

# Air Pollution API concept

Air Pollution API provides current, forecast and historical air pollution data for any coordinates on the globe.

Besides basic Air Quality Index, the API returns data about polluting gases, such as Carbon monoxide (CO), Nitrogen monoxide (NO), Nitrogen dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>), Sulphur dioxide (SO<sub>2</sub>), Ammonia (NH<sub>3</sub>), and particulates (PM<sub>2.5</sub> and PM<sub>10</sub>).

Air pollution forecast is available for 4 days with hourly granularity. Historical data is accessible from 27th November 2020.

Here is a description of Air Quality Index levels:

Qualitative name	Index	Pollutant concentration in µg/m <sup>3</sup>					
		SO <sub>2</sub>	NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	O <sub>3</sub>	CO
Good	1	0-20	0-40	0-20	0-10	0-60	0-4400
Fair	2	20-80	40-70	20-50	10-25	60-100	4400-9400
Moderate	3	80-250	70-150	50-100	25-50	100-140	9400-12400
Poor	4	250-350	150-200	100-200	50-75	140-180	12400-15400
Very Poor	5	>350	>200	>200	>75	>180	>15400

Other parameters that do not affect the AQI calculation:

- NH<sub>3</sub>: min value 0.1 - max value 200
- NO: min value 0.1 - max value 100

## Current air pollution data

## API call

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```
http://api.openweathermap.org/data/2.5/air_pollution?lat={lat}&lon={lon}&appid={API key}
```

### Parameters

<div>lat, lon</div>	required	Geographical coordinates (latitude, longitude). If you need the geocoder to automatic convert city names and zip-codes to geo coordinates and the other way around, please use our <a href="#">Geocoding API</a> .
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<div>appid</div>	required	Your unique API key (you can always find it on your account page under the <a href="#">"API key" tab</a> )
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## Example of API request

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```
http://api.openweathermap.org/data/2.5/air_pollution?lat=50&lon=50&appid=API key
```

# Forecast air pollution data

## API call

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```
http://api.openweathermap.org/data/2.5/air_pollution/forecast?lat={lat}&lon={lon}&appid={API key}
```

### Parameters

<div>lat, lon</div>	required	Geographical coordinates (latitude, longitude). If you need the geocoder to automatic convert city names and zip-codes to geo coordinates and the other way around, please use our <a href="#">Geocoding API</a> .
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appid

required Your unique API key (you can always find it on your account page under the ["API key" tab](#))

### Example of API request

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```
http://api.openweathermap.org/data/2.5/air_pollution/forecast?lat=50&lon=50&appid={API key}
```

## Historical air pollution data

### API call

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```
http://api.openweathermap.org/data/2.5/air_pollution/history?lat={lat}&lon={lon}&start={start}&end={end}&appid={API key}
```

### Parameters

lat,

lon

required Geographical coordinates (latitude, longitude). If you need the geocoder to automatic convert city names and zip-codes to geo coordinates and the other way around, please use our [Geocoding API](#).

start

required Start date (unix time, UTC time zone), e.g. start=1606488670

end

required End date (unix time, UTC time zone), e.g. end=1606747870

appid

required Your unique API key (you can always find it on your account page under the ["API key" tab](#))

### Example of API request

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```
http://api.openweathermap.org/data/2.5/air_pollution/history?lat=508&lon=50&start=1606223802&end=1606482999&appid={API key}
```

## Air Pollution API response

Example of the API response

```
{
  "coord": [
    50,
    50
  ],
  "list": [
    {
      "dt": 1605182400,
      "main": {
        "aqi": 1
      },
      "components": {
        "co": 201.94053649902344,
        "no": 0.01877197064459324,
        "no2": 0.7711350917816162,
        "o3": 68.66455078125,
        "so2": 0.6407499313354492,
        "pm2_5": 0.5,
        "pm10": 0.540438711643219,
        "nh3": 0.12369127571582794
      }
    }
  ]
}
```

## Fields in API response

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- `coord` Coordinates from the specified location (latitude, longitude)
- `list`
  - `dt` Date and time, Unix, UTC
  - `main`
    - `main.aqi` Air Quality Index. Possible values: 1, 2, 3, 4, 5. Where 1 = Good, 2 = Fair, 3 = Moderate, 4 = Poor, 5 = Very Poor.
  - `components`
    - `components.co` Concentration of CO ([Carbon monoxide](#)),  $\mu\text{g}/\text{m}^3$
    - `components.no` Concentration of NO ([Nitrogen monoxide](#)),  $\mu\text{g}/\text{m}^3$
    - `components.no2` Concentration of NO<sub>2</sub> ([Nitrogen dioxide](#)),  $\mu\text{g}/\text{m}^3$
    - `components.o3` Concentration of O<sub>3</sub> ([Ozone](#)),  $\mu\text{g}/\text{m}^3$
    - `components.so2` Concentration of SO<sub>2</sub> ([Sulphur dioxide](#)),  $\mu\text{g}/\text{m}^3$
    - `components.pm2_5` Concentration of PM<sub>2.5</sub> ([Fine particles matter](#)),  $\mu\text{g}/\text{m}^3$

- `components.pm10` Concentration of PM<sub>10</sub> (Coarse particulate matter), µg/m<sup>3</sup>
- `components.nh3` Concentration of NH<sub>3</sub> (Ammonia), µg/m<sup>3</sup>