Current weather data

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Chat with Ulla - OpenWeather Al assistant (/chat)

Product concept

Access current weather data for any location on Earth! We collect and process weather data from different sources such as global and local weather models, satellites, radars and a vast network of weather stations. Data is available in JSON, XML, or HTML format.

Call current weather data

How to make an API call

API call

https://api.openweathermap.org/data/2.5/weather?lat=

{lat}&lon={lon}&appid={API key}

(https://home.openweathermap.org/api_keys)

Parameters

required Latitude. If you need the geocoder to automatic convert city names and zip-codes to geo coordinates and the other way

around, please use our <u>Geocoding API (/api/geocoding-api)</u>

required 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 (/api/geocoding-ap

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required Your unique API key (you can always find it on your account appid page under the "API key" tab (https://home.openweathermap.org/api_keys)) optional Response format. Possible values are | xml | and | html |. If you mode don't use the mode parameter format is JSON by default. Learn more optional Units of measurement. standard , metric and imperial units units are available. If you do not use the units parameter, standard units will be applied by default. Learn more lang optional You can use this parameter to get the output in your language. Learn more

Please use <u>Geocoder API (/api/geocoding-api)</u> if you need automatic convert city names and zip-codes to geo coordinates and the other way around.

Please note that <u>built-in geocoder</u> has been deprecated. Although it is still available for use, bug fixing and updates are no longer available for this functionality.

Examples of API calls

https://api.openweathermap.org/data/2.5/weather? lat=44.34&lon=10.99&appid={<u>API key}</u>. (https://home.openweathermap.org/api_keys).



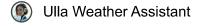
API response

If you do not see some of the parameters in your API response it means that these weather phenomena are just not happened for the time of measurement for the city or location chosen. Only really measured or calculated data is displayed in API response.

JSON

JSON format API response example





```
{
   "coord": {
      "lon": 7.367,
      "lat": 45.133
   },
   "weather": [
      {
         "id": 501,
         "main": "Rain",
         "description": "moderate rain",
         "icon": "10d"
      }
   ],
   "base": "stations",
   "main": {
      "temp": 284.2,
      "feels_like": 282.93,
      "temp_min": 283.06,
      "temp_max": 286.82,
      "pressure": 1021,
      "humidity": 60,
      "sea_level": 1021,
      "grnd_level": 910
   },
   "visibility": 10000,
   "wind": {
      "speed": 4.09,
      "deg": 121,
      "gust": 3.47
   },
   "rain": {
      "1h": 2.73
   },
   "clouds": {
      "all": 83
   },
   "dt": 1726660758,
   "sys": {
      "type": 1,
      "id": 6736,
      "country": "IT",
      "sunrise": 1726636384,
      "sunset": 1726680975
   },
   "timezone": 7200,
   "id": 3165523,
   "name": "Province of Turin",
   "cod": 200
}
```

JSON format API response fields

```
    coord
    coord.lon
    coord.lat
    Latitude of the location
```

- weather (more info Weather condition codes (/weather-conditions))
 - | weather.id | Weather condition id
 - weather.main Group of weather parameters (Rain, Snow, Clouds etc.)
 - weather.description Weather condition within the group. Please find more here. You can get the output in your language. Learn more

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- weather.icon Weathericonid
- base Internal parameter
- main

- main.temp | Temperature. Unit Default: Kelvin, Metric: Celsius, Imperial: Fahrenheit
- main.feels_like Temperature. This temperature parameter accounts for the human perception of weather. Unit Default: Kelvin, Metric: Celsius, Imperial: Fahrenheit
- o main.pressure Atmospheric pressure on the sea level, hPa
- main.humidity Humidity, %
- main.temp_min
 Minimum temperature at the moment. This is minimal currently observed temperature (within large megalopolises and urban areas). Please find more info here. Unit Default: Kelvin, Metric: Celsius, Imperial: Fahrenheit
- main.temp_max | Maximum temperature at the moment. This is maximal currently observed temperature (within large megalopolises and urban areas). Please find more info here. Unit Default: Kelvin, Metric: Celsius, Imperial: Fahrenheit
- o main.sea level Atmospheric pressure on the sea level, hPa
- main.grnd_level | Atmospheric pressure on the ground level, hPa
- visibility Visibility, meter. The maximum value of the visibility is 10 km
- wind
 - wind.speed
 Wind speed. Unit Default: meter/sec, Metric: meter/sec,
 Imperial: miles/hour
 - wind.deg
 Wind direction, degrees (meteorological)
 - wind.gust | Wind gust. Unit Default: meter/sec, Metric: meter/sec, Imperial: miles/hour
- clouds
 - o clouds.all Cloudiness, %
- rain
 - 1h (where available) Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
- snow
 - 1h (where available) Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
- dt Time of data calculation, unix, UTC
- sys
 - sys.type Internal parameter
 - sys.id Internal parameter
 - o sys.message Internal parameter
 - o sys.country Country code (GB, JP etc.)
 - sys.sunrise Sunrise time, unix, UTC
 - sys.sunset Sunset time, unix, UTC
- timezone Shift in seconds from UTC
- id City ID. Please note that built-in geocoder functionality has been deprecated. Learn more here
- name City name. Please note that built-in geocoder functionality has been deprecated. Learn more <u>here</u>
- cod Internal parameter

XML

XML format API response example

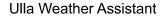




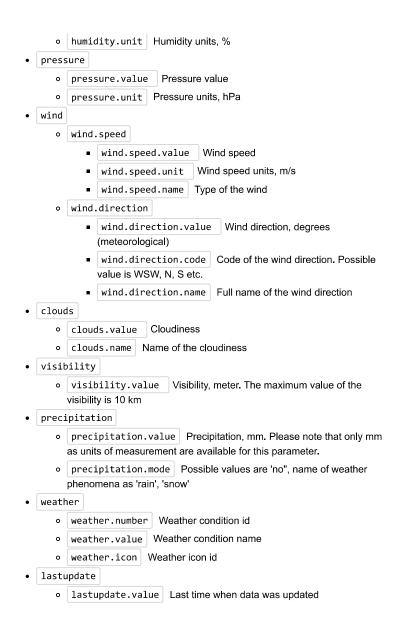
```
<current>
<city id="3163858" name="Zocca">
<coord lon="10.99" lat="44.34"/>
<country>IT</country>
<timezone>7200</timezone>
<sun rise="2022-08-30T04:36:27" set="2022-08-30T17:57:28"/>
</citv>
<temperature value="298.48" min="297.56" max="300.05" unit="kelvi</pre>
<feels_like value="298.74" unit="kelvin"/>
<humidity value="64" unit="%"/>
sure value="1015" unit="hPa"/>
<wind>
<speed value="0.62" unit="m/s" name="Calm"/>
<gusts value="1.18"/>
<direction value="349" code="N" name="North"/>
</wind>
<clouds value="100" name="overcast clouds"/>
<visibility value="10000"/>
<precipitation value="3.37" mode="rain" unit="1h"/>
<weather number="501" value="moderate rain" icon="10d"/>
<lastupdate value="2022-08-30T14:45:57"/>
</current>
```

XML format API response fields

- city
 - city.id City ID. Please note that built-in geocoder functionality has been deprecated. Learn more here
 - o city.name City name. Please note that built-in geocoder functionality has been deprecated. Learn more here
 - o city.coord
 - city.coord.lon Geo location, longitude
 - city.coord.lat Geo location, latitude
 - o city.country Country code (GB, JP etc.). Please note that built-in geocoder functionality has been deprecated. Learn more here
 - timezone Shift in seconds from UTC
 - city.sun
 - city.sun.rise Sunrise time
 - city.sun.set | Sunset time
- temperature
 - temperature.value Temperature
 - temperature.min | Minimum temperature at the moment of calculation. This is minimal currently observed temperature (within large megalopolises and urban areas), use this parameter optionally. Please find more info here
 - | temperature.max | Maximum temperature at the moment of calculation. This is maximal currently observed temperature (within large megalopolises and urban areas), use this parameter optionally. Please find more info here
 - temperature.unit | Unit of measurements. Possible value is Celsius, Kelvin, Fahrenheit
- feels_like
 - feels_like.value | Temperature. This temperature parameter accounts for the human perception of weather
 - feels like.unit Unit of measurements. Possible value is Celsius Kelvin, Fahrenheit. Unit Default: Kelvin
- humidity
 - humidity.value Humidity value







We provide a broad variety of products such as One Call API 3.0. (/api/one-call-3) Solar Irradiance & Energy Prediction service, (/api#solar) Road Risk API, (/api/road-risk) Air Pollution API (/api/air-pollution) and solutions for advanced weather parameters like solar irradiance data, UVI, dew point, government weather alerts, etc. Please review our product list (/api) page and find more info in the product documentation and pricing (/price) pages.

List of weather condition codes

List of <u>weather condition codes (/weather-conditions)</u> with icons (range of thunderstorm, drizzle, rain, snow, clouds, atmosphere etc.)

Min/max temperature in current weather API and forecast API

Please do not confuse min/max parameters in our weather APIs.



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 In Current weather API, Hourly forecast API (/api/hourly-forecast) and 5 day / 3 hour forecast API (/forecast5) - temp_min and temp_max are optional

parameters mean min / max temperature in the city at the current moment just for your reference. For large cities and megalopolises geographically expanded it might be applicable. In most cases both temp_min and temp_max parameters have the same volume as 'temp'. Please use temp_min and temp_max parameters in current weather API optionally.

• In 16 Day forecast (/forecast16) - min and max mean maximum and minimum temperature in the day.

Example of current weather API response

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```
"main":{
  "temp":306.15, //current temperature
   "pressure":1013,
  "humidity":44,
  "temp min":306.15, //min current temperature in the city
  "temp_max":306.15 //max current temperature in the city
```

For comparison look at example of daily forecast weather API response:

Example of daily forecast weather API response



```
"dt":1406080800,
"temp":{
      "day":297.77, //daily averaged temperature
      "min":293.52, //daily min temperature
      "max":297.77, //daily max temperature
     "night":293.52, //night temperature
      "eve":297.77, //evening temperature
      "morn":297.77}, //morning temperature
```

Bulk downloading

We provide number of bulk files with current weather and forecasts. The service allows you to regularly download current weather and forecast data in JSON format. There is no need to call an API to do this.

More information is on the Bulk page (/bulk).

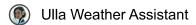
Examples of bulk files

http://bulk.openweathermap.org/sample/ (http://bulk.openweathermap.org/sample/)

Other features

Geocoding API

Requesting API calls by geographical coordinates is the most accurate way to specify any location. If you need to convert city names and zip-codes to geo coordinates and the other way around automatically, please use our **Geocoding API** (/api/geocoding-api).





Built-in geocoding

Please use **Geocoder API** (/api/geocoding-api) if you need automatic convert city names and zip-codes to geo coordinates and the other way around.

Please note that API requests by city name, zip-codes and city id have been deprecated. Although they are still available for use, bug fixing and updates are no longer available for this functionality.

Built-in API request by city name

You can call by city name or city name, state code and country code. Please note that searching by states available only for the USA locations.

https://api.openweathermap.org/data/2.5/weather?q={city

API call

-	<pre>name}&appid={API key} (https://home.openweathermap.org/api_keys)</pre>			
https://api.openweathermap.org/data/2.5/weather?q={city name},{country code}&appid={ <u>API key}</u> = ((https://home.openweathermap.org/api_keys).				
https://api.openweathermap.org/data/2.5/weather?q={city name},{state code},{country code}&appid={API key}. = (https://home.openweathermap.org/api keys)				
q	required	City name, state code and country code divided by comma,		
		Please refer to ISO 3166 (https://www.iso.org/obp/ui/#search the state codes or country codes.	<u>)</u> for	
		You can specify the parameter not only in English. In this cas		
		the API response should be returned in the same language a the language of requested location name if the location is in opredefined list of more than 200,000 locations.		
appid	required	Your unique API key (you can always find it on your account		
		page under the <u>"API key" tab</u> (https://home.openweathermap.org/api_keys))		
mode	optional			
		don't use the mode parameter format is JSON by default. Le	<u>:arn</u>	
units	optional	Units of measurement. standard , metric and imperia	1	

units are available. If you do not use the units parameter, standard units will be applied by default. Learn more

optional You can use this parameter to get the output in your language.



Learn more

lang

https://api.openweathermap.org/data/2.5/weather? q=London&appid={<u>API key}</u>

(https://home.openweathermap.org/api_keys)

https://api.openweathermap.org/data/2.5/weather? q=London,uk&appid=<u>{API key}</u> (https://home.openweathermap.org/api_keys)

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There is a possibility to receive a central district of the city/town with its own parameters (geographic coordinates/id/name) in API response. <u>Example</u> (http://samples.openweathermap.org/data/2.5/forecast?g=München,DE&appid=439d4b804bc8187953eb36d2a8c26a02)

Built-in API request by city ID

You can make an API call by city ID. List of city ID 'city.list.json.gz' can be downloaded here (http://bulk.openweathermap.org/sample/).

We recommend to call API by city ID to get unambiguous result for your city.

API call

 $\label{lem:https://api.openweathermap.org/data/2.5/weather?id=\{city\ id\}&appid=\{\underline{API\ key}\}.$

(https://home.openweathermap.org/api_keys)

Parameters

id required City ID. List of city ID 'city.list.json.gz' can be downloaded here (http://bulk.openweathermap.org/sample/).

appid required Your unique API key (you can always find it on your account page under the "API key" tab

(https://home.openweathermap.org/api_keys))

mode optional Response format. Possible values are xml and html. If you don't use the mode parameter format is JSON by default. Learn more

units optional Units of measurement. standard, metric and imperial units are available. If you do not use the units parameter, standard units will be applied by default. Learn more

lang optional You can use this parameter to get the output in your language.

<u>Learn more</u>

Examples of API calls

https://api.openweathermap.org/data/2.5/weather?id=2172797&appid={API key}

(https://home.openweathermap.org/api_keys)

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https://api.openweathermap.org/data/2.5/weather?zip={zip code},{country code}&appid=<u>{API key}</u>.
(https://home.openweathermap.org/api_keys).



Parameters

zip	required	Zip code
appid	required	Your unique API key (you can always find it on your account page under the "API key" tab (https://home.openweathermap.org/api_keys))
mode	optional	Response format. Possible values are xml and html. If you don't use the mode parameter format is JSON by default. Learn more
units	optional	Units of measurement. standard, metric and imperial units are available. If you do not use the units parameter, standard units will be applied by default. Learn more
lang	optional	You can use this parameter to get the output in your language. <u>Learn more</u>

Examples of API calls

https://api.openweathermap.org/data/2.5/weather?zip=94040,us&appid={API key}.
(https://home.openweathermap.org/api keys)



Format

Response format. JSON format is used by default. To get data in XML format just set up mode = xml.

Parameters

mode optional Response format. Possible values are xml and html. If you don't use the mode parameter format is JSON by default.

Example of API calls

JSON

https://api.openweathermap.org/data/2.5/weather? q=London&appid=<u>{API key}</u> (https://home.openweathermap.org/api_keys)



XML

 $\label{eq:condition} $$ $$ $ \text{https://api.openweathermap.org/data/2.5/weather?} $$ $$ $$ q=London\&mode=xml $$$



Units of measurement

standard , metric , and imperial units are available. List of all API parameters with available units (/weather-data).

Parameters

units optional standard, metric, imperial. When you do not use the units parameter, format is standard by default.

Temperature is available in Fahrenheit, Celsius and Kelvin units.

- For temperature in Fahrenheit use units=imperial
- For temperature in Celsius use units=metric
- Temperature in Kelvin is used by default, no need to use units parameter in API call

List of all API parameters with units <u>openweathermap.org/weather-data</u> (<u>http://openweathermap.org/weather-data</u>)

Examples of API calls:

Standard

https://api.openweathermap.org/data/2.5/weather? lat=57&lon=-2.15&appid={API key} (https://home.openweathermap.org/api_keys)

metric

https://api.openweathermap.org/data/2.5/weather?
lat=57&lon=-2.15&appid={API key}.

https://home.openweathermap.org/api_keys)&units=metric

imperial

https://api.openweathermap.org/data/2.5/weather? lat=57&lon=-2.15&appid={API key} (https://home.openweathermap.org/api_keys)&units=imperial

Multilingual support

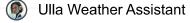
You can use the lang parameter to get the output in your language.

Translation is applied for the city name and description fields.

API call

https://api.openweathermap.org/data/2.5/weather?lat= {lat}&lon={lon}&appid={<u>API key}</u>. (https://home.openweathermap.org/api_keys)&lang={lang}

Parameters



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lang

optional



https://api.openweathermap.org/data/2.5/weather?id=524901&lang=fr&appid={API key} (https://home.openweathermap.org/api_keys)



We support the following languages that you can use with the corresponded lang values:

- sq Albanian
- af Afrikaans
- ar Arabic
- az Azerbaijani
- eu Basque
- be Belarusian
- bg Bulgarian
- ca Catalan
- zh_cn Chinese Simplified
- zh_tw Chinese Traditional
- hr Croatian
- cz Czech
- da Danish
- n1 Dutch
- en English
- fi Finnish
- fr French
- gl Galician
- de German
- e1 Greek
- he Hebrew
- hi Hindi
- hu Hungarian
- is Icelandic
- id Indonesian
- it Italian
- ja Japanese
- kr Korean
- ku Kurmanji (Kurdish)
- la Latvian
- 1t Lithuanian
- mk Macedonian
- no Norwegian
- fa Persian (Farsi)
- p1 Polish
- pt Portuguese
- pt_br Português Brasil
- ro Romanian
- ru Russian
- sr Serbian
- sk Slovak
- sl Slovenian
- sp, es Spanish
- sv, se Swedish
- th Thai



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- tr Turkish
- ua, uk Ukrainian
- vi Vietnamese
- zu Zulu

Call back function for JavaScript code

To use JavaScript code you can transfer callback functionName to JSONP callback.

Example of API call

https://api.openweathermap.org/data/2.5/weather? q=London,uk&callback=test&appid={API key} (https://home.openweathermap.org/api_keys)



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Our offices (https://openweather.co.uk/about/our-offices)

Blog (https://openweather.co.uk/blog)

OpenWeather for Business (https://openweather.co.uk/)

Ulla, OpenWeather AI assistant (/chat)

Ask a question (https://home.openweathermap.org/questions)

Download OpenWeather app



(https://apps.apple.com/gb/app/openweather/id1535923697)



(https://play.google.com/store/apps/details?id=uk.co.openweather)





