

 World Health Organization	
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Data source:	<p>Ambient Air Quality Database, WHO, April 2018.</p> <p>Primary source of data are official reporting from countries to WHO, official national/subnational reports and national/ subnational web sites containing measurements of PM10 or PM2.5 and the relevant national agencies. Furthermore, measurements reported by the following regional networks were used: Clean Air Asia for Asia, and the Air quality e-reporting database from the European Environment Agency for Europe and ground measurements compiled in the framework of the Global Burden of Disease project. In the absence of data from the previous sources, data from (a) UN Agencies, (b) Development agencies and (c) articles from peer reviewed journals were used.</p>
Metadata:	
Indicator	Annual mean concentration of particulate matter of less than 10 microns of diameter (PM10) [ug/m3] and of less than 2.5 microns (PM2.5) in cities and localities.
Rationale	Air pollution consists of many pollutants, among other particulate matter. These particles are able to penetrate deeply into the respiratory tract and therefore constitute a risk for health by increasing mortality from respiratory infections and diseases, lung cancer, and selected cardiovascular diseases.
Method of Measurement	The mean annual concentration of fine suspended particles of less than 10 or 2.5 microns in diameters is a common measure of air pollution. The mean city concentration is based on daily measurements, or data which could be aggregated into annual means. In the absence of annual means, measurements covering a more limited period of the year were exceptionally used. Only data for which the temporal coverage was greater than 6 months was considered representative of a yearly measurement in this version of the database.
Method of estimation	Annual means are reported as provided in the primary sources, or an average of the cities' monitoring stations were used. In order to present air quality that is largely representative for human exposure, urban measurement characterized as urban background, residential areas, commercial and mixed areas were used. Stations characterized as particular "hot spots" or exclusively industrial areas were not included, unless they were contained in reported city means and could not be dissociated. This selection is in line with the aim of capturing representative values for human exposure. The location of hot spots, often measured for the purpose of capturing the cities' maximum values, and industrial areas, were deemed less likely to be representative for the mean exposure of a significant part of a city's population. "Hot spots" were either designated as such by the original reports, or were qualified as such due to their exceptional nature (e.g. exceptionally busy roads etc.). Omitting them may have lead to an underestimation of the mean air pollution levels of a city.
	Where the data from various sources were available for a city, only the latest data and most reliable sources were used. Only data measured from the year 2010 to the year 2016 were included in the database. For completeness, cities with only PM10 (or resp. PM2.5) reported, PM2.5 (or PM10) concentration was calculated from PM10 (resp. PM2.5) using national conversion factors (PM2.5/PM10 ratio) estimated from the available measured data of PM2.5 and PM10. If national conversion factors were not available, regional ones were used, which were obtained by averaging country-specific conversion factors. As the conversion factor PM2.5/PM10 may vary according to location, the converted PM10 value for individual cities may deviate from the actual value (generally between 0.4 and 0.8), and should be considered as approximate only.
	PM10 type and PM25 type describe if the PM10 and PM25 values were measured or converted from the corresponding PM25 or PM10, respectively.
Limitations	<p>Ideally, the monitoring data used to calculate the average annual PM concentrations should be collected throughout the year, for several years, to reduce bias owing to seasonal fluctuations or to a non-representative year.</p> <p>Care should be taken that the monitors used are not unduly influenced by a single source of pollution (i.e. a power plant, factory or highway); rather, the monitors should reflect exposures over a wide area.</p> <p>Although it is likely that PM data will be available only for larger cities, residents of agglomerations of less than 100'000 inhabitants and of rural areas are also exposed to PM from local industrial activity, transportation, biomass fuels, open burning and regional haze.</p>
	Data from different countries are of limited comparability because of (a) Different location of measurement stations; (b) Different measurement methods; (c) Different temporal coverage of certain measurements; if only part of the year was covered, the measurement may significantly deviate from the annual mean due to seasonal variations.
Comments	For more information, please consult the pages http://www.who.int/airpollution/en/ and http://www.who.int/airpollution/data/cities/en/ , and more specifically the related file on the methods description http://www.who.int/airpollution/data/aap_database_methods.pdf
WHO Air Quality Guidelines	The WHO guideline values for particulate matter are 20 ug/m3 for PM10, and 10 ug/m3 for PM2.5, respectively. Additional information on interim targets are also provided in the guidelines: http://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/
Temporal coverage	The percentage of coverage of the year, as a mean of the percentage coverage of the station, when available.
Conversions	Data in columns F and I in worksheet "database" are measured, unless they are shaded in grey and in parenthesis, in which case they were converted to PM2.5 or PM10, respectively. Please note that converted values are indicative only and are to be taken with care, as conversion factors are approximative. More information on conversion factors used is provided in row 19.
Status	The values that are referred to as "Under review" are currently being updated
Worksheets	"database": Contains annual mean PM values for all cities for all available years
	"latest available PM2.5 (measured)": Contains latest available PM2.5 measurements by city
	"latest available PM10 (measured)": Contains latest available PM10 measurements by city