Summarized Weather Data API Documentation

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1. Introduction

This API documentation provides detailed information on the endpoints, request and response formats, and usage guidelines for the Weather Data API.

2. Base URL

The base URL for all API endpoints is: http://localhost:8000/api/

3. Endpoints

3.1. Get data on the basis of given region and weather parameter

Endpoint: 'GET /parametric_data/{region} /{parameter} / '

Description:

Inputs:

region: The region whose summarized weather data is required

parameter: Weather parameter whose summary is required

Note: Kindly refer last section for supported regions and parameters

Response:

Returns JSON body consisting of monthly, seasonal and annual data .

Pagination is used for this response, where page size is 5.

Status Code: 200 OK

Body: {

```
"count": 188,
"next": "http://localhost:8000/api/parametric_data/En
gland_NW_&_N_Wales/Rainfall/?page=2",
"previous": null,
"results": [
```

```
                      {
                          "year": 1836,
                           "jan": 0.0,
                           "feb": 0.0,
                           "mar": 0.0,
                               .
                               .
                               .}
                      {"year": 1836,
                           "jan": 0.0,
                           "feb": 0.0,
                           "mar": 0.0,
                    .
                    .
                    .}...]
```

3.2.   GET data on the basis of given region and weather parameter

Endpoint: `GET /yearly_data/{year}/{region} /{parameter} / `

Description:

   Inputs:

   year: Year whose weather data is required

   region: The region whose summarized weather data is required

   parameter: Weather parameter whose summary is required

   Note: Kindly refer last section for supported year, regions and parameters

Response:

   Returns JSON body consisting of monthly, seasonal and annual data for a year

   Status Code: 200 OK

 Body:

```
{ "id": 1148,
    "region": "England_NW_&_N_Wales",
        "parameter": "Rainfall",
        "year": 1910,
        "jan": 83.3,
        "feb": 58.3,
        "mar": 96.7,
        "apr": 97.9,
    "may": 51.4,
    "jun": 76.6,
        "jul": 143.8,
        "aug": 87.7,
        "sep": 93.1,
```

```
            "oct": 192.4,
            "nov": 58.9,
            "dec": 188.4,
            "winter": 244.5,
            "summer": 308.1,
            "autmn": 344.5,
            "spring": 246.0,
            "annual": 1228.5
    }
```

3.3. DELETE data for a given year, region and weather parameter

Endpoint: `DELETE /yearly_data/{year}/{region} /{parameter} / `

Description:

Inputs:

parameter: Weather parameter

year: Valid Year for a specific parameter whose weather data is to be deleted

region: The region whose summarized weather data is to be deleted

Response:

Status Code: 202 ACCEPTED

4. Error Responses

In case of errors, the API may return the following response formats:

4.1. Status Code: 404 Not found

When Invalid year is provided:

```
{
        "error": "weather data with given Year not found. Kind
    ly check documentation for valid inputs.Possible reasons:
    Year out of range."
}
```

4.2. Status Code: 400 Bad Request

When region or weather parameter is invalid;

```
{
    "error": "Invalid region or parameter passed"
}
```

5. Supported Regions, Parameters and Years

5.1. region

UK , England , Wales , Scotland , Northern_Ireland , England_&_Wales , England_N , England_S , Scotland_N , Scotland_E , Scotland_W , England_E_&_NE , England_NW_&_N_Wales , Midlands , East_Angelia , England_SW_&_S_Wales , England_SE_&_Central_S.

5.2. parameter

Max_temp , Min_temp , Mean_temp , Sunshine , Rainfall , Rain_days_1.0mm , Days_of_Air_Frost

5.3. valid year range for specific parameters

Years within the following range should be selected for the corresponding parameter:

1. Max_temp = 1884 to 2023
2. Min_temp = 1884 to 2023
3. Mean_temp = 1884 to 2023
4. Sunshine = 1910 to 2023
5. Rainfall = 1836 to 2023
6. Rain_days_1.0mm = 1891 to 2023
7. Days_of_Air_Frost = 1960 to 2023