# Fact Sheet

# Daily Data 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 daily data 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

Daily data files are ASCII files that contain peak and average data from all publicly approved monitoring sites in AirNow.  Only valid data are reported in the data file. Current and previous days' files are updated twice hourly (at 20 and 50 minutes past the hour) to ensure data completeness. Calculations of peak and average values are based on midnight-to-midnight, begin-hour, and Local Standard Time. File specifications are as follows:

File name format:       daily_data_v2.dat
Update frequency:       sub-hourly (:20 and :50 past the hour)
Field delimiter:        | (ASCII character 124)
Field specifications:   see table on the next page

**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:**  Parts per billion (ppb), parts per million (ppm), or micrograms per cubic meter (μg/m$^3$).

**Sample record:**

*Valid date|AQSID|site name|parameter name|reporting units|value|averaging period|data source|AQI|AQI Category|latitude|longitude|full AQSID with 3 digit country code prefix*

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

**Sample records:**

*05/28/19|060410001|San Rafael|OZONE-8HR|PPB|31|8|San Francisco Bay Area AQMD|29|0|37.972200|-122.518900|840060410001*

*05/28/19|271453052|St. Cloud|OZONE-1HR|PPB|43|1|Minnesota Pollution Control Agency|-999|-999|45.550000|-94.133300|840271453052*

*05/28/19|040191001|South Tucson|PM10-24hr|UG/M3|19|24|Pima County Department of Environmental Quality|18|0|32.202148|-110.967915|840040191001*

*05/28/19|032BAA010002|Buenos Aires|PM2.5-24hr|UG/M3|29.9|24|U.S. Department of State Argentina - Buenos Aires|88|1|-34.577300|-58.417600|032BAA010002*

*05/28/19|040134003|South Phoenix|CO-8hr|PPM|0.29|1|Maricopa County Air Quality Department|3|0|33.403300|-112.073100|093040134003*

*05/28/19|047329010|JPN Site 047329010|SO2-24HR|PPB|0|24|Japan Ministry of Environment|-999|-999|26.229861|127.763500|392047329010*

# Field Specifications

| Field Name | Characters | Units/Format | Description | Example |
|---|---|---|---|---|
| Valid date | 8 | mm/dd/yy | Local date for which the data are valid. | 05/28/19 |
| AQSID | 9 | Numeric | Nine-digit EPA AQS identifier. | 060410001 |
| Sitename | 20 | Text | Name of the monitoring site. | San Rafael |
| Parameter name | 10 | Text | Name of the parameter reported in that record. | OZONE-8HR |
| Reporting units | 5 | Text | Units of data value reported in the record. | PPB |
| Value | 6 | Numeric | Data value for the site. | 31 |
| Averaging period | 2 | Numeric | Number representing the time period of the data value. See table below. | 8 |
| Data Source | 100 | Text | Name of the agency reporting the data. | San Francisco Bay Area AQMD |
| 8-hr or 24-hr AQI Value | 3 | Numeric | 0 to 500. 8-hour or 24-hour AQI values for the site. -999 denotes peak 1-hour ozone or peak 24-hour SO2 data. | 29 |
| 8-hr or 24-hr AQI Category | 1 | Numeric | Good (0-50 AQI) = 0 Moderate (51-100 AQI) = 1 Unhealthy for Sensitive Groups (101-150 AQI) = 2 Unhealthy (151-200 AQI) = 3 Very Unhealthy (201-300 AQI) = 4 Hazardous (>300 AQI) = 5 | 0 |
| Latitude | 9 | Numeric | Latitude of the reporting area (decimal degrees). | 37.972200 |
| Longitude | 11 | Numeric | Longitude of the reporting area (decimal degrees). | -122.518900 |
| Full AQSID with 3 digit country code prefix | 12 | Numeric | 12-digit EPA AQS identifier. First three digits indicate country code. | 840060410001 |

| Field Value | Description |
|---|---|
| 1 | Peak 1-hr value |
| 8 | Peak 8-hr average value |
| 24 | 24-hr average value |

# Contacts

**U.S. Environmental Protection Agency**

| | Phone | Email |
|---|---|---|
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