



Weather API 1.1.0

Release note

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New API release

Sunrise & sunset API

A new API endpoint is available to access sunrise and sunset times. MeteoGroup's Sunrise & Sunset API computes the local sunrise and sunset for a given location and date combination. The location can be a weather station or a longitude/latitude combination.

The request parameters for the API are:

Parameter	Description	Data Type
locatedAt	This required parameter sets the location (defined as latitude and longitude) or locations (defined as multiple latitude-longitude pairs or using the Microsoft Point Compression Algorithm, the latter being efficient for up to 400 locations) for which the sunrise and sunset data is requested.	String, required
validAt	This parameter sets the date for which the sunrise and sunset times should be returned. It uses the standard ISO 08601 notation .	String, optional
validFrom	These optional parameters set the period of the request. They use the standard ISO 08601 notation .	String, optional
validUntil		
Fields	This required parameter should be supplied with at least one field value. If you want to provide more than one value, use a comma-separated list. For reference on the Weather API parameters and allowed valid periods, use the MeteoGroup Weather API Parameters table.	Data types vary

Example response query is:

```
"sunriseSunsetTime": [
  {
    "locatedAt": [
      13,
      52
    ],
    "validAt": "2016-12-27",
    "locationTimeZoneName": "Europe/Berlin",
    "officialSunriseTime": "2016-12-27T08:16+01:00",
    "officialSunsetTime": "2016-12-27T16:03+01:00"
  },
]
```

The sunrise & sunset API is available as a free service for existing customers. There is no additional fee required to access it.

New features

Gap filling Point Observation API

MeteoGroup's Point Observation API delivers high-quality weather observation data from more than 20,000 stations world-wide. Sometimes recent observations are missing, especially for specific parameters while instruments can be broken or out for maintenance. As the input of observations can be critical for business processes we provide the functionality to receive a pseudo-observation when real observations are missing. We apply smart algorithms to determine the most likely value and make them accessible. The following parameters are gap filled:

- Air pressure at sea level
 - `airPressureAtSeaLevelInHectoPascal`
- Air temperature
 - `airTemperatureInCelsius`
 - `airTemperatureInFahrenheit`
 - `airTemperatureInKelvin`
- Dew point
 - `dewPointTemperatureInCelsius`
 - `dewPointTemperatureInFahrenheit`
 - `dewPointTemperatureInKelvin`
- Effective cloud cover
 - `effectiveCloudCoverInOkta`
- Relative humidity
 - `relativeHumidityInPercent`
- Total cloud cover
 - `totalCloudCoverInOkta`
- Wind direction
 - `windDirectionInDegree`
- Wind speed
 - `windSpeedInKilometerPerHour`
 - `windSpeedInMeterPerSecond`
 - `windSpeedInMilesPerHour`

Gap-filled data is labelled in the API response. This functionality can be used when an enterprise package is bought.

The gap-filling method is always applied consistently using the +0 forecast period of our advanced MOS forecasting system. This is the most likely observed weather using the most recent observations and forecasts from the station itself and surrounding stations.

For the gap-filling feature to work, you must supply the following items in your API call:

- `gapFilling`. This is a required Boolean parameter that, when set to true, activates the gap-filling feature for the API request.
- `gapFillingInfo`. This is an optional field to retrieve information about what parameters in the response were actually gap-filled. To get gap-filled field information, add this item for the `fields` parameter in the API call.

A URL example with these items would look like this:

```
https://point-observation.weather.mg/search
?meteoGroupStationIds=2038151,95930&gapFilling=true&observedPeriod=PT0S
&fields=dewPointTemperatureInCelsius,typeOfLowCloudsDescription
```

In the response, gap filling returns the `gapFillingInfo` object that contains the following items (highlighted in red in the sample response below):

- The `dataSource` string. It contains the data source—forecast.
- The `issuedAt` string. It contains the timestamp of the forecast in the [standard ISO 08601 notation](#).
- The `gapFilledFields` array. It shows which weather parameters have been processed using the gap-filling feature. To see the specific values for these weather parameters, look

```
{
  "observations": [
    {
      ...
      "observedFrom": "2018-07-05T12:00:00+05:00",
      "observedUntil": "2018-07-05T12:00:00+05:00",
      "observedPeriod": "PT0S",
      "gapFillingInfo": {
        "dataSource": "Forecast",
        "issuedAt": "2018-07-05T07:00:00.000Z",
        "gapFilledFields": [
          "totalCloudCoverInOcta",
          "effectiveCloudCoverInOcta"
        ]
      },
      "airTemperatureInCelsius": 38,
      ...
      "dewPointTemperatureInKelvin": 282.2,
      "relativeHumidityInPercent": 17,
      "effectiveCloudCoverInOcta": 0.1,
      "totalCloudCoverInOcta": 0.1
    ]
  ]
}
```

Feature extensions

Radiation parameters Point Observation API

MeteoGroup's Point Observation API delivers high-quality weather observation data from more than 20,000 stations world-wide. We have now added additional radiation parameters to the portfolio of parameters we offer. These are:

- Global radiation
 - `globalRadiationInJoulePerSquareCentimeter`
 - `averageGlobalRadiationInWattPerSquareMeter`
- Direct radiation
 - `directRadiationInJoulePerSquareCentimeter`

Not all countries/stations provide these parameters but as these are important measurements for many use cases MeteoGroup has secured access as much as possible and they have been added and are available when queried per station.