# Project Explore Weather Trends

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## 1. Introduction

The Explore Weather Trends Project aims to analyze the temperature trends of the city of Bern compared to the global average over various years. The methodology involves utilizing an SQL database, importing results into Excel, creating a chart, and conducting a final analysis.

## 2. SQL Query in the Web Application

2.1 SQL Code:

```
SELECT
   COALESCE(cd.year, gd.year) AS year,
   cd.city,
   cd.avg_temp AS ⌀_city_t,
   gd.avg_temp AS ⌀_global_t
FROM
   city_data cd
FULL JOIN
   global_data gd ON cd.year = gd.year
WHERE
   cd.city = 'Bern'
ORDER BY
   COALESCE(cd.year, gd.year);
```

2.2 Execution of the Query:

The SQL query is executed in the web application to retrieve relevant data.

## 3. Data Import and Processing in Excel

3.1 Copying the Results:

The results of the SQL query are copied.

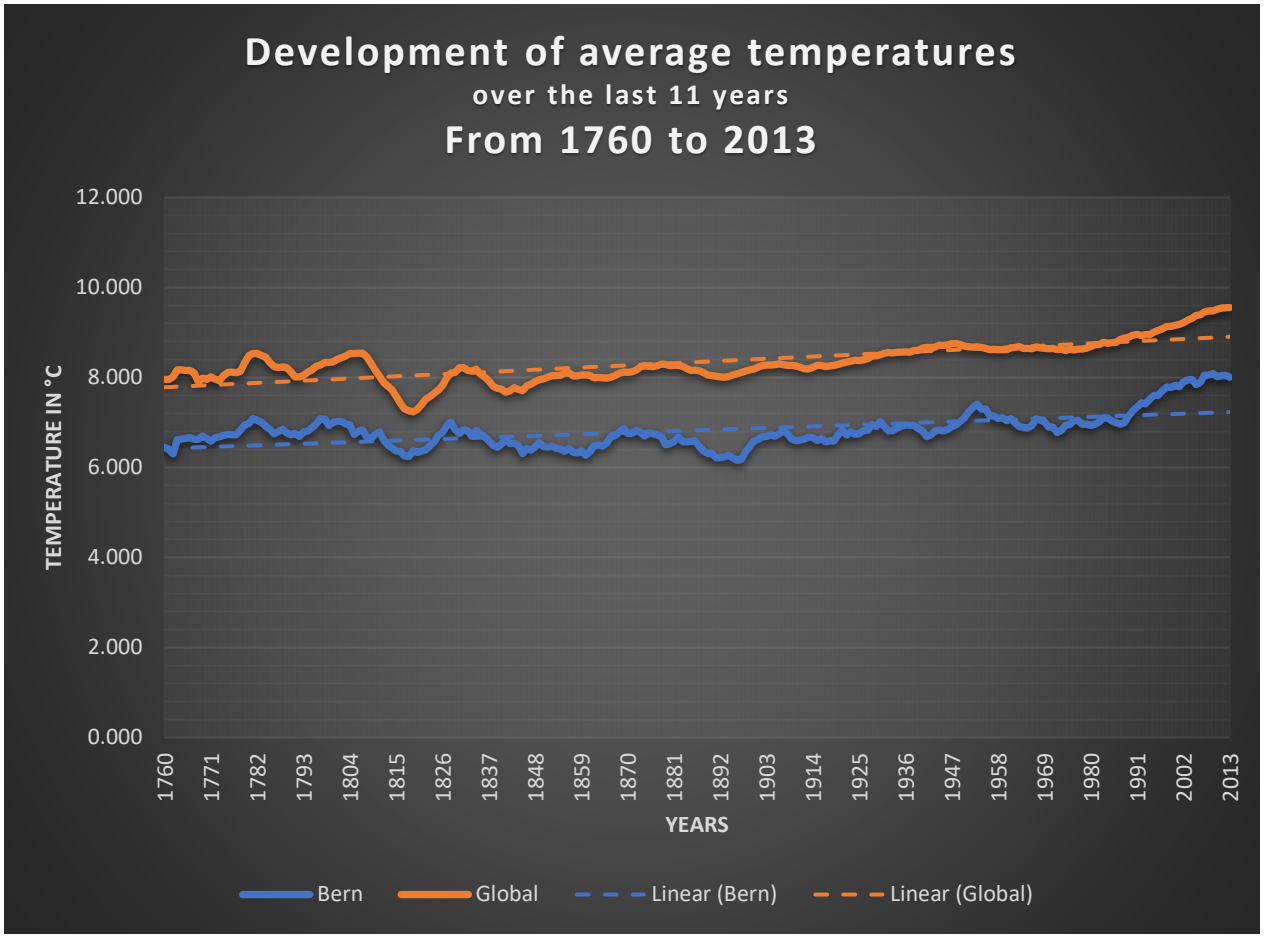
3.2 Pasting into Excel:

The copied data is pasted into a new Excel workbook.

3.3 Performing Calculations:

Necessary calculations are performed based on the data in Excel.

## 4. Chart Creation and Adjustments in Excel




## 5. Analysis of the Chart

1. The trendline indicates an increase of about 0.5 °C from 1760 to 2013.
   (This provides a long-term perspective on temperature trends.)

2. The global temperature is approximately 1.5 °C higher than that of Bern.
   (This establishes a comparison between global and local temperatures.)

3. It is noticeable that the temperature experienced a significant rise of around 1 °C in 1973.
   (Highlighting a specific year with a notable temperature change.)

4. A distinct temperature drop of approximately 2 °C is observable from 1806 to 1818.
   (Noting a significant historical temperature decrease.)

5. It is evident that the temperature trends run notably parallel, with similar fluctuations.
   (Providing an overall observation about the parallel nature of temperature trends.)