One Call API 3.0

Product concept

Get essential weather data, short-term and long-term forecasts and aggregated weather data is easy with our OpenWeather **One Call API 3.0**. This product designed to ensure easy migration from the Dark Sky API (/darksky-openweather-3).

One Call API 3.0 contains 4 endpoints and provides access to various data:

- **Current weather and forecasts:**
  - minute forecast for 1 hour
  - hourly forecast for 48 hours
  - daily forecast for 8 days

  and government weather alerts
- **Weather data for any timestamp** for 46+ years historical archive and 4 days ahead forecast
- **Daily aggregation** of weather data for 46+ years archive and 1.5 years ahead forecast
- **Weather overview** with a human-readable weather summary for today and tomorrow's forecast, utilizing OpenWeather AI technologies

One Call API 3.0 is based on the proprietary OpenWeather Model (https://openweather.co.uk/technology) and is updated every 10 minutes. Thus, in order to receive the most accurate and up-to-date weather data, we recommend

you request One Call API 3.0 every 10 minutes.

> Please note, that One Call API 3.0 is included in the "One Call by Call" (https://openweathermap.org/price) subscription **only**. This separate subscription includes 1,000 calls/day for free and allows you to pay only for the number of API calls made to this product. Please note, that you do not need to subscribe to any other OpenWeather subscription plans to get access to the One Call API 3.0. Please find more details on the pricing page (/price) and FAQ (/faq#onecall) or ask Ulla, OpenWeather AI assistant (/chat).

How to start

1. Sign up (https://home.openweathermap.org/users/sign_up) to OpenWeather service in case you haven't got your OpenWeather API key (https://home.openweathermap.org/api_keys) yet.
2. Follow the pricing page (/price#onecall) to learn details about the price.

   > One Call API 3.0 is included in the separate subscription only and allows you to pay only for the number of API calls made to this product. Please find more details on the pricing page (/price#onecall).

3. Once you subscribe to One call API 3.0, 2000 API calls per day to this product are set up by default. If you want to change this limit, please go to the "Billing plans" tab (https://home.openweathermap.org/subscriptions) in your Personal account to update standard settings. You can find more information on the FAQ (/faq#onecall) or ask Ulla, OpenWeather AI assistant (/chat).
4. Select the desired type of data (Current and forecasts weather data, Weather data for timestamp, Daily aggregation, Weather overview) and make an API call according to relevant tech documentation section, remembering to add your key to each call.

Current and forecasts weather data

To get access to current weather, minute forecast for 1 hour, hourly forecast for 48 hours, daily forecast for 8 days and government weather alerts, please use this section of the documentation.

If you are interested in other functionality on One Call API 3.0, please check Product concept (/api/one-call-3#concept) to follow the right section.

How to make an API call

API call

```
https://api.openweathermap.org/data/3.0/onecall?lat=
{lat}&lon={lon}&exclude={part}&appid={API key}
(https://home.openweathermap.org/api_keys)
```

Parameters

`lat`	required	Latitude, decimal (-90; 90). 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-api)
`lon`	required	Longitude, decimal (-180; 180). 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-api)

`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))
`exclude`	`optional`	By using this parameter you can exclude some parts of the weather data from the API response. It should be a comma-delimited list (without spaces). Available values: • `current` • `minutely` • `hourly` • `daily` • `alerts`
`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 the `lang` parameter to get the output in your language. Learn more

Example of API call

Before making an API call, please note, that One Call 3.0 is included in the "One Call by Call" subscription **only**. Learn more (/price)

If you you want to exclude some parts of the weather data from the API response please add `exclude` parameter to the API call like in the example below:

```
https://api.openweathermap.org/data/3.0/onecall?
lat=33.44&lon=-94.04&exclude=hourly,daily&appid={API
key} (https://home.openweathermap.org/api_keys)
```

If you do not need to exclude any of the weather data from the API response please use API call like in the example below:

```
https://api.openweathermap.org/data/3.0/onecall?
lat=33.44&lon=-94.04&appid={API key}
(https://home.openweathermap.org/api_keys)
```

Example of API response

```
Example of API response
```

```
{
   "lat":33.44,
   "lon":-94.04,
   "timezone":"America/Chicago",
   "timezone_offset":-18000,
   "current":{
      "dt":1684929490,
      "sunrise":1684926645,
      "sunset":1684977332,
      "temp":292.55,
      "feels_like":292.87,
      "pressure":1014,
      "humidity":89,
      "dew_point":290.69,
      "uvi":0.16,
      "clouds":53,
      "visibility":10000,
      "wind_speed":3.13,
      "wind_deg":93,
      "wind_gust":6.71,
      "weather":[
         {
            "id":803,
            "main":"Clouds",
            "description":"broken clouds",
            "icon":"04d"
         }
      ]
   },
   "minutely":[
      {
         "dt":1684929540,
         "precipitation":0
      },
      ...
   ],
   "hourly":[
      {
         "dt":1684926000,
         "temp":292.01,
         "feels_like":292.33,
         "pressure":1014,
         "humidity":91,
         "dew_point":290.51,
         "uvi":0,
         "clouds":54,
         "visibility":10000,
         "wind_speed":2.58,
         "wind_deg":86,
         "wind_gust":5.88,
         "weather":[
            {
               "id":803,
               "main":"Clouds",
               "description":"broken clouds",
               "icon":"04n"
            }
         ],
         "pop":0.15
      },
      ...
   ],
   "daily":[
      {
         "dt":1684951200,
         "sunrise":1684926645,
         "sunset":1684977332,
         "moonrise":1684941060,
         "moonset":1684905480,
         "moon_phase":0.16,
         "summary":"Expect a day of partly cloudy with rain",
         "temp":{
```

```
            "day":299.03,
            "min":290.69,
            "max":300.35,
            "night":291.45,
            "eve":297.51,
            "morn":292.55
         },
         "feels_like":{
            "day":299.21,
            "night":291.37,
            "eve":297.86,
            "morn":292.87
         },
         "pressure":1016,
         "humidity":59,
         "dew_point":290.48,
         "wind_speed":3.98,
         "wind_deg":76,
         "wind_gust":8.92,
         "weather":[
            {
               "id":500,
               "main":"Rain",
               "description":"light rain",
               "icon":"10d"
            }
         ],
         "clouds":92,
         "pop":0.47,
         "rain":0.15,
         "uvi":9.23
      },
      ...
   ],
    "alerts": [
    {
      "sender_name": "NWS Philadelphia - Mount Holly (New Jersey, D
elaware, Southeastern Pennsylvania)",
      "event": "Small Craft Advisory",
      "start": 1684952747,
      "end": 1684988747,
      "description": "...SMALL CRAFT ADVISORY REMAINS IN EFFECT FRO
M 5 PM THIS\nAFTERNOON TO 3 AM EST FRIDAY...\n* WHAT...North winds
15 to 20 kt with gusts up to 25 kt and seas\n3 to 5 ft expected.\n*
WHERE...Coastal waters from Little Egg Inlet to Great Egg\nInlet NJ
out 20 nm, Coastal waters from Great Egg Inlet to\nCape May NJ out
20 nm and Coastal waters from Manasquan Inlet\nto Little Egg Inlet
NJ out 20 nm.\n* WHEN...From 5 PM this afternoon to 3 AM EST Frida
y.\n* IMPACTS...Conditions will be hazardous to small craft.",
      "tags": [

      ]
    },
    ...
  ]
```


Fields in 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.

- `lat` Latitude of the location, decimal (−90; 90)
- `lon` Longitude of the location, decimal (-180; 180)

- `timezone` Timezone name for the requested location
- `timezone_offset` Shift in seconds from UTC
- `current` **Current weather data API response**
  - `current.dt` Current time, Unix, UTC
  - `current.sunrise` Sunrise time, Unix, UTC. For polar areas in midnight sun and polar night periods this parameter is not returned in the response
  - `current.sunset` Sunset time, Unix, UTC. For polar areas in midnight sun and polar night periods this parameter is not returned in the response
  - `current.temp` Temperature. Units - default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `current.feels_like` Temperature. This temperature parameter accounts for the human perception of weather. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit.
  - `current.pressure` Atmospheric pressure on the sea level, hPa
  - `current.humidity` Humidity, %
  - `current.dew_point` Atmospheric temperature (varying according to pressure and humidity) below which water droplets begin to condense and dew can form. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit
  - `current.clouds` Cloudiness, %
  - `current.uvi` Current UV index.
  - `current.visibility` Average visibility, metres. The maximum value of the visibility is 10 km
  - `current.wind_speed` Wind speed. Wind speed. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
  - `current.wind_gust` `(where available)` Wind gust. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
  - `current.wind_deg` Wind direction, degrees (meteorological)
  - `current.rain`
    - `current.rain.1h` `(where available)` Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
  - `current.snow`
    - `current.snow.1h` `(where available)` Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
  - `current.weather`
    - `current.weather.id` Weather condition id (/weather-conditions#Weather-Condition-Codes-2)
    - `current.weather.main` Group of weather parameters (Rain, Snow etc.)
    - `current.weather.description` Weather condition within the group (full list of weather conditions (/weather-conditions#Weather-Condition-Codes-2)). Get the output in your language
    - `current.weather.icon` Weather icon id. How to get icons (/weather-conditions#How-to-get-icon-URL)
- `minutely` **Minute forecast weather data API response**
  - `minutely.dt` Time of the forecasted data, unix, UTC
  - `minutely.precipitation` Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
- `hourly` **Hourly forecast weather data API response**
  - `hourly.dt` Time of the forecasted data, Unix, UTC
  - `hourly.temp` Temperature. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used

- `hourly.feels_like` Temperature. This accounts for the human perception of weather. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit.
- `hourly.pressure` Atmospheric pressure on the sea level, hPa
- `hourly.humidity` Humidity, %
- `hourly.dew_point` Atmospheric temperature (varying according to pressure and humidity) below which water droplets begin to condense and dew can form. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit.
- `hourly.uvi` UV index
- `hourly.clouds` Cloudiness, %
- `hourly.visibility` Average visibility, metres. The maximum value of the visibility is 10 km
- `hourly.wind_speed` Wind speed. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour.How to change units used
- `hourly.wind_gust` `(where available)` Wind gust. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
- `hourly.wind_deg` Wind direction, degrees (meteorological)
- `hourly.pop` Probability of precipitation. The values of the parameter vary between 0 and 1, where 0 is equal to 0%, 1 is equal to 100%
- `hourly.rain`
  - `hourly.rain.1h` `(where available)` Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
- `hourly.snow`
  - `hourly.snow.1h` `(where available)` Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
- `hourly.weather`
  - `hourly.weather.id` Weather condition id (/weather-conditions#Weather-Condition-Codes-2)
  - `hourly.weather.main` Group of weather parameters (Rain, Snow etc.)
  - `hourly.weather.description` Weather condition within the group (full list of weather conditions (/weather-conditions#Weather-Condition-Codes-2)). Get the output in your language
  - `hourly.weather.icon` Weather icon id. How to get icons (/weather-conditions#How-to-get-icon-URL)

- `daily` **Daily forecast weather data API response**
  - `daily.dt` Time of the forecasted data, Unix, UTC
  - `daily.sunrise` Sunrise time, Unix, UTC. For polar areas in midnight sun and polar night periods this parameter is not returned in the response
  - `daily.sunset` Sunset time, Unix, UTC. For polar areas in midnight sun and polar night periods this parameter is not returned in the response
  - `daily.moonrise` The time of when the moon rises for this day, Unix, UTC
  - `daily.moonset` The time of when the moon sets for this day, Unix, UTC
  - `daily.moon_phase` Moon phase. `0` and `1` are 'new moon', `0.25` is 'first quarter moon', `0.5` is 'full moon' and `0.75` is 'last quarter moon'. The periods in between are called 'waxing crescent', 'waxing gibbous', 'waning gibbous', and 'waning crescent', respectively. Moon phase calculation algorithm: if the moon phase values between the start of the day and the end of the day have a round value (0, 0.25, 0.5, 0.75, 1.0), then this round value is taken,

otherwise the average of moon phases for the start of the day and the end of the day is taken

- `summary` Human-readable description of the weather conditions for the day
- `daily.temp` Units – default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `daily.temp.morn` Morning temperature.
  - `daily.temp.day` Day temperature.
  - `daily.temp.eve` Evening temperature.
  - `daily.temp.night` Night temperature.
  - `daily.temp.min` Min daily temperature.
  - `daily.temp.max` Max daily temperature.
- `daily.feels_like` This accounts for the human perception of weather. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `daily.feels_like.morn` Morning temperature.
  - `daily.feels_like.day` Day temperature.
  - `daily.feels_like.eve` Evening temperature.
  - `daily.feels_like.night` Night temperature.
- `daily.pressure` Atmospheric pressure on the sea level, hPa
- `daily.humidity` Humidity, %
- `daily.dew_point` Atmospheric temperature (varying according to pressure and humidity) below which water droplets begin to condense and dew can form. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit.
- `daily.wind_speed` Wind speed. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
- `daily.wind_gust` `(where available)` Wind gust. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
- `daily.wind_deg` Wind direction, degrees (meteorological)
- `daily.clouds` Cloudiness, %
- `daily.uvi` The maximum value of UV index for the day
- `daily.pop` Probability of precipitation. The values of the parameter vary between 0 and 1, where 0 is equal to 0%, 1 is equal to 100%
- `daily.rain` `(where available)` Precipitation volume, mm. Please note that only mm as units of measurement are available for this parameter
- `daily.snow` `(where available)` Snow volume, mm. Please note that only mm as units of measurement are available for this parameter
- `daily.weather`
  - `daily.weather.id` Weather condition id (/weather-conditions#Weather-Condition-Codes-2)
  - `daily.weather.main` Group of weather parameters (Rain, Snow etc.)
  - `daily.weather.description` Weather condition within the group (full list of weather conditions (/weather-conditions#Weather-Condition-Codes-2)). Get the output in your language
  - `daily.weather.icon` Weather icon id. How to get icons (/weather-conditions#How-to-get-icon-URL)

- `alerts` **National weather alerts data from major national weather warning systems**
  - `alerts.sender_name` Name of the alert source. Please read here the full list of alert sources
  - `alerts.event` Alert event name

- `alerts.start` Date and time of the start of the alert, Unix, UTC
- `alerts.end` Date and time of the end of the alert, Unix, UTC
- `alerts.description` Description of the alert
- `alerts.tags` Type of severe weather

> National weather alerts are provided in English by default.
> Please note that some agencies provide the alert's description only in a local language.

Weather data for timestamp

To learn about how get access to weather data for any timestamp from 1st January 1979 till 4 days ahead forecast, please use this section of the documentation.

If you are interested in other functionality on One Call API 3.0, please check Product concept (/api/one-call-3#concept) to follow the right section.

How to make an API call

API call

```
https://api.openweathermap.org/data/3.0/onecall/timemachine?lat={lat}&lon={lon}&dt={time}&appid={API key}
```
(https://home.openweathermap.org/api_keys)

Parameters

`lat`	required	Latitude, decimal (-90; 90). 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-api)
`lon`	required	Longitude, decimal (-180; 180). 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-api)
`dt`	required	Timestamp (Unix time, UTC time zone), e.g. dt=1586468027. Data is available **from January 1st, 1979 till 4 days ahead**
`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))
`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 the `lang` parameter to get the output in your language. Learn more

> Please note that the one API response contains weather data for only one specified timestamp.

Example of API call

Before making an API call, please note, that One Call 3.0 is included in the "One Call by Call" subscription **only**. Learn more (/price)

```
https://api.openweathermap.org/data/3.0/onecall/timemac
hine?lat=39.099724&lon=-94.578331&dt=1643803200&appid=
{API key} (https://home.openweathermap.org/api_keys)
```

Example of API response

Example of API response


```
{
"lat": 52.2297,
"lon": 21.0122,
"timezone": "Europe/Warsaw",
"timezone_offset": 3600,
"data": [
  {
    "dt": 1645888976,
    "sunrise": 1645853361,
    "sunset": 1645891727,
    "temp": 279.13,
    "feels_like": 276.44,
    "pressure": 1029,
    "humidity": 64,
    "dew_point": 272.88,
    "uvi": 0.06,
    "clouds": 0,
    "visibility": 10000,
    "wind_speed": 3.6,
    "wind_deg": 340,
    "weather": [
      {
        "id": 800,
        "main": "Clear",
        "description": "clear sky",
        "icon": "01d"
      }
    ]
  }
]
}
```


Fields in 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.

- `lat` Latitude of the location, decimal (−90; 90)
- `lon` Longitude of the location, decimal (-180; 180)
- `timezone` Timezone name for the requested location
- `timezone_offset` Shift in seconds from UTC
- `data`
  - `data.dt` Requested time, Unix, UTC
  - `data.sunrise` Sunrise time, Unix, UTC. For polar areas in midnight sun and polar night periods this parameter is not returned

in the response

- `data.sunset` Sunset time, Unix, UTC. For polar areas in midnight sun and polar night periods this parameter is not returned in the response
- `data.temp` Temperature. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
- `data.feels_like` Temperature. This accounts for the human perception of weather. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit.
- `data.pressure` Atmospheric pressure on the sea level, hPa
- `data.humidity` Humidity, %
- `data.dew_point` Atmospheric temperature (varying according to pressure and humidity) below which water droplets begin to condense and dew can form. Units – default: kelvin, metric: Celsius, imperial: Fahrenheit.
- `data.clouds` Cloudiness, %
- `data.uvi` UV index. Please pay attention that historical UV index data available only for 5 days back. If you would like to get historical UVI index data starting from 20th September 2020 please contact us (mailto:info@openweathermap.org)
- `data.visibility` Average visibility, metres. The maximum value of the visibility is 10 km
- `data.wind_speed` Wind speed. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
- `data.wind_gust` `(where available)` Wind gust. Wind speed. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
- `data.wind_deg` Wind direction, degrees (meteorological)
- `data.weather`
  - `data.weather.id` Weather condition id (/weather-conditions#Weather-Condition-Codes-2)
  - `data.weather.main` Group of weather parameters (Rain, Snow etc.)
  - `data.weather.description` Weather condition within the group (full list of weather conditions (/weather-conditions#Weather-Condition-Codes-2)). Get the output in your language
  - `data.weather.icon` Weather icon id. How to get icons (/weather-conditions#How-to-get-icon-URL)
- `data.rain` `(where available)`
  - `1h` Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter
- `data.snow` `(where available)`
  - `1h` Precipitation, mm/h. Please note that only mm/h as units of measurement are available for this parameter

Daily Aggregation

To learn about how get access to aggregated weather data for a particular date from 2nd January 1979 till long-term forecast for 1,5 years ahead, please use this section of the documentation.

If you are interested in other functionality on One Call API 3.0, please check Product concept (/api/one-call-3#concept) to follow the right section.

How to make an API call

Ulla Weather Assistant

API call

```
https://api.openweathermap.org/data/3.0/onecall/day_summary?lat={lat}&lon={lon}&date={date}&appid={API key}
(https://home.openweathermap.org/api_keys)
```

Parameters

`lat`	required	Latitude, decimal (-90; 90)
`lon`	required	Longitude, decimal (-180; 180)
`date`	required	Date in the `YYYY-MM-DD` format for which data is requested. Date is available for 46+ years archive (starting from 1979-01-02) up to the 1,5 years ahead forecast to the current date
`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))
`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 the `lang` parameter to get the output in your language. Learn more

> If the service detected timezone for your location incorrectly you can specify correct timezone manually by adding `tz` parameter in the ±XX:XX format to API call.
>
> **API call**
>
> ```
> https://api.openweathermap.org/data/3.0/onecall/day_summary?lat={lat}&lon={lon}&date={date}&tz={tz}&appid={API key}
> (https://home.openweathermap.org/api_keys)
> ```
>
> **Example of API call**
>
> ```
> https://api.openweathermap.org/data/3.0/onecall/day_summary?lat=60.45&lon=-38.67&date=2023-03-30&tz=+03:00&appid={API key}
> (https://home.openweathermap.org/api_keys)
> ```
>
> Please pay attention that in case timezone is specified time of afternoon, night, evening, morning temperatures, pressure, humidity will be returned in accordance with this specified timezone.

Example of API call

Before making an API call, please note, that One Call 3.0 is included in the "One Call by Call" subscription **only**. Learn more (/price)

```
https://api.openweathermap.org/data/3.0/onecall/day_summary?lat=39.099724&lon=-94.578331&date=2020-03-04&appid={API key}
```
(https://home.openweathermap.org/api_keys)

Example of API response

Example of API response


```
{
 "lat":33,
 "lon":35,
 "tz":"+02:00",
 "date":"2020-03-04",
 "units":"standard",
 "cloud_cover":{
    "afternoon":0
 },
 "humidity":{
    "afternoon":33
 },
 "precipitation":{
    "total":0
 },
 "temperature":{
    "min":286.48,
    "max":299.24,
    "afternoon":296.15,
    "night":289.56,
    "evening":295.93,
    "morning":287.59
 },
 "pressure":{
    "afternoon":1015
 },
 "wind":{
    "max":{
       "speed":8.7,
       "direction":120
    }
 }
}
```


Fields in API response

- `lat` Latitude of the location, decimal (−90; 90)
- `lon` Longitude of the location, decimal (-180; 180)
- `tz` Timezone in the ±XX:XX format
- `date` Date specified in the API request in the `YYYY-MM-DD` format (from 1979-01-02 up to the 1,5 years ahead forecast)
- `units` Units of measurement specified in the request. Learn more
- `cloud_cover` Cloud related information
  - `afternoon` Cloud cover at 12:00 for the date specified in the request, %
- `humidity` Humidity related information
  - `afternoon` Relative humidity at 12:00 for the date specified in the request, %
- `precipitation` Precipitation related information

- `total` Total amount of liquid water equivalent of precipitation for the date specified in the request, mm

- `pressure` Atmospheric pressure related information
  - `afternoon` Atmospheric pressure at 12:00 for the date specified in the request, hPa
- `temperature` Temperature related information
  - `min` Minimum temperature for the date specified in the request. Units - default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `max` Maximum temperature for the date specified in the request. Units - default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `afternoon` Temperature at 12:00 for the date specified in the request. Units - default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `night` Temperature at 00:00 for the date specified in the request. Units - default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `evening` Temperature at 18:00 for the date specified in the request. Units - default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
  - `morning` Temperature at 06:00 for the date specified in the request. Units - default: kelvin, metric: Celsius, imperial: Fahrenheit. How to change units used
- `wind` Wind speed related information
  - `max` Maximum wind speed related information
    - `speed` Maximum wind speed for the date specified in the request. Units – default: metre/sec, metric: metre/sec, imperial: miles/hour. How to change units used
    - `direction` Wind cardinal direction relevant to the maximum wind speed, degrees (meteorological)

Weather overview

This section describes how to get weather overview with a human-readable weather summary for today and tomorrow's forecast, utilizing OpenWeather AI technologies.

If you are interested in other functionality on One Call API 3.0, please check Product concept (/api/one-call-3#concept) to follow the right section.

How to make an API call

API call

```
https://api.openweathermap.org/data/3.0/onecall/overvie
w?lat={lat}&lon={lon}&appid={API key}
(https://home.openweathermap.org/api_keys)
```

Parameters

`lat`	`required`	Latitude, decimal (-90; 90)
`lon`	`required`	Longitude, decimal (-180; 180)
`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))

`date`	optional	The date the user wants to get a weather summary in the YYYY-MM-DD format. Data is available for today and tomorrow. If not specified, the current date will be used by default. Please note that the date is determined by the timezone relevant to the coordinates specified in the API request
`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

Example of API call

```
https://api.openweathermap.org/data/3.0/onecall/overview?lon=-11.8092&lat=51.509865&appid={API key}
(https://home.openweathermap.org/api_keys)
```

Example of API response

```
{
   "lat": 51.509865,
   "lon": -0.118092,
   "tz": "+01:00",
   "date": "2024-05-13",
   "units": "metric",
   "weather_overview": "The current weather is overcast with a
temperature of 16°C and a feels-like temperature of 16°C.
The wind speed is 4 meter/sec with gusts up to 6 meter/sec
coming from the west-southwest direction.
The air pressure is at 1007 hPa with a humidity level of 79%.
The dew point is at 12°C and the visibility is 10000 meters.
The UV index is at 4, indicating moderate risk from the
sun's UV rays.
The sky is covered with overcast clouds, and there is
no precipitation expected at the moment.
Overall, it is a moderately cool and cloudy day
with light to moderate winds from the west-southwest."
}
```

Fields in API response

- `lat` Latitude of the location, decimal (−90; 90)
- `lon` Longitude of the location, decimal (-180; 180)
- `tz` Timezone in the ±XX:XX format
- `date` Date for which summary is generated in the format YYYY-MM-DD
- `units` Units of measurement specified in the request
- `weather_overview` AI generated weather overview for the requested date

Other features

List of weather condition codes

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

Units of measurement

`standard`, `metric` and `imperial` units are available.

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

API call

```
https://api.openweathermap.org/data/3.0/onecall?lat=
{lat}&lon={lon}&units={units}
```

Parameters

`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.

> Temperature is available in Fahrenheit, Celsius and Kelvin units.
> Wind speed is available in miles/hour and meter/sec.
>
> - For temperature in Fahrenheit and wind speed in miles/hour, use `units=imperial`
> - For temperature in Celsius and wind speed in meter/sec, use `units=metric`
> - Temperature in Kelvin and wind speed in meter/sec is used by default, so there is no need to use the units parameter in the API call if you want this

Examples of API calls

Standard (default)

```
api.openweathermap.org/data/3.0/onecall?
lat=30.489772&lon=-99.771335
```

Metric

```
api.openweathermap.org/data/3.0/onecall?
lat=30.489772&lon=-99.771335&units=metric
```

Imperial

```
api.openweathermap.org/data/3.0/onecall?
lat=30.489772&lon=-99.771335&units=imperial
```

Multilingual support

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

The contents of the `description` field will be translated.

API call

```
https://api.openweathermap.org/data/3.0/onecall?lat=
{lat}&lon={lon}&lang={lang}
```

Parameters

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

Example of API call

Before making an API call, please note, that One Call 3.0 is included in the "One Call by Call" subscription **only**. Learn more (/price)

```
https://api.openweathermap.org/data/3.0/onecall?
lat=30.489772&lon=-99.771335&lang=zh_cn
```

We support the following languages. To select one, you can use the corresponding language code:

- `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
- `nl` Dutch
- `en` English
- `fi` Finnish
- `fr` French
- `gl` Galician
- `de` German
- `el` Greek
- `he` Hebrew
- `hi` Hindi
- `hu` Hungarian

- `is` Icelandic
- `id` Indonesian
- `it` Italian
- `ja` Japanese
- `kr` Korean
- `ku` Kurmanji (Kurdish)
- `la` Latvian
- `lt` Lithuanian
- `mk` Macedonian
- `no` Norwegian
- `fa` Persian (Farsi)
- `pl` 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
- `tr` Turkish
- `ua, uk` Ukrainian
- `vi` Vietnamese
- `zu` Zulu

List of national weather alerts sources

Country	Agency
Albania	Institute of GeoSciences, Energy, Water and Environment of Albania
Algeria	National Meteorological Office
Argentina	National Weather Service of Argentina
Australia	Australian Bureau of Meteorology
Austria	• Central Institute for Meteorology and Geodynamics • Water Balance Department
Bahrain	Bahrain Meteorological Directorate
Barbados	Barbados Meteorological Service
Belarus	State institution "Republican center for hydrometeorology, control of radioactive contamination and environmental monitoring" (Belhydromet)
Belgium	Royal Meteorological Institute
Belize	National Meteorological Service of Belize
Benin	National Meteorological Agency (METEO-BENIN)

Bosnia and Herzegovina	• Federal Hydrometeorological Institute of BiH • Republic Hydrometeorological Institute
Botswana	Botswana Meteorological Services
Brazil	National Meteorological Institute - INMET
Bulgaria	National Institute of Meteorology and Hydrology - Plovdiv branch
Cameroon	Cameroon National Meteorological Service
Canada	• Alberta Emergency Management Agency (Government of Alberta, Ministry of Municipal Affairs) • Meteorological Service of Canada • Quebec Ministry of Public Safety • Yukon Emergency Measures Organization • Manitoba Emergency Management Organization
Chile	Meteorological Directorate of Chile
Congo	National Civil Aviation Agency (ANAC Congo)
Costa Rica	National Meteorological Institute of Costa Rica
Croatia	State Hydrometeorological Institute (DHMZ)
Curacao and Sint Maarten	Meteorological Department Curacao
Cyprus	Republic of Cyprus - Department of Meteorology
Czech Republic	Czech Hydrometeorological Institute
Denmark	Danish Meteorological Institute
Ecuador	Ecuadoran Institute for Meteorology and Hydrology (INAMHI)
Egypt	Egyptian Meteorological Authority
Estonia	Estonian Environment Agency
Eswatini	Eswatini Meteorological Service
Finland	Finnish Meteorological Institute
France	Meteo-France
Gabon	General Directorate of Meteorology of Gabon
Germany	German Meteorological Office
Ghana	Ghana Meteorological Agency
Greece	Hellenic National Meteorological Service
Guinea	National Meteorological Agency of Guinea
Guyana	Hydrometeorological Service of Guyana
Hong Kong China	Hong Kong Observatory
Hungary	Hungarian Meteorological Service

Iceland	Icelandic Meteorological Office
India	India Meteorological Department
Indonesia	• Agency for Meteorology Climatology and Geophysics of Republic Indonesia (BMKG) • InaTEWS BMKG
Ireland	Met Eireann - Irish Meteorological Service
Israel	Israel Meteorological Service
Italy	Italian Air Force National Meteorological Service
Ivory Coast	Airport, aeronautical and meteorological operating and development company (SODEXAM)
Jamaica	Meteorological Service of Jamaica
Japan	Japan Meteorological Business Support Center
Jordan	Jordanian Meteorological Department
Kazakhstan	National Hydrometeorological Service of the Republic of Kazakhstan (Kazhydromet)
Kenya	Kenya Meteorological Department
Kuwait	Kuwait Meteorological Department
Latvia	Latvian Environment, Geology and Meteorology Center
Lesotho	Lesotho Meteorological Services
Libya	Libyan National Meteorological Center
Lithuania	Lithuanian Hydrometeorological Service under the Ministry of Environment of the Republic of Lithuania (LHMS)
Luxembourg	Luxembourg Airport Administration
Macao China	Macao Meteorological and Geophysical Bureau
Madagascar	METEO Madagascar
Malawi	Malawi Department of Climate Change and Meteorological Services
Maldives	Maldives Meteorological Service
Mauritania	National Meteorological Office of Mauritania
Mauritius	Mauritius Meteorological Services
Mexico	CONAGUA - National Meteorological Service of Mexico
Moldova	State Hydrometeorological Service of Moldova
Mongolia	National Agency Meteorology and the Environmental Monitoring of Mongolia
Mozambique	National Institute of Meteorology of Mozambique
Myanmar	Myanmar Department of Meteorology and Hydrology

Netherlands	Royal Netherlands Meteorological Institute (KNMI)
New Zealand	• Meteorological Service of New Zealand Limited • National Emergency Management Agency • Fire and Emergency New Zealand • Civil Defence Emergency Management (CDEM) Groups
New Zealand	New Zealand Emergency Mobile Alert
Niger	National Meteorological Directorate of Niger
Nigeria	Nigerian Meteorological Agency (NiMet)
North Macedonia	National Hydrometeorological Service - Republic of Macedonia
Norway	• Norwegian Meteorological Institute • Norwegian Water Resources and Energy Directorate
Paraguay	Directorate of Meteorology and Hydrology
Philippines	Philippine Atmospheric Geophysical and Astronomical Services Administration
Poland	Institute of Meteorology and Water Management (IMGW-PIB)
Portugal	Portuguese Institute of Sea and Atmosphere, I.P.
Qatar	Qatar Meteorology Department
Republic of Korea	Korea Meteorological Administration, Weather Information
Romania	National Meteorological Administration
Russia-EN	Hydrometcenter of Russia
Russia-RU	Russian Federal Service for Hydrometeorology and Environmental Monitoring
Saudi Arabia	National Center for Meteorology - Kingdom of Saudi Arabia
Serbia	Republic Hydrometeorological Service of Serbia
Seychelles	Seychelles Meteorological Authority
Singapore	Meteorological Service Singapore
Slovakia	Slovak Hydrometeorological Institute
Slovenia	National Meteorological Service of Slovenia
Solomon Islands	Solomon Islands Meteorological Services
South Africa	South African Weather Service (SAWS)
Spain	State Meteorological Agency (AEMET)
Sudan	Sudan Meteorological Authority
Sweden	Swedish Meteorological and Hydrological Institute

Switzerland	MeteoSwiss
Tanzania	Tanzania Meteorological Authority
Thailand	Thai Meteorological Department
Timor-Leste	National Directorate of Meteorology and Geophysics of Timor-Leste
Trinidad and Tobago	Trinidad and Tobago Meteorological Service
Ukraine	Ukrainian Hydrometeorological Center
United Kingdom of Great Britain and Northern Ireland	UK Met Office
Uruguay	Uruguayan Institute of Meteorology
United States	• Environmental Protection Agency (EPA), Air Quality Alerts • Integrated Public Alerrt and Warning System (IPAWS) • National Oceanic and Atmospheric Administration (NOAA), National Tsunami Warning Center • National Oceanic and Atmospheric Administration (NOAA), National Weather Service • National Oceanic and Atmospheric Administration (NOAA), National Weather Service - Marine Zones • U.S. Geological Survey (USGS), Volcano Hazard Program
USA	National Oceanic and Atmospheric Administration
Yemen	Yemeni Civil Aviation and Meteorology Authority (CAMA)
Zambia	Meteorological Department Zambia
Zimbabwe	Meteorological Services Department

Please note that some agencies from the list may cease to provide us the weather alert information.
In case you don't receive alerts from any agency, please contact us (mailto:info@openweathermap.org).
We constantly work on our product's improvement and keep expanding the list of partner agencies.

Call back function for JavaScript code

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

API call example

```
api.openweathermap.org/data/3.0/onecall?
lat=38.8&lon=12.09&callback=test
```

API errors

Structure of API errors

In case of incorrected API call you will receive API error response. Error response payload returned for all types of errors with the structure below.

Example of error response

Example of error response

```
{
    "cod":400,
    "message":"Invalid date format",
    "parameters": [
        "date"
    ]
}
```

Fields in error response

- `cod` Code of error
- `message` Description of error
- `parameters` `(optional)` List of request parameters names that are related to this particular error

Errors list

Please find more detailed information about some popular errors below.

API calls return an error 400

API calls return an error 401

API calls return an error 404

API calls return an error 429

API calls return errors '5xx'

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Ulla, OpenWeather AI assistant (/chat)

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

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Ulla Weather Assistant