate Matter- 2	Age, Race, Ethnicity, Education, Income, Smo	No
34	Ambient fine particulate matter air pollution and the risk of hospitalization among COVID-19 positive individuals: Cohort study (Environment International)	Bowe, B., Xie, Y., Gibson, A. K., Cai, M., van Donkelaar, A., Martin, R. V., ... & Al-Aly, Z. (2021). Ambient fine particulate matter air pollution and the risk of hospitalization among COVID-19 positive individuals: cohort study. *Environment international*, *154*, 106564.	https://doi.org/10.1016/j.envint.2021.106564	B Bowe, Y Xie, AK Gibson, M Cai	2021	4/9/2021		1	United States	599,102 United States Veterans				1		Poisson Regression	2	0	0	0	0	0	0		State; Age, Race, Sex, Smoking Status, County	No
35	The IMPACT of LONG-TERM Exposure to PM2.5, PM10 and NO2 Air Pollutants on the Age-Adjusted Mortality RATE of COVID-19 Based on the Example of Poland (Value in Health)	Muszalek, A., & Nosowicz, A. (2020). PRM120 The IMPACT of LONG-TERM Exposure to PM2. 5, PM10 and NO2 Air Pollutants on the Age-Adjusted Mortality RATE of COVID-19 Based on the Example of Poland. *Value in Health* , *23*, S563-S564.	https://doi.org/10.1016/j.jval.2020.08.961	A Muszalek, A Nosowicz	2020	12/11/2020		1	Poland	16 Voivodeships			1			Linear Regression	1	1	0	2	0	0	0		None	No
36	The main factors influencing COVID-19 spread and deaths in Mexico: A comparison between phases I and II	Barrios, F., & Gasca-Sanchez, F. (2021). The main factors influencing COVID-19 spread and deaths in Mexico: A comparison between phases I and II. *Applied Geography* , *134*, 102523.	https://doi.org/10.1016/j.apgeog.2021.102523	F Barrios, F Gasca-Sanchez	2021	7/27/2021		1	Mexico	2469 municipalities in 32		1	1			Zero-Inflated Negative Binomial Regression Models	2	0	0	0	0	0	0		None	No
37	Effects of long-term exposure to air pollutants on the spatial spread of COVID-19 in Catalonia, Spain (Environmental Research)	Sasse, M., Tobias, A., & Barceló, M. A. (2020). Effects of long-term exposure to air pollutants on the spatial spread of COVID-19 in Catalonia, Spain. *Environmental research* , *191*, 110177.	https://doi.org/10.1016/j.envres.2020.110177	M Sasse, A Tobias, MA Barceló	2020	9/12/2020		1	Spain	Catalonia		1	1			Poisson Mixed Models	0	2	0	2	0	0	0		Income, Unemployment, Age, Percent Foreig	No
38	An ecological analysis of long-term exposure to PM2.5 and incidence of COVID-19 in Canadian Health Regions (Environmental Research)	Shah, D. M., Evans, G. J., Tu, T. M., Brook, J. R., & Burnett, R. T. (2020). An ecological analysis of long-term exposure to PM2. 5 and incidence of COVID-19 in Canadian health regions. *Environmental research* , *187*, 109677.	https://doi.org/10.1016/j.envres.2020.110850	DM Shah, GJ Evans, TM Tu, JR Brook	2020	8/26/2020		1	Canada	111 health regions		1				Negative Binomial Regression	2	0	0	0	0	0	0		Population density, days since first case, days	No
39	County-level Predictors of Coronavirus Disease 2019 (COVID-19) Cases and Deaths in the United States: What Happened, and Where Do We Go from Here? (Clinical Infectious Diseases)	Mackey, T., Purushothaman, V., Haunert, K., Nali, M., Schriver, M., Li, J., Vaiturir, R. E., ... & Swerdlow, D. L. (2021). County-level Predictors of Coronavirus Disease 2019 (COVID-19) Cases and Deaths in the United States: What Happened, and Where Do We Go from Here?. *Clinical Infectious Diseases* , *73*(7), e1814-e1821.	https://doi.org/10.1093/cid/ciaa1729	JM McLaughlin, F Khan, S Pugh	2020	11/16/2020		1	United States	3142 counties		1	1			Negative Binomial Mixed Model	2	2	0	0	0	0	0		Age, Race, Income, Unemployment, Comorbi	No
40	Risk factors for positive and negative COVID-19 tests: a cautious and in-depth analysis of UK biobank data (International Journal of Epidemiology)	Chadeau-Hyam, M., Bodinier, B., Elliott, J., Whitaker, M. D., Tzoulaki, I., Vermeulen, R., ... & Elliott, P. (2020). Risk factors for positive and negative COVID-19 tests: a cautious and in-depth analysis of UK biobank data. *International journal of epidemiology* , *49*(5), 1454-1467.	https://doi.org/10.1093/ije/dyaa164	M Chadeau-Hyam, B Bodinier, J Elliott	2020	7/3/2020		1	United Kingdom	488083 patients, 4509 CO		1			1	Logistic Regression	2	1	0	1	0	0	0		Comorbidities, Education, Employment, Inco	No
41	Coronavirus disease 2019 mortality: a multivariate ecological analysis in relation to ethnicity, population density, obesity, deprivation and pollution (Public Health)	Wapf, I., Gibson, A., & White, J. (2020). Coronavirus disease 2019 mortality: a multivariate ecological analysis in relation to ethnicity, population density, obesity, deprivation and pollution. *Public health* , *188*, 261-263.	https://doi.org/10.1016/j.puhe.2020.06.056	I Wapf, A Gibson, J White	2020	7/7/2020		1	England	310 Local Authorities			1			Multivariate Linear Regression	1	0	0	0	0	0	0		Index of Multiple Deprivation, Race, Overwei	No
42	Air Pollutants and SARS-CoV-2 in 33 European countries	Lembo, R., Landoni, G., Cianflanelli, L., & Frontera, A. (2021). Air pollutants and SARS-CoV-2 in 33 European countries. *Acta Bio Medica: Atenei Parmensis* , *92*(1).	https://10.23750/abm.v92i1.11155	R Lembo, G Landoni, L Cianfanelli	2021	2/16/2021		1	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czec		1	1			Pearson Correlation	2	2	0	2	0	0	0	6	NH3-2, NMVOCs- 2	None	No
43	The Effects of Air Pollution, Sea Exposure and Altitude on COVID-19 Hospitalization Rates in Italy (International Journal of Environmental Research and Public Health)	Ciaccialfa, E., Henike, I., & Di Francesco, L. (2021). The effects of air pollution, sea exposure and altitude on COVID-19 hospitalization rates in Italy. *International Journal of Environmental Research and Public Health* , *18*(2), 452.	https://doi.org/10.3390/ijerph18030452	E Ciaccialfa, I Henike, L Di Francesco	2021	1/8/2021		1	Italy	107 provinces					1	Multivariate Linear Regression	2	0	0	0	0	0	0		Age, Location of Residence, Public Green Spa	No
44	The determinants of COVID-19 case fatality rate (CFR) in the Italian regions and provinces: An analysis of environmental, demographic, and healthcare factors (Science of the Total Environment)	Perone, G. (2021). The determinants of COVID-19 case fatality rate (CFR) in the Italian regions and provinces: An analysis of environmental, demographic, and healthcare factors. *Science of the Total Environment* , *755*, 142523.	https://doi.org/10.1016/j.scitotenv.2020.142523	G Perone	2020	9/24/2020		1	Italy	107 provinces				1		Multivariate Linear Regression	2	2	2	0	0	0	0		Temperature, Age, Urbanization, Hospital Bed	No
45	Spatial analysis of COVID-19 and traffic-related air pollution in Los Angeles (Environment International)	Liquin, Z., Chen-Gilsdorf, A. M., Liu, J., Su, J., Zhu, Y., & Jerrett, M. (2021). Spatial analysis of COVID-19 and traffic-related air pollution in Los Angeles. *Environment International* , *146*, 106231.	https://doi.org/10.1016/j.envint.2021.106231	Z Liquin, AM Chen-Gilsdorf, J Liu, J Su	2021	3/23/2021		1	United States	Los Angeles (348 neighbo		1	1			Poisson Mixed Model	0	0	0	2	0	0	0		Age, Income, Race, Comorbidities, Smoking	No

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132	Association between coronavirus disease 2019 (COVID-19) and long-term exposure to air pollution: Evidence from the first epidemic wave in China	Zhang, F., Chen, Z., Cai, Y., Song, H., Wu, C. H., Li, B., ... & Ma, D. (2021). Association between coronavirus disease 2019 (COVID-19) and long-term exposure to air pollution: Evidence from the first epidemic wave in China. Environmental Pollution, 276, 116682.	https://doi.org/10.1016/j.envpol.2021.116682	Zhang et al.	2021	2/8/2021	1	China	328 cities	1					Poisson Regression	2	2	1	2	1	1	0		Mobility, GDP, Smoking, Population Greater	No	
133	Association between air quality, meteorological factors and COVID-19 infection case numbers	Lorenzo, J. S. L., Sen Tam, W. W., & Sector, W. J. (2021). Association between air quality, meteorological factors and COVID-19 infection case numbers. Environmental Research, 197, 111024.	https://doi.org/10.1016/j.envres.2021.111024	Lorenzo et al.	2021	3/17/2021	2	Singapore		1					Poisson Regression	2	1	1	2	1	1	0		Humidity, Day of the Week, Precipitation	No	
134	Ambient PM2.5 exposure and rapid spread of COVID-19 in the United States	Chakraborty, K. K., Baeker, P., Liu, P., Goldstein, S., Harvey, H., Pervez, S., ... & Martin, R. V. (2021). Ambient PM2. 5 exposure and rapid spread of COVID-19 in the United States. Science of the Total Environment, 760, 143391.	https://doi.org/10.1016/j.scitotenv.2020.143391	Chakraborty et al.	2020	11/9/2020	1	United States	50 states plus District of Columbia		1				Generalized Additive Model	2	0	0	0	0	0	0		Population, Age Structure, COVID-19 tests, H	Yes (https://github.com/jfox1991/COVID19PM25_supporting_data_and_files)	
135	Air Pollution and COVID-19 Mortality in New York City	Kim, H., & Bell, M. L. (2021). Air pollution and COVID-19 mortality in New York City. American Journal of Respiratory and Critical Care Medicine, 204(1), 97-99.	https://doi.org/10.1164/rccm.202010-3844LE	H Kim, M Bell	2021	5/3/2021	1	United States	New York City (177 Neighborhoods)			1			Poisson Regression	2	0	2	0	0	0	0		Population, Race, Sex Ratio, Population, Hour	No	
136	Global effect of city-to-city air pollution, health conditions, climatic & socio-economic factors on COVID-19 pandemic	Sarkodie, S. A., & Owusu, P. A. (2021). Global effect of city-to-city air pollution, health conditions, climatic & socio-economic factors on COVID-19 pandemic. Science of the Total Environment, 778, 146344.	https://doi.org/10.1016/j.scitotenv.2021.146394	S Sarkodie, P Owusu	2021	3/12/2021	2	615 Cities across 6 Continents (Many Countries		1	1				Multiple Linear Regression	2	0	2	2	0	0	0		Temperature, Pressure, Humidity, Wind Speed	No	
137	Impact of a long-term air pollution exposure on the case fatality rate of COVID-19 patients-A multicity study	Hou, C. K., Qin, Y. F., Wang, G., Liu, Q. L., Yang, X. Y., & Wang, H. (2021). Impact of a long-term air pollution exposure on the case fatality rate of COVID-19 patients—A multicity study. Journal of medical virology, 93(5), 2938-2946.	https://doi.org/10.1002/jmv.26807	Hou et al.	2021	1/20/2021	1	China	14 cities				1		Correlation	2	2	1	1	1	0	2		Population, Race, Sex Ratio, Population, Hour	No	
138	Associations between COVID-19 Incidence Rates and the Exposure to PM2.5 and NO2: A Nationwide Observational Study in Italy	Fiasca, F., Minelli, M., Mitro, C., Simiele, M., Vergaglia, I., Nacciarone, S., & Mattei, A. (2020). Associations between COVID-19 incidence rates and the exposure to PM2. 5 and NO2: A nationwide observational study in Italy. International Journal of Environmental Research and Public Health, 17(24), 9332.	https://doi.org/10.3390/ijerph17249318	Fiasca et al.	2020	12/14/2020	1	Italy	82 Provinces						Multiple Linear Regression	2	0	0	2	0	0	0		Population Density, Elderly Population	No	
139	Containment measures limit environmental effects on COVID-19 early outbreak dynamics	Fiscutola, G. F., & Rubolini, D. (2021). Containment measures limit environmental effects on COVID-19 early outbreak dynamics. Science of The Total Environment, 761, 144432.	https://doi.org/10.1016/j.scitotenv.2020.144432	G Fiscutola, D Rubolini	2020	12/16/2020	1	586 countries/regions					1		Linear Mixed Model	2	0	0	0	0	0	0		Population, Health Expenditure, Elderly Popu	No	