Online-only Supplements

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eMethods 1 – Description of the MCC data

Here we provide a detailed description of the mortality and environmental data used in the present study. As mentioned in the method section of the main manuscript, this data is included in a large dataset collected through the Multi-Country Multi-city (MCC) Collaborative Research Network (http://mccstudy.lshtm.ac.uk/). The dataset has been used in previous publications on temperature-related mortality and related topics (e.g. Gasparrini et al. 2015 Lancet) and a recent study on mortality associated to inhalable particles (Liu et al. 2019 NEJM). A detailed description of the air pollution data is provided in the latter. Below we describe for each country the specific data sources, the definition of the variables and the quality checks that were applied.

Selection of the study locations

We initially included 434 locations available in the MCC database at the time of the study, with available data on daily mortality, mean temperature and ozone (computed as 8-hour maximum). The selection was restricted to cities or metropolitan areas included in the MCC dataset (i.e., regions or provinces were excluded). We then selected 423 that provided data for more than 3 years between 1985 and 2015. Note that for most of the cities, air pollutants were available during specific time intervals which might not be homogeneous within country and not consistent with the mortality and temperature data. The main study period reported in Table 1 is defined as the time between the earliest year and latest year for which ozone data was available in each city within country and by air pollutant. Then, an exploratory analysis of the ozone data was performed as a quality check. From the 423 locations initially selected, we excluded 6 locations (1 in Italy and 5 in the US) with a percentage of missing values above 75% in the 30-days moving average of ozone. We then excluded 6 locations for which the temporal patterns in daily ozone did not follow the expected seasonal trends for this air pollutant, for instance showing abrupt steps, potentially due to changes in the monitors (e.g. relocation, change in the device) or other technical problems. Finally, 5 locations were excluded (1 in Mexico, 1 in South Africa, and 3 in the US) where mortality series presented more than 50% of missing counts. We specify below the locations that were excluded and the reason for exclusion in each country. For each sensitivity analysis using other pollutants, additional exclusions were performed depending on data availability of each air pollutant and weather variable.

Characteristics of the air pollution data

A unique daily series of each pollutant was derived from one or more monitoring stations of the national or regional network available in each city. When more than one monitor, an average daily measurement was derived. See information in each country on the number and characteristics of the monitor considered.

At the time of the data collection, countries provided air pollution levels in µg/m^3 for nitrogen dioxide and inhalable particles (PM10, PM2.5), and for ozone in µg/m^3, ppm or ppb. Prior to data analysis, ozone series were harmonized in terms of units of measure to µg/m^3. The conversion factors used were: 1 ppb = 10^{-3} ppm = 2 µg/m^3.

Refer to Table S1 for city-specific periods and descriptive summaries of the data.

Description of the data in each country

Australia (3 cities, 2000-2009)
Daily mortality, gathered from the Australian Bureau of Statistics, is represented by counts of deaths due to non-external causes (ICD-9: 0-799; ICD-10: A00-R99). Mean daily temperature (˚C) and relative humidity (%) were obtained from the Australian Bureau of Meteorology.

Hourly measurements of inhalable particulate matter with an aerodynamic diameter of 10 μm or less (PM_{10}), inhalable particulate matter with an aerodynamic diameter of 2.5 μm or less ($PM_{2.5}$) only between 2003 and 2009, nitrogen dioxide (NO_2), and ozone (O_3) were collected from urban monitoring stations run by local EPA. Daily PM_{10}, $PM_{2.5}$ and NO_2 measurements were computed as 24-hour average and daily maximum 8-hour average for O_3. In total, missing data amount for 0.0, 0.0, 1.4, 3.2, 8.3 and 4.0% of the mortality, mean temperature, relative humidity, O_3, $PM_{10,}$ $PM_{2.5}$ and NO_2 series, respectively.

Canada (26 metropolitan areas, 1986-2011)

Daily mortality, obtained from Statistics Canada through access to the Canadian Mortality Database, is represented by counts of deaths for all causes. Mean daily temperature (in °C), computed as the 24-hour average based on hourly measurements, and relative humidity (%) were obtained from Environment Canada. A single weather station was selected for each city using the airport monitoring station located closest to the CMA center. Hourly measures of PM_{10} available in 16 cities between 2000-2011, $PM_{2.5}$ in 25 cities between 2006 and 2011, NO_2 in 25 cities in 2007-2011, and measures of O_3 were collected from monitors located in urban areas of the National Air Pollution Surveillance (NAPS) network of Environment Canada, a government institution that operates ground monitoring stations across Canada. Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed as the 24-hour average and daily maximum 8-hour average for O_3 from hourly measurements in different stations, and then averaged across stations within the same CMA with no missing data, with an average of 4 stations per city. In total, missing data amount for 2.1, 1.0, 8.8, 4.1, 19.9, 7.1 and 7.2% of the mortality, mean temperature, relative humidity, O_3, PM_{10}, $PM_{2.5}$ and NO_2 series, respectively.

China (3 cities, 1996-2015 period)

Initially, we collected data from 4 Chinese cities from the Municipal Center for Disease Control. Daily mortality is represented by counts of deaths for non-external causes (ICD-9: 0-799; ICD-10: A00-R99). Each city had a different study period between 1996 and 2015, see in eTable2. Mean daily temperature (in °C), computed as the 24-hour average from hourly measurements, and relative humidity (%) were collected from the meteorological departments of each city. Measures of PM_{10}, NO_2 and ozone O_3 were collected from urban monitoring stations run by China National Environmental Monitoring Center. Daily PM_{10} and NO_2 levels were computed as the 24-hour mean and daily maximum 8-hour average for O_3 using hourly measurements. The analysis was restricted to 3 cities with a minimum of three years of data. PM_{10} and NO_2 measurements were available between 2005 and 2015. In total, missing data amount for 17.8, 17.8, 11.1, 21.9, 18.3 and 18.1% of the mortality, mean temperature, relative humidity, O_3, PM_{10} and NO_2 series, respectively.

Czech Republic (1 city, 1994-2009)

Daily mortality is represented by counts of all-cause deaths obtained from the Czech Statistical Office and the Institute of Health Information and Statistics. Mean daily temperature (in °C) and relative humidity (%), computed as the average of observations in standard climatic terms (7:00, 14:00 and 21:00 local time) were collected by the Czech Hydrometeorological Institute. The average value was calculated according to formula (T07 + T14 + 2*T21)/4. Information about daily PM_{10} and NO_2 levels computed as 24-hour average and maximum 8-hour average for O_3 were provided by the Czech Hydrometeorological Institute. The daily values were calculated from 4 stations (2 urban + 2 suburban). In total, missing data amount for 0.0, 0.0, 0.0, 0.1, 0.1 and 0.1% of the mortality, mean temperature, relative humidity, O_3, PM_{10} and NO_2 series, respectively.

Estonia (4 cities, 2002-2015)

Daily mortality is represented by counts of deaths for non-external causes (ICD-9: 0-799; ICD-10: A00-R99) obtained from Estonian Causes of Death Registry. Mean daily temperature (in ˚C) and relative humidity (%) were computed as the 24-h average of hourly measurements collected from Estonian Environment Agency. A single weather station located nearby the urban area was selected for each city. Hourly measurements PM_{10}, $PM_{2.5}$, NO_2 and O_3 were collected from urban background stations run by the Estonian Environmental Research Centre. Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed as 24-hour average and daily maximum 8-hour average for O_3; for each pollutant, city average among monitoring stations was calculated. PM_{10} and NO_2 measurements were available between 2009 and 2015 and $PM_{2.5}$ between 2010 and 2015. In total, missing data amount for 0.0, 0.0, 0.0, 5.1, 6.2, 7.7 and 7.8% of the mortality, mean temperature, relative humidity, O_3, PM_{10}, $PM_{2.5}$ and NO_2 series, respectively.

France (18 cities, 2000-2010)

Daily mortality, obtained from French National Institute of Health and Medical Research (CepiDC), is represented by counts of deaths for all causes. Mean daily temperature (in ˚C), computed as the mean of the minimal and maximal temperature, and relative humidity (%) was obtained from Meteo France. Hourly measurements of PM_{10} and O_3 were collected through the French local air quality monitoring network (Associations Agréées de Surveillance de la Qualité de l'Air AASQA). For PM_{10}, we used only urban stations, and for O_3, urban and peri-urban stations. Daily PM_{10} levels were computed as 24h average and daily maximum 8-hour average for O_3. Measurements were obtained from multiple stations (with different numbers for each city). PM_{10} measurements were available between 2001 and 2010. In total, missing data amount for 0.0, 0.1, 0.1, 0.1 and 1.8% of the mortality, mean temperature, relative humidity, O_3 and PM_{10} series, respectively.

Germany (12 cities, 1993-2015)

Daily mortality, obtained from the Research Data Centres of the Federation and the Federal States of Germany (Forschungsdatenzentrum der Statistischen Ämter des Bundes und der Länder), is represented by counts of deaths for all causes. Mean daily temperature (in ˚C), computed as the 24-h average based on hourly measurements, was obtained from the Climate Data Centre of the German National Meteorological Service (Deutscher Wetterdienst). Where several weather stations existed within the city boundaries, stations closest to the city centre were chosen, provided that measurements were available for the whole study period. Hourly measurements of PM_{10}, $PM_{2.5}$, NO_2 and O_3 were collected through the German Environment Agency (Umweltbundesamt) from urban background stations. Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed as 24-hour average and daily maximum 8-hour average for O_3. Measurements were obtained from multiple stations (with different numbers for each city). PM_{10} measurements were available between 2003 and 2015, $PM_{2.5}$ between 2010 and 2015 only in 11 cities and NO_2 between 1994 and 2015. In total, missing data amount for 0.0, 0.0, 5.1, 4.3, 5.8 and 5.3% of the mortality, mean temperature, O_3, PM_{10}, $PM_{2.5}$ and NO_2 series, respectively.

Greece (1 city, 2001-2010)

Daily mortality is represented by counts of deaths for all causes (ICD-9: 0-799; ICD-10: A00-R99) collected by Hellenic Statistical Authority. Mean daily temperature (in ˚C) and relative humidity (%) were computed as the 24-h average based on hourly measurements collected from the National observatory of Athens (http://www.noa.gr/) from site "Thisio" located in the city of Athens. Hourly measurements PM_{10}, $PM_{2.5}$, NO_2 and ozone (O_3) were obtained from the Ministry of Environment and Energy fixed site monitoring network. Urban or suburban fixed monitoring background or traffic sites with at least 75% complete information per year of the study period were selected Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed as 24-hour

average and daily maximum 8-hour average for O_3. $PM_{2.5}$ was only available between 2007 and 2010. In total, missing data amount for 0.0, 6.0, 5.9, 0.0, 1.5, 1.8, and 0.0% of the mortality, mean temperature, relative humidity, O_3, PM_{10}, $PM_{2.5}$ and NO_2 series, respectively.

Italy (9 cities, 2006-2015)

Data on 14 Italian cities were initially included, but only 9 cities were selected according to the selection criteria. Daily mortality, obtained from local mortality registries and from the rapid mortality surveillance system, is represented by counts of deaths for all causes (ICD-9: 0-799; ICD-10: A00-R99). Mean daily temperature (in ˚C) was computed as the 24-h average based on 6-h measurements obtained from the Meteorological Service of the Italian Air Force. A single weather station was selected for each city, using the airport monitoring station located closest to the city center. Hourly measurements of PM_{10} and O_3 were obtained from the same period. Daily PM_{10} levels were computed as 24h average and daily maximum 8-hour average for O_3. In total, missing data amount for 0.0, 0.5, 1.7 and 1.7% of the mortality, mean temperature, O_3 and PM_{10} series, respectively.

Japan (45 cities, 2011-2015)

Data was initially collected from each capital city of the 47 prefectures of Japan, but 2 locations with a short study period (less than 3 years) were excluded. Daily mortality, obtained from computerized death certificate data from the Ministry of Health, Labour and Welfare, Japan, is represented by counts of deaths for all causes. Mean daily temperature (in ˚C) and relative humidity (in %), computed as the 24-hour average based on hourly measurements, were obtained from the Japan Meteorological Agency. A single weather station located within the urban area of the capital city was selected for each prefecture. Hourly measurements of PM_{10}, $PM_{2.5}$, NO_2 and O_3 were collected from the urban monitors within the capital cities maintained by the Ministry of the Environment of Japan. Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed as 24-hour average and daily maximum 8-hour average for O_3. PM_{10} measurements were available between 2013 and 2015, and $PM_{2.5}$ between 2014 and 2015. In total, missing data amount for 0.0, 0.1, 0.1, 0.9, 3.1, 6.4, and 0.8% of the mortality, mean temperature, relative humidity, O_3, PM_{10}, and NO_2 series, respectively.

Mexico (7 cities, 2000-2012)

Daily mortality, obtained from National Institute of Statistics, Geography and Informatics, is represented by counts of deaths for all causes. Mean daily temperature (in ˚C) and relative humidity (%) were computed as the 24-hour average based on hourly measurements collected through the Servicio Meteorológico Nacional (SMN) and the Instituto Nacional de Ecología y Cambio Climático (INECC). Hourly measurements of PM_{10}, $PM_{2.5}$ and O_3 were obtained from urban monitors of the local monitoring network. Daily PM_{10} and $PM_{2.5}$ levels were computed as the 24-hour mean and daily maximum 8-hour average for O_3 from hourly measurements. Data from 9 cities were initially included, but 2 locations were eventually excluded due to poor quality of O_3 data. PM_{10} measurements were available between 2010 and 2012, and $PM_{2.5}$ between 2011 and 2012 only in 5 cities. In total, missing data amount for 0.0, 17.3, 7.0 and 5.5% of the mortality, mean temperature, O_3 and PM_{10} series, respectively.

Portugal (2 cities, 1997-2012)

Daily mortality, obtained from Statistics Portugal, is represented by counts of deaths for non-external causes only (ICD-9: 0-799; ICD-10: A00-R99). Mean daily temperature (in ˚C) was computed as the 24-hour average based on hourly measurements collected from the National Oceanic and Atmospheric Administration (NOAA). Hourly measurements of PM_{10}, $PM_{2.5}$, NO_2 and O_3 were gathered from the "online database of air quality" through Portuguese Environment Agency from urban monitors. Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed

as the 24-hour mean and daily maximum 8-hour average for O_3 from hourly measurements. PM_{10} and NO_2 measurements were available between 1999 and 2012, and $PM_{2.5}$ between 2004 and 2012 only in 1 city. In total, missing data amount for 0.0, 0.1, 5.0, 4.8, 8.2 and 0.1% of the mortality, mean temperature, O_3, PM_{10}, $PM_{2.5}$ and NO_2 series, respectively.

<u>South Korea (7 cities, 1999-2015)</u>

Daily mortality was obtained from the Korea National Statistics Office, and is represented by counts of deaths for all causes. Mean daily temperature (in ˚C) and relative humidity (%) were computed as the 24-hour average based on hourly measurements. Measures of PM_{10}, NO_2 and O_3 were available in the period 1999-2015 from monitors of the National Institute of Environmental Research. Daily PM_{10} and NO_2 levels were computed as the 24-hour mean and daily maximum 8-hour average for O_3 from hourly measurements. In total, missing data amount for 0.9, 0.9, 0.9, 0.9, 1.4 and 0.9% of the mortality, mean temperature, relative humidity, O_3, PM_{10} and NO_2 series, respectively.

<u>South Africa (5 cities, 2004-2013)</u>

Daily mortality, provided by Statistics South Africa, is represented by counts of all recorded deaths from all causes at the level of the district municipality. Mean daily temperature (in ˚C) was computed as the average between daily minimum and maximum collected from the Agricultural Research Council of South Africa and the National Oceanic and Atmospheric Administration (NOAA). Hourly measurements of PM_{10} and O_3 were collected at sites managed by the Department of Environmental Affairs (DEA) run by South African Weather Service (SAWS), the eThekwini Municipality, The City of Johannesburg, Sasol, and ESKOM. The eThekwini sites are within the coastal city of Durban on the Indian Ocean. The other sites are in the urban and industrial highveld region of South Africa. The monitoring sites in the industrial highveld include a range of site characteristics, including regional background, traffic, urban, power plant plume, industrial, residential, and low-income residential sites. Daily PM_{10} levels were computed as the 24-hour mean, and daily maximum 8-hour running average for O_3 from the respective provided hourly measurements. The average 24-hour mean or daily maximum 8-hour running average values per district municipality (DM) were then calculated from all sites within each DM. All air quality data, except for the ESKOM run stations, were accessed through SAAQIS (http://www.saaqis.org.za/), which is run and hosted by SAWS. Data from 6 cities in South Africa were initially included, but 1 location was eventually excluded due to the poor quality of the ozone data. In total, 7.3%, 14.4% and 10.1% of the mortality, mean temperature, O_3 and PM_{10} series was missing, respectively. We thank the Statistics South Africa for providing the mortality data, the Agricultural Research Council for providing the meteorological data, and DEA, SAAQIS, SAWS as well as all the data providers (ESKOM, Sasol, City of Johannesburg, and the eThekwini Municipality) for providing the air pollution data. Statistics South Africa had no had no role in the study design, data analysis or interpretation.

<u>Spain (48 cities, 2004-2014)</u>

Data was collected from the 48 capital cities of each province in Spain. Daily mortality, obtained from Spain National Institute of Statistics, is represented by counts of deaths for non-external causes (ICD-9: 0-799; ICD-10: A00-R99). Mean daily temperature (in ˚C), computed as the 24-hour average based on hourly measurements, and was obtained from weather stations of the Spain National Meteorology Agency. A single weather station, located within the urban area or at the near airport, was selected for each city. Hourly measurements of PM_{10}, $PM_{2.5}$, NO_2 and O_3 were collected from the free national repository (Magrama) from urban and suburban monitors. Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed as 24-hour average (only for 43, 20 and 45 cities, respectively) and daily maximum 8-hour average for

O$_3$, PM$_{10}$ and NO$_2$ were collected between 2010 and 2014, and PM$_{2.5}$ between 2013 and 2014. In total, missing data amount for 0.0, 0.5, 5.9, 9.7, 11.8 and 6.7% of the mortality, mean temperature, O$_3$, PM$_{10}$, PM$_{2.5}$ and NO$_2$ series, respectively.

Sweden (1 city, 1990-2010)

Daily mortality, obtained from the Swedish Cause of Death Register at the Swedish National Board of Health and Welfare, is represented by counts of deaths for all causes. Mean daily temperature (in ˚C) and relative humidity (%), computed as the 24-hour average based on hourly measurements, were obtained from the Environment and Health Administration. A single weather station, located at Torkel Knutssongatan in Central Stockholm, was selected. Hourly measurements of PM$_{10}$, PM$_{2.5}$, NO$_2$ and O$_3$ were collected from the main urban background monitor run by the local monitoring network. Daily PM$_{10}$, PM$_{2.5}$ and NO$_2$ levels were computed as the 24-hour average and for O$_3$ as 8-hour maximum. PM$_{10}$ and PM$_{2.5}$ were collected between 1993 and 2014, and 2001 and 2010, respectively. In total, missing data amount for 0.0, 0.2, 0.3, 4.2, 9.9, 9.3 and 0.1% of the mortality, mean temperature, O$_3$, PM$_{10}$ and NO$_2$ series, respectively.

Switzerland (8 cities, 1995-2013)

Data on the 8 cities in Switzerland was collected. We extended the catching area of Lugano to the small municipalities around the main city with similar altitude. Daily mortality, provided by the Federal Office of Statistics (Switzerland), is represented by counts of non-external deaths other than accidents (ICD-10codes A00-R99, V01-V99, W00-X59). Mean daily temperature (in ˚C) and relative humidity (%), computed as the 24-hour average based on hourly measurements, were obtained from the IDAWEB database (a service provided by MeteoSwiss, the Swiss Federal Office of Meteorology and Climatology). A single weather station located within or near the urban area was selected for each city. Hourly measurements of PM$_{10}$, PM$_{2.5}$, NO$_2$ and O$_3$ were provided by the Immissionsdatenbank Luft (IDB, Federal Office of the Environment, Bern, Switzerland). Daily PM$_{10}$, PM$_{2.5}$ and NO$_2$ levels were computed as the 24-hour average from urban monitoring stations, and as 8h-maximum for O$_3$ from urban and sub-urban monitoring stations. PM$_{10}$ and PM$_{2.5}$ were collected between 2003 and 2013. In total, missing data amount for 0.0, 0.0, 0.0, 4.8, 1.8, 6.9 and 0.5% of the mortality, mean temperature, relative humidity, O$_3$, PM$_{10}$, PM$_{2.5}$ and NO$_2$ series, respectively.

Taiwan (3 cities, 2008-2014)

Daily mortality, obtained from the Department of Health in Taiwan, is represented by counts of deaths for all causes. Mean daily temperature (in ˚C) and relative humidity (%) were computed as the 24-hour average based on hourly measurements. Hourly measurements of PM$_{10}$, PM$_{2.5}$, NO$_2$ and O$_3$ were obtained from urban monitors of the local monitoring network. Daily PM$_{10}$, PM$_{2.5}$ and NO$_2$ levels were computed as the 24-hour average and for O$_3$ as 8-hour maximum. Data were pooled from 1 meteorological station and 11 air quality monitoring stations in Kaohsiung, 2 meteorological station and 5 air quality monitoring stations in Taichung, and 3 meteorological station and 15 air quality monitoring stations in Taipei. In total, missing data amount for 0.0, 0.0, 0.0, 0.0, 0.0, 0.1 and 0.0% of the mortality, mean temperature, relative humidity, O$_3$ PM$_{10}$, PM$_{2.5}$ and NO$_2$ series, respectively.

United Kingdom (15 conurbations, 1993-2006)

Daily mortality, gathered from Office for National Statistics, is represented by counts of deaths for all causes. Mean daily temperature (in ˚C) and relative humidity (in %) were obtained from the Meteorological Department obtained from British Atmospheric Data Centre. Series for each city daily mean temperatures were similarly constructed from all meteorological stations providing data for at least 75% of days. All data on air pollution levels were downloaded from

the UK Air Quality Archive, which reports results from the network of monitoring stations operated by the UK government. Hourly measurements of PM_{10} and O_3 were available in the same period from urban and sub-urban monitoring stations. Daily PM_{10} levels were computed as the 24-hour average from urban monitoring stations, and as 8hour-maximum for O_3. In total, missing data amount for 0.0, 0.0, 13.6, 7.3 and 7.9% of the mortality, mean temperature, relative humidity, O_3 and PM_{10} series, respectively.

United States (188 cities, 1985-2006)

Daily mortality is represented by counts of deaths for all causes. Mean daily temperature (in ˚C) and relative humidity (%), computed as the 24-hour average based on hourly measurements, were obtained from the National Climatic Data Center (NCDC) of the National Oceanic and Atmospheric Administration (NOAA). Hourly measurements of PM_{10}, $PM_{2.5}$, NO_2 and O_3 were gathered from the U.S. Environmental Protection Agency (EPA) Air Quality System (AQS), from urban and sub-urban monitoring stations. Daily PM_{10}, $PM_{2.5}$ and NO_2 levels were computed as the 24-hour average from urban monitoring stations (only for 176 and 137 cities), and as 8-hour-maximum for O_3 from monitors located in the county or set of contiguous counties in which the city is located. 91 out the 182 US cities registered daily O_3 levels only during the summer period. Data from 205 cities were initially collected, but 8 locations with a short study period (less than 3 years) were excluded, along with other 9 locations with a poor quality of O_3 data. PM_{10} and $PM_{2.5}$ were collected between 2005 and 2006, and 2004 and 2006, respectively. In total, missing data amount for 0.8, 0.8, 5.2, 23.4, 64.7, 41.2 and 14.5% of the mortality, mean temperature, relative humidity, O_3, PM_{10}, $PM_{2.5}$ and NO_2 series, respectively.

eMethods 2. Additional information on the statistical analysis

Control for temperature in the main model

We control for temperature with distributed lag non-linear model (DLNM) of mean daily temperature. According to a previous study of MCC collaborative network (Gasparrini et al. Lancet 2015), the non-linear and delayed temperature-mortality association was modelled through a quadratic b-spline with internal knots in the 10th, 75th, 90th percentiles in the exposure-response dimension, and natural spline with 3 equally-spaced internal knots in the log scale of the lag dimension, up to 21 days of lag.

Description of the additional analysis

Here we provide a detailed description of specific features of the additional analyses.

As described in the main manuscript, we explored potential non-linearity and delayed associations between ozone and mortality. The modelling choices selected (specifications of modelling function of ozone) for each sub-analysis were chosen based on q-AIC among different combinations of smoothing functions and placement and number of knots for the exposure-response and lag dimension, respectively.

- Modelling choices for the non-linear concentration-response function: natural cubic spline and quadratic b-spline with 1 or 2 internal knots placed in 50 and 60 µg/m^3.
- Modelling choices for the lag-association function: natural cubic spline with 1, 2 or 3 internal knots placed equally-spaced in the natural or log scale of the lag dimension up to 30 days.

City-specific non-linear exposure-response associations and lag-response associations obtained in these two additional analyses were pooled following the same method described in the main manuscript for the final model. More details on this methodology can be found in Gasparrini et al. 2013 BMC Med Res Methodol.

Description of the sensitivity analyses

Different control for time trends: natural spline with 4 and 10 degrees of freedom per year.

Control for PM$_{10}$, PM$_{2.5}$ and NO$_2$: air pollutants were included one by one in the main model as linear unconstrained distributed-lag linear models (DLMs) for the same and previous day of the exposure (lags 0 and 1).

Control for relative humidity: we controlled for relative humidity in the model as a linear term of lag0.

Modelling approaches used to control for temperature:

- Main model: quadratic b-spline with internal knots in the 10th, 75th, 90th percentiles in the exposure-response dimension, and natural spline with 3 equally-spaced internal knots in the log scale of the lag dimension, up to 21 days of lag.
- Approach 1: quadratic b-spline with internal knots in the 10th, 75th, 90th percentiles in the exposure-response dimension, and natural spline with 3 equally-spaced internal knots in the log scale of the lag dimension, up to 13 days of lag.
- Approach 2: quadratic b-spline with 3 internal knots equally-spaced quantiles in the exposure-response dimension, and natural spline with 1 internal knot equally-spaced in the log scale of the lag dimension, up to 13 days of lag.
- Approach 3: natural cubic spline with 3 degrees of freedom of the moving average lag013.
- Approach 4: natural cubic spline with 3 degrees of freedom of the moving average lag03.

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eTable 1. Complementary table with a description of other environmental data not included in Table 1.

	PM_{10} (Median [IQR])	$PM_{2.5}$ (Median [IQR])	NO_2 (Median [IQR])	Relative humidity (Median [IQR])
Australia	18.2 [14.5; 23.2]	6.0 [4.3; 8.4]	21.4 [14.1; 27.9]	70.1 [62.6; 77.1]
Canada	12.0 [7.6; 20.3]	7.3 [4.7; 11.5]	13.9 [9.5; 19.4]	73.7 [64.7; 82.3]
China	66.7 [46.5; 97.2]	--	37.6 [28.0; 50.5]	76.7 [69.1; 83.6]
Czech Republic	29.4 [19.9; 44.7]	--	30.8 [24.2; 38.7]	78.0 [68.0; 86.0]
Estonia	14.4 [9.3; 21.8]	7.4 [4.3; 11.8]	11.4 [7.6; 16.7]	84.2 [74.8; 91.2]
France	18.7 [13.9; 25.1]	--	--	76.2 [67.5; 84.1]
Germany	20.1 [14.3; 28.7]	12.1 [8.1; 18.3]	29.6 [21.8; 38.4]	--
Greece	39.5 [29.5; 53.1]	--	50.2 [39.6; 61.6]	66.0 [54.0; 75.4]
Italy	28.2 [21.0; 40.6]	--	--	--
Japan	16.8 [11.7; 23.9]	12.6 [8.4; 18.3]	17.5 [12.7; 24.4]	69.6 [60.6; 77.7]
Mexico	53.4 [38.5; 72.7]	25.6 [19.0; 33.1]	--	60.8 [50.0; 71.1]
Portugal	27.2 [18.5; 40.8]	11.0 [7.1; 18.0]	26.9 [17.2; 39.0]	--
South Africa	48.1 [31.4; 73.1]	27.0 [18.2; 39.6]	--	--
South Korea	46.0 [33.3; 63.0]	--	44.5 [33.6; 58.5]	65.0 [52.3; 75.6]
Spain	25.2 [19.2; 32.7]	11.5 [8.1; 16.2]	26.4 [20.2; 34.0]	--
Sweden	12.5 [9.3; 17.9]	6.6 [4.7; 9.5]	26.8 [20.0; 34.8]	79.6 [68.4; 87.6]
Switzerland	21.0 [13.9; 31.1]	16.0 [10.4; 24.6]	32.0 [23.8; 41.8]	75.5 [66.4; 83.3]
Taiwan	54.6 [37.5; 74.1]	32.0 [20.5; 43.8]	35.9 [27.6; 45.6]	75.3 [70.5; 79.8]
UK	23.3 [18.0; 31.5]	--	--	74.2 [64.2; 83.3]
USA	25.9 [17.9; 36.7]	11.6 [7.6; 17.2]	31.7 [23.0; 42.4]	66.5 [56.5; 76.6]

PM_{10}: inhalable particulate matter with an aerodynamic diameter of 10 µm or less, µg/m^3. $PM_{2.5}$: inhalable particulate matter with an aerodynamic diameter of 2.5 µm or less, µg/m^3. NO_2: nitrogen dioxide, µg/m^3. IQR: interquartile range. Relative humidity, in %. Detailed description of the data provided in eMethods 1. City-specific descriptive summaries reported in eTable 2.

eTable 2. Description of city-specific series.

City	Country	Period	N deaths	Ozone (µg/m^3) Median [IQR]	PM$_{10}$ (µg/m^3) Median [IQR]	PM$_{2.5}$ (µg/m^3) Median [IQR]	NO$_2$ (µg/m^3) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Brisbane	Australia	2000-2009	89299	35.1 [29.0; 41.6]	17.2 [14.6; 20.5]	5.6 [4.3; 7.3]	12.9 [9.5; 17.9]	20.8 [17.1; 23.5]	69.5 [63.8; 75.2]
Melbourne	Australia	2000-2009	196355	31.2 [23.8; 38.9]	17.5 [13.6; 23.3]	6.3 [4.6; 8.9]	24.6 [16.4; 30.8]	15.5 [12.3; 19.1]	69.7 [62.0; 77.3]
Sydney	Australia	2000-2009	227873	27.4 [19.6; 35.3]	19.8 [15.2; 25.8]	6.1 [4.1; 9.0]	26.7 [16.4; 34.9]	18.8 [15.1; 21.9]	71.1 [62.0; 78.7]
Abbotsford	Canada	1986-2011	27098	66.6 [49.0; 80.4]	11.6 [8.3; 16.5]	5.1 [3.4; 7.2]	12.3 [9.1; 15.6]	10.5 [6.2; 15.7]	76.2 [68.4; 84.3]
Calgary	Canada	1986-2011	132883	76.4 [62.7; 92.6]	20.6 [13.8; 29.7]	8.4 [5.4; 12.3]	21.7 [16.2; 28.7]	5.6 [-1.8; 12.9]	62.0 [50.8; 73.5]
Edmonton	Canada	1986-2011	154899	72.5 [54.9; 92.1]	17.6 [11.4; 26.9]	7.5 [4.8; 12.2]	19.1 [13.4; 26.8]	5.4 [-3.5; 13.9]	69.9 [61.7; 78.1]
Halifax	Canada	1986-2011	71264	60.8 [49.0; 74.5]	NA	7.1 [4.8; 9.9]	14.7 [10.8; 19.3]	7.1 [-0.4; 14.9]	79.7 [69.5; 88.9]
Hamilton	Canada	1986-2011	113876	72.5 [54.9; 98.0]	27.2 [18.5; 38.7]	9.0 [5.6; 14.3]	17.6 [12.7; 23.0]	8.3 [0; 17.2]	73.2 [64.4; 81.7]
Kingston	Canada	1988-2011	36438	70.6 [54.9; 92.1]	NA	6.8 [4.3; 11.1]	4.3 [3.1; 6.1]	8.1 [-0.2; 17]	70.6 [61.4; 79.2]
Kitchener-Waterloo	Canada	1986-2011	71387	72.5 [54.9; 96.0]	NA	7.5 [4.4; 12.9]	12.0 [7.5; 18.8]	7.4 [-1; 16.2]	72.2 [63.3; 80.2]
London Ontario	Canada	1986-2011	96799	68.6 [51.0; 96.0]	15.8 [11.2; 23.4]	8.4 [5.2; 13.2]	15.4 [9.7; 21.7]	8.7 [0; 17.3]	75.8 [68.3; 82.9]
Montreal	Canada	1986-2009	255272	78.4 [58.8; 98.0]	20.5 [15.3; 28.2]	8.3 [5.3; 13.6]	17.5 [12.8; 23.0]	7.7 [-2.1; 17.1]	70.2 [61.4; 78.6]
Niagara	Canada	1988-1996	31770	74.5 [54.9; 105.8]	NA	NA	NA	8.9 [1.1; 17.9]	78.3 [70.8; 86.3]
Oakville	Canada	1986-2011	58991	72.5 [54.9; 96.0]	NA	7.0 [4.3; 11.4]	14.6 [9.8; 20.0]	8.7 [0.9; 17.5]	69.5 [61.4; 78.5]
Oshawa	Canada	1986-2011	72386	70.6 [54.9; 88.2]	NA	7.2 [4.3; 12.2]	15.3 [8.8; 23.1]	7.9 [0; 16.6]	NA
Ottawa	Canada	1986-2011	136955	66.6 [51.0; 84.3]	NA	6.0 [3.5; 10.2]	16.0 [8.9; 23.3]	7.6 [-2.5; 17.1]	71.0 [61.5; 80.6]
Regina	Canada	1986-2011	49530	52.9 [39.2; 68.6]	19.4 [11.9; 29.4]	6.7 [4.4; 9.6]	12.5 [9.0; 17.4]	4.7 [-6.4; 14.5]	72.3 [61.4; 82.4]
Sarnia	Canada	1986-2011	28656	76.4 [60.8; 100.0]	16.8 [10.5; 24.6]	11.5 [7.5; 17.7]	13.3 [8.7; 19.6]	9.1 [0.7; 17.8]	77.2 [69.4; 84.3]
Sudbury	Canada	1986-2011	40907	70.6 [58.8; 88.2]	NA	4.0 [2.4; 6.8]	7.9 [5.0; 11.7]	5.1 [-5; 15.1]	73.0 [62.3; 83.1]
Saint John NB	Canada	1986-2011	44302	72.5 [58.8; 86.2]	12.5 [8.3; 18.8]	5.7 [3.5; 9.0]	6.4 [3.7; 10.4]	6.2 [-1.7; 13.7]	76.5 [66.3; 86.1]
St John's NFL	Canada	1989-2011	48656	62.7 [51.0; 72.5]	NA	4.4 [2.9; 6.4]	7.5 [4.4; 12.1]	5.1 [-1.1; 12.1]	83.5 [75.0; 90.8]
Sault Ste Marie	Canada	1986-2011	28838	68.6 [56.8; 84.3]	13.8 [9.2; 22.1]	5.3 [2.9; 9.2]	8.3 [4.3; 13.8]	5.7 [-3; 14.7]	78.5 [71.0; 85.2]
Saskatoon	Canada	1986-2011	56891	56.8 [43.1; 72.5]	NA	5.2 [3.4; 7.8]	11.5 [8.0; 16.0]	4.4 [-7; 14.1]	73.0 [62.5; 82.5]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM$_{10}$ (µg/m³) Median [IQR]	PM$_{2.5}$ (µg/m³) Median [IQR]	NO$_2$ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Thunder Bay	Canada	1986-2011	35663	64.7 [52.9; 78.4]	11.7 [7.8; 14.1]	4.9 [3.0; 7.8]	10.0 [6.3; 14.9]	4.2 [-5.7; 13.4]	74.4 [64.8; 82.6]
Toronto	Canada	1986-2011	673074	84.3 [66.6; 109.8]	18.2 [13.6; 25.0]	8.1 [5.1; 13.0]	21.5 [16.2; 27.1]	8.8 [0.5; 17.7]	71.8 [63.7; 79.5]
Victoria	Canada	1986-2011	84747	62.7 [49.0; 78.4]	12.1 [9.2; 16.1]	5.7 [3.9; 8.4]	9.7 [6.3; 14.1]	9.9 [6.3; 14.5]	78.2 [70.0; 86.0]
Vancouver	Canada	1986-2011	329577	70.6 [60.8; 84.3]	11.6 [8.6; 15.5]	5.5 [3.8; 7.7]	16.9 [13.7; 20.6]	10.2 [6.2; 15.4]	79.3 [72.3; 86.5]
Windsor	Canada	1986-2011	65259	70.6 [47.0; 101.9]	21.0 [15.3; 29.7]	9.5 [5.8; 14.5]	20.4 [14.6; 27.1]	10.4 [1.6; 19.3]	70.6 [62.5; 79.2]
Winnipeg	Canada	1986-2011	168512	62.7 [51.0; 80.4]	12.0 [7.6; 20.3]	6.4 [4.3; 9.2]	11.8 [7.9; 17.1]	4.8 [-7.4; 15.5]	73.1 [64.2; 82.2]
Hong Kong	China	1996-2002	215242	31.4 [19.0; 50.6]	45.4 [31.7; 66.5]	NA	14.7 [9.6; 22.2]	24.7 [19.8; 27.8]	79.0 [74.0; 84.0]
Shanghai	China	2001-2015	515429	68.2 [42.8; 100.2]	75.0 [51.8; 114.1]	NA	53.0 [39.3; 71.2]	18.3 [10; 24.4]	73.0 [64.4; 80.8]
Suzhou	China	2005-2008	49984	48.3 [21.6; 81.7]	79.6 [56.0; 111.0]	NA	45.0 [35.0; 58.0]	18.3 [9.2; 24.9]	78.0 [69.0; 86.0]
Prague	Czech Republic	1994-2009	214062	69.3 [47.4; 95.0]	29.4 [19.9; 44.7]	NA	30.8 [24.2; 38.7]	9.2 [2.5; 15.3]	78.0 [68.0; 86.0]
Kohtla-Jarve	Estonia	2002-2015	12199	55.0 [43.7; 67.4]	12.4 [8.1; 19.2]	5.0 [2.6; 8.3]	5.1 [3.3; 8.0]	5.6 [-0.4; 13.3]	84.0 [74.0; 91.0]
Narva linn	Estonia	2009-2015	5993	50.6 [38.6; 64.0]	12.9 [8.7; 18.5]	7.1 [4.4; 10.9]	9.0 [6.3; 13.7]	5.5 [-0.4; 13.3]	85.0 [75.0; 92.0]
Tallinn	Estonia	2005-2015	52878	42.5 [30.7; 54.5]	17.3 [10.3; 27.6]	NA	21.1 [13.6; 29.7]	6.4 [0.7; 13.7]	84.0 [74.0; 91.0]
Tartu linn	Estonia	2008-2015	8973	47.5 [33.9; 61.2]	14.8 [10.1; 21.8]	7.8 [4.3; 12.7]	10.4 [7.2; 15.4]	6.6 [0.8; 14]	84.0 [76.0; 91.0]
Bordeaux	France	2000-2010	53219	67.4 [47.5; 87.2]	17.9 [13.8; 23.8]	NA	NA	13.8 [9.2; 18.7]	77.0 [68.0; 85.0]
Clermont Ferrand	France	2000-2010	19040	73.3 [54.4; 91.3]	16.8 [12.1; 23.2]	NA	NA	12.3 [6.8; 17.6]	72.0 [65.0; 80.0]
Dijon	France	2000-2010	18786	66.3 [44.4; 87.5]	17.2 [12.3; 23.5]	NA	NA	11.6 [5.6; 17.1]	79.0 [69.0; 87.0]
Grenoble	France	2000-2010	32738	66.1 [35.1; 92.8]	19.4 [13.2; 27.3]	NA	NA	12.7 [5.8; 18.4]	78.0 [70.0; 85.0]
Le Havre	France	2000-2010	24323	67.3 [53.7; 80.0]	17.5 [14.0; 23.0]	NA	NA	11.6 [7.7; 15.9]	82.0 [75.0; 88.0]
Lille	France	2000-2010	90900	57.6 [38.1; 74.9]	19.0 [14.5; 25.2]	NA	NA	11.3 [6.4; 16]	81.0 [73.0; 88.0]
Lens-Douai	France	2000-2010	36686	57.7 [39.1; 75.0]	18.0 [13.5; 24.5]	NA	NA	11.3 [6.4; 16]	81.0 [73.0; 88.0]
Lyon	France	2000-2010	77106	66.6 [40.0; 91.0]	19.0 [13.8; 26.5]	NA	NA	13.1 [7; 18.9]	71.0 [61.0; 81.0]
Montpellier	France	2000-2010	26978	81.3 [61.2; 100.8]	19.8 [13.2; 27.0]	NA	NA	15.2 [10.1; 20.9]	68.0 [55.0; 80.0]
Marseille	France	2000-2010	94792	79.4 [53.6; 101.4]	25.7 [19.3; 33.3]	NA	NA	15.5 [10; 21.5]	66.0 [56.0; 75.0]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM$_{10}$ (µg/m³) Median [IQR]	PM$_{2.5}$ (µg/m³) Median [IQR]	NO$_2$ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Nice	France	2000-2010	51959	89.0 [58.4; 112.2]	23.0 [18.0; 29.1]	NA	NA	15.9 [11.2; 21.4]	69.0 [60.0; 76.0]
Nancy	France	2000-2010	28945	61.6 [44.7; 81.9]	17.7 [12.9; 25.3]	NA	NA	11.2 [5.4; 16.6]	78.0 [70.0; 86.0]
Nantes	France	2000-2010	43547	69.0 [53.4; 85.0]	15.2 [12.0; 19.3]	NA	NA	12.6 [8.5; 17]	81.0 [73.0; 88.0]
Paris	France	2000-2010	455460	56.2 [35.2; 75.8]	19.3 [14.9; 25.2]	NA	NA	12.6 [7.7; 17.6]	73.0 [64.0; 81.0]
Rennes	France	2000-2010	16600	65.0 [50.7; 79.9]	15.1 [11.4; 20.0]	NA	NA	12.3 [8.1; 16.8]	80.0 [73.0; 86.0]
Rouen	France	2000-2010	41927	62.3 [45.9; 78.4]	18.0 [14.5; 23.5]	NA	NA	10.8 [6.2; 15.4]	83.0 [75.0; 90.0]
Strasbourg	France	2000-2010	34874	60.1 [34.9; 85.4]	18.0 [13.0; 25.5]	NA	NA	11.4 [5.4; 17.3]	78.0 [70.0; 86.0]
Toulouse	France	2000-2010	49675	73.5 [52.7; 93.0]	19.5 [14.5; 25.5]	NA	NA	13.6 [8.6; 19.3]	75.0 [65.0; 83.0]
Berlin	Germany	1993-2015	811051	55.1 [33.2; 79.5]	21.6 [15.8; 30.6]	14.4 [10.3; 21.7]	27.9 [21.2; 35.5]	10.4 [4.2; 16.5]	NA
Bremen	Germany	1993-2015	150608	55.6 [37.0; 75.2]	17.3 [13.1; 23.4]	11.6 [7.7; 18.8]	22.8 [16.3; 30.2]	10 [4.8; 15]	NA
Dresden	Germany	1993-2015	125866	62.2 [41.9; 85.5]	20.9 [13.7; 31.5]	11.7 [7.1; 20.2]	26.5 [19.1; 34.9]	9.9 [3.6; 15.9]	NA
Dortmund	Germany	1993-2015	155233	52.9 [34.2; 74.6]	22.1 [16.1; 31.3]	13.4 [9.5; 20.4]	31.7 [23.9; 40.8]	10.8 [5.7; 15.6]	NA
Duesseldorf	Germany	1993-2015	160069	53.6 [32.5; 73.4]	19.7 [15.2; 26.8]	12.0 [8.2; 18.8]	29.9 [21.2; 39.5]	11.1 [6; 16]	NA
Frankfurt	Germany	1993-2015	168417	51.4 [26.9; 76.7]	21.2 [15.2; 30.2]	12.9 [9.2; 19.6]	42.1 [32.3; 51.8]	11.2 [5.3; 16.9]	NA
Hamburg	Germany	1993-2015	445338	54.2 [33.5; 72.7]	22.6 [16.3; 31.6]	12.7 [8.6; 18.7]	30.5 [22.7; 39.3]	10.2 [4.9; 15.3]	NA
Hannover	Germany	1993-2015	279125	61.3 [42.2; 80.7]	18.2 [13.0; 26.9]	9.9 [6.4; 15.8]	23.6 [16.2; 32.1]	10.2 [4.8; 15.3]	NA
Koeln	Germany	1993-2015	229457	54.8 [34.0; 75.9]	19.4 [13.5; 27.7]	NA	30.9 [21.7; 39.9]	10.9 [5.6; 15.8]	NA
Leipzig	Germany	1994-2015	146172	64.4 [44.2; 86.4]	18.1 [12.8; 26.0]	10.1 [6.3; 17.4]	19.7 [14.3; 26.9]	10.3 [4.3; 16.1]	NA
Muenchen	Germany	1993-2015	290962	60.0 [36.0; 83.4]	20.6 [13.7; 30.7]	11.6 [7.6; 17.0]	36.5 [28.2; 46.2]	10.3 [3.9; 16.2]	NA
Stuttgart	Germany	1993-2015	136878	60.2 [34.5; 86.5]	19.0 [13.0; 28.0]	11.4 [7.5; 18.0]	33.7 [24.9; 43.2]	11 [5; 16.6]	NA
Athens	Greece	2001-2010	287969	75.1 [52.8; 97.5]	39.5 [29.5; 53.1]	20.3 [15.0; 26.4]	50.2 [39.6; 61.6]	17.9 [12.9; 24.9]	66.0 [54.0; 75.4]
Cagliari	Italy	2006-2010	6440	58.9 [48.5; 71.4]	30.6 [24.1; 38.8]	NA	NA	16.7 [12.4; 22.4]	NA
Florence	Italy	2006-2010	19609	76.3 [49.2; 104.3]	29.8 [23.5; 38.9]	NA	NA	15.1 [9.7; 21.5]	NA
Frosinone	Italy	2006-2015	3787	87.1 [63.8; 110.4]	32.0 [23.0; 59.0]	NA	NA	15.4 [9.1; 22]	NA

City	Country	Period	N deaths	Ozone (µg/m^3) Median [IQR]	PM$_{10}$ (µg/m^3) Median [IQR]	PM$_{2.5}$ (µg/m^3) Median [IQR]	NO$_2$ (µg/m^3) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Genoa	Italy	2006-2010	37943	77.5 [57.3; 100.7]	27.0 [21.0; 34.6]	NA	NA	16.3 [11.4; 21.5]	NA
Latina	Italy	2006-2015	8661	78.5 [58.6; 96.1]	26.0 [20.0; 35.0]	NA	NA	16.9 [11.5; 23.1]	NA
Milan	Italy	2006-2010	53837	55.0 [18.7; 92.2]	36.5 [25.7; 60.6]	NA	NA	14.1 [7.2; 21.1]	NA
Rieti	Italy	2008-2015	3358	77.2 [51.1; 100.4]	20.0 [14.0; 28.2]	NA	NA	17 [10.3; 23.5]	NA
Rome	Italy	2006-2015	226662	75.1 [44.2; 98.1]	28.7 [22.0; 38.0]	NA	NA	15.5 [10.4; 21.9]	NA
Trieste	Italy	2006-2010	13124	81.6 [62.9; 99.8]	23.2 [15.6; 32.2]	NA	NA	15.6 [9.4; 21.7]	NA
Aikita	Japan	2011-2015	17222	81.3 [70.3; 98.1]	12.8 [9.5; 18.5]	11.4 [8.1; 17.0]	11.8 [9.0; 15.7]	12.3 [3.3; 20.6]	73.0 [66.0; 80.0]
Aomori	Japan	2011-2015	17107	74.7 [63.7; 88.4]	16.0 [12.7; 21.3]	10.6 [7.7; 14.9]	11.4 [8.1; 17.9]	11.2 [2; 18.9]	77.0 [70.0; 83.0]
Chiba	Japan	2011-2015	38145	76.4 [59.8; 97.9]	16.9 [11.9; 24.4]	11.9 [7.7; 17.8]	23.4 [16.5; 33.9]	17 [8.9; 22.7]	69.0 [53.0; 77.0]
Fukushima	Japan	2011-2015	15116	74.0 [60.8; 92.1]	15.3 [11.2; 21.2]	10.0 [6.1; 15.2]	15.5 [10.7; 22.4]	14.1 [4.8; 21.4]	70.0 [61.0; 78.0]
Fukuoka	Japan	2011-2015	54231	81.7 [64.4; 101.5]	19.9 [14.1; 28.0]	16.2 [11.0; 22.9]	21.2 [15.2; 29.4]	18 [10; 23.6]	68.0 [59.0; 78.0]
Fukui	Japan	2011-2015	13479	85.2 [69.8; 104.8]	17.2 [11.7; 25.1]	13.4 [8.9; 19.1]	10.7 [7.7; 14.9]	15.4 [6.3; 22.6]	76.0 [68.0; 83.0]
Gifu	Japan	2011-2015	20852	82.3 [63.4; 104.5]	12.7 [7.9; 19.6]	12.5 [8.2; 17.8]	17.8 [13.1; 23.1]	16.9 [7.9; 23.8]	65.0 [57.0; 74.0]
hiroshima	Japan	2011-2015	48257	79.9 [62.2; 101.8]	22.3 [16.2; 30.0]	15.6 [10.2; 22.4]	22.0 [16.1; 29.4]	16.9 [8.3; 23.7]	66.0 [60.0; 73.0]
Kagoshima	Japan	2011-2015	28646	70.2 [53.1; 86.5]	22.6 [16.8; 30.1]	15.4 [11.0; 22.0]	12.6 [8.7; 17.2]	19.5 [12.2; 24.8]	73.0 [64.0; 80.0]
Kumamoto	Japan	2011-2015	32357	82.1 [63.1; 103.0]	22.5 [15.6; 30.7]	16.3 [9.3; 22.9]	17.3 [11.3; 25.5]	18 [9.6; 24]	70.0 [62.0; 78.0]
Kanazawa	Japan	2011-2015	21061	87.7 [73.1; 104.0]	13.7 [9.0; 21.1]	10.2 [6.8; 15.2]	13.1 [9.9; 17.9]	15.6 [6.5; 22.6]	71.0 [64.0; 78.0]
Kobe	Japan	2011-2015	73782	77.5 [61.3; 98.9]	15.9 [11.2; 23.6]	12.3 [8.4; 18.2]	25.9 [18.6; 35.2]	17.8 [9.1; 24]	63.0 [56.0; 72.0]
Kochi	Japan	2011-2015	17800	81.1 [64.6; 98.4]	13.9 [9.5; 20.9]	13.0 [9.4; 18.8]	11.2 [8.3; 15.4]	18.1 [9.9; 23.6]	69.0 [59.0; 80.0]
Kofu	Japan	2011-2015	10710	80.8 [64.7; 104.2]	18.5 [13.0; 25.5]	10.7 [6.8; 16.2]	18.8 [14.0; 29.2]	15.7 [6.9; 22.8]	64.0 [53.0; 72.0]
Kyoto	Japan	2011-2015	69191	79.9 [62.7; 100.0]	14.0 [9.5; 20.4]	12.5 [8.8; 18.4]	22.4 [16.5; 30.3]	16.9 [7.8; 23.7]	66.0 [60.0; 73.0]
Matsue	Japan	2011-2015	11146	91.4 [77.4; 109.5]	12.2 [7.7; 18.6]	12.4 [7.9; 18.1]	4.6 [3.3; 6.4]	15.6 [7.5; 22.2]	77.0 [70.0; 83.0]
Maebashi	Japan	2011-2015	17449	84.3 [68.3; 111.0]	12.6 [6.1; 20.7]	14.0 [8.0; 20.4]	14.0 [9.4; 19.4]	15.6 [6.7; 22.5]	59.0 [49.0; 71.0]
Mito	Japan	2011-2015	12662	81.1 [65.7; 101.2]	18.4 [13.7; 24.9]	10.4 [7.0; 15.2]	12.3 [9.4; 17.3]	14.9 [6.4; 21.2]	75.0 [63.0; 83.0]

City	Country	Period	N deaths	Ozone (µg/m^3) Median [IQR]	PM$_{10}$ (µg/m^3) Median [IQR]	PM$_{2.5}$ (µg/m^3) Median [IQR]	NO$_2$ (µg/m^3) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Morioka	Japan	2011-2015	14084	70.8 [58.3; 87.2]	10.7 [6.5; 16.8]	11.6 [7.9; 16.6]	13.2 [9.0; 22.0]	10.9 [1.6; 19.5]	74.0 [67.0; 82.0]
Matsuyama	Japan	2011-2015	25345	73.8 [59.3; 93.8]	20.4 [14.2; 28.5]	16.6 [11.5; 22.8]	20.0 [14.9; 26.3]	17.4 [9; 23.3]	66.0 [58.0; 75.0]
Nagano	Japan	2011-2015	19818	77.0 [62.9; 95.7]	13.8 [8.9; 20.6]	10.2 [6.3; 15.4]	13.4 [9.8; 20.8]	12.8 [3.1; 21]	74.0 [66.0; 80.0]
Nagoya	Japan	2011-2015	100810	79.5 [60.6; 102.7]	19.8 [13.4; 27.4]	14.1 [9.6; 19.7]	28.1 [20.4; 39.0]	16.9 [8.1; 23.7]	66.0 [57.0; 74.0]
Naha	Japan	2011-2015	12468	69.0 [32.5; 83.3]	19.0 [14.3; 27.1]	8.8 [6.3; 12.7]	10.0 [5.8; 16.5]	23.6 [19.2; 27.8]	76.0 [66.0; 82.0]
Nara	Japan	2011-2015	16901	77.9 [63.2; 98.7]	15.4 [10.7; 21.6]	11.7 [7.5; 17.3]	15.9 [11.2; 22.7]	15.8 [6.9; 22.5]	73.0 [66.0; 80.0]
Nagasaki	Japan	2011-2015	24586	75.9 [61.1; 94.1]	20.1 [14.8; 28.0]	14.4 [9.4; 20.2]	13.7 [10.3; 17.9]	18 [10.3; 23.5]	72.0 [63.0; 81.0]
Niigata	Japan	2011-2015	40382	82.6 [71.2; 98.1]	16.3 [12.7; 21.9]	10.5 [7.0; 15.5]	12.3 [9.0; 16.9]	14.2 [5.3; 22.1]	72.0 [65.0; 79.0]
Oita	Japan	2011-2015	19860	72.0 [57.7; 89.1]	16.4 [11.6; 23.0]	15.1 [10.0; 21.8]	13.9 [10.6; 18.3]	17.2 [9.3; 23.1]	69.0 [60.0; 78.0]
Okayama	Japan	2011-2015	31950	76.0 [60.0; 96.5]	19.4 [13.6; 28.5]	15.0 [10.6; 21.5]	21.9 [16.0; 29.0]	16.8 [7.8; 23.6]	65.0 [58.0; 74.0]
Osaka	Japan	2011-2015	135736	74.9 [56.8; 96.8]	19.6 [14.3; 27.7]	15.6 [10.8; 21.8]	36.5 [27.8; 49.0]	17.6 [8.9; 24]	63.0 [55.0; 71.0]
Otsu	Japan	2011-2015	13929	81.9 [65.6; 102.5]	16.1 [11.5; 22.5]	10.8 [6.7; 16.3]	15.8 [11.4; 22.3]	15.8 [7; 22.8]	72.0 [67.0; 80.0]
Saga	Japan	2011-2015	12400	83.4 [66.4; 104.6]	16.3 [11.3; 23.2]	13.2 [8.4; 20.0]	9.3 [7.1; 13.2]	17.7 [9.2; 23.8]	70.0 [63.0; 79.0]
Saitama	Japan	2011-2015	47101	77.7 [59.2; 101.5]	18.7 [12.9; 26.7]	12.6 [8.1; 18.4]	27.8 [20.3; 37.9]	16.2 [7.1; 22.7]	65.0 [51.0; 76.0]
Sendai	Japan	2011-2015	40680	75.1 [62.5; 93.6]	14.0 [9.8; 21.1]	10.5 [6.6; 16.3]	17.0 [12.0; 24.1]	13.6 [4.7; 20.3]	71.0 [61.0; 81.0]
Shizuoka	Japan	2011-2015	37343	82.1 [64.0; 104.7]	17.3 [12.0; 23.7]	10.7 [7.4; 15.7]	19.9 [15.1; 25.2]	17.6 [10; 23.3]	69.0 [57.0; 77.0]
Sapporo	Japan	2011-2015	84189	64.3 [53.4; 81.4]	10.0 [7.2; 14.1]	8.8 [6.0; 13.0]	20.0 [13.9; 31.2]	9.7 [0.5; 18.3]	70.0 [62.0; 76.0]
Takamatsu	Japan	2011-2015	20843	78.5 [63.0; 94.5]	19.9 [13.6; 29.1]	15.2 [10.2; 22.1]	19.4 [13.4; 28.8]	17.3 [8.6; 23.8]	66.0 [58.0; 75.0]
Tokushima	Japan	2011-2015	13790	80.3 [64.7; 103.5]	16.8 [11.7; 24.3]	12.5 [8.2; 18.5]	13.3 [10.1; 17.6]	17.5 [9; 23.5]	68.0 [58.0; 76.0]
Tokyo	Japan	2011-2015	374187	71.0 [53.8; 92.3]	19.1 [13.5; 26.3]	13.9 [9.8; 19.9]	35.1 [26.0; 47.0]	17.4 [8.9; 23.1]	65.0 [49.0; 74.0]
Toyama	Japan	2011-2015	22126	84.2 [71.2; 102.6]	12.6 [7.6; 19.4]	9.4 [5.9; 14.0]	11.9 [8.7; 16.4]	15.2 [5.8; 22.4]	76.0 [67.0; 84.0]
Tsu	Japan	2011-2015	14919	85.3 [68.0; 106.3]	21.5 [15.8; 28.9]	13.0 [8.6; 18.6]	13.8 [9.8; 19.7]	16.7 [8.3; 23.5]	67.0 [58.0; 77.0]
Utsunomiya	Japan	2011-2015	21851	79.9 [60.8; 104.7]	17.4 [12.5; 24.6]	11.9 [8.0; 17.3]	21.0 [16.0; 29.3]	15.2 [6; 21.8]	68.0 [58.0; 78.0]
Wakayama	Japan	2011-2015	21449	80.9 [65.3; 103.0]	19.5 [14.5; 26.3]	14.2 [9.7; 19.9]	16.7 [13.0; 21.8]	17.7 [9.1; 23.7]	65.0 [57.0; 73.0]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM$_{10}$ (µg/m³) Median [IQR]	PM$_{2.5}$ (µg/m³) Median [IQR]	NO$_2$ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Yokohama	Japan	2011-2015	146525	69.8 [51.6; 96.9]	21.6 [15.8; 29.2]	13.3 [9.1; 19.3]	29.8 [20.4; 40.4]	17.2 [9; 22.7]	70.0 [54.0; 79.0]
Yamaguchi	Japan	2011-2015	10481	77.8 [61.5; 98.5]	10.7 [6.6; 17.2]	13.0 [8.3; 18.8]	16.4 [11.8; 21.8]	16.3 [7.7; 22.8]	73.0 [66.0; 80.0]
Yamagata	Japan	2011-2015	13266	77.7 [63.4; 95.1]	14.6 [9.8; 21.5]	10.7 [6.8; 16.6]	15.6 [11.2; 24.4]	12.3 [2.5; 20.9]	74.0 [66.0; 81.0]
Busan	South Korea	1999-2015	323037	64.5 [49.9; 82.7]	47.9 [36.3; 64.5]	NA	40.7 [31.0; 52.6]	16 [8.3; 21.6]	64.6 [48.1; 77.5]
Daegu	South Korea	1999-2015	198083	61.3 [43.8; 87.4]	48.0 [35.0; 64.9]	NA	43.2 [32.0; 57.9]	15.8 [6.3; 22.8]	58.9 [45.1; 69.9]
Daejeon	South Korea	1999-2015	102449	59.2 [40.4; 84.0]	40.9 [28.7; 56.8]	NA	36.6 [27.0; 50.7]	14.4 [4.5; 22.2]	68.0 [57.3; 77.1]
Gwangju	South Korea	1999-2015	104787	60.8 [43.0; 84.2]	41.2 [29.8; 56.9]	NA	36.9 [27.6; 49.1]	15.4 [6; 22.6]	67.5 [58.0; 76.0]
Incheon	South Korea	1999-2015	195684	57.1 [40.7; 78.5]	50.0 [36.0; 68.2]	NA	50.6 [37.9; 66.7]	14 [4.3; 21.6]	69.8 [57.9; 80.9]
Seoul	South Korea	1999-2015	666658	49.6 [31.5; 72.9]	49.9 [34.1; 71.3]	NA	65.7 [50.4; 84.5]	14.4 [4; 22.3]	61.5 [50.5; 72.0]
Ulsan	South Korea	1999-2015	71501	64.2 [49.6; 83.9]	43.8 [33.2; 58.3]	NA	37.5 [29.2; 48.1]	15.5 [7; 21.6]	65.0 [49.0; 75.6]
Guadalajara	Mexico	2000-2012	267190	113.7 [88.2; 149.0]	46.8 [33.1; 62.4]	24.1 [18.5; 32.3]	NA	21.3 [19.4; 22.9]	59.1 [42.5; 75.1]
Leon	Mexico	2005-2012	54605	107.8 [84.3; 129.4]	55.5 [40.3; 76.0]	NA	NA	20 [17; 22]	47.0 [35.0; 62.0]
Monterrey	Mexico	2000-2012	218397	96.0 [72.5; 119.6]	74.1 [57.7; 95.1]	26.3 [20.1; 33.7]	NA	23.2 [18.3; 26.8]	63.8 [53.3; 73.1]
Puebla-Tlaxcala	Mexico	2000-2011	143078	92.1 [68.6; 121.5]	34.7 [26.1; 49.6]	17.7 [14.4; 23.0]	NA	16.9 [15.1; 18.1]	63.0 [54.8; 70.6]
Tijuana	Mexico	2000-2012	73801	76.4 [64.7; 90.2]	60.5 [46.0; 84.3]	NA	NA	18 [14; 20]	76.0 [69.0; 80.0]
Toluca de Lerdo	Mexico	2000-2012	98959	111.7 [90.2; 133.3]	60.2 [38.8; 87.3]	31.9 [24.1; 39.0]	NA	14.4 [12.7; 15.5]	63.0 [53.0; 71.7]
Valley of Mexico	Mexico	2000-2012	1162283	164.6 [127.4; 201.9]	49.3 [35.3; 65.7]	24.9 [17.9; 32.6]	NA	16.5 [14.9; 17.8]	54.0 [42.5; 65.0]
Lisboa	Portugal	1997-2012	337920	66.8 [52.2; 82.2]	24.4 [17.1; 35.5]	11.0 [7.1; 18.0]	29.2 [18.0; 43.1]	17.1 [13.3; 20.9]	NA
Porto	Portugal	1999-2012	199038	61.6 [48.2; 76.2]	30.1 [19.9; 46.1]	NA	24.7 [16.5; 34.8]	15.2 [11.8; 18.4]	NA
Johannesburg	South Africa	2004-2013	344680	65.6 [47.5; 88.7]	50.4 [36.5; 70.5]	32.8 [23.1; 47.4]	NA	17.6 [13.5; 20.1]	NA
eThekwini	South Africa	2004-2013	354160	55.2 [41.6; 71.1]	NA	NA	NA	21.6 [18.9; 24.2]	NA
Gert Sibande DM	South Africa	2008-2013	73257	84.3 [67.0; 101.6]	46.5 [27.3; 75.8]	25.5 [15.7; 38.6]	NA	16.8 [13.3; 19.7]	NA
Nkangala DM	South Africa	2008-2013	74552	68.9 [51.1; 96.5]	36.2 [20.8; 61.8]	17.8 [11.5; 28.2]	NA	17 [11.8; 20.3]	NA
Sedibeng DM	South Africa	2007-2013	77829	73.5 [57.5; 89.7]	59.2 [40.8; 84.5]	31.9 [22.5; 44.2]	NA	18.6 [13.3; 21.5]	NA

City	Country	Period	N deaths	Ozone (µg/m^3) Median [IQR]	PM$_{10}$ (µg/m^3) Median [IQR]	PM$_{2.5}$ (µg/m^3) Median [IQR]	NO$_2$ (µg/m^3) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
A Coruna	Spain	2005-2014	22778	56.9 [35.1; 75.1]	25.0 [19.5; 32.0]	9.8 [4.2; 13.7]	26.6 [18.8; 37.2]	15.2 [12.2; 18.4]	NA
Albacete	Spain	2004-2014	12068	85.5 [64.2; 103.0]	36.3 [27.5; 47.1]	11.9 [8.2; 16.7]	13.0 [8.4; 19.1]	14.2 [8.2; 21.7]	NA
Alicante	Spain	2004-2014	27376	76.1 [61.3; 88.0]	19.0 [14.6; 22.9]	NA	30.1 [24.3; 37.1]	18.6 [13.6; 23.7]	NA
Almeria	Spain	2004-2014	14734	79.7 [66.9; 92.3]	23.5 [19.2; 30.5]	NA	21.3 [16.4; 27.4]	18.5 [14.4; 23.8]	NA
Avila	Spain	2004-2014	4977	69.8 [59.4; 81.6]	21.5 [18.1; 25.1]	NA	21.6 [17.3; 26.1]	11.1 [5.8; 17.8]	NA
Badajoz	Spain	2005-2014	10466	51.8 [36.2; 67.2]	28.1 [14.3; 97.0]	NA	7.7 [4.4; 12.4]	17 [11.6; 23.2]	NA
Bilbao	Spain	2004-2014	38517	56.8 [42.2; 68.4]	35.3 [30.3; 41.7]	11.0 [6.9; 16.2]	36.1 [28.3; 44.8]	15.2 [10.9; 19.3]	NA
Barcelona	Spain	2004-2014	167513	60.2 [40.6; 75.3]	28.8 [21.0; 40.2]	18.4 [13.2; 26.0]	44.2 [34.4; 54.9]	16.6 [11.6; 22.4]	NA
Burgos	Spain	2004-2014	16854	75.8 [60.2; 92.0]	25.6 [20.2; 32.5]	7.6 [5.0; 12.2]	23.0 [17.2; 31.2]	10.6 [5.4; 16.6]	NA
Cadiz	Spain	2004-2014	13347	81.0 [65.9; 94.1]	33.3 [26.3; 44.5]	NA	17.6 [11.8; 25.0]	18.4 [14.6; 23]	NA
Caceres	Spain	2005-2014	6535	64.2 [56.0; 72.1]	33.9 [17.8; 89.7]	5.9 [4.2; 8.2]	11.3 [6.5; 17.4]	15.8 [10.4; 22.7]	NA
Ciudad Real	Spain	2008-2014	3863	83.4 [66.2; 99.4]	19.3 [12.8; 27.8]	NA	8.4 [4.6; 14.3]	15.2 [9.1; 23.2]	NA
Ceuta	Spain	2004-2014	5421	77.8 [58.8; 97.3]	NA	NA	NA	18.1 [14.9; 22.6]	NA
Cordoba	Spain	2004-2014	27705	77.3 [64.5; 89.3]	42.7 [36.1; 51.3]	NA	29.6 [25.0; 34.7]	18 [12.2; 25]	NA
Castellon	Spain	2004-2014	13790	64.7 [56.2; 72.0]	30.1 [25.5; 35.1]	NA	39.3 [33.4; 46.2]	18 [13; 23.5]	NA
Cuenca	Spain	2008-2014	3435	81.8 [60.8; 99.8]	25.5 [17.2; 34.2]	NA	16.2 [8.7; 23.9]	13.2 [7.4; 20.5]	NA
Guadalajara	Spain	2004-2014	5856	83.1 [56.6; 107.2]	22.5 [14.9; 32.6]	NA	24.7 [15.2; 36.0]	12.2 [6.8; 19.4]	NA
Granada	Spain	2004-2014	23395	72.0 [56.5; 85.8]	36.0 [26.6; 46.0]	NA	38.8 [30.3; 48.2]	15.1 [9.1; 22.3]	NA
Huesca	Spain	2004-2014	5372	81.2 [62.5; 99.8]	17.3 [12.3; 22.9]	10.6 [8.1; 14.3]	18.1 [12.9; 26.1]	14.3 [8.4; 20.8]	NA
Jaen	Spain	2004-2014	9584	89.5 [69.1; 107.7]	36.1 [24.9; 50.6]	NA	17.9 [13.2; 24.9]	16.4 [10.8; 23.6]	NA
Leon	Spain	2004-2014	15023	60.8 [43.7; 77.5]	22.3 [16.8; 29.5]	5.1 [3.2; 7.8]	27.5 [20.7; 36.7]	10.8 [5.5; 16.7]	NA
Lleida	Spain	2004-2013	10700	71.5 [43.8; 92.1]	NA	NA	25.2 [18.0; 33.9]	15.4 [8.8; 22]	NA
Lugo	Spain	2005-2014	8745	57.1 [41.8; 73.8]	20.3 [15.3; 24.8]	NA	22.2 [18.1; 26.6]	12.3 [8.2; 16.7]	NA
Malaga	Spain	2004-2014	48400	78.2 [66.3; 89.3]	24.6 [20.6; 30.0]	NA	31.8 [26.2; 38.0]	18.7 [14.4; 23.9]	NA

City	Country	Period	N deaths	Ozone (µg/m^3) Median [IQR]	PM$_{10}$ (µg/m^3) Median [IQR]	PM$_{2.5}$ (µg/m^3) Median [IQR]	NO$_2$ (µg/m^3) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Madrid	Spain	2004-2014	284880	58.0 [38.2; 77.1]	24.1 [16.6; 33.9]	10.9 [8.2; 14.3]	43.7 [33.9; 56.4]	14.6 [8.8; 22.2]	NA
Melilla	Spain	2004-2014	4748	80.3 [61.2; 104.5]	NA	NA	NA	18.6 [15; 23.4]	NA
Murcia	Spain	2009-2014	17074	80.2 [54.9; 98.5]	22.2 [18.4; 26.6]	NA	45.1 [39.8; 50.5]	19.2 [13.6; 25.4]	NA
Ourense	Spain	2004-2014	11763	65.4 [46.7; 83.9]	14.1 [10.6; 20.2]	NA	29.6 [20.7; 40.4]	15.2 [10.4; 20.3]	NA
Oviedo	Spain	2004-2014	23282	61.0 [46.8; 73.2]	27.8 [20.9; 37.9]	10.4 [7.2; 14.7]	28.2 [21.2; 38.1]	13.6 [9.5; 17.5]	NA
Palmas Gu Canaria	Spain	2004-2014	31691	48.4 [40.0; 59.6]	24.6 [18.2; 32.6]	6.5 [5.1; 8.9]	22.1 [15.9; 30.0]	21.2 [19; 23.6]	NA
Palma Mallorca	Spain	2004-2014	31053	69.3 [57.0; 81.1]	21.4 [16.5; 27.0]	10.6 [8.3; 13.6]	25.5 [19.9; 32.1]	16.6 [11.8; 22.5]	NA
Palencia	Spain	2004-2014	8610	69.2 [60.5; 78.8]	26.2 [22.8; 30.4]	NA	27.6 [23.3; 32.6]	11.6 [6.1; 17.9]	NA
Pamplona	Spain	2004-2014	17757	65.2 [50.6; 79.1]	NA	NA	NA	13.2 [7.8; 18.8]	NA
Segovia	Spain	2004-2014	5412	73.3 [63.1; 83.1]	21.2 [16.7; 25.4]	NA	29.7 [25.4; 34.0]	12.1 [6.4; 18.8]	NA
Salamanca	Spain	2004-2014	16314	61.1 [47.8; 74.6]	20.2 [15.9; 26.0]	6.7 [5.0; 9.6]	31.6 [26.1; 38.5]	12 [6.6; 18.2]	NA
San Sebastian	Spain	2004-2014	19051	57.5 [44.0; 71.0]	22.2 [17.1; 29.3]	10.1 [7.7; 14.0]	27.8 [20.8; 36.9]	13.9 [9.8; 17.8]	NA
Santander	Spain	2004-2014	19877	53.8 [41.6; 66.0]	26.0 [20.3; 33.1]	NA	26.6 [20.8; 33.7]	14.9 [11; 18.8]	NA
Soria	Spain	2004-2014	3872	68.1 [52.6; 83.0]	22.4 [14.3; 31.1]	NA	24.7 [17.4; 32.5]	10.6 [5.3; 17]	NA
Sevilla	Spain	2004-2014	63663	76.7 [53.9; 96.1]	39.3 [31.8; 48.6]	13.8 [10.7; 18.6]	31.5 [23.6; 40.5]	19.2 [13.7; 25.6]	NA
Teruel	Spain	2004-2014	3354	82.0 [65.2; 97.9]	18.2 [13.3; 25.1]	NA	14.3 [9.6; 20.8]	12.3 [6.2; 19.2]	NA
Tenerife	Spain	2010-2014	8541	73.9 [63.4; 83.9]	16.0 [12.0; 22.0]	6.7 [4.6; 10.6]	18.2 [12.6; 26.0]	21.6 [19.2; 24.4]	NA
Toledo	Spain	2004-2014	5627	84.4 [70.8; 96.4]	33.8 [29.0; 39.5]	11.5 [7.8; 16.2]	24.6 [20.7; 29.4]	15.3 [9.4; 23.1]	NA
Tarragona	Spain	2004-2014	10255	78.0 [55.5; 93.5]	NA	NA	24.6 [17.8; 33.5]	18 [12.6; 24.1]	NA
Vitoria	Spain	2004-2011	13389	65.8 [49.9; 81.1]	20.3 [14.0; 29.7]	7.6 [5.8; 10.4]	27.9 [20.0; 36.8]	11.8 [6.8; 16.6]	NA
Valladolid	Spain	2004-2014	29470	74.5 [54.3; 91.8]	17.8 [12.5; 23.9]	11.3 [7.8; 16.1]	28.1 [21.2; 36.4]	12.6 [6.8; 19.1]	NA
Valencia	Spain	2004-2014	76883	60.1 [43.7; 71.3]	24.2 [18.0; 32.0]	14.5 [9.5; 21.0]	37.9 [29.3; 48.2]	18.5 [13.8; 23.6]	NA
Zamora	Spain	2004-2014	6834	69.2 [59.3; 78.6]	22.6 [19.5; 26.5]	NA	28.0 [24.1; 32.2]	12.9 [7.4; 19.4]	NA
Zaragoza	Spain	2004-2014	64308	48.5 [30.1; 63.6]	27.5 [18.5; 40.0]	NA	40.3 [32.1; 48.9]	15.8 [9.8; 22.4]	NA

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM₁₀ (µg/m³) Median [IQR]	PM₂.₅ (µg/m³) Median [IQR]	NO₂ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Basel	Switzerland	1995-2013	37607	71.7 [44.0; 94.4]	18.7 [11.9; 28.4]	13.5 [8.2; 21.5]	23.7 [14.5; 35.2]	11.2 [5.1; 16.7]	75.9 [67.5; 82.8]
Bern	Switzerland	2003-2013	15142	74.3 [50.3; 97.3]	26.3 [19.1; 36.7]	17.4 [12.2; 24.8]	45.9 [37.5; 55.3]	9.7 [2.8; 15.6]	78.6 [70.3; 85.8]
Geneve	Switzerland	1995-2013	26306	64.9 [39.8; 87.2]	20.2 [13.3; 29.9]	NA	36.6 [27.7; 46.6]	11.3 [4.9; 17]	72.7 [64.2; 80.9]
Lausanne	Switzerland	1995-2013	20810	73.5 [50.7; 97.2]	23.3 [15.7; 34.2]	NA	44.7 [35.5; 53.4]	11.5 [5.5; 17.2]	72.0 [63.6; 79.3]
Lugano	Switzerland	1995-2013	28567	73.8 [33.5; 112.0]	24.8 [15.7; 37.6]	19.3 [11.9; 30.3]	35.7 [24.2; 49.0]	12.8 [6.7; 19]	70.5 [59.7; 80.2]
Luzern	Switzerland	1995-2013	15073	66.6 [37.2; 92.9]	18.7 [12.5; 27.4]	NA	24.2 [18.0; 32.5]	10.2 [3.7; 16.1]	78.9 [70.3; 85.7]
St. Gallen	Switzerland	1995-2013	13543	84.6 [70.0; 105.0]	15.9 [9.9; 24.5]	NA	12.2 [8.3; 18.8]	9.1 [2.7; 14.5]	77.2 [67.0; 86.0]
Zurich	Switzerland	1995-2013	73539	73.2 [50.3; 98.5]	19.9 [13.1; 29.7]	13.9 [9.3; 21.8]	33.2 [24.7; 43.3]	10.1 [3.6; 15.7]	78.0 [68.3; 85.6]
Stockholm	Sweden	1990-2010	201197	61.9 [48.9; 76.0]	12.5 [9.3; 17.9]	6.6 [4.7; 9.5]	26.8 [20.0; 34.8]	6.8 [1.2; 13.9]	79.6 [68.4; 87.6]
Kaohsiung	Taiwan	2008-2014	119890	127.1 [88.0; 161.2]	70.3 [43.7; 95.8]	40.8 [23.6; 54.6]	35.9 [25.4; 48.5]	26.4 [22.4; 28.7]	75.0 [71.0; 78.0]
Taipei	Taiwan	2008-2014	230039	98.2 [79.4; 123.5]	42.1 [31.6; 56.4]	24.8 [17.4; 34.0]	40.2 [33.4; 48.3]	23.4 [18.5; 27.9]	75.3 [69.0; 81.3]
Taichung	Taiwan	2008-2014	93751	101.9 [78.9; 131.2]	51.3 [37.3; 70.0]	30.3 [20.5; 42.7]	31.6 [24.0; 40.0]	24.4 [18.9; 27.9]	75.5 [71.5; 80.0]
Bristol	UK	1993-2005	67017	56.0 [40.0; 69.0]	25.0 [19.0; 34.0]	NA	NA	11.2 [7.6; 15.4]	72.1 [62.4; 81.1]
Cardiff	UK	1993-2006	45854	53.0 [38.0; 67.0]	27.0 [21.0; 36.0]	NA	NA	11.3 [7.7; 15.4]	71.8 [61.9; 81.2]
Greater London	UK	1993-2006	835683	48.6 [32.3; 63.0]	24.2 [19.3; 32.3]	NA	NA	11.2 [7.2; 15.8]	70.5 [59.6; 80.5]
Greater Manchester	UK	1996-2006	171932	48.3 [35.7; 60.0]	22.3 [17.5; 30.2]	NA	NA	10.3 [6.5; 14.5]	75.2 [65.1; 84.0]
Kingston upon Hull	UK	1994-2002	30888	48.0 [35.0; 62.0]	27.0 [21.0; 35.0]	NA	NA	10.4 [6.4; 14.5]	80.7 [71.1; 88.7]
Leicester	UK	1994-2006	55224	52.0 [36.0; 67.0]	21.0 [16.0; 28.0]	NA	NA	9.8 [5.7; 14.1]	NA
Liverpool	UK	1993-2002	75858	54.0 [37.0; 66.0]	25.0 [20.0; 35.0]	NA	NA	10.2 [6.7; 14.2]	81.1 [73.1; 88.3]
Norwich	UK	1997-2006	20082	59.0 [41.0; 75.0]	20.0 [16.0; 26.0]	NA	NA	10.3 [6.2; 14.8]	72.3 [62.2; 81.5]
Nottingham	UK	1996-2006	56017	44.0 [30.0; 59.0]	23.0 [18.0; 30.0]	NA	NA	10 [5.9; 14.2]	77.1 [66.5; 86.7]
Sheffield	UK	1996-2006	62836	49.5 [35.9; 62.0]	23.0 [17.0; 33.0]	NA	NA	10.2 [6.2; 14.5]	70.7 [60.4; 79.9]
Southampton	UK	1994-2006	35500	51.0 [37.0; 64.0]	24.0 [19.0; 32.0]	NA	NA	11.9 [8.1; 16.1]	75.2 [64.7; 84.6]
The Potteries	UK	1997-2006	39960	55.0 [41.0; 69.0]	21.0 [16.0; 28.0]	NA	NA	9.6 [5.8; 13.9]	85.2 [79.8; 92.7]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM₁₀ (µg/m³) Median [IQR]	PM₂.₅ (µg/m³) Median [IQR]	NO₂ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Tyneside	UK	1993-2006	98256	54.0 [40.0; 68.0]	20.0 [15.0; 28.0]	NA	NA	9.9 [6.3; 13.8]	71.4 [62.4; 80.3]
West Midlands	UK	1993-2006	335592	54.4 [39.7; 66.9]	21.5 [16.3; 30.3]	NA	NA	10 [6; 14.2]	75.5 [64.6; 85.7]
West Yorkshire	UK	1993-2006	142586	46.5 [32.2; 59.5]	25.0 [19.0; 35.0]	NA	NA	9.6 [5.7; 13.8]	75.6 [65.6; 84.4]
Augusta	USA	1989-2006	30967	94.6 [70.6; 118.0]	21.0 [14.0; 31.0]	15.7 [10.9; 21.2]	NA	18.9 [11.8; 24.6]	68.0 [55.9; 78.7]
Akron	USA	1985-2006	107392	87.7 [60.3; 116.6]	21.2 [15.3; 29.8]	14.1 [9.8; 20.1]	NA	11.1 [2; 19.1]	72.0 [63.2; 80.2]
Albany	USA	1987-2006	54560	65.9 [46.8; 88.0]	19.7 [14.0; 29.2]	8.9 [5.6; 14.9]	27.1 [18.2; 37.8]	9.8 [1.4; 18.5]	69.0 [59.9; 78.3]
Albuquerque	USA	1985-2006	73279	84.3 [64.9; 102.7]	25.7 [17.9; 35.7]	5.9 [4.4; 8.1]	31.4 [22.8; 42.8]	14.5 [6.3; 22.1]	38.7 [27.2; 51.8]
Allentown	USA	1985-2006	61366	78.2 [50.3; 108.4]	21.1 [14.0; 31.8]	11.7 [7.4; 18.3]	30.8 [22.2; 42.0]	11.7 [3.3; 19.8]	66.7 [56.8; 76.6]
Anaheim	USA	1985-2006	320343	77.8 [54.5; 99.4]	34.0 [24.7; 43.6]	13.0 [8.9; 19.4]	54.0 [38.2; 75.8]	18.8 [15.4; 22]	63.8 [52.7; 71.0]
AnnArbor	USA	1985-2006	33609	87.5 [67.8; 109.0]	15.0 [10.0; 21.0]	11.5 [7.4; 18.1]	NA	10.1 [1.3; 18.8]	71.7 [63.2; 79.7]
Annandale	USA	1985-2006	71093	67.9 [42.5; 103.8]	21.0 [14.4; 29.0]	12.1 [8.3; 17.6]	36.3 [27.0; 47.4]	14.6 [6.4; 22.6]	64.0 [53.2; 74.5]
Austin	USA	1985-2006	69427	79.4 [62.2; 102.1]	20.7 [15.5; 27.0]	9.0 [6.5; 12.5]	14.8 [6.5; 31.4]	21.6 [14.8; 26.9]	66.5 [55.8; 76.3]
Atlantic City	USA	1985-2006	49410	77.8 [56.1; 105.3]	27.0 [20.0; 36.0]	9.1 [6.5; 14.6]	NA	12.7 [5.1; 20.4]	71.1 [60.8; 81.4]
Atlanta	USA	1985-2006	310249	95.5 [68.5; 124.7]	25.5 [18.2; 34.9]	16.1 [11.6; 21.5]	35.6 [26.0; 46.7]	17.2 [9.9; 23.6]	69.3 [59.6; 78.2]
Atzec	USA	1997-2006	3858	94.6 [74.7; 111.5]	14.2 [10.4; 18.5]	5.5 [4.3; 7.3]	18.2 [13.7; 24.6]	11.8 [3.3; 21.2]	39.3 [25.4; 55.8]
Buffalo	USA	1985-2006	212201	68.4 [49.5; 94.1]	19.4 [13.9; 28.3]	11.1 [7.2; 17.1]	33.6 [25.1; 43.5]	9.3 [1.2; 18]	72.5 [64.5; 80.4]
Bakersfield	USA	1985-2006	88852	106.0 [68.1; 143.7]	36.6 [24.2; 52.5]	12.6 [8.4; 20.5]	31.7 [24.7; 42.0]	17.9 [11.8; 25.2]	50.3 [37.6; 68.9]
Boulder	USA	1985-2006	24614	80.4 [57.3; 102.3]	20.6 [14.7; 28.9]	7.2 [5.5; 9.7]	NA	12.2 [4.4; 20.3]	41.6 [30.9; 57.2]
Baltimore	USA	1985-2006	319591	68.6 [42.7; 102.0]	27.2 [18.8; 38.3]	13.6 [8.9; 19.8]	45.5 [35.0; 57.4]	14.1 [5.9; 22.1]	64.5 [53.2; 75.9]
Bangor	USA	1985-2006	26523	74.7 [58.6; 91.9]	16.9 [11.6; 25.0]	7.9 [5.4; 11.9]	NA	7.8 [-0.5; 16.4]	68.6 [58.3; 79.8]
Bergen	USA	1985-2006	239023	58.7 [35.5; 87.0]	29.6 [21.0; 40.7]	10.8 [7.1; 17.6]	51.4 [38.0; 66.8]	12.8 [4.5; 20.8]	62.6 [51.4; 75.1]
Burlington	USA	1985-2006	17292	78.6 [63.0; 97.0]	15.4 [10.7; 22.5]	6.9 [4.4; 11.2]	29.4 [22.8; 36.9]	8.6 [-0.2; 17.6]	67.7 [59.1; 76.5]
Birmingham	USA	1985-2006	171109	83.5 [59.1; 109.9]	29.5 [19.2; 43.9]	14.5 [10.2; 20.9]	19.7 [14.2; 25.9]	18.3 [10.8; 24.4]	68.7 [58.6; 78.3]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM₁₀ (µg/m³) Median [IQR]	PM₂.₅ (µg/m³) Median [IQR]	NO₂ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Barnstable	USA	1987-2006	47369	87.0 [70.3; 108.8]	NA	NA	4.1 [1.7; 6.6]	10.5 [3.9; 18.2]	74.1 [62.1; 85.0]
Brownsville	USA	1985-2006	36059	60.0 [42.4; 81.0]	22.3 [16.2; 31.1]	9.0 [6.6; 11.8]	NA	24.3 [19.7; 27.9]	76.0 [70.6; 82.0]
Boston	USA	1985-2006	475683	58.1 [39.1; 82.2]	23.1 [17.1; 31.4]	10.4 [7.1; 15.5]	43.8 [33.4; 55.2]	10.7 [3.6; 18.7]	66.2 [53.7; 79.3]
Baton Rouge	USA	1985-2006	62561	73.3 [53.3; 100.2]	26.4 [20.5; 35.0]	12.1 [9.1; 16.4]	24.6 [18.7; 32.8]	21.1 [14.4; 25.8]	74.5 [66.0; 82.0]
Cedar Rapids	USA	1985-2006	28150	63.0 [45.3; 84.4]	24.3 [17.3; 33.4]	9.1 [5.8; 14.4]	6.9 [4.5; 9.3]	10.3 [0.6; 19.6]	73.4 [63.7; 82.2]
Chicago	USA	1985-2006	1115158	56.0 [37.0; 79.5]	28.7 [20.2; 39.7]	13.8 [9.2; 19.4]	44.0 [35.0; 54.3]	11.4 [2.8; 20.7]	66.3 [56.8; 76.0]
Charlotte	USA	1985-2006	82255	100.7 [72.8; 127.1]	27.1 [19.6; 36.7]	14.1 [10.0; 19.2]	30.5 [21.7; 39.9]	17 [9.4; 23.4]	64.8 [53.5; 76.0]
Charleston SC	USA	1987-2006	45917	74.5 [57.1; 95.1]	18.6 [14.0; 24.2]	11.0 [7.8; 15.2]	11.2 [7.0; 17.2]	19.6 [13.1; 25.1]	74.1 [64.0; 81.7]
Chattanoga	USA	1985-2006	60219	90.8 [63.2; 115.9]	28.9 [20.0; 39.4]	13.2 [8.9; 18.1]	NA	16.8 [9; 23.4]	69.5 [60.2; 78.3]
Charlestown WV	USA	1985-2006	49105	77.7 [46.6; 108.3]	22.0 [15.1; 31.1]	14.5 [10.1; 20.5]	39.5 [31.6; 48.5]	14.2 [5.8; 21]	71.3 [60.8; 80.1]
Columbus	USA	1985-2006	159353	88.3 [61.2; 113.0]	25.8 [18.6; 36.4]	14.6 [10.3; 20.1]	46.1 [35.0; 59.4]	12.7 [3.6; 20.7]	68.5 [60.0; 77.0]
Colorado Springs	USA	1985-2006	51338	80.1 [61.7; 98.0]	19.5 [14.8; 26.6]	6.7 [5.4; 8.8]	27.7 [20.9; 36.3]	9.7 [2.2; 17.6]	46.7 [34.5; 62.0]
Cleveland	USA	1985-2006	404057	79.2 [59.1; 106.7]	28.2 [18.8; 41.4]	13.6 [8.7; 20.1]	41.9 [32.5; 53.6]	11.6 [2.9; 20.3]	69.9 [61.5; 78.2]
Cincinnati	USA	1985-2006	171958	89.1 [63.1; 114.3]	26.9 [19.4; 37.3]	15.4 [10.9; 21.4]	46.1 [36.8; 56.6]	13.6 [4.9; 21.2]	70.6 [62.4; 78.6]
Canton	USA	1985-2006	77288	93.3 [68.2; 118.6]	22.9 [16.6; 31.7]	15.2 [10.7; 21.3]	27.0 [17.6; 38.0]	10.9 [1.8; 19]	73.1 [64.2; 81.4]
Columbia	USA	1985-2006	75994	82.0 [59.0; 109.4]	24.2 [15.0; 35.1]	13.1 [9.4; 17.7]	11.7 [7.4; 17.2]	18.6 [11.2; 24.8]	67.2 [56.7; 77.0]
Corpus Christi	USA	1985-2006	45983	66.4 [48.0; 88.9]	26.0 [19.8; 34.0]	9.1 [6.8; 12.1]	NA	23.4 [17.9; 27.6]	76.2 [69.3; 82.6]
Davis	USA	1985-2006	17954	98.0 [76.9; 117.6]	22.0 [14.0; 32.0]	6.8 [4.7; 10.5]	31.9 [22.2; 47.6]	10.2 [2.2; 19.7]	49.1 [33.1; 67.2]
Dallas	USA	1985-2006	260718	74.2 [52.4; 102.7]	26.1 [19.4; 34.6]	11.3 [8.3; 15.8]	26.9 [19.3; 36.8]	20.5 [12.7; 27.1]	61.1 [51.4; 72.1]
Denver	USA	1985-2006	182600	78.0 [56.3; 103.0]	25.1 [17.1; 35.2]	9.1 [7.0; 11.8]	41.8 [28.3; 58.5]	10.6 [3.1; 18.8]	46.5 [35.1; 62.2]
Dodge	USA	1985-2006	11259	82.6 [64.7; 102.9]	14.4 [10.3; 20.4]	9.0 [5.7; 14.7]	NA	9.1 [0.3; 18.3]	71.6 [62.4; 80.5]
Dover	USA	1985-2006	19772	93.3 [71.1; 120.8]	25.0 [19.0; 29.0]	10.8 [7.2; 16.5]	NA	13.6 [5.6; 21.4]	69.8 [59.4; 80.3]
Durham	USA	1993-2006	21566	101.9 [77.7; 123.8]	21.0 [15.0; 28.0]	13.1 [9.2; 17.9]	17.8 [13.0; 22.5]	16.3 [8.7; 23.1]	69.3 [58.5; 78.9]

City	Country	Period	N deaths	Ozone (µg/m^3) Median [IQR]	PM$_{10}$ (µg/m^3) Median [IQR]	PM$_{2.5}$ (µg/m^3) Median [IQR]	NO$_2$ (µg/m^3) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
DesMoines	USA	1985-2006	54488	45.8 [22.8; 71.3]	25.9 [18.0; 37.6]	8.7 [5.8; 13.5]	20.5 [15.6; 27.5]	11.3 [1.4; 20.6]	69.3 [59.5; 78.3]
Detroit	USA	1985-2006	729077	73.1 [51.5; 98.3]	29.0 [19.1; 43.5]	13.4 [8.7; 20.2]	35.2 [25.4; 46.6]	10.9 [2.1; 19.8]	66.7 [58.3; 75.5]
Davenport	USA	1985-2006	55256	79.1 [57.7; 102.2]	26.3 [16.3; 39.5]	10.6 [6.9; 16.1]	10.3 [7.0; 14.7]	11.2 [1.5; 20]	71.3 [61.8; 80.1]
Daytona Beach	USA	1992-2006	78470	74.8 [59.5; 93.1]	18.9 [14.8; 23.8]	8.7 [6.1; 12.1]	NA	22.7 [17.9; 25.9]	76.7 [69.8; 82.6]
Dayton	USA	1985-2006	108776	90.9 [64.4; 115.6]	24.0 [17.3; 33.9]	14.5 [10.0; 20.4]	NA	12.6 [3.4; 20.6]	71.0 [62.1; 80.0]
El centro	USA	1985-2006	16009	88.2 [69.8; 110.0]	49.0 [36.0; 66.1]	10.0 [7.1; 13.4]	21.5 [13.2; 35.8]	23.2 [16.1; 30.9]	36.1 [28.0; 45.0]
Elkhart	USA	1992-2006	18913	92.4 [74.4; 112.7]	NA	12.7 [8.2; 19.0]	NA	12 [2.6; 21]	70.3 [60.7; 80.5]
El Paso	USA	1985-2006	73269	78.9 [61.6; 99.0]	30.6 [20.3; 45.8]	9.0 [6.5; 12.5]	37.6 [27.3; 50.2]	19.3 [11.2; 25.7]	36.7 [25.7; 50.0]
Elizabeth	USA	1985-1997	59658	62.5 [39.4; 91.8]	28.5 [20.5; 38.2]	NA	57.5 [44.9; 72.1]	13.3 [4.9; 21.8]	61.7 [51.2; 73.8]
Erie	USA	1985-2006	54723	80.1 [59.8; 106.6]	16.7 [11.0; 25.4]	10.8 [7.2; 16.4]	24.7 [17.9; 33.0]	10.6 [2.1; 18.9]	71.0 [62.8; 79.3]
Essex	USA	1985-2006	131712	70.8 [55.6; 89.8]	15.0 [11.0; 24.0]	8.0 [5.2; 12.9]	17.4 [10.8; 27.3]	10.3 [3; 18.3]	67.7 [55.1; 80.1]
Eugene	USA	1985-2006	52763	71.5 [55.9; 88.9]	20.7 [12.9; 33.6]	6.7 [3.7; 11.5]	NA	11.2 [7; 16.3]	77.9 [66.5; 87.1]
Evansville	USA	1985-2006	37519	102.4 [81.1; 124.1]	26.4 [20.0; 35.7]	13.4 [9.4; 19.3]	20.6 [15.2; 27.7]	14.7 [5.7; 22.6]	70.4 [62.0; 78.7]
Fargo	USA	1993-2006	9567	68.6 [53.7; 86.0]	14.1 [9.3; 22.5]	6.5 [4.5; 10.0]	10.8 [6.7; 16.4]	6.9 [-3.8; 17.5]	71.6 [62.1; 79.8]
Flint	USA	1985-2006	75484	83.9 [65.0; 106.3]	19.0 [13.0; 28.0]	10.3 [6.0; 15.7]	NA	9.6 [0.8; 18.3]	72.7 [64.4; 80.4]
Fresno	USA	1985-2006	104033	100.2 [63.7; 137.3]	39.3 [26.5; 57.3]	13.4 [8.8; 24.0]	32.4 [23.9; 42.7]	17.4 [11.3; 24.7]	53.9 [40.3; 73.8]
Fort Lauderdale	USA	1985-2006	308032	63.4 [47.9; 80.5]	16.8 [13.4; 21.3]	7.5 [5.6; 10.2]	15.9 [9.7; 22.4]	25.7 [22.9; 27.9]	72.4 [66.0; 78.2]
Fort Myers	USA	1985-2006	88850	72.5 [57.6; 89.8]	18.2 [14.4; 22.4]	8.1 [5.7; 10.7]	NA	24.4 [20.8; 26.9]	74.6 [67.9; 80.5]
Fort Pierce	USA	1995-2006	41824	72.0 [55.1; 88.9]	17.2 [13.9; 22.1]	8.0 [5.5; 11.1]	17.3 [12.7; 23.5]	23.9 [20.2; 26.3]	76.9 [70.5; 82.0]
Fort Worth	USA	1985-2006	172892	79.8 [59.5; 109.4]	21.1 [16.0; 28.6]	10.8 [7.8; 14.8]	25.2 [16.1; 36.4]	19.9 [11.9; 26.5]	61.9 [51.7; 72.9]
Fort Wayne	USA	1985-2006	50899	97.7 [78.2; 118.6]	19.4 [13.8; 29.0]	12.2 [8.2; 17.9]	17.4 [10.8; 25.4]	11.2 [1.9; 19.6]	73.5 [64.7; 81.8]
Fayetville	USA	1985-2006	34790	101.9 [78.4; 125.0]	23.0 [16.5; 31.0]	12.9 [9.2; 18.1]	NA	18.1 [10.4; 24.4]	65.8 [55.0; 76.2]
Gary	USA	1985-2006	90669	89.7 [69.6; 115.2]	23.8 [15.8; 35.7]	13.9 [9.6; 19.2]	36.9 [27.7; 47.3]	12.1 [3.1; 21.1]	68.0 [59.3; 77.4]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM$_{10}$ (µg/m³) Median [IQR]	PM$_{2.5}$ (µg/m³) Median [IQR]	NO$_2$ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Greensburg	USA	1985-2006	86732	82.2 [60.0; 105.8]	23.4 [17.2; 32.5]	13.5 [9.2; 19.6]	28.4 [21.1; 36.3]	13.3 [4.2; 21.3]	59.1 [49.8; 69.1]
Grand heaven	USA	1989-2006	22493	90.7 [72.3; 114.7]	14.1 [10.3; 20.1]	11.2 [6.4; 17.5]	17.8 [14.2; 22.2]	9.2 [1.2; 17.9]	73.4 [65.2; 81.1]
Grand Junctio	USA	1986-1992	5209	89.4 [74.5; 101.9]	25.1 [18.9; 34.7]	NA	NA	12.6 [2.2; 21.3]	44.1 [27.6; 64.0]
Grand Rapids	USA	1985-2006	78804	84.4 [65.0; 109.8]	20.0 [14.0; 28.9]	11.4 [7.0; 18.0]	27.8 [20.2; 37.0]	9.4 [0.7; 18.5]	72.7 [64.1; 81.0]
Greensboro	USA	1985-2006	65906	106.8 [82.8; 128.1]	22.5 [15.5; 31.0]	13.2 [9.1; 18.3]	NA	15.6 [7.9; 22.3]	66.9 [55.1; 77.8]
Gasinesville	USA	1985-2006	27589	78.2 [59.7; 100.2]	17.1 [13.7; 21.7]	9.0 [6.6; 12.2]	NA	21.4 [16.2; 25.2]	76.2 [68.0; 83.1]
Gettysburg	USA	2002-2006	4083	93.8 [73.3; 113.4]	NA	11.0 [7.0; 16.9]	5.7 [3.7; 8.4]	12.1 [3.8; 20.1]	70.5 [59.4; 80.3]
Holland	USA	1990-2006	7264	94.3 [76.0; 121.0]	14.0 [8.0; 20.5]	9.9 [5.7; 16.3]	13.9 [9.2; 20.1]	9.4 [1.6; 18.3]	73.6 [65.1; 81.2]
Harrisburg	USA	1985-2006	49992	79.4 [52.6; 108.9]	19.9 [13.1; 28.6]	13.4 [8.4; 20.3]	33.4 [24.0; 44.4]	12.9 [4.2; 21.1]	64.0 [53.0; 75.6]
Hartford	USA	1985-2006	159050	76.2 [55.1; 98.2]	16.7 [11.2; 25.9]	9.3 [6.2; 14.9]	32.4 [22.6; 44.6]	11.7 [3.4; 19.8]	65.7 [54.2; 77.2]
Houston	USA	1985-2006	366340	66.4 [47.8; 95.8]	27.0 [19.1; 36.9]	12.1 [9.0; 15.8]	32.5 [23.4; 43.8]	22.2 [16.3; 26.9]	75.3 [66.6; 82.3]
Indianapolis	USA	1985-2006	149459	98.9 [77.2; 121.5]	27.0 [19.1; 38.0]	14.6 [10.0; 20.3]	33.7 [25.6; 42.9]	12.9 [3.5; 21.1]	71.2 [62.1; 80.0]
Iowa city	USA	1985-1991	2871	68.6 [50.0; 90.6]	NA	NA	NA	10.4 [0.5; 19.9]	71.4 [61.6; 80.4]
Jacksonville	USA	1985-2006	124017	77.3 [59.6; 99.0]	26.0 [20.0; 33.0]	9.6 [6.8; 13.0]	26.4 [19.9; 34.3]	22.4 [16.9; 26.5]	69.3 [61.2; 76.6]
Jersey city	USA	1985-2006	103084	60.0 [36.3; 90.9]	28.5 [20.0; 39.6]	12.8 [8.3; 19.6]	49.7 [37.4; 64.0]	10.3 [3.6; 17.7]	73.8 [62.6; 84.3]
Kalamazoo	USA	1991-2006	26670	84.8 [61.4; 106.3]	16.0 [10.0; 24.5]	11.9 [7.2; 18.7]	25.0 [18.6; 32.6]	10.6 [1.6; 19.6]	70.3 [60.7; 78.9]
Kenosha	USA	1985-2006	23194	89.5 [70.8; 114.7]	NA	9.8 [6.0; 15.5]	25.6 [16.0; 38.3]	10 [1.6; 18.9]	72.3 [63.9; 80.6]
Kansas	USA	1985-2006	218933	63.0 [39.2; 91.9]	29.2 [21.0; 40.1]	10.8 [7.4; 15.2]	24.1 [17.0; 32.6]	14.8 [5.2; 23]	64.6 [55.4; 74.3]
Knoxville	USA	1985-2006	80418	91.3 [71.0; 115.0]	27.0 [19.0; 36.5]	14.5 [10.1; 20.0]	6.0 [2.6; 15.2]	15.9 [7.9; 22.8]	70.9 [61.6; 79.5]
La Fayette LA	USA	1985-2006	24508	76.0 [56.4; 101.7]	18.0 [14.0; 24.0]	10.1 [7.3; 13.9]	NA	21.4 [14.9; 26]	76.2 [67.5; 83.3]
Lake Charles	USA	1985-2006	31479	74.1 [55.9; 97.0]	19.0 [14.0; 26.0]	9.9 [7.2; 13.7]	10.1 [7.0; 14.1]	22.5 [16.1; 27.2]	71.6 [61.4; 80.7]
Lakeland	USA	1992-2006	70007	75.1 [58.2; 94.7]	19.7 [15.7; 24.6]	9.3 [6.6; 12.6]	NA	24.7 [20.4; 27.5]	66.7 [58.8; 74.0]
Lancaster	USA	1985-2006	80724	83.3 [53.4; 114.0]	19.8 [13.5; 28.6]	14.3 [9.5; 21.5]	29.0 [20.9; 38.2]	12.6 [4.1; 20.9]	65.6 [55.1; 76.9]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM₁₀ (µg/m³) Median [IQR]	PM₂.₅ (µg/m³) Median [IQR]	NO₂ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Lousville	USA	1985-2006	139347	80.4 [52.7; 108.4]	23.5 [17.0; 33.1]	14.1 [9.9; 19.5]	34.3 [26.3; 44.7]	15.3 [6.4; 22.9]	67.1 [57.9; 76.6]
LaPorte	USA	1990-2006	15900	95.1 [76.3; 118.3]	18.5 [12.8; 24.0]	11.8 [7.3; 17.1]	NA	10.7 [1.7; 19.3]	72.7 [63.5; 81.3]
Los Angeles	USA	1985-2006	1239036	80.3 [49.5; 115.5]	34.3 [25.4; 43.5]	15.8 [11.1; 22.2]	63.6 [48.1; 81.9]	17.9 [15.2; 20.2]	71.0 [60.9; 77.8]
Las Vegas	USA	1985-2006	182220	86.0 [63.1; 108.4]	31.9 [23.2; 42.0]	6.5 [4.4; 9.1]	30.6 [18.7; 54.1]	20.3 [11.9; 29.3]	25.7 [18.0; 37.2]
Little Rock	USA	1985-2006	63901	76.7 [56.6; 101.8]	25.7 [18.8; 34.8]	12.8 [9.2; 17.8]	19.0 [13.4; 26.6]	17.9 [9.7; 24.7]	68.9 [59.4; 78.1]
Macon	USA	1997-2006	15318	98.7 [76.5; 122.7]	26.0 [17.0; 36.0]	14.1 [10.3; 19.0]	NA	18.8 [11.9; 24.8]	69.4 [59.2; 78.0]
Mc Allen	USA	1996-2006	29196	64.6 [49.6; 81.6]	25.0 [18.9; 34.3]	9.5 [7.2; 12.5]	NA	25 [19.9; 28.7]	68.4 [61.4; 76.0]
Middlesex	USA	1985-2006	110324	68.6 [45.6; 101.2]	22.2 [16.5; 30.7]	9.7 [6.4; 15.4]	31.4 [22.3; 43.9]	12.9 [4.6; 21.1]	63.2 [51.7; 75.5]
Middletown	USA	1985-2006	49618	89.7 [63.0; 115.4]	27.5 [19.4; 40.4]	14.5 [10.3; 20.4]	NA	13.4 [4.6; 21.1]	69.8 [61.4; 78.0]
Medford	USA	1985-2006	33409	83.5 [67.6; 102.5]	28.5 [18.8; 43.7]	7.4 [4.5; 12.3]	NA	12 [6.4; 18.9]	62.6 [47.5; 79.9]
Madison IL	USA	1985-2006	48230	69.0 [46.1; 98.0]	33.8 [21.4; 51.7]	15.3 [10.3; 20.5]	NA	15.6 [6.1; 23.6]	66.5 [56.1; 76.5]
Modesto	USA	1985-2006	63591	80.4 [52.2; 111.5]	31.9 [22.6; 45.3]	11.0 [8.0; 20.0]	32.9 [25.0; 42.5]	17.9 [11.7; 24.2]	54.3 [40.9; 71.3]
Madison WI	USA	1985-2006	48763	83.1 [62.5; 102.4]	21.0 [14.5; 29.0]	10.2 [6.6; 16.1]	NA	9.3 [0.1; 18.4]	70.5 [61.7; 78.8]
Miami	USA	1985-2006	372130	65.1 [49.8; 82.7]	24.6 [19.9; 30.4]	8.4 [6.3; 11.3]	18.6 [12.8; 27.5]	25.4 [22.8; 27.7]	72.7 [67.2; 78.0]
Melbourn	USA	1988-2006	80122	75.0 [59.3; 91.9]	16.5 [13.0; 20.9]	7.5 [5.1; 10.4]	NA	23.9 [20.1; 26.6]	76.0 [70.0; 81.3]
Milwauke	USA	1985-2006	232056	76.2 [56.5; 98.4]	25.1 [17.3; 35.3]	11.2 [7.1; 17.3]	36.3 [26.9; 47.4]	9.2 [1.1; 18.4]	70.4 [61.7; 79.2]
Memphis	USA	1985-2006	152003	101.4 [78.9; 124.2]	24.2 [17.5; 32.7]	12.1 [8.6; 16.7]	44.1 [31.9; 57.6]	18.4 [10.1; 25.2]	65.5 [55.9; 75.8]
Monmouth	USA	1985-2006	235036	89.1 [64.2; 117.4]	NA	9.0 [6.0; 13.9]	NA	13.6 [5.7; 21.6]	60.7 [49.6; 73.1]
Montgomery	USA	1986-2006	38531	87.5 [66.2; 110.0]	21.0 [15.3; 28.0]	13.0 [9.9; 18.5]	19.3 [14.3; 25.2]	20.7 [13.7; 26.6]	66.0 [56.0; 76.1]
Mobile	USA	1985-2006	72746	79.7 [59.7; 102.3]	25.9 [19.1; 34.7]	11.4 [8.5; 16.0]	NA	21.4 [15.1; 26.4]	72.6 [61.3; 81.8]
Monroe	USA	1985-2006	26416	78.9 [59.3; 103.4]	25.0 [17.0; 37.0]	10.7 [7.6; 15.4]	16.0 [11.6; 21.9]	19.7 [12.2; 25.6]	72.8 [64.0; 80.8]
Mercer	USA	1985-2006	27870	81.8 [57.1; 111.5]	30.0 [22.0; 42.0]	11.9 [8.1; 17.3]	NA	10.3 [1.3; 18.2]	71.3 [61.9; 79.9]
Marlboro	USA	1985-2006	81024	87.0 [56.8; 121.5]	20.4 [14.0; 29.5]	11.8 [8.1; 17.3]	18.1 [13.2; 25.6]	13.9 [5.8; 21.7]	66.3 [55.6; 77.5]

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Muskegon	USA	1985-2006	30902	89.9 [71.1; 116.4]	25.8 [17.6; 39.0]	9.8 [5.4; 16.1]	NA	9.3 [1.1; 18]	73.1 [64.7; 80.9]
Muncie	USA	2001-2006	6539	100.7 [82.6; 119.3]	NA	12.3 [8.2; 17.0]	NA	12.3 [2.9; 20.1]	72.8 [63.8; 82.0]
Nashua	USA	1985-2006	51115	77.2 [58.8; 97.0]	16.2 [11.0; 23.5]	7.5 [4.9; 12.2]	24.9 [16.3; 35.9]	11.1 [2.6; 19.9]	60.1 [48.9; 73.7]
Nassau	USA	1985-2006	460192	64.9 [45.1; 90.5]	17.3 [12.3; 24.1]	9.8 [6.2; 15.2]	44.1 [31.6; 58.7]	12.2 [4.7; 20.3]	66.6 [55.0; 79.6]
Niles	USA	1991-2006	22196	99.0 [80.6; 122.7]	NA	10.2 [6.0; 16.1]	12.4 [10.2; 14.9]	10.5 [1.6; 19.2]	72.1 [63.5; 80.3]
Nashville	USA	1985-2006	97358	65.5 [41.0; 92.7]	29.2 [21.6; 39.7]	12.5 [9.0; 17.4]	25.9 [16.6; 36.3]	16.7 [8.3; 23.7]	66.6 [57.3; 76.1]
Newburgh	USA	1995-2006	27492	90.6 [69.8; 110.7]	NA	8.9 [5.9; 14.4]	NA	10.9 [2.5; 19]	64.6 [54.9; 76.0]
Newhaven	USA	1985-2006	157415	79.9 [61.6; 102.3]	23.4 [15.3; 34.8]	11.4 [7.6; 17.5]	45.8 [34.0; 58.9]	12.1 [4.6; 20.2]	72.6 [59.6; 83.1]
Newlond	USA	1985-2006	40419	92.6 [75.2; 115.2]	15.2 [11.0; 21.6]	8.9 [6.0; 14.4]	NA	11.5 [4.4; 19.1]	72.2 [59.0; 84.5]
New Orleans	USA	1985-1989	41816	73.0 [50.4; 103.2]	30.9 [22.0; 41.8]	NA	34.6 [26.9; 44.3]	21.9 [15.8; 26.6]	75.4 [68.0; 82.7]
Newark	USA	1985-2006	220980	66.4 [45.3; 95.1]	31.4 [22.0; 43.5]	10.3 [6.7; 16.4]	44.3 [32.8; 57.9]	13.3 [5.2; 21.7]	61.5 [51.1; 73.7]
New York	USA	1985-2006	1367085	50.5 [30.9; 77.8]	22.3 [16.3; 31.6]	12.4 [8.2; 18.5]	65.8 [53.3; 81.1]	10.2 [3.5; 17.7]	73.8 [62.7; 84.3]
Ocala	USA	1998-2006	29695	77.7 [61.2; 97.5]	NA	9.4 [6.8; 12.7]	NA	22 [16.8; 25.4]	70.9 [62.2; 78.1]
Oklahoma	USA	1985-2006	118753	80.1 [58.6; 105.2]	21.6 [15.7; 30.0]	8.3 [5.9; 12.1]	20.9 [14.9; 29.9]	16.8 [8.1; 24.3]	62.8 [52.6; 74.0]
Oakland	USA	1985-2006	325028	60.7 [46.0; 74.1]	19.9 [14.2; 28.2]	9.1 [5.8; 15.3]	30.9 [22.0; 41.1]	14.4 [11.9; 16.4]	77.8 [70.3; 83.4]
Omaha	USA	1985-2006	71558	64.7 [47.0; 84.4]	33.3 [24.2; 45.9]	8.7 [6.0; 12.9]	NA	11.6 [1.7; 20.7]	68.7 [59.3; 77.5]
Orlando	USA	1985-2006	157019	76.9 [60.5; 97.1]	19.0 [14.9; 23.9]	9.1 [6.7; 12.3]	19.7 [14.1; 26.9]	23.4 [19.3; 26.4]	73.3 [66.0; 79.9]
Philadelphia	USA	1985-2006	911888	64.3 [40.1; 99.3]	24.2 [17.7; 34.2]	12.2 [8.1; 18.1]	46.1 [35.8; 57.7]	13.1 [5.1; 21.2]	66.1 [56.2; 77.0]
Phoenix	USA	1985-2006	386802	89.1 [63.3; 110.4]	42.8 [30.9; 57.7]	9.3 [7.1; 13.3]	42.9 [30.4; 57.8]	24.1 [16.1; 31.9]	28.9 [20.3; 41.2]
Palm beach	USA	1985-2006	233887	62.0 [46.9; 79.0]	18.9 [15.1; 24.0]	7.2 [5.2; 9.8]	23.6 [17.1; 30.8]	24.9 [22; 27.2]	74.5 [68.5; 79.8]
Plymouth	USA	1987-1997	37343	70.6 [53.2; 93.8]	NA	NA	NA	10.7 [3.1; 18.4]	64.8 [53.8; 77.4]
Pensacola	USA	1985-2006	50546	82.1 [62.9; 105.0]	19.7 [15.2; 25.5]	10.8 [7.8; 15.4]	13.1 [9.0; 18.4]	21.2 [15.2; 26.2]	76.3 [65.6; 84.0]
Portland OR	USA	1985-2006	210301	63.8 [49.5; 80.2]	20.1 [13.7; 29.1]	7.4 [5.0; 11.1]	26.9 [20.4; 35.8]	11.9 [7.4; 17.3]	73.0 [62.3; 82.9]

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Port Arthur	USA	1985-2006	50969	70.4 [50.0; 97.4]	20.0 [14.0; 26.0]	10.0 [7.3; 13.7]	14.3 [7.7; 21.5]	21.6 [15.4; 26.5]	78.7 [70.4; 85.0]
Portage	USA	1985-2006	20147	86.9 [65.2; 111.5]	17.5 [12.0; 25.1]	11.7 [7.5; 16.9]	NA	12.1 [3.1; 21.1]	68.0 [59.3; 77.4]
Portland ME	USA	1985-2006	46217	74.7 [59.5; 93.4]	18.8 [13.5; 26.4]	8.9 [6.3; 13.9]	26.7 [17.9; 36.7]	8.4 [0.9; 16.6]	69.4 [58.0; 81.2]
Providence	USA	1985-2006	254651	83.5 [64.9; 104.4]	22.5 [16.2; 31.7]	9.1 [6.4; 13.7]	30.0 [19.2; 43.4]	11 [3.6; 19]	68.0 [55.8; 80.4]
Pittsburg	USA	1985-2006	317935	63.4 [40.0; 96.8]	24.4 [15.2; 38.6]	13.2 [8.2; 20.6]	44.7 [33.9; 56.4]	12.3 [3.3; 20]	68.2 [58.4; 77.8]
Richmond	USA	1985-2006	116646	93.7 [64.7; 119.4]	21.0 [15.0; 29.3]	12.4 [8.6; 17.6]	38.8 [28.9; 49.5]	15.3 [7.5; 22.7]	67.6 [56.8; 78.4]
Rochester	USA	1985-2006	127040	62.5 [45.3; 84.8]	19.5 [13.9; 28.0]	9.2 [5.9; 14.8]	NA	9.5 [1.2; 18.1]	71.8 [63.9; 79.4]
Rockville	USA	1985-2006	92381	89.7 [60.0; 120.5]	23.0 [16.0; 32.0]	10.8 [7.5; 16.4]	NA	14.7 [6.6; 22.8]	65.1 [54.0; 76.1]
Reading	USA	1985-2006	72337	77.4 [51.2; 106.8]	20.1 [14.3; 28.2]	13.7 [8.7; 20.4]	38.6 [30.2; 47.8]	12.7 [4.2; 20.9]	65.6 [55.1; 76.0]
Reno	USA	1985-2006	45340	78.7 [57.8; 98.5]	33.0 [22.0; 49.5]	6.5 [4.6; 9.0]	26.2 [14.1; 43.0]	11.3 [4.5; 19.6]	41.5 [29.6; 57.5]
Raleigh	USA	1985-2006	58561	97.3 [71.0; 123.5]	20.3 [14.8; 27.3]	13.1 [9.3; 18.0]	22.3 [15.5; 32.1]	16.4 [8.8; 23.1]	68.7 [57.7; 78.6]
Riverside	USA	1985-2006	433285	101.5 [69.2; 139.7]	36.3 [25.9; 46.5]	15.3 [9.6; 23.2]	43.7 [33.5; 54.5]	17.1 [13; 22.1]	56.5 [42.0; 68.6]
Sacramento	USA	1985-2006	172136	80.6 [55.7; 105.7]	22.9 [16.4; 31.4]	9.1 [6.0; 14.4]	26.2 [18.8; 35.9]	15.8 [10.8; 20.8]	64.5 [51.9; 77.8]
Scranton	USA	1985-2006	150119	77.5 [56.3; 102.2]	17.9 [11.9; 26.9]	10.0 [6.0; 16.2]	28.5 [20.1; 39.0]	10.7 [2.2; 18.7]	67.9 [58.4; 77.5]
San Diego	USA	1985-2006	369956	87.5 [70.5; 105.1]	31.6 [24.0; 40.5]	11.4 [8.1; 16.1]	37.9 [27.9; 51.4]	17.8 [14.8; 20.6]	68.4 [59.5; 74.5]
San Francisco	USA	1985-2006	248607	47.9 [35.2; 61.2]	22.6 [15.6; 32.5]	9.1 [5.8; 14.4]	34.9 [23.6; 50.1]	14.6 [12.2; 16.6]	75.4 [68.3; 81.5]
Salt Lake	USA	1985-2006	89770	94.9 [71.8; 114.5]	29.8 [19.5; 43.1]	7.7 [5.6; 11.9]	47.4 [34.8; 63.6]	11.2 [3.3; 21]	52.1 [36.2; 69.4]
San Jose	USA	1985-2006	176066	61.7 [44.3; 77.4]	25.1 [17.3; 35.4]	9.9 [6.4; 16.8]	42.8 [31.0; 57.4]	17.2 [13.2; 21.1]	59.7 [50.9; 68.8]
San Antonio	USA	1985-2006	186461	78.3 [62.8; 99.7]	22.0 [16.0; 29.5]	8.7 [6.4; 12.1]	16.6 [11.4; 24.3]	22.5 [15.7; 27.7]	65.4 [55.0; 75.6]
Spokane	USA	1985-2006	68681	87.0 [73.3; 100.7]	24.1 [14.3; 38.3]	7.4 [4.5; 11.4]	NA	9.2 [2.9; 16.6]	65.2 [50.0; 80.5]
Springfield MA	USA	1985-2006	94971	70.2 [51.0; 93.4]	23.2 [16.4; 32.8]	10.0 [6.5; 15.7]	31.4 [21.9; 44.8]	10.9 [2.2; 19.2]	64.3 [54.1; 76.0]
Springfied MO	USA	1985-2006	43239	78.3 [56.9; 99.0]	18.0 [13.0; 25.0]	11.0 [7.5; 14.7]	19.8 [12.9; 27.6]	14.6 [5.7; 22]	69.2 [59.6; 78.5]
Spartanburg	USA	1990-2006	37387	90.9 [61.2; 118.6]	21.0 [16.0; 28.0]	13.1 [9.1; 18.2]	NA	16.7 [9.3; 22.9]	67.7 [55.3; 79.0]

City	Country	Period	N deaths	Ozone (µg/m^3) Median [IQR]	PM$_{10}$ (µg/m^3) Median [IQR]	PM$_{2.5}$ (µg/m^3) Median [IQR]	NO$_2$ (µg/m^3) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Sarasota	USA	1985-2006	151551	75.1 [58.7; 94.6]	19.9 [15.6; 24.6]	8.5 [6.0; 11.8]	8.7 [5.5; 13.3]	24.1 [20.1; 27.1]	76.1 [69.3; 81.8]
Steubenville	USA	1985-2006	21002	71.1 [45.3; 101.9]	28.6 [19.6; 42.6]	14.7 [10.4; 21.6]	33.8 [26.2; 43.3]	12.6 [3.6; 20.4]	67.3 [56.5; 77.4]
Saint Charles	USA	1985-2006	28225	87.5 [59.6; 114.7]	20.0 [13.0; 28.0]	12.3 [8.0; 17.4]	17.0 [10.3; 25.2]	15 [5.4; 23.2]	65.1 [55.2; 75.3]
Stockton	USA	1985-2006	82225	72.9 [49.0; 97.7]	26.5 [18.6; 37.2]	11.0 [7.0; 17.0]	35.7 [26.6; 46.1]	16.3 [11; 21.8]	60.7 [47.7; 76.2]
South bend	USA	1985-2006	48505	93.8 [74.0; 115.8]	22.0 [14.6; 32.6]	12.1 [7.4; 17.6]	24.8 [18.1; 32.4]	10.5 [1.6; 19.3]	71.9 [63.1; 80.2]
St Louis	USA	1985-2006	312923	79.8 [55.9; 106.2]	25.5 [15.2; 39.4]	12.7 [8.9; 18.2]	34.8 [26.9; 44.0]	15.6 [6.1; 23.6]	66.5 [56.1; 76.5]
Stamford	USA	1985-2006	142216	86.3 [66.5; 109.6]	21.5 [15.6; 30.9]	10.4 [6.5; 16.7]	37.2 [26.2; 50.4]	11.3 [3.5; 19.2]	66.9 [56.1; 78.6]
St. Petersbur	USA	1985-2006	158555	73.7 [57.4; 94.1]	21.7 [17.1; 27.0]	9.3 [6.9; 12.6]	19.9 [12.1; 29.9]	24.7 [20.3; 27.9]	72.8 [65.6; 79.6]
State College	USA	1996-2006	8609	92.9 [72.2; 113.4]	NA	10.9 [6.8; 16.5]	14.0 [9.6; 21.0]	11.2 [2.6; 19.1]	64.8 [54.7; 75.0]
Seattle	USA	1985-2006	225451	59.0 [42.8; 77.2]	22.7 [15.9; 32.9]	7.9 [5.4; 11.6]	32.3 [23.2; 42.2]	10.7 [7.7; 14.2]	82.3 [76.9; 86.8]
Tacoma	USA	1985-2006	96086	63.5 [50.5; 78.1]	24.3 [15.4; 38.2]	8.4 [5.3; 13.7]	NA	11.3 [7.3; 16.2]	74.4 [63.6; 84.2]
Tampa	USA	1985-2006	158555	75.8 [59.3; 97.1]	24.6 [19.0; 30.5]	10.6 [7.9; 14.3]	15.9 [10.6; 23.3]	23.7 [19.4; 26.9]	74.4 [67.7; 80.2]
Tucson	USA	1985-2006	131053	85.3 [67.8; 102.7]	25.3 [18.4; 34.7]	6.0 [4.7; 7.6]	33.9 [25.0; 44.6]	21.3 [14; 27.9]	31.6 [20.7; 46.5]
Tallahassee	USA	1985-2006	25858	74.4 [57.2; 97.1]	15.6 [12.1; 20.2]	11.6 [8.2; 16.4]	NA	20.9 [14.7; 25.6]	72.5 [62.6; 81.0]
Toledo	USA	1985-2006	92004	81.7 [59.3; 104.9]	20.3 [14.6; 29.4]	12.8 [8.6; 18.7]	NA	10.8 [1.7; 19.6]	71.8 [63.2; 80.2]
Trenton	USA	1985-2006	58430	72.0 [49.0; 105.0]	24.0 [16.0; 33.0]	10.1 [6.4; 15.9]	27.6 [19.5; 37.9]	12.7 [4.6; 20.9]	62.3 [52.3; 73.0]
Terra Haute	USA	1985-2006	23821	94.3 [74.0; 115.6]	24.9 [17.7; 36.1]	12.1 [8.3; 17.5]	NA	13.1 [3.8; 21.2]	72.9 [64.3; 80.9]
Tulsa	USA	1985-2006	95475	84.4 [62.2; 109.2]	23.6 [16.6; 32.2]	9.7 [6.7; 13.6]	21.2 [14.2; 29.5]	17 [8.3; 24.5]	64.3 [54.2; 74.8]
Visalia	USA	1985-2006	50358	101.2 [67.0; 144.6]	46.8 [32.1; 63.9]	16.0 [10.3; 24.0]	35.3 [27.1; 45.2]	17.4 [11.1; 24]	58.0 [47.7; 77.2]
Vancouver	USA	1985-2006	37914	63.7 [49.0; 79.0]	15.5 [11.0; 22.1]	6.9 [4.7; 11.4]	23.4 [17.2; 30.3]	11.8 [7.3; 17.2]	72.8 [61.8; 82.4]
Ventura	USA	1985-2006	87603	95.3 [74.2; 117.6]	28.7 [18.8; 37.0]	11.4 [6.9; 15.4]	23.0 [17.5; 29.8]	16.4 [14; 18.7]	75.5 [66.5; 81.8]
Wichita	USA	1985-2006	68542	69.2 [50.0; 93.1]	21.9 [15.2; 30.4]	9.8 [6.7; 13.5]	17.6 [12.4; 24.6]	14.5 [5.4; 23.1]	65.3 [55.2; 75.4]
Weber	USA	1985-2006	24455	108.0 [94.2; 122.5]	25.0 [16.0; 35.0]	7.8 [5.4; 11.6]	45.0 [32.7; 58.5]	11.6 [3.2; 21.7]	47.9 [32.3; 66.4]

City	Country	Period	N deaths	Ozone (µg/m³) Median [IQR]	PM₁₀ (µg/m³) Median [IQR]	PM₂.₅ (µg/m³) Median [IQR]	NO₂ (µg/m³) Median [IQR]	Mean temperature (˚C) Median [IQR]	Relative humidity (%) Median [IQR]
Wilmington	USA	1985-2006	76254	67.7 [44.1; 98.7]	22.6 [16.0; 31.9]	13.0 [8.8; 19.2]	37.6 [24.3; 52.0]	13.1 [5.1; 21.3]	67.5 [57.3; 78.2]
Winston	USA	1985-2006	52543	101.0 [79.1; 123.0]	22.0 [15.7; 29.7]	13.4 [9.0; 18.8]	26.8 [19.4; 36.3]	16.4 [8.7; 23]	63.0 [50.4; 75.5]
Worcester	USA	1985-2006	135785	79.4 [61.5; 101.9]	19.1 [13.6; 28.1]	9.4 [6.2; 14.5]	38.3 [26.9; 51.6]	9.1 [0.8; 17.3]	67.2 [56.1; 79.4]
WDC	USA	1985-2006	141028	56.8 [34.7; 91.5]	25.1 [17.6; 34.9]	13.3 [8.9; 18.9]	44.4 [34.4; 56.0]	14.7 [6.7; 22.8]	65.1 [54.0; 76.1]
Washington	USA	1985-2006	49002	82.6 [54.8; 110.6]	18.0 [12.0; 27.0]	12.6 [9.0; 18.2]	28.8 [20.6; 38.1]	11.8 [3.2; 19.2]	66.5 [56.2; 75.6]
Youngstown	USA	1985-2006	86656	86.8 [61.2; 114.5]	23.0 [16.0; 33.2]	13.6 [9.5; 19.5]	31.6 [23.1; 43.1]	10.6 [1.7; 18.4]	72.7 [64.1; 81.2]
York	USA	1985-2006	62767	79.9 [51.9; 111.7]	22.2 [15.4; 31.8]	14.7 [9.6; 21.9]	37.7 [27.5; 48.2]	12.2 [3.9; 20.5]	67.2 [56.5; 77.7]

Ozone: daily maximum 8-hour mean, µg/m³. Mean temperature, ˚C. PM_{10}: inhalable particulate matter with an aerodynamic diameter of 10 µm or less, µg/m³. $PM_{2.5}$: inhalable particulate matter with an aerodynamic diameter of 2.5 µm or less, µg/m³. NO_2: nitrogen dioxide, µg/m³. IQR: interquartile range. Relative humidity, in %.

eTable 3. Overall and country-specific excess mortality fractions (%, 95% confidence interval) associated to ozone for the total (above 70 µg/m³) and above specific thresholds consistent with current air quality standards (AQS).

	Total* (Above 70 µg/m³)	Above WHO AQS (100 µg/m³)	Above EU AQS (120 µg/m³)	Above NAAQS in the US (140 µg/m³)	Above CAAQS in China (160 µg/m³)
Australia**	0.00 [0.00; 0.00]	0.00 [0.00; 0.00]	0.00 [0.00; 0.00]	0.00 [0.00; 0.00]	0.00 [0.00; 0.00]
Canada	0.34 [0.29; 0.41]	0.24 [0.18; 0.30]	0.16 [0.10; 0.23]	0.11 [0.04; 0.18]	0.07 [-0.01; 0.14]
China	0.22 [0.04; 0.39]	0.19 [0.00; 0.36]	0.14 [-0.05; 0.32]	0.10 [-0.11; 0.29]	0.06 [-0.15; 0.26]
Czech Republic	0.27 [0.02; 0.48]	0.20 [-0.06; 0.44]	0.12 [-0.16; 0.39]	0.06 [-0.24; 0.34]	0.03 [-0.30; 0.34]
Estonia	0.02 [0.01; 0.03]	0.00 [-0.01; 0.01]	0.00 [-0.01; 0.01]	0.00 [-0.01; 0.01]	0.00 [-0.01; 0.01]
France	0.20 [0.15; 0.25]	0.14 [0.09; 0.19]	0.08 [0.02; 0.13]	0.04 [-0.02; 0.10]	0.02 [-0.05; 0.08]
Germany	0.12 [0.09; 0.15]	0.08 [0.05; 0.11]	0.05 [0.01; 0.08]	0.02 [-0.02; 0.06]	0.01 [-0.03; 0.05]
Greece	0.16 [-0.07; 0.41]	0.11 [-0.13; 0.37]	0.04 [-0.27; 0.33]	0.01 [-0.31; 0.34]	0.00 [-0.33; 0.35]
Italy	0.27 [0.13; 0.42]	0.19 [0.04; 0.35]	0.09 [-0.08; 0.27]	0.03 [-0.15; 0.23]	0.01 [-0.20; 0.21]
Japan	0.31 [0.27; 0.35]	0.21 [0.17; 0.26]	0.12 [0.08; 0.16]	0.05 [0.00; 0.10]	0.02 [-0.03; 0.07]
Mexico	0.55 [0.16; 0.94]	0.52 [0.14; 0.92]	0.48 [0.09; 0.87]	0.42 [0.03; 0.81]	0.35 [-0.07; 0.75]
Portugal	0.08 [0.00; 0.16]	0.04 [-0.05; 0.13]	0.02 [-0.09; 0.11]	0.01 [-0.10; 0.11]	0.00 [-0.11; 0.12]
South Africa	0.28 [0.20; 0.35]	0.18 [0.11; 0.26]	0.10 [0.01; 0.19]	0.04 [-0.05; 0.15]	0.02 [-0.09; 0.13]
South Korea	0.12 [0.08; 0.16]	0.08 [0.04; 0.12]	0.04 [-0.01; 0.09]	0.02 [-0.03; 0.07]	0.01 [-0.04; 0.06]
Spain	0.04 [0.02; 0.06]	0.02 [-0.01; 0.04]	0.00 [-0.03; 0.03]	0.00 [-0.03; 0.03]	0.00 [-0.03; 0.03]
Sweden	0.10 [0.02; 0.18]	0.03 [-0.07; 0.13]	0.01 [-0.11; 0.12]	0.00 [-0.12; 0.12]	0.00 [-0.11; 0.11]
Switzerland	0.31 [0.21; 0.41]	0.23 [0.12; 0.34]	0.15 [0.03; 0.27]	0.08 [-0.05; 0.21]	0.04 [-0.11; 0.18]
Taiwan	0.41 [0.13; 0.68]	0.37 [0.08; 0.64]	0.29 [0.00; 0.58]	0.21 [-0.09; 0.51]	0.14 [-0.20; 0.47]
UK	0.09 [0.08; 0.10]	0.05 [0.03; 0.06]	0.03 [0.01; 0.04]	0.01 [0.00; 0.03]	0.01 [-0.01; 0.02]
USA	0.29 [0.28; 0.31]	0.23 [0.22; 0.25]	0.16 [0.14; 0.17]	0.09 [0.08; 0.11]	0.05 [0.03; 0.07]
Overall	0.26 [0.24; 0.28]	0.20 [0.18; 0.22]	0.14 [0.12; 0.16]	0.09 [0.07; 0.11]	0.05 [0.03; 0.07]

*Total refers to ozone-related deaths when levels above 70 µg/m³ (defined as maximum background levels).
**No mortality fractions associated to ozone were found in Australia, as daily ozone levels were below the maximum background level set up at 70 µg/m³.
AQS: air quality standards; WHO: World Health Organization; EU: European Union; NAAQS: National Ambient Air Quality Standard; CAAQS: Chinese Ambient Air Quality Standard

eTable 4. Overall and country-specific excess mortality fractions (and 95% confidence interval) associated to ozone between specific thresholds consistent with current air quality standards.

	Between 70 to 100 µg/m³	Between 100 to 120 µg/m³	Between 120 to 140 µg/m³	Between 140 to 160 µg/m³	Above 160 µg/m³
Australia*	0 [0;0]	0 [0;0]	0 [0;0]	0 [0;0]	0 [0;0]
Canada	0.11 [0.09;0.12]	0.08 [0.05;0.11]	0.05 [0.01;0.1]	0.04 [-0.02;0.1]	0.07 [-0.01;0.14]
China	0.04 [0.01;0.06]	0.04 [-0.02;0.11]	0.04 [-0.07;0.15]	0.04 [-0.11;0.17]	0.06 [-0.15;0.26]
Czech Republic	0.06 [0.01;0.12]	0.08 [-0.07;0.21]	0.06 [-0.14;0.28]	0.03 [-0.24;0.32]	0.03 [-0.30;0.34]
Estonia	0.02 [0.01;0.03]	0.00 [-0.01;0.01]	0.00 [-0.01;0.01]	0.00 [-0.01;0.01]	0.00 [-0.01;0.01]
France	0.06 [0.05;0.08]	0.06 [0.03;0.09]	0.04 [-0.01;0.08]	0.02 [-0.03;0.08]	0.02 [-0.05;0.08]
Germany	0.04 [0.03;0.05]	0.04 [0.01;0.06]	0.02 [-0.01;0.06]	0.01 [-0.02;0.05]	0.01 [-0.03;0.05]
Greece	0.05 [-0.03;0.13]	0.07 [-0.12;0.28]	0.03 [-0.27;0.30]	0.01 [-0.31;0.34]	0.00 [-0.33;0.35]
Italy	0.08 [0.04;0.12]	0.10 [-0.01;0.21]	0.06 [-0.10;0.23]	0.02 [-0.17;0.20]	0.01 [-0.20;0.21]
Japan	0.10 [0.09;0.11]	0.09 [0.07;0.12]	0.07 [0.03;0.11]	0.03 [-0.02;0.08]	0.02 [-0.03;0.07]
Mexico	0.02 [0.01;0.03]	0.04 [0.01;0.07]	0.06 [-0.01;0.13]	0.07 [-0.06;0.21]	0.35 [-0.07;0.75]
Portugal	0.04 [0.00;0.09]	0.02 [-0.06;0.10]	0.01 [-0.09;0.11]	0.00 [-0.10;0.12]	0.00 [-0.11;0.12]
South Africa	0.09 [0.07;0.12]	0.08 [0.03;0.13]	0.06 [-0.03;0.14]	0.03 [-0.07;0.12]	0.02 [-0.09;0.13]
South Korea	0.04 [0.03;0.06]	0.04 [0.01;0.07]	0.02 [-0.02;0.07]	0.01 [-0.04;0.06]	0.01 [-0.04;0.06]
Spain	0.02 [0.01;0.04]	0.01 [-0.01;0.03]	0.00 [-0.03;0.03]	0.00 [-0.03;0.03]	0.00 [-0.03;0.03]
Sweden	0.07 [0.01;0.13]	0.03 [-0.07;0.13]	0.01 [-0.11;0.12]	0.00 [-0.11;0.12]	0.00 [-0.11;0.11]
Switzerland	0.08 [0.05;0.10]	0.08 [0.02;0.14]	0.07 [-0.03;0.16]	0.04 [-0.08;0.16]	0.04 [-0.11;0.18]
Taiwan	0.05 [0.01;0.08]	0.07 [-0.03;0.16]	0.08 [-0.09;0.25]	0.08 [-0.16;0.31]	0.14 [-0.20;0.47]
UK	0.04 [0.04;0.05]	0.02 [0.01;0.03]	0.02 [0.00;0.03]	0.01 [-0.01;0.03]	0.01 [-0.01;0.02]
USA	0.06 [0.06;0.06]	0.07 [0.07;0.08]	0.06 [0.05;0.08]	0.04 [0.03;0.06]	0.05 [0.03;0.07]
Overall	0.06 [0.06;0.06]	0.06 [0.06;0.07]	0.05 [0.04;0.06]	0.04 [0.02;0.05]	0.05 [0.03;0.07]

*No mortality fractions associated to ozone were found in Australia, as daily ozone levels were below 70 µg/m³

eTable 5. Excess mortality associated to ozone for the total (above 70 µg/m³) and above WHO guideline of 100 µg/m³ in the 406 cities.

City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Brisbane	Australia	0 [0; 0]	0 [0; 0]	0 [0; 0]	0 [0; 0]
Melbourne	Australia	0 [0; 0]	0 [0; 0]	0 [0; 0]	0 [0; 0]
Sydney	Australia	0 [0; 0]	0 [0; 0]	0 [0; 0]	0 [0; 0]
Abbotsford	Canada	0.18 [0.11; 0.25]	2 [1; 3]	0.09 [0.01; 0.17]	1 [0; 2]
Calgary	Canada	0.3 [0.18; 0.42]	16 [9; 22]	0.14 [0.01; 0.28]	8 [1; 15]
Edmonton	Canada	0.28 [0.18; 0.4]	17 [11; 25]	0.16 [0.05; 0.29]	10 [3; 18]
Halifax	Canada	0.12 [0.07; 0.16]	3 [2; 5]	0.05 [-0.01; 0.1]	1 [0; 3]
Hamilton	Canada	0.4 [0.25; 0.56]	18 [11; 26]	0.31 [0.15; 0.48]	14 [7; 22]
Kingston	Canada	0.33 [0.19; 0.46]	5 [3; 7]	0.24 [0.1; 0.37]	4 [2; 6]
Kitchener-Waterloo	Canada	0.37 [0.22; 0.52]	11 [6; 15]	0.27 [0.11; 0.43]	8 [3; 12]
London Ontario	Canada	0.36 [0.21; 0.5]	14 [8; 20]	0.28 [0.12; 0.42]	11 [4; 16]
Montreal	Canada	0.41 [0.24; 0.58]	45 [27; 65]	0.28 [0.11; 0.46]	31 [12; 51]
Niagara	Canada	0.48 [0.29; 0.66]	19 [11; 26]	0.39 [0.2; 0.58]	16 [8; 23]
Oakville	Canada	0.37 [0.22; 0.53]	9 [5; 13]	0.28 [0.12; 0.44]	6 [3; 10]
Oshawa	Canada	0.3 [0.18; 0.43]	9 [5; 12]	0.2 [0.07; 0.33]	6 [2; 10]
Ottawa	Canada	0.22 [0.13; 0.32]	12 [7; 18]	0.13 [0.03; 0.24]	7 [2; 13]
Regina	Canada	0.08 [0.05; 0.11]	2 [1; 2]	0.03 [-0.01; 0.07]	1 [0; 1]
Sarnia	Canada	0.45 [0.26; 0.64]	5 [3; 7]	0.35 [0.15; 0.53]	4 [2; 6]
Sudbury	Canada	0.28 [0.16; 0.39]	5 [3; 6]	0.17 [0.04; 0.28]	3 [1; 5]
Saint John NB	Canada	0.24 [0.14; 0.34]	4 [2; 6]	0.1 [-0.01; 0.21]	2 [0; 4]
St. John's NFL	Canada	0.08 [0.05; 0.11]	2 [1; 2]	0.02 [-0.02; 0.06]	0 [0; 1]
Sault Ste. Marie	Canada	0.24 [0.14; 0.33]	3 [2; 4]	0.13 [0.02; 0.23]	2 [0; 3]
Saskatoon	Canada	0.08 [0.05; 0.12]	2 [1; 3]	0.02 [-0.02; 0.06]	0 [0; 1]
Thunder Bay	Canada	0.14 [0.08; 0.2]	2 [1; 3]	0.05 [-0.02; 0.12]	1 [0; 2]

City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Toronto	Canada	0.59 [0.34; 0.85]	159 [90; 228]	0.48 [0.22; 0.73]	128 [59; 197]
Victoria	Canada	0.13 [0.08; 0.18]	4 [3; 6]	0.03 [-0.03; 0.1]	1 [-1; 3]
Vancouver	Canada	0.21 [0.13; 0.3]	28 [17; 40]	0.1 [0.01; 0.2]	13 [1; 26]
Windsor	Canada	0.42 [0.25; 0.59]	11 [6; 15]	0.35 [0.17; 0.52]	9 [4; 14]
Winnipeg	Canada	0.16 [0.09; 0.23]	11 [6; 15]	0.07 [-0.01; 0.15]	5 [0; 10]
Hong Kong	China	0.02 [0; 0.03]	6 [1; 11]	0.01 [-0.01; 0.02]	2 [-3; 8]
Shanghai	China	0.32 [0.04; 0.57]	117 [15; 209]	0.27 [-0.01; 0.53]	99 [-4; 195]
Suzhou	China	0.15 [0.02; 0.26]	25 [4; 44]	0.12 [-0.01; 0.23]	19 [-2; 39]
Prague	Czech Republic	0.27 [0.02; 0.48]	38 [3; 69]	0.2 [-0.06; 0.44]	29 [-9; 63]
Kohtla-Järve linn	Estonia	0.06 [0.02; 0.1]	1 [0; 1]	0.01 [-0.04; 0.06]	0 [0; 1]
Narva linn	Estonia	0.03 [0.01; 0.05]	0 [0; 1]	0 [-0.03; 0.03]	0 [0; 0]
Tallinn	Estonia	0.01 [0; 0.02]	1 [0; 1]	0 [-0.01; 0.01]	0 [-1; 1]
Tartu linn	Estonia	0.02 [0; 0.04]	0 [0; 0]	0 [-0.02; 0.02]	0 [0; 0]
Bordeaux	France	0.2 [0.07; 0.32]	10 [4; 17]	0.12 [-0.01; 0.25]	6 [-1; 14]
Clermont-Ferrand	France	0.24 [0.09; 0.42]	5 [2; 8]	0.15 [-0.02; 0.34]	3 [0; 6]
Dijon	France	0.21 [0.07; 0.35]	4 [1; 7]	0.14 [0; 0.29]	3 [0; 5]
Grenoble	France	0.26 [0.09; 0.42]	8 [3; 14]	0.19 [0.01; 0.35]	6 [0; 12]
Le Havre	France	0.14 [0.05; 0.22]	3 [1; 5]	0.06 [-0.04; 0.16]	1 [-1; 4]
Lille	France	0.12 [0.05; 0.2]	11 [4; 18]	0.08 [-0.01; 0.16]	7 [-1; 14]
Lens-Douai	France	0.12 [0.04; 0.2]	4 [1; 7]	0.07 [-0.02; 0.15]	3 [-1; 6]
Lyon	France	0.24 [0.09; 0.4]	19 [7; 31]	0.17 [0.01; 0.34]	13 [1; 26]
Montpellier	France	0.33 [0.12; 0.55]	9 [3; 15]	0.23 [0; 0.46]	6 [0; 12]
Marseille	France	0.32 [0.09; 0.54]	31 [9; 52]	0.23 [0; 0.47]	22 [0; 45]
Nice	France	0.43 [0.15; 0.7]	23 [8; 37]	0.35 [0.07; 0.64]	18 [4; 33]
Nancy	France	0.18 [0.06; 0.29]	5 [2; 8]	0.12 [0; 0.24]	3 [0; 7]
Nantes	France	0.19 [0.06; 0.31]	8 [2; 14]	0.11 [-0.04; 0.24]	5 [-2; 11]

City	Country	Total (Above 70 μg/m³)*		Above WHO Guideline (100 μg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Paris	France	0.15 [0.05; 0.26]	70 [24; 119]	0.11 [0; 0.21]	48 [0; 96]
Rennes	France	0.14 [0.05; 0.23]	2 [1; 4]	0.07 [-0.02; 0.17]	1 [0; 3]
Rouen	France	0.14 [0.04; 0.24]	6 [2; 10]	0.08 [-0.03; 0.18]	3 [-1; 8]
Strasbourg	France	0.22 [0.08; 0.37]	8 [3; 13]	0.17 [0.02; 0.32]	6 [1; 11]
Toulouse	France	0.25 [0.08; 0.42]	12 [4; 21]	0.16 [-0.02; 0.33]	8 [-1; 16]
Berlin	Germany	0.12 [0.04; 0.2]	46 [14; 74]	0.08 [-0.01; 0.17]	30 [-3; 62]
Bremen	Germany	0.1 [0.03; 0.16]	7 [2; 11]	0.06 [-0.01; 0.13]	4 [-1; 9]
Dresden	Germany	0.15 [0.06; 0.25]	9 [3; 14]	0.1 [0; 0.2]	6 [0; 12]
Dortmund	Germany	0.11 [0.04; 0.19]	8 [3; 13]	0.08 [0; 0.16]	6 [0; 11]
Duesseldorf	Germany	0.11 [0.03; 0.19]	8 [2; 14]	0.08 [0; 0.16]	6 [0; 12]
Frankfurt	Germany	0.12 [0.04; 0.2]	9 [3; 16]	0.08 [0.01; 0.17]	6 [0; 13]
Hamburg	Germany	0.08 [0.03; 0.13]	16 [5; 26]	0.04 [-0.02; 0.1]	8 [-3; 20]
Hannover	Germany	0.13 [0.04; 0.22]	17 [5; 28]	0.09 [-0.01; 0.18]	11 [-1; 23]
Koeln	Germany	0.13 [0.05; 0.21]	13 [5; 22]	0.09 [0.01; 0.19]	10 [1; 19]
Leipzig	Germany	0.16 [0.05; 0.27]	11 [4; 19]	0.11 [0; 0.22]	8 [0; 15]
Muenchen	Germany	0.14 [0.04; 0.23]	18 [5; 30]	0.09 [-0.01; 0.19]	12 [-2; 25]
Stuttgart	Germany	0.17 [0.06; 0.28]	10 [4; 17]	0.12 [0.01; 0.24]	8 [1; 15]
Athens	Greece	0.16 [-0.07; 0.41]	52 [-23; 132]	0.11 [-0.13; 0.37]	35 [-42; 117]
Cagliari	Italy	0.04 [0.01; 0.08]	1 [0; 1]	0 [-0.05; 0.06]	0 [-1; 1]
Florence	Italy	0.32 [0.03; 0.58]	16 [2; 28]	0.25 [-0.03; 0.52]	12 [-1; 25]
Frosinone	Italy	0.4 [0.07; 0.72]	2 [0; 3]	0.32 [-0.02; 0.66]	1 [0; 3]
Genoa	Italy	0.29 [0.04; 0.52]	27 [4; 49]	0.21 [-0.04; 0.46]	20 [-4; 44]
Latina	Italy	0.25 [0.04; 0.47]	2 [0; 5]	0.14 [-0.09; 0.38]	1 [-1; 4]
Milan	Italy	0.24 [0.03; 0.46]	33 [4; 61]	0.19 [-0.02; 0.41]	26 [-2; 55]
Rieti	Italy	0.28 [0.04; 0.51]	1 [0; 2]	0.2 [-0.06; 0.45]	1 [0; 2]
Rome	Italy	0.27 [0.05; 0.52]	69 [13; 132]	0.19 [-0.05; 0.44]	48 [-12; 111]

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		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Trieste	Italy	0.32 [0.03; 0.58]	10 [1; 19]	0.21 [-0.09; 0.49]	7 [-3; 16]
Aikita	Japan	0.35 [0.18; 0.53]	15 [8; 23]	0.21 [0.02; 0.4]	9 [1; 17]
Aomori	Japan	0.23 [0.12; 0.35]	10 [5; 15]	0.12 [-0.01; 0.25]	5 [0; 11]
Chiba	Japan	0.3 [0.15; 0.46]	29 [14; 44]	0.21 [0.05; 0.37]	20 [5; 35]
Fukushima	Japan	0.26 [0.13; 0.39]	10 [5; 15]	0.16 [0.01; 0.31]	6 [0; 12]
Fukuoka	Japan	0.37 [0.18; 0.56]	50 [25; 75]	0.26 [0.06; 0.45]	35 [8; 60]
Fukui	Japan	0.42 [0.2; 0.64]	14 [7; 21]	0.3 [0.08; 0.52]	10 [3; 18]
Gifu	Japan	0.38 [0.19; 0.58]	20 [10; 30]	0.28 [0.09; 0.48]	14 [5; 25]
Hiroshima	Japan	0.37 [0.19; 0.55]	44 [23; 66]	0.26 [0.08; 0.45]	32 [10; 54]
Kagoshima	Japan	0.2 [0.1; 0.3]	15 [7; 22]	0.1 [-0.02; 0.21]	7 [-1; 15]
Kumamoto	Japan	0.39 [0.21; 0.59]	32 [17; 48]	0.28 [0.1; 0.49]	23 [8; 40]
Kanazawa	Japan	0.44 [0.23; 0.65]	23 [12; 34]	0.3 [0.07; 0.5]	16 [4; 27]
Kobe	Japan	0.33 [0.16; 0.5]	61 [30; 91]	0.23 [0.07; 0.4]	43 [12; 74]
Kochi	Japan	0.34 [0.17; 0.5]	15 [8; 22]	0.21 [0.03; 0.39]	9 [2; 17]
Kofu	Japan	0.37 [0.18; 0.56]	10 [5; 15]	0.27 [0.07; 0.46]	7 [2; 12]
Kyoto	Japan	0.36 [0.18; 0.54]	62 [30; 93]	0.25 [0.07; 0.44]	44 [12; 75]
Matsue	Japan	0.52 [0.27; 0.78]	14 [7; 22]	0.37 [0.11; 0.64]	10 [3; 18]
Maebashi	Japan	0.47 [0.24; 0.7]	21 [11; 30]	0.37 [0.13; 0.62]	16 [6; 27]
Mito	Japan	0.36 [0.17; 0.55]	11 [6; 17]	0.25 [0.05; 0.44]	8 [2; 14]
Morioka	Japan	0.21 [0.11; 0.32]	7 [4; 11]	0.12 [0; 0.23]	4 [0; 8]
Matsuyama	Japan	0.27 [0.14; 0.41]	17 [9; 26]	0.17 [0.03; 0.31]	11 [2; 19]
Nagano	Japan	0.3 [0.15; 0.44]	15 [7; 22]	0.19 [0.05; 0.34]	9 [2; 17]
Nagoya	Japan	0.36 [0.19; 0.54]	90 [47; 136]	0.26 [0.07; 0.44]	65 [18; 111]
Naha	Japan	0.17 [0.09; 0.26]	5 [3; 8]	0.08 [-0.01; 0.17]	2 [0; 5]
Nara	Japan	0.35 [0.18; 0.52]	15 [7; 22]	0.24 [0.07; 0.42]	10 [3; 18]
Nagasaki	Japan	0.28 [0.14; 0.41]	17 [8; 25]	0.17 [0.02; 0.31]	10 [1; 19]

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		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Niigata	Japan	0.36 [0.19; 0.52]	36 [19; 53]	0.21 [0.04; 0.4]	22 [4; 40]
Oita	Japan	0.22 [0.12; 0.33]	11 [6; 16]	0.12 [0; 0.24]	6 [0; 12]
Okayama	Japan	0.31 [0.16; 0.45]	25 [12; 36]	0.21 [0.06; 0.37]	17 [5; 29]
Osaka	Japan	0.31 [0.16; 0.47]	104 [53; 158]	0.22 [0.06; 0.39]	74 [20; 131]
Otsu	Japan	0.38 [0.18; 0.58]	13 [6; 20]	0.27 [0.06; 0.47]	9 [2; 16]
Saga	Japan	0.39 [0.2; 0.58]	12 [6; 18]	0.28 [0.09; 0.47]	9 [3; 15]
Saitama	Japan	0.37 [0.19; 0.55]	44 [23; 65]	0.28 [0.1; 0.47]	33 [11; 55]
Sendai	Japan	0.26 [0.13; 0.39]	27 [13; 40]	0.16 [0.01; 0.3]	16 [1; 30]
Shizuoka	Japan	0.38 [0.18; 0.56]	35 [16; 52]	0.28 [0.07; 0.47]	26 [6; 44]
Sapporo	Japan	0.14 [0.08; 0.21]	30 [16; 44]	0.06 [-0.02; 0.14]	13 [-4; 30]
Takamatsu	Japan	0.3 [0.14; 0.46]	16 [8; 24]	0.19 [0.02; 0.35]	10 [1; 18]
Tokushima	Japan	0.37 [0.19; 0.54]	13 [6; 19]	0.27 [0.08; 0.45]	9 [3; 16]
Tokyo	Japan	0.27 [0.14; 0.4]	249 [127; 371]	0.18 [0.04; 0.32]	170 [40; 304]
Toyama	Japan	0.4 [0.2; 0.59]	22 [11; 33]	0.27 [0.06; 0.47]	15 [3; 26]
Tsu	Japan	0.42 [0.21; 0.62]	16 [8; 23]	0.31 [0.08; 0.51]	12 [3; 19]
Utsunomiya	Japan	0.38 [0.21; 0.57]	21 [11; 31]	0.29 [0.1; 0.48]	16 [6; 26]
Wakayama	Japan	0.37 [0.2; 0.55]	20 [11; 30]	0.27 [0.09; 0.46]	14 [5; 25]
Yokohama	Japan	0.3 [0.16; 0.44]	111 [60; 162]	0.23 [0.09; 0.38]	86 [31; 140]
Yamaguchi	Japan	0.33 [0.16; 0.48]	9 [4; 13]	0.22 [0.05; 0.39]	6 [1; 10]
Yamagata	Japan	0.3 [0.16; 0.45]	10 [5; 15]	0.19 [0.04; 0.35]	6 [1; 12]
Busan	South Korea	0.12 [0.02; 0.21]	25 [5; 42]	0.07 [-0.04; 0.17]	13 [-9; 33]
Daegu	South Korea	0.18 [0.05; 0.3]	22 [7; 38]	0.13 [0.01; 0.26]	16 [1; 32]
Daejeon	South Korea	0.15 [0.03; 0.26]	10 [2; 17]	0.11 [0; 0.22]	7 [0; 14]
Gwangju	South Korea	0.14 [0.04; 0.25]	9 [3; 16]	0.1 [-0.01; 0.2]	6 [-1; 13]
Incheon	South Korea	0.12 [0.04; 0.2]	14 [4; 24]	0.07 [-0.02; 0.16]	9 [-2; 20]
Seoul	South Korea	0.1 [0.03; 0.17]	41 [13; 71]	0.06 [-0.01; 0.14]	27 [-3; 58]

City	Country	Total (Above 70 μg/m³)*		Above WHO Guideline (100 μg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Ulsan	South Korea	0.14 [0.05; 0.24]	6 [2; 11]	0.09 [-0.02; 0.2]	4 [-1; 9]
Guadalajara	Mexico	0.42 [0.04; 0.8]	93 [10; 179]	0.38 [0.01; 0.78]	85 [2; 173]
Leon	Mexico	0.32 [0.01; 0.62]	25 [1; 48]	0.28 [-0.04; 0.58]	22 [-3; 45]
Monterrey	Mexico	0.25 [0.01; 0.48]	45 [3; 87]	0.2 [-0.03; 0.44]	37 [-6; 80]
Puebla-Tlaxcala	Mexico	0.23 [0.01; 0.45]	30 [2; 59]	0.19 [-0.03; 0.42]	25 [-4; 55]
Tijuana	Mexico	0.09 [0; 0.17]	6 [0; 11]	0.04 [-0.06; 0.14]	2 [-4; 9]
Toluca de Lerdo	Mexico	0.33 [0.01; 0.69]	27 [1; 57]	0.3 [-0.03; 0.66]	24 [-2; 54]
Valley of Mexico	Mexico	0.73 [0.04; 1.38]	707 [39; 1339]	0.72 [0.02; 1.36]	694 [22; 1317]
Lisboa	Portugal	0.09 [-0.03; 0.2]	20 [-6; 45]	0.04 [-0.09; 0.17]	9 [-20; 39]
Porto	Portugal	0.07 [-0.02; 0.15]	10 [-3; 23]	0.03 [-0.06; 0.12]	5 [-10; 19]
City of Johannesburg	South Africa	0.32 [0.15; 0.49]	121 [59; 187]	0.22 [0.05; 0.39]	82 [19; 148]
eThekwini	South Africa	0.14 [0.06; 0.22]	56 [25; 85]	0.08 [0; 0.17]	33 [0; 66]
Gert Sibande	South Africa	0.54 [0.27; 0.83]	79 [39; 121]	0.37 [0.08; 0.68]	54 [11; 99]
Nkangala	South Africa	0.43 [0.22; 0.68]	65 [32; 101]	0.33 [0.1; 0.58]	50 [15; 87]
Sedibeng	South Africa	0.33 [0.15; 0.5]	43 [20; 64]	0.19 [-0.01; 0.37]	24 [-2; 48]
A Coruna	Spain	0.03 [-0.04; 0.1]	1 [-1; 3]	0.01 [-0.07; 0.1]	0 [-2; 2]
Albacete	Spain	0.1 [-0.13; 0.35]	1 [-2; 4]	0.07 [-0.19; 0.33]	1 [-2; 4]
Alicante	Spain	0.06 [-0.08; 0.18]	2 [-2; 5]	0.01 [-0.17; 0.18]	0 [-5; 5]
Almeria	Spain	0.07 [-0.08; 0.23]	1 [-1; 3]	0.03 [-0.15; 0.23]	0 [-2; 3]
Avila	Spain	0.04 [-0.06; 0.13]	0 [0; 1]	0.01 [-0.11; 0.11]	0 [-1; 1]
Badajoz	Spain	0.02 [-0.02; 0.06]	0 [0; 1]	0 [-0.05; 0.05]	0 [-1; 1]
Bilbao	Spain	0.01 [-0.02; 0.04]	0 [-1; 2]	0 [-0.04; 0.04]	0 [-1; 2]
Barcelona	Spain	0.02 [-0.03; 0.08]	4 [-5; 13]	0 [-0.07; 0.07]	1 [-11; 13]
Burgos	Spain	0.07 [-0.09; 0.25]	1 [-2; 4]	0.04 [-0.15; 0.23]	1 [-2; 4]
Cadiz	Spain	0.08 [-0.11; 0.27]	1 [-1; 4]	0.04 [-0.17; 0.25]	0 [-2; 3]
Caceres	Spain	0.02 [-0.02; 0.05]	0 [0; 0]	0 [-0.04; 0.05]	0 [0; 0]

City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Ciudad Real	Spain	0.1 [-0.15; 0.32]	1 [-1; 2]	0.06 [-0.19; 0.3]	0 [-1; 2]
Ceuta	Spain	0.09 [-0.11; 0.29]	0 [-1; 2]	0.05 [-0.17; 0.27]	0 [-1; 1]
Cordoba	Spain	0.06 [-0.08; 0.2]	2 [-2; 5]	0.02 [-0.15; 0.19]	0 [-4; 5]
Castellon	Spain	0.01 [-0.01; 0.04]	0 [0; 0]	0 [-0.04; 0.04]	0 [0; 1]
Cuenca	Spain	0.09 [-0.12; 0.29]	1 [-1; 2]	0.06 [-0.16; 0.27]	0 [-1; 2]
Guadalajara	Spain	0.11 [-0.15; 0.39]	1 [-1; 2]	0.09 [-0.18; 0.37]	1 [-1; 2]
Granada	Spain	0.05 [-0.07; 0.15]	1 [-2; 3]	0.01 [-0.12; 0.13]	0 [-3; 3]
Huesca	Spain	0.09 [-0.1; 0.32]	1 [-1; 2]	0.06 [-0.14; 0.31]	0 [-1; 2]
Jaen	Spain	0.12 [-0.14; 0.41]	1 [-1; 4]	0.09 [-0.19; 0.39]	1 [-2; 4]
Leon	Spain	0.03 [-0.04; 0.1]	0 [-1; 1]	0.01 [-0.08; 0.09]	0 [-1; 1]
Lleida	Spain	0.07 [-0.09; 0.21]	1 [-1; 3]	0.04 [-0.12; 0.19]	0 [-1; 2]
Lugo	Spain	0.02 [-0.03; 0.08]	0 [0; 1]	0.01 [-0.06; 0.07]	0 [-1; 1]
Malaga	Spain	0.06 [-0.09; 0.21]	3 [-4; 10]	0.02 [-0.17; 0.21]	1 [-8; 10]
Madrid	Spain	0.03 [-0.04; 0.11]	9 [-12; 31]	0.01 [-0.07; 0.1]	3 [-21; 27]
Melilla	Spain	0.1 [-0.12; 0.34]	0 [-1; 2]	0.08 [-0.15; 0.33]	0 [-1; 2]
Murcia	Spain	0.08 [-0.1; 0.27]	3 [-3; 9]	0.05 [-0.15; 0.26]	2 [-5; 9]
Ourense	Spain	0.05 [-0.07; 0.16]	1 [-1; 2]	0.03 [-0.11; 0.15]	0 [-1; 2]
Oviedo	Spain	0.02 [-0.03; 0.08]	1 [-1; 2]	0.01 [-0.06; 0.07]	0 [-1; 2]
Palmas G. Canaria	Spain	0 [0; 0.01]	0 [0; 0]	0 [-0.01; 0.01]	0 [0; 0]
Palma Mallorca	Spain	0.04 [-0.05; 0.13]	1 [-1; 4]	0.01 [-0.1; 0.12]	0 [-3; 4]
Palencia	Spain	0.03 [-0.04; 0.09]	0 [0; 1]	0 [-0.08; 0.09]	0 [-1; 1]
Pamplona	Spain	0.04 [-0.04; 0.11]	1 [-1; 2]	0.01 [-0.08; 0.11]	0 [-1; 2]
Segovia	Spain	0.04 [-0.06; 0.13]	0 [0; 1]	0.01 [-0.12; 0.13]	0 [-1; 1]
Salamanca	Spain	0.02 [-0.03; 0.08]	0 [0; 1]	0 [-0.06; 0.08]	0 [-1; 1]
San Sebastian	Spain	0.02 [-0.02; 0.05]	0 [0; 1]	0 [-0.05; 0.05]	0 [-1; 1]
Santander	Spain	0.01 [-0.01; 0.04]	0 [0; 1]	0 [-0.03; 0.03]	0 [-1; 1]

City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Soria	Spain	0.04 [-0.05; 0.15]	0 [0; 1]	0.02 [-0.1; 0.14]	0 [0; 1]
Sevilla	Spain	0.08 [-0.11; 0.27]	5 [-7; 17]	0.05 [-0.14; 0.25]	3 [-9; 16]
Teruel	Spain	0.09 [-0.12; 0.28]	0 [0; 1]	0.05 [-0.19; 0.27]	0 [-1; 1]
Tenerife	Spain	0.05 [-0.07; 0.16]	1 [-1; 3]	0.01 [-0.14; 0.15]	0 [-3; 3]
Toledo	Spain	0.09 [-0.12; 0.29]	0 [-1; 2]	0.04 [-0.19; 0.26]	0 [-1; 1]
Tarragona	Spain	0.08 [-0.11; 0.24]	1 [-1; 2]	0.04 [-0.17; 0.23]	0 [-2; 2]
Vitoria	Spain	0.04 [-0.04; 0.14]	1 [-1; 3]	0.01 [-0.08; 0.13]	0 [-2; 2]
Valladolid	Spain	0.07 [-0.09; 0.23]	2 [-3; 7]	0.04 [-0.14; 0.23]	1 [-4; 7]
Valencia	Spain	0.02 [-0.02; 0.05]	1 [-1; 4]	0 [-0.04; 0.04]	0 [-3; 3]
Zamora	Spain	0.03 [-0.04; 0.09]	0 [0; 1]	0 [-0.09; 0.09]	0 [-1; 1]
Zaragoza	Spain	0.01 [-0.01; 0.03]	1 [-1; 2]	0 [-0.03; 0.03]	0 [-2; 2]
Basel	Switzerland	0.28 [0.05; 0.5]	6 [1; 10]	0.21 [-0.04; 0.43]	4 [-1; 9]
Bern	Switzerland	0.28 [0.06; 0.54]	4 [1; 8]	0.2 [-0.03; 0.46]	3 [0; 7]
Geneva	Switzerland	0.2 [0.05; 0.36]	3 [1; 5]	0.13 [-0.03; 0.31]	2 [0; 4]
Lausanne	Switzerland	0.29 [0.06; 0.52]	3 [1; 6]	0.21 [-0.04; 0.46]	2 [0; 5]
Lugano	Switzerland	0.45 [0.1; 0.82]	7 [2; 13]	0.4 [0.04; 0.78]	6 [1; 12]
Luzern	Switzerland	0.26 [0.04; 0.46]	2 [0; 4]	0.19 [-0.03; 0.4]	2 [0; 3]
St. Gallen	Switzerland	0.39 [0.08; 0.7]	3 [1; 5]	0.27 [-0.07; 0.59]	2 [-1; 4]
Zurich	Switzerland	0.31 [0.05; 0.54]	13 [2; 22]	0.23 [-0.02; 0.48]	10 [-1; 20]
Stockholm	Sweden	0.1 [0.02; 0.18]	10 [2; 18]	0.03 [-0.07; 0.13]	3 [-7; 13]
Kaohsiung	Taiwan	0.57 [-0.08; 1.19]	115 [-16; 237]	0.55 [-0.1; 1.16]	109 [-20; 231]
Taipei	Taiwan	0.34 [-0.05; 0.72]	131 [-21; 276]	0.28 [-0.11; 0.67]	109 [-43; 258]
Taichung	Taiwan	0.38 [-0.01; 0.8]	59 [-2; 125]	0.33 [-0.05; 0.75]	52 [-8; 117]
Bristol	UK	0.09 [0.06; 0.12]	5 [4; 7]	0.03 [0; 0.06]	2 [0; 4]
Cardiff	UK	0.12 [0.08; 0.15]	4 [3; 5]	0.07 [0.03; 0.1]	2 [1; 4]
Greater London	UK	0.1 [0.07; 0.12]	63 [44; 81]	0.06 [0.02; 0.09]	37 [15; 57]

City	Country	Total (Above 70 μg/m³)*		Above WHO Guideline (100 μg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Greater Manchester	UK	0.06 [0.04; 0.08]	11 [7; 14]	0.03 [0.01; 0.05]	5 [2; 9]
Kingston upon Hull	UK	0.06 [0.04; 0.08]	2 [2; 3]	0.03 [0; 0.05]	1 [0; 2]
Leicester	UK	0.15 [0.1; 0.2]	7 [5; 9]	0.09 [0.04; 0.14]	4 [2; 6]
Liverpool	UK	0.07 [0.05; 0.09]	6 [4; 8]	0.02 [-0.01; 0.04]	2 [0; 4]
Norwich	UK	0.21 [0.15; 0.27]	5 [3; 6]	0.12 [0.05; 0.19]	3 [1; 4]
Nottingham	UK	0.06 [0.04; 0.08]	3 [2; 4]	0.03 [0.01; 0.05]	2 [1; 3]
Sheffield	UK	0.06 [0.04; 0.08]	4 [3; 5]	0.03 [0; 0.05]	2 [0; 3]
Southampton	UK	0.07 [0.05; 0.1]	2 [1; 3]	0.03 [0; 0.06]	1 [0; 2]
The Potteries	UK	0.13 [0.09; 0.17]	6 [4; 8]	0.06 [0.02; 0.11]	3 [1; 5]
Tyneside	UK	0.08 [0.06; 0.11]	6 [4; 8]	0.02 [-0.01; 0.05]	2 [-1; 4]
West Midlands	UK	0.11 [0.08; 0.14]	28 [20; 37]	0.06 [0.02; 0.1]	15 [6; 25]
West Yorkshire	UK	0.05 [0.03; 0.06]	5 [4; 7]	0.02 [0; 0.04]	2 [0; 4]
Augusta	USA	0.46 [0.27; 0.62]	8 [5; 11]	0.38 [0.18; 0.55]	7 [3; 10]
Akron	USA	0.43 [0.26; 0.59]	22 [13; 30]	0.36 [0.2; 0.53]	19 [10; 27]
Albany	USA	0.19 [0.11; 0.26]	5 [3; 8]	0.13 [0.05; 0.21]	4 [1; 6]
Albuquerque	USA	0.28 [0.17; 0.4]	10 [6; 14]	0.19 [0.06; 0.31]	7 [2; 11]
Allentown	USA	0.36 [0.22; 0.5]	10 [6; 15]	0.29 [0.15; 0.44]	9 [4; 13]
Anaheim	USA	0.28 [0.16; 0.4]	42 [25; 60]	0.2 [0.08; 0.32]	30 [12; 48]
Ann Arbor	USA	0.39 [0.25; 0.55]	6 [4; 9]	0.3 [0.15; 0.45]	5 [2; 7]
Annandale	USA	0.29 [0.18; 0.41]	10 [6; 14]	0.24 [0.13; 0.37]	8 [4; 12]
Austin	USA	0.3 [0.18; 0.42]	10 [6; 14]	0.22 [0.09; 0.35]	7 [3; 11]
Atlantic City	USA	0.33 [0.19; 0.46]	8 [5; 11]	0.26 [0.13; 0.39]	6 [3; 9]
Atlanta	USA	0.52 [0.32; 0.71]	77 [47; 105]	0.45 [0.24; 0.65]	67 [35; 96]
Atzec	USA	0.38 [0.22; 0.53]	2 [1; 2]	0.28 [0.13; 0.44]	1 [1; 2]
Buffalo	USA	0.24 [0.15; 0.34]	24 [15; 34]	0.19 [0.09; 0.28]	19 [9; 28]
Bakersfield	USA	0.63 [0.38; 0.89]	27 [16; 38]	0.58 [0.33; 0.84]	25 [14; 36]

City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Boulder	USA	0.28 [0.17; 0.4]	3 [2; 5]	0.2 [0.08; 0.32]	2 [1; 4]
Baltimore	USA	0.3 [0.18; 0.42]	45 [28; 64]	0.25 [0.13; 0.37]	38 [20; 57]
Bangor	USA	0.22 [0.14; 0.32]	3 [2; 4]	0.13 [0.04; 0.23]	2 [0; 3]
Bergen	USA	0.21 [0.12; 0.29]	23 [14; 33]	0.16 [0.08; 0.24]	19 [10; 28]
Burlington	USA	0.25 [0.15; 0.35]	2 [1; 3]	0.16 [0.05; 0.27]	1 [0; 2]
Birmingham	USA	0.35 [0.22; 0.49]	29 [18; 40]	0.28 [0.14; 0.42]	23 [11; 34]
Barnstable	USA	0.41 [0.26; 0.58]	10 [7; 14]	0.32 [0.16; 0.5]	8 [4; 12]
Brownsville	USA	0.13 [0.08; 0.18]	2 [1; 3]	0.07 [0.01; 0.13]	1 [0; 2]
Boston	USA	0.16 [0.1; 0.23]	37 [23; 52]	0.12 [0.06; 0.19]	27 [13; 43]
Baton Rouge	USA	0.27 [0.17; 0.38]	8 [5; 11]	0.21 [0.1; 0.32]	6 [3; 10]
Cedar Rapids	USA	0.14 [0.09; 0.2]	2 [1; 3]	0.08 [0.02; 0.15]	1 [0; 2]
Chicago	USA	0.14 [0.08; 0.19]	73 [44; 101]	0.1 [0.04; 0.15]	51 [21; 80]
Charlotte	USA	0.55 [0.32; 0.77]	22 [13; 30]	0.48 [0.26; 0.7]	19 [10; 28]
Charleston SC	USA	0.23 [0.13; 0.33]	6 [3; 8]	0.16 [0.05; 0.26]	4 [1; 6]
Chattanoga	USA	0.42 [0.26; 0.59]	12 [7; 17]	0.35 [0.18; 0.52]	10 [5; 15]
Charleston WV	USA	0.34 [0.2; 0.47]	8 [5; 11]	0.28 [0.15; 0.42]	7 [3; 10]
Columbus	USA	0.41 [0.24; 0.57]	31 [18; 43]	0.33 [0.16; 0.49]	25 [12; 37]
Colorado Springs	USA	0.25 [0.15; 0.34]	6 [4; 8]	0.15 [0.05; 0.25]	4 [1; 6]
Cleveland	USA	0.34 [0.2; 0.46]	64 [38; 89]	0.27 [0.13; 0.4]	52 [25; 76]
Cincinnati	USA	0.41 [0.25; 0.57]	34 [20; 47]	0.34 [0.17; 0.51]	28 [14; 41]
Canton	USA	0.47 [0.28; 0.66]	17 [10; 24]	0.39 [0.2; 0.59]	15 [8; 22]
Columbia	USA	0.34 [0.2; 0.47]	12 [7; 17]	0.28 [0.13; 0.42]	10 [5; 15]
Corpus Christi	USA	0.2 [0.12; 0.28]	4 [3; 6]	0.14 [0.05; 0.22]	3 [1; 5]
Davis	USA	0.5 [0.31; 0.71]	4 [3; 6]	0.41 [0.21; 0.62]	4 [2; 5]
Dallas	USA	0.29 [0.17; 0.4]	36 [22; 50]	0.23 [0.12; 0.35]	29 [14; 43]
Denver	USA	0.28 [0.16; 0.38]	24 [14; 33]	0.2 [0.08; 0.31]	18 [7; 27]

City	Country	Total (Above 70 μg/m³)*		Above WHO Guideline (100 μg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Dodge	USA	0.3 [0.18; 0.41]	2 [1; 2]	0.21 [0.09; 0.33]	1 [0; 2]
Dover	USA	0.49 [0.3; 0.69]	5 [3; 7]	0.41 [0.22; 0.63]	4 [2; 6]
Durham	USA	0.54 [0.34; 0.76]	9 [6; 13]	0.46 [0.26; 0.68]	8 [4; 11]
Des Moines	USA	0.08 [0.05; 0.12]	2 [1; 3]	0.04 [0; 0.08]	1 [0; 2]
Detroit	USA	0.28 [0.17; 0.39]	97 [58; 136]	0.22 [0.1; 0.33]	76 [34; 116]
Davenport	USA	0.29 [0.17; 0.4]	8 [4; 11]	0.21 [0.09; 0.33]	6 [2; 9]
Daytona Beach	USA	0.22 [0.12; 0.3]	12 [7; 17]	0.13 [0.04; 0.22]	7 [2; 12]
Dayton	USA	0.44 [0.27; 0.63]	23 [14; 33]	0.36 [0.2; 0.55]	19 [10; 28]
El Centro	USA	0.37 [0.23; 0.53]	3 [2; 4]	0.28 [0.12; 0.44]	2 [1; 3]
Elkhart	USA	0.44 [0.27; 0.61]	6 [4; 8]	0.33 [0.16; 0.51]	5 [2; 7]
El Paso	USA	0.25 [0.15; 0.35]	9 [5; 12]	0.16 [0.06; 0.26]	6 [2; 9]
Elizabeth	USA	0.25 [0.15; 0.35]	13 [8; 17]	0.21 [0.1; 0.31]	10 [5; 15]
Erie	USA	0.35 [0.21; 0.49]	9 [5; 13]	0.28 [0.13; 0.42]	7 [3; 11]
Essex	USA	0.21 [0.13; 0.29]	13 [8; 18]	0.14 [0.05; 0.23]	9 [3; 14]
Eugene	USA	0.2 [0.12; 0.27]	5 [3; 7]	0.12 [0.04; 0.21]	3 [1; 5]
Evansville	USA	0.56 [0.35; 0.77]	10 [6; 14]	0.48 [0.27; 0.69]	9 [5; 12]
Fargo	USA	0.14 [0.09; 0.21]	1 [1; 2]	0.06 [0; 0.13]	0 [0; 1]
Flint	USA	0.36 [0.21; 0.51]	13 [8; 18]	0.27 [0.12; 0.43]	10 [4; 15]
Fresno	USA	0.57 [0.35; 0.8]	28 [18; 40]	0.52 [0.3; 0.76]	26 [15; 38]
Fort Lauderdale	USA	0.13 [0.08; 0.18]	18 [12; 26]	0.07 [0.01; 0.12]	10 [2; 18]
Fort Myers	USA	0.2 [0.12; 0.29]	8 [5; 12]	0.12 [0.03; 0.21]	5 [1; 9]
Fort Pierce	USA	0.19 [0.12; 0.27]	7 [5; 10]	0.11 [0.03; 0.19]	4 [1; 7]
Fort Worth	USA	0.35 [0.22; 0.49]	29 [18; 40]	0.29 [0.15; 0.43]	24 [12; 36]
Fort Wayne	USA	0.5 [0.28; 0.7]	12 [7; 17]	0.41 [0.19; 0.6]	10 [5; 14]
Fayetville	USA	0.55 [0.34; 0.77]	9 [6; 13]	0.48 [0.27; 0.7]	8 [4; 12]
Gary	USA	0.44 [0.26; 0.61]	19 [11; 26]	0.36 [0.18; 0.53]	15 [8; 23]

City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Greensburg	USA	0.34 [0.19; 0.47]	14 [8; 20]	0.26 [0.12; 0.4]	11 [5; 16]
Grand Heaven	USA	0.45 [0.26; 0.64]	6 [3; 8]	0.36 [0.17; 0.56]	5 [2; 7]
Grand Junctio	USA	0.31 [0.19; 0.43]	3 [2; 4]	0.18 [0.04; 0.31]	2 [0; 3]
Grand Rapids	USA	0.39 [0.24; 0.55]	15 [9; 20]	0.31 [0.16; 0.47]	12 [6; 18]
Greensboro	USA	0.6 [0.38; 0.83]	19 [12; 26]	0.53 [0.31; 0.76]	17 [10; 24]
Gasinesville	USA	0.28 [0.17; 0.38]	4 [2; 5]	0.2 [0.08; 0.31]	3 [1; 4]
Gettysburg	USA	0.43 [0.27; 0.6]	4 [3; 6]	0.34 [0.17; 0.51]	3 [2; 5]
Holland	USA	0.5 [0.31; 0.7]	2 [1; 3]	0.41 [0.22; 0.61]	2 [1; 3]
Harrisburg	USA	0.36 [0.22; 0.49]	8 [5; 12]	0.29 [0.16; 0.43]	7 [4; 10]
Hartford	USA	0.3 [0.18; 0.42]	23 [14; 32]	0.23 [0.1; 0.35]	17 [8; 27]
Houston	USA	0.27 [0.16; 0.37]	47 [27; 65]	0.22 [0.11; 0.33]	38 [19; 58]
Indianapolis	USA	0.52 [0.32; 0.72]	37 [23; 51]	0.44 [0.23; 0.64]	31 [16; 46]
Iowa city	USA	0.2 [0.12; 0.28]	1 [1; 1]	0.13 [0.05; 0.21]	1 [0; 1]
Jacksonville	USA	0.26 [0.16; 0.36]	15 [9; 21]	0.18 [0.07; 0.28]	10 [4; 17]
Jersy city	USA	0.25 [0.14; 0.34]	12 [7; 17]	0.2 [0.09; 0.31]	10 [5; 15]
Kalamazoo	USA	0.36 [0.2; 0.5]	6 [4; 9]	0.27 [0.12; 0.42]	5 [2; 8]
kenosha	USA	0.46 [0.28; 0.63]	5 [3; 7]	0.37 [0.17; 0.53]	4 [2; 6]
Kansas	USA	0.2 [0.12; 0.28]	21 [13; 29]	0.15 [0.07; 0.23]	16 [7; 24]
Knoxville	USA	0.41 [0.25; 0.56]	16 [9; 22]	0.33 [0.16; 0.48]	13 [6; 18]
Lafayette LA	USA	0.29 [0.18; 0.41]	3 [2; 5]	0.22 [0.1; 0.34]	3 [1; 4]
Lake charles	USA	0.25 [0.14; 0.34]	4 [2; 5]	0.18 [0.06; 0.27]	3 [1; 4]
Lakeland	USA	0.23 [0.14; 0.33]	12 [7; 17]	0.15 [0.06; 0.25]	8 [3; 13]
Lancaster	USA	0.41 [0.25; 0.58]	16 [10; 22]	0.35 [0.19; 0.52]	13 [7; 20]
Louisville	USA	0.33 [0.19; 0.46]	22 [13; 31]	0.27 [0.13; 0.4]	18 [8; 27]
La Porte	USA	0.5 [0.3; 0.7]	5 [3; 7]	0.41 [0.2; 0.62]	4 [2; 6]
Los Angeles	USA	0.41 [0.24; 0.57]	242 [142; 335]	0.36 [0.19; 0.52]	211 [112; 307]

City	Country	Total (Above 70 μg/m³)*		Above WHO Guideline (100 μg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Las Vegas	USA	0.34 [0.2; 0.47]	29 [17; 41]	0.26 [0.12; 0.39]	22 [10; 34]
Little Rock	USA	0.28 [0.16; 0.39]	8 [5; 12]	0.2 [0.09; 0.32]	6 [3; 10]
Macon	USA	0.53 [0.32; 0.76]	9 [6; 13]	0.45 [0.23; 0.68]	8 [4; 12]
Mc Allen	USA	0.13 [0.08; 0.18]	4 [2; 5]	0.07 [0.01; 0.13]	2 [0; 4]
Middlesex	USA	0.31 [0.18; 0.44]	16 [10; 23]	0.26 [0.14; 0.4]	14 [7; 21]
Middletown	USA	0.44 [0.27; 0.62]	10 [6; 15]	0.36 [0.2; 0.55]	9 [5; 13]
Medford	USA	0.32 [0.2; 0.45]	5 [3; 7]	0.22 [0.09; 0.36]	4 [2; 6]
Madison IL	USA	0.25 [0.15; 0.34]	6 [3; 8]	0.19 [0.09; 0.29]	4 [2; 7]
Modesto	USA	0.36 [0.23; 0.49]	11 [7; 15]	0.29 [0.16; 0.44]	9 [5; 13]
Madison WI	USA	0.32 [0.19; 0.45]	7 [4; 10]	0.23 [0.09; 0.37]	5 [2; 8]
Miami	USA	0.14 [0.09; 0.2]	25 [16; 36]	0.08 [0.02; 0.14]	14 [3; 26]
Melbourn	USA	0.22 [0.13; 0.3]	10 [6; 13]	0.13 [0.04; 0.22]	6 [2; 10]
Milwauke	USA	0.28 [0.17; 0.4]	31 [19; 45]	0.21 [0.09; 0.33]	23 [10; 37]
Memphis	USA	0.54 [0.34; 0.75]	39 [24; 54]	0.46 [0.25; 0.67]	33 [18; 49]
Monmouth	USA	0.46 [0.27; 0.65]	52 [30; 73]	0.39 [0.21; 0.58]	43 [23; 65]
Montgomery	USA	0.37 [0.22; 0.52]	7 [4; 10]	0.29 [0.14; 0.44]	6 [3; 8]
Mobile	USA	0.3 [0.18; 0.42]	10 [6; 15]	0.22 [0.09; 0.34]	8 [3; 12]
Monroe	USA	0.29 [0.18; 0.41]	4 [2; 5]	0.22 [0.1; 0.34]	3 [1; 4]
Mercer	USA	0.38 [0.23; 0.53]	5 [3; 7]	0.32 [0.17; 0.47]	4 [2; 6]
Marlboro	USA	0.46 [0.29; 0.64]	18 [11; 25]	0.4 [0.23; 0.59]	16 [9; 23]
Muskegon	USA	0.49 [0.3; 0.69]	7 [4; 10]	0.41 [0.21; 0.61]	6 [3; 9]
Muncie	USA	0.53 [0.31; 0.77]	7 [4; 10]	0.44 [0.22; 0.67]	6 [3; 9]
Nashua	USA	0.28 [0.17; 0.39]	7 [4; 9]	0.19 [0.08; 0.3]	5 [2; 7]
Nassau	USA	0.23 [0.14; 0.32]	50 [30; 71]	0.18 [0.08; 0.28]	39 [18; 61]
Niles	USA	0.56 [0.34; 0.79]	8 [5; 12]	0.46 [0.24; 0.69]	7 [4; 10]
Nashville	USA	0.21 [0.13; 0.29]	10 [6; 14]	0.15 [0.07; 0.24]	7 [3; 11]

City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Newburgh	USA	0.42 [0.26; 0.59]	11 [6; 15]	0.33 [0.16; 0.51]	8 [4; 13]
Newhaven	USA	0.35 [0.21; 0.49]	27 [16; 37]	0.27 [0.13; 0.41]	20 [9; 31]
Newlond	USA	0.49 [0.29; 0.68]	9 [6; 13]	0.39 [0.19; 0.59]	7 [4; 11]
New Orleans	USA	0.3 [0.18; 0.42]	31 [19; 44]	0.24 [0.12; 0.36]	25 [13; 38]
Newark	USA	0.26 [0.16; 0.36]	27 [17; 38]	0.21 [0.11; 0.31]	22 [11; 33]
New York	USA	0.16 [0.09; 0.22]	103 [59; 141]	0.12 [0.05; 0.19]	81 [33; 121]
Ocala	USA	0.25 [0.15; 0.35]	9 [6; 13]	0.17 [0.06; 0.27]	6 [2; 10]
Oklahoma	USA	0.31 [0.19; 0.44]	17 [11; 25]	0.24 [0.11; 0.37]	13 [6; 21]
Oakland	USA	0.08 [0.04; 0.1]	12 [7; 16]	0.03 [0; 0.06]	5 [-1; 10]
Omaha	USA	0.14 [0.09; 0.2]	5 [3; 7]	0.08 [0.02; 0.14]	3 [1; 5]
Orlando	USA	0.26 [0.16; 0.36]	19 [12; 27]	0.17 [0.07; 0.28]	13 [5; 21]
Philadelphia	USA	0.28 [0.17; 0.39]	122 [73; 170]	0.24 [0.12; 0.35]	102 [53; 151]
Phoenix	USA	0.36 [0.23; 0.5]	66 [42; 92]	0.28 [0.14; 0.43]	52 [26; 80]
Palm beach	USA	0.12 [0.07; 0.16]	13 [8; 18]	0.06 [0.01; 0.11]	7 [1; 12]
Plymouth	USA	0.26 [0.16; 0.35]	10 [6; 13]	0.19 [0.09; 0.29]	7 [3; 11]
Pensacola	USA	0.32 [0.21; 0.45]	8 [5; 11]	0.24 [0.11; 0.36]	6 [3; 9]
Portland OR	USA	0.15 [0.09; 0.2]	15 [9; 20]	0.09 [0.03; 0.15]	9 [3; 15]
Port Arthur	USA	0.26 [0.16; 0.36]	6 [4; 9]	0.2 [0.1; 0.3]	5 [2; 7]
Portage	USA	0.41 [0.25; 0.57]	4 [2; 5]	0.32 [0.17; 0.49]	3 [2; 5]
Portland ME	USA	0.25 [0.16; 0.35]	6 [3; 8]	0.17 [0.07; 0.28]	4 [2; 6]
Providence	USA	0.37 [0.24; 0.51]	45 [29; 62]	0.28 [0.14; 0.42]	34 [17; 51]
Pittsburg	USA	0.25 [0.15; 0.35]	38 [23; 53]	0.2 [0.1; 0.3]	31 [16; 46]
Richmond	USA	0.46 [0.28; 0.64]	25 [16; 36]	0.39 [0.21; 0.58]	22 [12; 32]
Rochester	USA	0.18 [0.11; 0.25]	11 [7; 15]	0.13 [0.06; 0.21]	8 [4; 12]
Rockville	USA	0.46 [0.28; 0.64]	20 [13; 28]	0.4 [0.22; 0.59]	17 [10; 26]
Reading	USA	0.34 [0.2; 0.47]	12 [7; 16]	0.28 [0.14; 0.41]	10 [5; 14]

| City	Country	Total (Above 70 µg/m³)*		Above WHO Guideline (100 µg/m³)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Reno	USA	0.24 [0.15; 0.35]	5 [3; 7]	0.15 [0.05; 0.27]	3 [1; 6]
Raleigh	USA	0.48 [0.29; 0.66]	13 [8; 18]	0.41 [0.22; 0.6]	11 [6; 17]
Riverside	USA	0.6 [0.35; 0.85]	124 [73; 175]	0.55 [0.31; 0.8]	113 [64; 166]
Sacramento	USA	0.32 [0.2; 0.45]	27 [16; 37]	0.25 [0.12; 0.38]	21 [10; 31]
Scranton	USA	0.3 [0.18; 0.43]	22 [13; 31]	0.23 [0.1; 0.36]	17 [7; 26]
San Diego	USA	0.34 [0.2; 0.47]	59 [35; 82]	0.23 [0.09; 0.37]	41 [16; 66]
San Francisco	USA	0.02 [0.01; 0.03]	3 [2; 3]	0.01 [0; 0.02]	1 [-1; 2]
Salt Lake	USA	0.44 [0.26; 0.62]	19 [11; 26]	0.35 [0.18; 0.53]	15 [8; 23]
San Jose	USA	0.11 [0.07; 0.15]	9 [6; 13]	0.06 [0.01; 0.11]	5 [1; 9]
San Antonio	USA	0.28 [0.18; 0.38]	25 [16; 34]	0.2 [0.08; 0.31]	17 [7; 27]
Spokane	USA	0.31 [0.18; 0.45]	10 [6; 15]	0.18 [0.04; 0.32]	6 [1; 11]
Springfield MA	USA	0.24 [0.14; 0.33]	11 [6; 15]	0.17 [0.07; 0.27]	8 [3; 12]
Springfied MO	USA	0.26 [0.16; 0.37]	5 [3; 8]	0.18 [0.08; 0.28]	4 [2; 6]
Spartanburg	USA	0.43 [0.24; 0.59]	10 [6; 14]	0.36 [0.18; 0.54]	8 [4; 13]
Sarasota	USA	0.24 [0.14; 0.33]	17 [10; 24]	0.16 [0.05; 0.25]	11 [4; 18]
Steubenville	USA	0.26 [0.16; 0.38]	3 [2; 4]	0.21 [0.11; 0.32]	2 [1; 3]
Saint Charles	USA	0.45 [0.27; 0.62]	6 [4; 8]	0.38 [0.2; 0.55]	5 [3; 7]
Stockton	USA	0.25 [0.15; 0.35]	10 [6; 14]	0.19 [0.09; 0.29]	7 [3; 11]
South bend	USA	0.46 [0.28; 0.64]	11 [6; 15]	0.37 [0.18; 0.55]	9 [4; 13]
St Louis	USA	0.32 [0.2; 0.44]	48 [29; 66]	0.25 [0.12; 0.38]	37 [18; 56]
Stamford	USA	0.42 [0.26; 0.59]	29 [18; 40]	0.33 [0.17; 0.5]	23 [11; 34]
St. Petersbur	USA	0.22 [0.13; 0.31]	17 [10; 24]	0.15 [0.06; 0.24]	11 [5; 18]
State College	USA	0.44 [0.26; 0.61]	4 [2; 5]	0.35 [0.18; 0.53]	3 [2; 5]
Seattle	USA	0.12 [0.07; 0.16]	13 [8; 17]	0.07 [0.02; 0.12]	7 [2; 13]
Tacoma	USA	0.11 [0.07; 0.15]	5 [3; 7]	0.05 [0.01; 0.11]	2 [0; 5]
Tampa	USA	0.25 [0.16; 0.36]	19 [12; 27]	0.18 [0.08; 0.29]	13 [6; 22]

City	Country	Total (Above 70 μg/m^3)*		Above WHO Guideline (100 μg/m^3)	
		Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)	Excess fraction (%, 95% CI)	Annual excess deaths (N, 95% CI)
Tucson	USA	0.29 [0.18; 0.41]	18 [11; 26]	0.19 [0.07; 0.32]	12 [5; 20]
Tallahassee	USA	0.24 [0.15; 0.34]	3 [2; 4]	0.17 [0.06; 0.27]	2 [1; 3]
Toledo	USA	0.34 [0.19; 0.47]	15 [9; 21]	0.26 [0.11; 0.4]	11 [5; 17]
Trenton	USA	0.34 [0.21; 0.47]	10 [6; 13]	0.29 [0.15; 0.42]	8 [4; 12]
Terra Haute	USA	0.46 [0.28; 0.64]	5 [3; 7]	0.37 [0.19; 0.57]	4 [2; 6]
Tulsa	USA	0.34 [0.2; 0.48]	16 [9; 22]	0.27 [0.12; 0.4]	12 [5; 18]
Visalia	USA	0.6 [0.36; 0.85]	14 [9; 20]	0.56 [0.32; 0.8]	13 [8; 19]
Vancouver	USA	0.13 [0.08; 0.18]	2 [1; 3]	0.07 [0.01; 0.12]	1 [0; 2]
Ventura	USA	0.44 [0.27; 0.64]	18 [11; 27]	0.36 [0.18; 0.55]	15 [8; 23]
Wichita	USA	0.2 [0.12; 0.28]	7 [4; 9]	0.14 [0.06; 0.22]	5 [2; 7]
Weber	USA	0.62 [0.37; 0.85]	7 [4; 10]	0.53 [0.28; 0.77]	6 [3; 9]
Wilmington	USA	0.27 [0.16; 0.38]	10 [6; 14]	0.22 [0.11; 0.33]	8 [4; 12]
Winston	USA	0.53 [0.31; 0.74]	13 [8; 18]	0.45 [0.23; 0.66]	11 [6; 17]
Worcester	USA	0.31 [0.19; 0.44]	20 [13; 28]	0.23 [0.11; 0.36]	15 [7; 23]
WDC	USA	0.22 [0.13; 0.31]	15 [9; 21]	0.18 [0.09; 0.28]	12 [6; 19]
Washington	USA	0.37 [0.22; 0.52]	9 [5; 12]	0.31 [0.16; 0.45]	7 [4; 11]
Youngstown	USA	0.41 [0.24; 0.57]	17 [10; 24]	0.34 [0.18; 0.51]	14 [7; 21]
York	USA	0.38 [0.22; 0.52]	11 [7; 16]	0.32 [0.16; 0.46]	9 [5; 14]

eTable 6. Overall pooled estimates of ozone-mortality association (lag01) (95% confidence interval (CI)) expressed as relative risk (RR) per 10-µg/m^3 increase in ozone for each of the sensitivity analyses, except for the different approaches to control for temperature (reported in eFigure 3). Details on the analytical approach of each sub-analysis reported in eMethods 2.

	N locations	RR [95% CI]
Main analysis	406	1.0018 [1.0012; 1.0024]
Time control with 4 df	406	1.0019 [1.0011; 1.0026]
Time control with 10 df	406	1.0017 [1.0012; 1.0023]
Main analysis (restricted to PM_{10} locations)	228	1.0017 [1.0010; 1.0024]
Control for PM_{10} (24-h average – linear lag01)	228	1.0015 [1.0007; 1.0024]
Main analysis (restricted to NO_2 locations)	269	1.0015 [1.0010; 1.0019]
Control for NO_2 (24-h average – linear lag01)	269	1.0014 [1.0010; 1.0019]
Main analysis (restricted to NO_2 locations)	89	1.0011 [0.9999; 1.0024]
Control for NO_2 (24-h average – linear lag01)	89	1.0007 [0.9994; 1.002]
Main analysis (restricted to locations with rel humidity)	317	1.0020 [1.0013; 1.0026]
Control for relative humidity (24-h average – linear lag0)	317	1.0026 [1.0017; 1.0035]
Restriction to all-year series	309	1.0018 [1.0012; 1.0024]

*df: degrees of freedom. qAIC df7 (main model): 10376950. qAIC df4 (sensitivity analysis 1): 10378178. qAIC df10 (sensitivity analysis 2): 10389530.
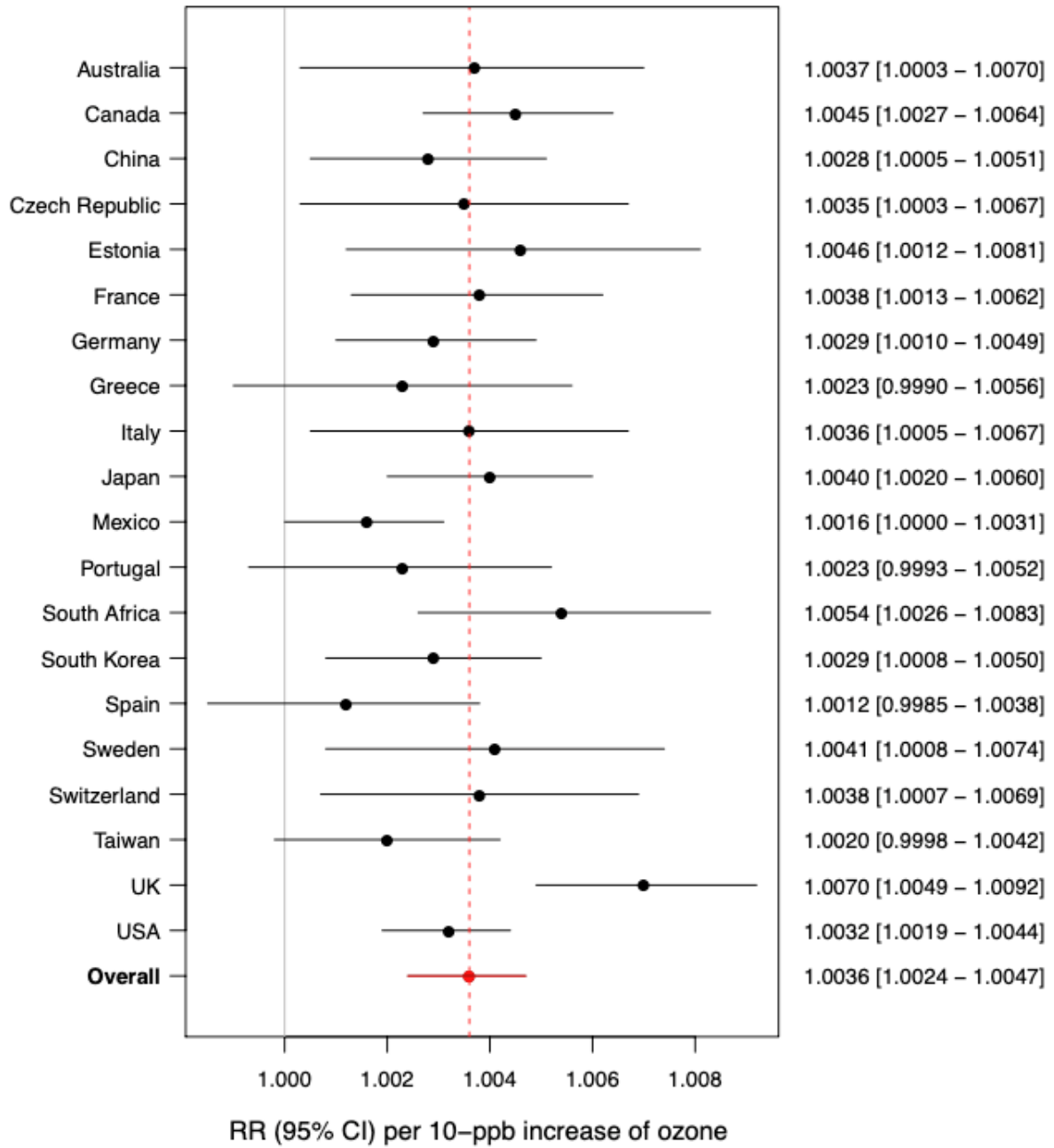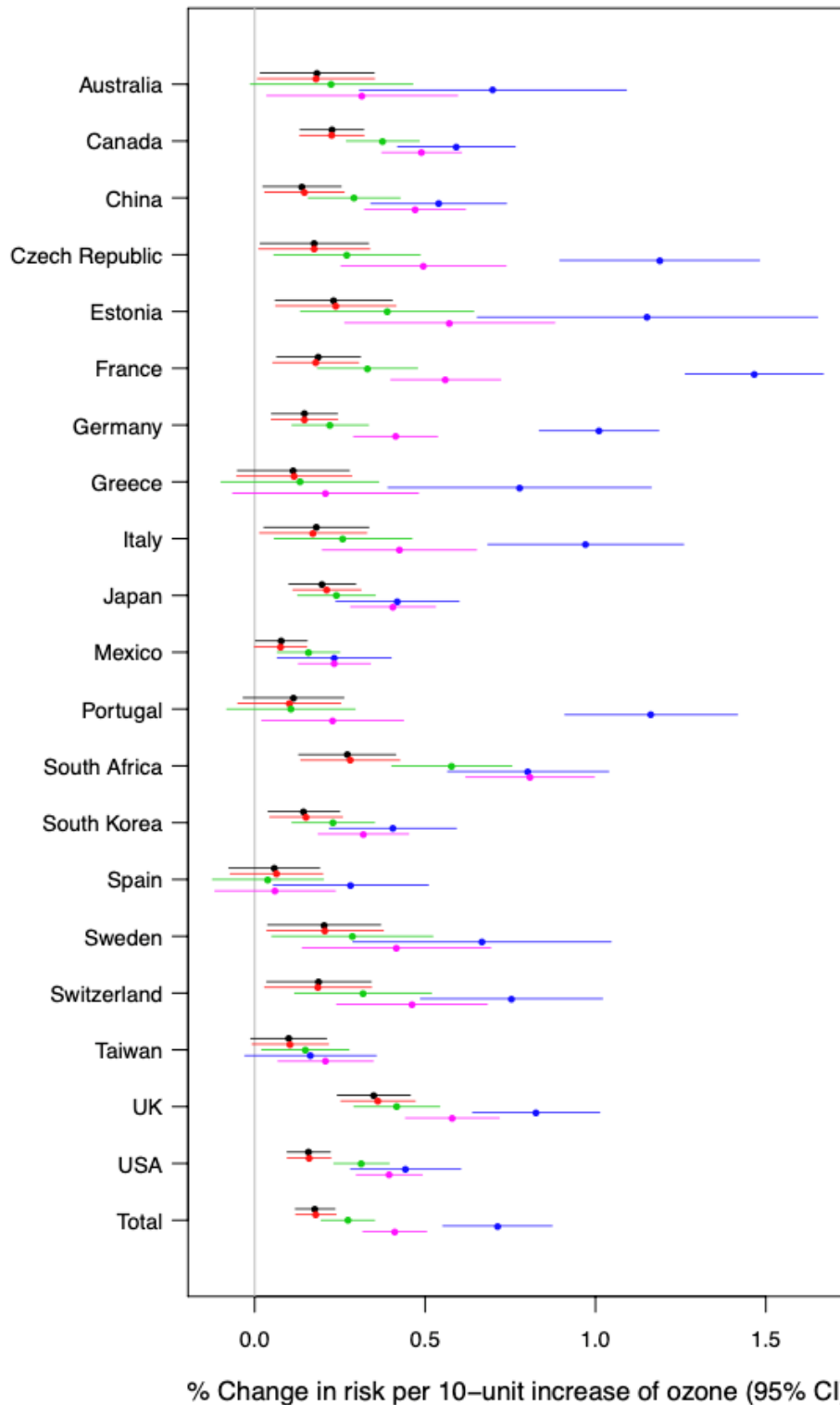
eFigure 1. Overall and country-specific short-term ozone-mortality association, expressed as relative risk (RR) per 10-ppb increase in ozone (maximum 8-hour average) (lag 01).
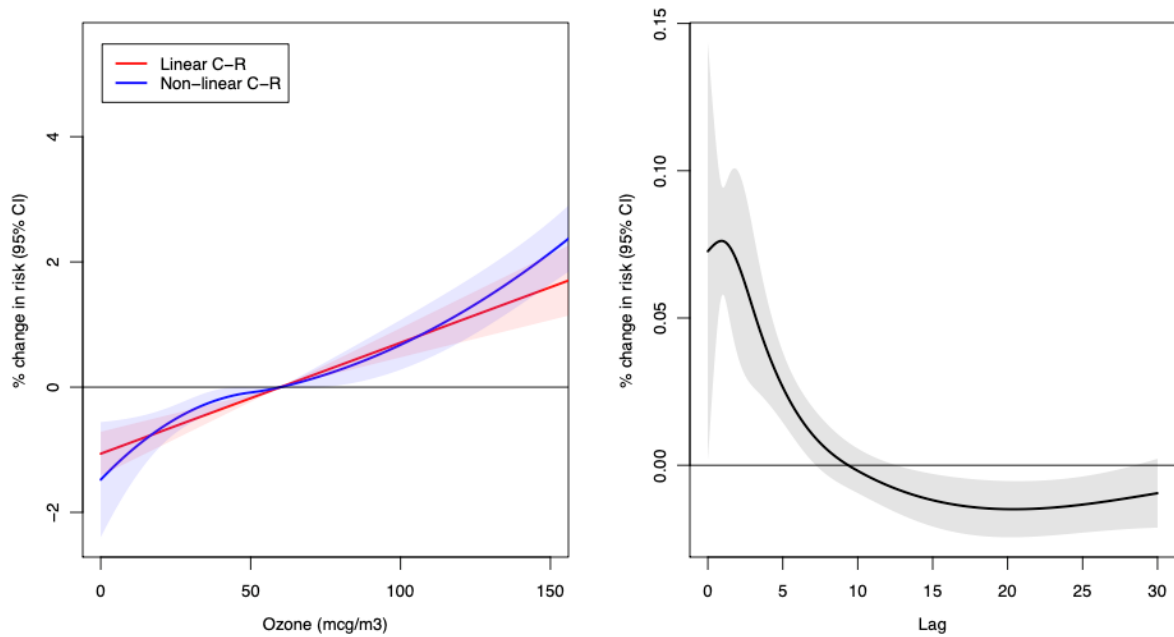
eFigure 2. Results from the additional analyses. Comparison of the average concentration-response (C-R) shapes using linear and non-linear functions (left) and lag-response association up to 30 days (right) per 10-unit increase in ozone. q-AIC linear: 10376950, Q-AIC non-linear: 10379020.

eFigure 3. Overall and country-specific short-term ozone-mortality association, expressed as relative risk (RR) per 10-unit increase in ozone, using different control for temperature (details on the modelling in eMethods2). (Black, main model (qAIC: 10376950); red, approach 1 (qAIC: 10377749); green, approach 2 (qAIC: 10380318); blue, approach 3 (qAIC: 10389132); pink, approach 4 (qAIC: 10387640)).