

Air Quality e-Reporting products on EEA data service

EEA, April 2016

Introduction

Air Quality e-Reporting follows new rules for reciprocal exchange of information and reporting on ambient air quality for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council. The rules are set out in the [COMMISSION IMPLEMENTING DECISION 2011/850/EU](#) and Commission's guidance documents [IPR guidance part I](#) and [IPR guidance part II](#).

This set of products is a snapshot of air quality data collected/calculated by the 25/04/2016.

Data collected within the Air Quality e-Reporting start from 2013. Statistics calculated before 2013 ([AirBase v8](#)) can be merged with the statistics from e-Reporting using mapping table included in this set of products.

For more information about Air Quality e-Reporting please visit <http://www.eionet.europa.eu/aqportal> or contact aqipr.helpdesk@eionet.europa.eu

Meta data

The meta data have been exported on the 25/04/2016 from EEA's data base in which the meta information reported by countries is stored.

You can follow the latest uploads of meta-data in [here](#). Data uploaded into the EEA's system after the 25/04/2016 will not be reflected in this version of the data set.

Meta data are available as:

- European Data Set, with data combined for all countries, file name syntax:
<year>_metadata.csv
- files generated separately for each country, file name syntax:
<countrycode>_<year>_metadata.csv

Fields in all files are tab-separated and first line contains fieldnames as described in Table 1.

Table 1. Fieldnames in meta data files.

Field name	Description	Data type
CountryCode	ISO2 code of country.	string
Timezone	Time zone in which aggregations and statistics are calculated (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/timezone).	string
Namespace (PK)	Inspire identifier/namespace of reporting entity, given by data provider.	string
AirQualityNetwork	Inspire identifier (LocalId) of air quality measurement network, given by data provider.	string
AirQualityStation	Inspire identifier (LocalId) of air quality measurement station, given by data provider.	string

AirQualityStationEolCode	Eol code of air quality measurement station (as in AirBase).	string
AirQualityStationNatCode	National code of air quality measurement station (as in AirBase).	string
SamplingPoint (PK)	Inspire identifier (LocalId) of sampling point, given by data provider.	string
SamplingProcess (PK)	Inspire identifier (LocalId) of sampling process (procedure), given by data provider.	string
Sample (PK)	Inspire identifier (LocalId) of sample (featureofinterest), given by data provider.	string
AirPollutant (PK)	Air polluting substance, level of which is measured and reported to the EEA (see notation in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/pollutant).	string
AirPollutantCode	Air polluting substance, level of which is measured and reported to the EEA (see id in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/pollutant).	string
ObservationBegin	Begin date of observation constellation (sampling point, sample, sampling process and property/pollutant).	string
ObservationEnd	End date of observation constellation.	string
Projection	Identifier of spatial reference system (EPSG).	string
Longitude	Longitude of air quality measurement station [decimal degrees].	numeric
Latitude	Latitude of air quality measurement station [decimal degrees].	numeric
Altitude	Altitude of air quality measurement station [m a.s.l.].	numeric
MeasurementType	Information if measurement was taken using active or passive sampling, by automatic analyzer or remote sensor (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/measurementtype).	string
AirQualityStationType	Type of Air Quality Measurement Station - information whether it is measuring background, industrial or traffic related air pollution (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/stationclassification).	string
AirQualityStationArea	Area of Air Quality Measurement Station - information whether it is measuring air pollution in urban, suburban, rural (etc.) environment (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/areaclassification).	string
EquivalenceDemonstrated	Information on measuring method equivalence (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/equivalencedemonstrated).	string
MeasurementEquipment	Information on equipment used for measuring air polluting substances (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/measurementequipment).	string
InletHeight	Height above ground level on which samples of air are taken [m].	numeric
BuildingDistance	Distance from the sampling inlet to a nearest building [m].	numeric
KerbDistance	Distance from the sampling inlet to a nearest kerbside [m].	numeric

Statistics and aggregated time series

The statistics and aggregated air quality values have been calculated by EEA based on the primary observations (time series) reported by countries by the 25/04/2016.

Pay attention to the fact that the calculations based on hourly values are performed for time zone declared at corresponding air quality network (see meta data) which do not necessarily match the time zone of the countries or time zone reported together with hourly values.

Data uploaded into the EEA's system after the 25/04/2016 will not be reflected in this version of the data set. For more details on methodology used by EEA to calculate air quality aggregations and statistics, please visit <http://www.eionet.europa.eu/aqportal/aggregation>.

Aggregated air quality values are available as:

- European Data Set, with annual statistics combined for all countries, published in AIDE web application at: <http://aide.apps.eea.europa.eu>,
- files generated separately for each country, which contain annual statistics but also all other aggregated air quality values (daily, monthly, 8 hour averages, etc), file name syntax: <countrycode>_<pollutant_notation>_<year>_aggregated_timeseries.csv

AIDE application (Air Quality Statistics) contains fieldnames as described in Table 2.

Some of fields from the meta data (Table 1) are repeated in the table shown in AIDE, e.g. type and area, latitude and longitude of station. There is also additional information provided about the air quality zones (based however on what was reported in assessment methods). This is to facilitate users selection and analysis of data.

Table 2. Fieldnames in files with statistics/aggregated time series.

Fieldname	Description	Data type
Id	Unique id of the record	string
Country	Name of country.	string
Namespace (PK)	Inspire identifier/namespace of reporting entity, given by data provider.	string
Reporting Year	Year for which statistics were calculated	numeric
Network	Inspire identifier (LocalId) of air quality measurement network, given by data provider.	string
Network name	Name of air quality measurement network, given by data provider.	string
Measurement station	Inspire identifier (LocalId) of air quality measurement station, given by data provider.	string
Station Eol code	Eol code of air quality measurement station (as in AirBase).	string
Measurement station name	Name of air quality measurement station, given by data provider.	string
Sampling point (PK)	Inspire identifier (LocalId) of sampling point, given by data provider.	string
Used for compliance	Indication if measurement station is used for compliance assessment	string

Data aggregation process	Information about process of data aggregation into values other than hourly (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/aggregationprocess).	string
Data reporting metric	Information about reporting metric which is used for compliance assessment (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/reportingmetric).	string
Objective type	Information about objective type which is used for compliance assessment (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/objectivetype).	string
Protection target	Information about protection target which is used for compliance assessment (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/protectiontarget).	string
Air pollutant	Air polluting substance, level of which is measured and reported to the EEA (see notation in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/pollutant).	string
Air pollution level	Concentration or level of air polluting substance, here given as an aggregation of air pollutant concentration values from primary observation time series.	numeric
Exceedance threshold	Information about exceedance threshold which is used for compliance assessment (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/environmentalobjective).	numeric
Unit	Unit of concentration or level of air polluting substance (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/uom/concentration).	string
Data coverage	Proportion of valid measurement included in the aggregation process within averaging period, expressed as percentage. If Data Coverage < 75% for averaging period of a year, annual statistics should not be included in air quality assessments, if Data Coverage < 85% (in a year), annual statistics should not be included in compliance checks.	numeric
Data verification	Information based on verification flags found in reported time series (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/observationverification).	numeric
Type of station	Type of Air Quality Measurement Station - information whether it is measuring background, industrial or traffic related air pollution (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/stationclassification).	string
Area of station	Area of Air Quality Measurement Station - information whether it is measuring air pollution in urban, suburban, rural (etc.) environment (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/areaclassification).	string
Latitude of station	Latitude of air quality measurement station [decimal degrees].	numeric
Longitude of station	Longitude of air quality measurement station [decimal degrees].	numeric

Zone code	Zone code, as declared by data provider in report on assessment methods.	string
Zone description	Zone description/geographical name, as declared by data provider in report on air quality zones.	string
Type of zone	Type of zone, as declared by data provider in report on air quality zones.	string

Fields in all files are tab-separated and first line contains fieldnames as described in Table 3.

Table 3. Fieldnames in files with statistics/aggregated time series.

Fieldname	Description	Data type
Countrycode	ISO2 code of country.	string
Namespace (PK)	Inspire identifier/namespace of reporting entity, given by data provider.	string
AirQualityNetwork	Inspire identifier (LocalId) of air quality measurement network, given by data provider.	string
AirQualityStation	Inspire identifier (LocalId) of air quality measurement station, given by data provider.	string
AirQualityStationEolCode	Eol code of air quality measurement station (as in AirBase).	string
SamplingPoint (PK)	Inspire identifier (LocalId) of sampling point, given by data provider.	string
AirPollutant	Air polluting substance, level of which is measured and reported to the EEA (see notation in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/pollutant).	string
DataAggregationProcess	Information about process of data aggregation into values other than hourly (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/aggregation process).	string
AirPollutionLevel	Concentration or level of air polluting substance, here given as an aggregation of air pollutant concentration values from primary observation time series.	numeric
UnitOfAirPollutionLevel	Unit of concentration or level of air polluting substance (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/uom/concentration).	string
DataCapture	Proportion of valid measurement time relative total measured time (time coverage) in averaging period, expressed as percentage.	numeric
DataCoverage	Proportion of valid measurement included in the aggregation process within averaging period, expressed as percentage. If Data Coverage < 75% for averaging period of a year, annual statistics should not be included in air quality assessments, if Data Coverage < 85% (in a year), annual statistics should not be included in compliance checks.	numeric
TimeCoverage	Proportion of total measured time, calculated from start and end time of observation, within the full averaging period, expressed as percentage.	numeric
DatetimeBegin	Datetime begin of measurement (time zone as defined for the air quality network).	string
DatetimeEnd	Datetime end of measurement (time zone as defined for the air quality network).	string

Validity	Validity flags based on Data Capture, data are 'not valid' if Data Capture <75% (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/observationvalidity).	numeric
Verification	Information based on verification flags found in reported time series (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/observationverification).	numeric

Primary observation time series

The time series have been exported on the 25/04/2016 from EEA's data base in which the primary observations reported by countries are stored.

You can follow the latest uploads of primary observations in [here](#). Data uploaded into the EEA's system after the 25/04/2016 will not be reflected in this version of the data set

Air quality time series (primary observations) are available as files generated separately for each country, file name syntax: <countrycode>_<pollutant notation>_<year>_timeseries.csv

Fields in all files are tab-separated and first line contains fieldnames as described in Table 4.

Table 4. Fieldnames in files with primary observations time series.

Fieldname	Description	Data type
CountryCode	ISO2 code of country.	string
Namespace (PK)	Inspire identifier/namespace of reporting entity, given by data provider.	string
AirQualityNetwork	Inspire identifier (LocalId) of air quality measurement network, given by data provider.	string
AirQualityStation	Inspire identifier (LocalId) of air quality measurement station, given by data provider.	string
AirQualityStationEolCode	Eol code of air quality measurement station (as in AirBase).	string
SamplingPoint (PK)	Inspire identifier (LocalId) of sampling point, given by data provider.	string
SamplingProcess (PK)	Inspire identifier (LocalId) of sampling process (procedure), given by data provider.	string
Sample (PK)	Inspire identifier (LocalId) of sample (featureofinterest), given by data provider.	string
AirPollutant (PK)	Air polluting substance, level of which is measured and reported to the EEA (see notation in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/pollutant).	string
AveragingTime	Averaging time/frequency of reported air quality values (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/primaryObservation).	string
Concentration	Measured concentration of air polluting substance.	numeric
UnitOfMeasurement	Unit of concentration of air polluting substance (see in Data Dictionary:	string

	http://dd.eionet.europa.eu/vocabulary/uom/concentration).	
DatetimeBegin	Datetime begin of measurement (UTC+1 for hourly data and original time zone for other averaging times).	string
DatetimeEnd	Datetime end of measurement (UTC+1 for hourly data and original time zone for other averaging times).	string
Validity	Information about data validity, given by data provider (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/observationvalidity).	numeric
Verification	Information whether data have been verified by data provider (see in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/observationverification).	numeric

Mapping AQ e-Reporting ↔ AirBase v8

Mapping table is necessary to merge statistics calculated before 2013 (AirBase v8) with the statistics from e-Reporting.

Keep in mind that there may be still cases where the mapping does not resolve into a 1-to-1 relation between e-Reporting and AirBase v8 and also that some of the measurement configurations may not map to any of the sampling points and vice versa. The mapping will be improved with time. If you have any comments on the mapping table, please contact aqipr.helpdesk@eionet.europa.eu

File 'AirBase_AQerep_mapping.csv' has been prepared by EEA. First line contains fieldnames as described in Table 5.

Table 5. Fieldnames in mapping file.

Field name	Description	Data type
CountryCode	ISO2 code of country.	string
AirQualityStationEolCode (PK)	Eol code of air quality measurement station (as in AirBase).	string
SamplingPoint (PK)	Inspire identifier (LocalId) of sampling point, given by data provider.	string
measurement_european_group_code (PK)	Measurement european group code.	string
component_code (PK)	Air polluting substance, (AirBase code).	numeric
AirPollutant (PK)	Air polluting substance, level of which is measured and reported to the EEA (see notation in Data Dictionary: http://dd.eionet.europa.eu/vocabulary/aq/pollutant).	string