Geocoding API

Helps provide geo-location information of a town/city in terms of:
1. Latitude
2. Longitude
3. Elevation

Requirements

a) **Name of location** - this is a required parameter for the OpenMeteo Geocoding API. OpenMeteo handles the fuzzy search and returns appropriate geolocation information.

b) **Country** - Not required for the API but for filtering geolocation results. Towns are unique but names are not.

Making Requests

- I would recommend fetching multiple locations as the API is limited to the name of the location only.

API URL: https://geocoding-api.open-meteo.com/v1
Path: search
Query parameters: name

Default Query Parameters:
1. Count = 10

Extractable json fields in response:
1. latitude - *double*
2. longitude - *double*
3. elevation - *double*
4. country - *string*

Daily Forecast API

Fetches the average daily forecast of a specified date range.

<u>**Requirements**</u>
  a) Latitude
  b) Longitude
  c) Elevation
  d) Start date
  e) End date

<u>**Making Requests**</u>
  • OpenMeteo allows forecast requests of up to 16 days.
  • Additionally, OpenMeteo averages the weather information for the day for each parameter we request and returns an array.
  • The array size equals the number of days requested.

API URL: https://api.open-meteo.com/v1
Path: forecast

Required query parameters:
  1. latitude
  2. longitude
  3. elevation
  4. start_date in iso8601 format i.e. yyyy-mm-dd
  5. end_date in iso8601 format i.e. yyyy-mm-dd

Default query parameter:
  1. daily

In the default **"daily"** query parameter, weather variables of interest include:
  1. **weather_code** - provide information on the weather condition of the day
  2. **temperature_2m_max** - maximum atmospheric temperature in ℃
  3. **temperature_2m_min** - minimum atmospheric temperature in ℃
  4. **apparent_temperature_max** - maximum temperature of the day (similar to "feels-like") in ℃
  5. **apparent_temperature_min** - minimum temperature of the day (similar to "feels-like") in ℃
  6. **daylight_duration** - number of seconds regarded as "day"
  7. **sunshine_duration** - numbers of seconds within the "day" with sunshine
  8. **precipitation_probability_max** - probability of any form of precipitation i.e. rain, snow, showers
  9. **wind_speed_10m_max -** speed of wind in km/hr

Extractable json responses in fields:

1. time - ***array** of **iso8601** formatted dates*
2. weather_code - ***array** of double*
3. temperature_2m_max - ***array** of double*
4. temperature_2m_min - ***array** of double*
5. apparent_temperature_max - ***array** of double*
6. apparent_temperature_min - ***array** of double*
7. daylight_duration - ***array** of double*
8. sunshine_duration - ***array** of double*
9. precipitation_probability_max - ***array** of double*
10. wind_speed_10m_max **- *array** of double*

It should be noted that OpenMeteo will return a single json object for a single location. For multiple locations, a json array with information about all locations requested will be returned in the order requested.