



Fact Sheet

Monitoring Site Information File

Introduction

The U.S. Environmental Protection Agency's (EPA) nationwide, voluntary program, AirNow (www.airnow.gov), provides real-time air quality data and forecasts to protect public health across the United States, Canada, and parts of Mexico. AirNow receives real-time ozone and PM_{2.5} data from over 2,500 monitors and collects air quality forecasts for more than 500 cities.

As part of the Global Earth Observation System of Systems (GEOSS) program, the AirNow API system broadens access to AirNow data and data products. AirNow API produces data products in several standard data formats and makes them available via FTP and web services. This document describes the monitoring site information file format.

All data provided by AirNow API are made possible by the efforts of more than 150 local, state, tribal, provincial, and federal government agencies (<https://www.airnow.gov/partners/>). These data are not fully verified or validated; they should be considered preliminary and are subject to change. Data and information reported to AirNow from federal, state, local, and tribal agencies are for the express purpose of reporting and forecasting the Air Quality Index (AQI). Therefore, they should not be used to formulate or support regulation, trends, guidance, or any other government or public decision making. Official regulatory air quality data must be obtained from EPA's Air Quality System (AQS) (<https://www.epa.gov/aqs>). See the AirNow Data Exchange Guidelines at <http://airnowapi.org/docs/DataUseGuidelines.pdf>.

About the Air Quality Index

The EPA developed the AQI, which reports levels of ozone, particle pollution, and other common air pollutants on the same scale. An AQI reading of 101 corresponds to a level that is above the national air quality standard—the higher the AQI rating, the greater the health impact.

The AQI is divided into color-coded categories, and each category is identified by a simple informative descriptor. The descriptors are intended to convey information to the public about how air quality within each category relates to public health. The table below defines the AQI categories.

| AQI Numbers | AQI Category (Descriptor) | AQI Color | Color Formulas | |
|-------------|--------------------------------|-----------|----------------|---------------|
| | | | (RGB) | (CMYK) |
| 0 - 50 | Good | Green | 0,228,0 | 40,0,100,0 |
| 51 - 100 | Moderate | Yellow | 255,255,0 | 0,0,100,0 |
| 101 - 150 | Unhealthy for Sensitive Groups | Orange | 255,126,0 | 0,52,100,0 |
| 151 - 200 | Unhealthy | Red | 255,0,0 | 0,100,100,0 |
| 201 - 300 | Very Unhealthy | Purple | 143,63,151 | 51,89,0,0 |
| 301 - 500 | Hazardous | Maroon | 126,0,35 | 30,100,100,30 |

File Format Specifications

Data are stored in an ASCII file that contains the latest available descriptive and geographical information about monitoring sites contained in the AirNow database. These files are updated twice hourly (at 25 and 55 minutes past the hour). A separate record is created for each site-parameter combination.

For example, if a site delivers ozone (O₃) and PM_{2.5} data, the site will have two records in the file. File specifications are as follows:

| | |
|------------------------------|---|
| File name format: | Monitoring_Site_Locations_v2.dat |
| Update frequency: | sub-hourly (:25 and :55 minutes past the hour) |
| Field delimiter: | (ASCII character 124) |
| Field specifications: | see table on the next page |
| Encoding standard: | UTF-8 |

Location of files: The latest available file can be found in the today directory

| | |
|------------|---|
| Address: | https://files.airnowtech.org |
| Directory: | /?prefix=airnow/today/ |

The last file produced each day is available in that day's directory at the following URL

| | |
|------------|---|
| Address: | https://files.airnowtech.org |
| Directory: | /?prefix=airnow/YYYY/YYYYMMDD/ |

Report units: None.

Sample record:

StationID|AQSID|FullAQSID|Parameter|MonitorType|SiteCode|SiteName|Status|AgencyID|AgencyName|EPARegion|Latitude|Longitude|Elevation|GMTOffset|CountryFIPS|CBSA_ID|CBSA_Name|StateAQSCode|StateAbbreviation|CountyAQSCode|CountyName

For Data Field Definitions, see the table on the next page.

Sample records:

060250005|060250005|840060250005|PM2.5|Permanent|0005|Calxico - Ethel Street|Active|CA8|California Air Resources Board|R9|32.676180|-115.483070||-8.00|US|20940|El Centro, CA|06|CA|025|IMPERIAL

060670006|060670006|840060670006|O3|Permanent|0006|Arden Arcade - Del Paso Manor|Active|CA1|Sacramento Metro. AQMD|R9|38.613804|-121.368007|25.300|-8.00|US|40900|Sacramento--Arden-Arcade--Roseville, CA|06|CA|067|SACRAMENTO

MMCA81010|MMCA81010|840MMCA81010|PM2.5|Temporary|1010|MMCA81010|Active|CA8|California Air Resources Board|R9|41.955897|-121.478984||-8.00|US|||||

Field Specifications

| Field Name | Characters | Units/Format | Description | Sample |
|-------------|------------|--------------|--|---|
| StationID | 9 or 12 | Numeric | Station Identifier. Will match either the AQSID or FullAQSID field. Newer sites will typically use 12 digits while older sites will use 9. | 060410001 or 840060410001 |
| AQSID | 9 | Numeric | 9 –digit AQS ID consisting of state code, county code, and site code. International sites and U.S. sites not in the AQS system will have 9 digits but may not follow the state/county/site code format. | 060410001 (U.S.) or DB1010001 (International) |
| FullAQSID | 12 | Numeric | 12-digit AQS ID consisting of country code, state code, county code, and site code. International sites and U.S. sites not in the AQS system will have 12 digits but may not follow the state/county/site code format. | 840060410001 (U.S.) or 784DB1010001 (International) |
| Parameter | 8 | Text | Parameter measured at site. | O3 |
| MonitorType | 9 | Text | Permanent Monitors are those that are not expected to be relocated in the future. Temporary monitors are those that may change location depending on season/air quality events. | Permanent |
| SiteCode | 4 | Numeric | Last 4 digits of the AQSID. | 0001 |
| SiteName | 20 | Text | AirNow site name. | San Rafael |
| Status | 8 | Text | Site operational status (active or inactive). | Active |
| AgencyID | 3 | Text | Three-character Agency ID assigned by AirNow. | CA2 |
| AgencyName | 60 | Text | Name of agency delivering data for the site. | San Francisco Bay Area AQMD |
| EPARegion | 2 | Text | For U.S. sites, the EPA region number in which the site is located. For certain International sites, a “region ID” may be used that is representative of the site location. | R9 |
| Latitude | 9 | Degrees | Eight-digit latitude of site location. | 37.972500 |
| Longitude | 11 | Degrees | Nine-digit longitude of site location. | -122.518900 |
| Elevation | 8 | Meters | Elevation of site location. Blank if not currently supplied by the agency. | 0.900 |
| GMTOffset | 6 | Hours | Number of hours to add to the time to convert to the local time zone. For example: ET=-5.00, CT=-6.00, MT=-7.00, PT=-8.00. | -8.00 |

| Field Name | Characters | Units/Format | Description | Sample |
|-------------------|------------|--------------|---|-----------------------------------|
| CountryFIPS | 2 | Text | Two-character, alphabetic FIPS country code. | US |
| CBSA_ID | 5 | Numeric | Five-digit FIPS code for the metropolitan statistical area (MSA), if applicable. | 41860 |
| CBSA_Name | 50 | Text | Name of MSA in which site is located, if applicable. | San Francisco-Oakland-Fremont, CA |
| StateAQSCode | 2 | Numeric | Two-digit FIPS state code, where applicable. | 06 |
| StateAbbreviation | 3 | Text | Abbreviated name of state in which site is located, where applicable. | CA |
| CountyAQSCode | 5 | Numeric | First five digits of the AQSID. For U.S. sites, this corresponds to the Five-digit GNIS Feature ID of the named populated place in which site is located. | 06041 |
| CountyName | 25 | Text | If applicable, the name of county in which site is located. | MARIN |

FIPS = Federal Information Processing Standards

GNIS = Geographic Names Information Systems, [USGS GNIS](#)

Contacts

U.S. Environmental Protection Agency



John White, AirNow Program Manager
Susan Stone, Health Effects

Phone

(919) 541-2306
(919) 541-1146

Email

white.johne@epa.gov
stone.susan@epa.gov

Data Management Center – Team Valiant

AirNow Data Management Center (DMC)

dmc@airnowtech.org