

## Annual Summary Files

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### 4.1. Content

Each annual summary file contains data for every monitor (sampled parameter) in our database for the year. These files are relatively small and did not warrant being broken down by parameter, etc.

The annual summary files contain (at least) one record for each monitor that reported data for the given year. There will be multiple records for the monitor if:

- There are calculated sample durations for the pollutant. For example, PM<sub>2.5</sub> is sometimes reported as 1-hour samples and EPA calculates 24-hour averages.
- There are multiple standards for the pollutant (q.v. pollutant standards).
- There were exceptional events associated with some measurements that the monitoring agency has or may request be excluded from comparison to the standard.

### 4.2. Format

The file is comma separated variables (CSV) with a header row.

Field Position	Field Name	Description
1	State Code	The FIPS code of the state in which the monitor resides.
2	County Code	The FIPS code of the county in which the monitor resides.
3	Site Num	A unique number within the county identifying the site.
4	Parameter Code	The AQS code corresponding to the parameter measured by the monitor.
5	POC	This is the “Parameter Occurrence Code” used to distinguish different instruments that measure the same parameter at the same site.
6	Latitude	The monitoring site’s angular distance north of the equator measured in decimal degrees.
7	Longitude	The monitoring site’s angular distance east of the prime meridian measured in decimal degrees.
8	Datum	The Datum associated with the Latitude and Longitude measures.
9	Parameter Name	The name or description assigned in AQS to the parameter measured by the monitor. Parameters may be pollutants or non-pollutants.

Field Position	Field Name	Description
10	Sample Duration	The length of time that air passes through the monitoring device before it is analyzed (measured). So, it represents an averaging period in the atmosphere (for example, a 24-hour sample duration draws ambient air over a collection filter for 24 straight hours). For continuous monitors, it can represent an averaging time of many samples (for example, a 1-hour value may be the average of four one-minute samples collected during each quarter of the hour).
11	Pollutant Standard	A description of the ambient air quality standard rules used to aggregate statistics. (See description at beginning of document.)
12	Metric Used	The base metric used in the calculation of the aggregate statistics presented in the remainder of the row. For example, if this is Daily Maximum, then the value in the Mean column is the mean of the daily maximums.
13	Method Name	A short description of the processes, equipment, and protocols used in gathering and measuring the sample.
14	Year	The year the annual summary data represents.
15	Units of Measure	The unit of measure for the parameter. QAD always returns data in the standard units for the parameter. Submitters are allowed to report data in any unit and EPA converts to a standard unit so that we may use the data in calculations.
16	Event Type	Indicates whether data measured during exceptional events are included in the summary. A wildfire is an example of an exceptional event; it is something that affects air quality, but the local agency has no control over. No Events means no events occurred. Events Included means events occurred and the data from them is included in the summary. Events Excluded means that events occurred but data from them is excluded from the summary. Concurrent Events Excluded means that events occurred but only EPA concurrent exclusions are removed from the summary. If an event occurred for the parameter in question, the data will have multiple records for each monitor.
17	Observation Count	The number of observations (samples) taken during the year.
18	Observation Percent	The percent representing the number of observations taken with respect to the number scheduled to be taken during the year. This is only calculated for monitors where measurements are required (e.g., only certain parameters).
19	Completeness Indicator	An indication of whether the regulatory data completeness criteria for valid summary data have been met by the monitor for the year. Y means yes, N means no or that there are no regulatory completeness criteria for the parameter.

Field Position	Field Name	Description
20	Valid Day Count	The number of days during the year where the daily monitoring criteria were met, if the calculation of the summaries is based on valid days.
21	Required Day Count	The number of days during the year which the monitor was scheduled to take samples if measurements are required.
22	Exceptional Data Count	The number of data points in the annual data set affected by exceptional air quality events (things outside the norm that affect air quality).
23	Null Data Count	The count of scheduled samples when no data was collected and the reason for no data was reported.
24	Primary Exceedance Count	The number of samples during the year that exceeded the primary air quality standard.
25	Secondary Exceedance Count	The number of samples during the year that exceeded the secondary air quality standard.
26	Certification Indicator	An indication whether the completeness and accuracy of the information on the annual summary record has been certified by the submitter. Certified means the submitter has certified the data (due May 01 the year after collection). Certification not required means that the parameter does not require certification or the deadline has not yet passed. Uncertified (past due) means that certification is required but is overdue. Requested but not yet concurred means the submitter has completed the process, but EPA has not yet acted to certify the data. Requested but denied means the submitter has completed the process, but EPA has denied the request for cause. Was certified but data changed means the data was certified but data was replaced and the process has not been repeated.
27	Num Obs Below MDL	The number of samples reported during the year that were below the method detection limit (MDL) for the monitoring instrument. Sometimes these values are replaced by 1/2 the MDL in summary calculations.
28	Arithmetic Mean	The average (arithmetic mean) value for the year.
29	Arithmetic Standard Dev	The standard deviation about the mean of the values for the year.
30	1st Max Value	The highest value for the year.
31	1st Max DateTime	The date and time (on a 24-hour clock) when the highest value for the year (the previous field) was taken.
32	2nd Max Value	The second highest value for the year.

Field Position	Field Name	Description
33	2nd Max DateTime	The date and time (on a 24-hour clock) when the second highest value for the year (the previous field) was taken.
34	3rd Max Value	The third highest value for the year.
35	3rd Max DateTime	The date and time (on a 24-hour clock) when the third highest value for the year (the previous field) was taken.
36	4th Max Value	The fourth highest value for the year.
37	4th Max DateTime	The date and time (on a 24-hour clock) when the fourth highest value for the year (the previous field) was taken.
38	1st Max Non Overlapping Value	For 8-hour CO averages, the highest value of the year.
39	1st NO Max DateTime	The date and time (on a 24-hour clock) when the first maximum non overlapping value for the year (the previous field) was taken.
40	2nd Max Non Overlapping Value	For 8-hour CO averages, the second highest value of the year that does not share any hours with the 8-hour period of the first max non overlapping value.
41	2nd NO Max DateTime	The date and time (on a 24-hour clock) when the second maximum non overlapping value for the year (the previous field) was taken.
42	99th Percentile	The value from this monitor for which 99 per cent of the rest of the measured values for the year are equal to or less than.
43	98th Percentile	The value from this monitor for which 98 per cent of the rest of the measured values for the year are equal to or less than.
44	95th Percentile	The value from this monitor for which 95 per cent of the rest of the measured values for the year are equal to or less than.
45	90th Percentile	The value from this monitor for which 90 per cent of the rest of the measured values for the year are equal to or less than.
46	75th Percentile	The value from this monitor for which 75 per cent of the rest of the measured values for the year are equal to or less than.
47	50th Percentile	The value from this monitor for which 50 per cent of the rest of the measured values for the year are equal to or less than (i.e., the median).
48	10th Percentile	The value from this monitor for which 10 per cent of the rest of the measured values for the year are equal to or less than.

Field Position	Field Name	Description
49	Local Site Name	The name of the site (if any) given by the State, local, or tribal air pollution control agency that operates it.
50	Address	The approximate street address of the monitoring site.
51	State Name	The name of the state where the monitoring site is located.
52	County Name	The name of the county where the monitoring site is located.
53	City Name	The name of the city where the monitoring site is located. This represents the legal incorporated boundaries of cities and not urban areas.
54	CBSA Name	The name of the core bases statistical area (metropolitan area) where the monitoring site is located.
55	Date of Last Change	The date the last time any numeric values in this record were updated in the AQS data system.