



Analytical Report on Rainfall Trends in Germany

Introduction

Purpose:

To analyze how temperature, humidity, elevation, and rainfall relate to one another in different cities in Germany using monthly data from 2015 to 2023.

Objective:

- To identify the trends in Rainfall and temp over time.
- Investigate how geographic and climate related factors influence rainfall.
- Explore the relation between humidity and temp over different climate zones.

Data Overview

Time frame: 2015-2023.

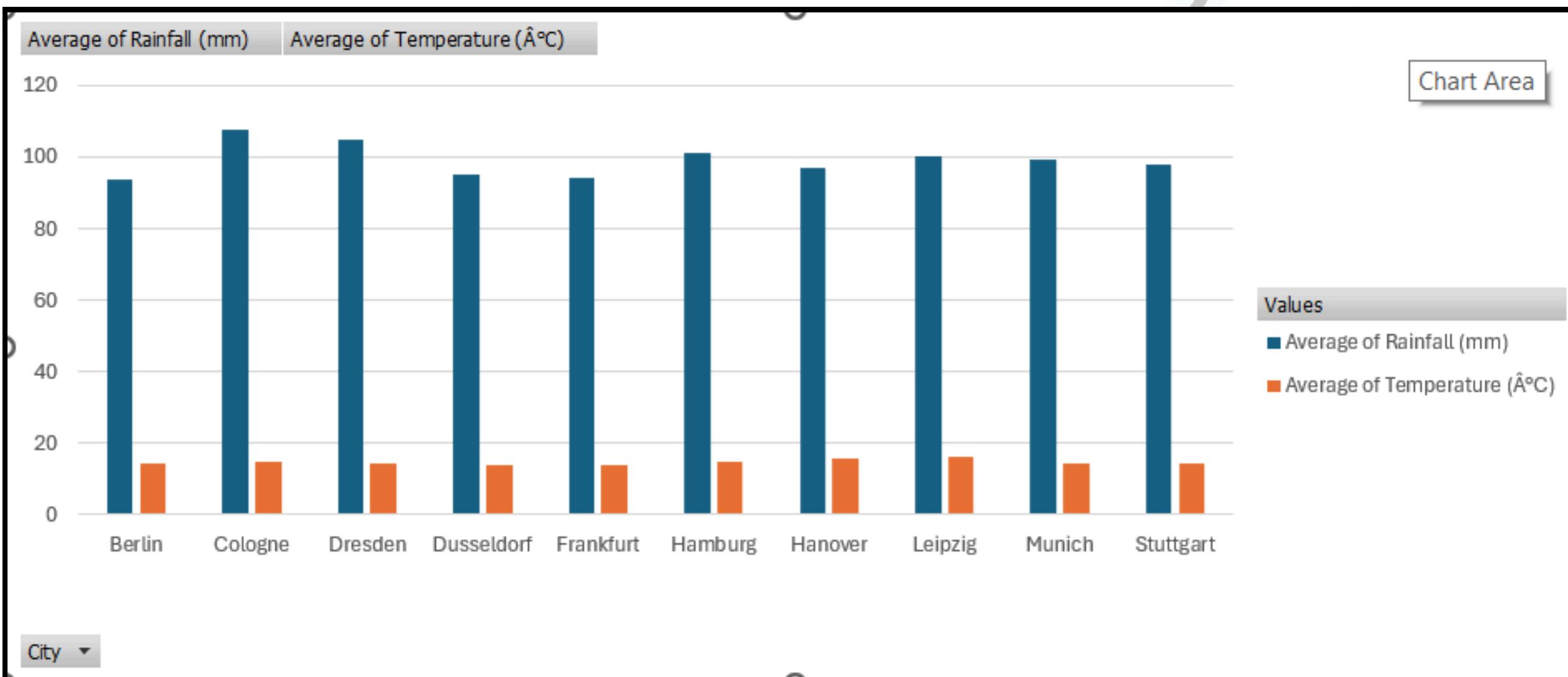
Variables: Rainfall(mm), latitude, longitude, month, year, elevation(m), climate type, temp(Celsius), humidity(%), City.

Data size: 1080 X 10 i.e. 1080 rows and 10 columns.

Key insights

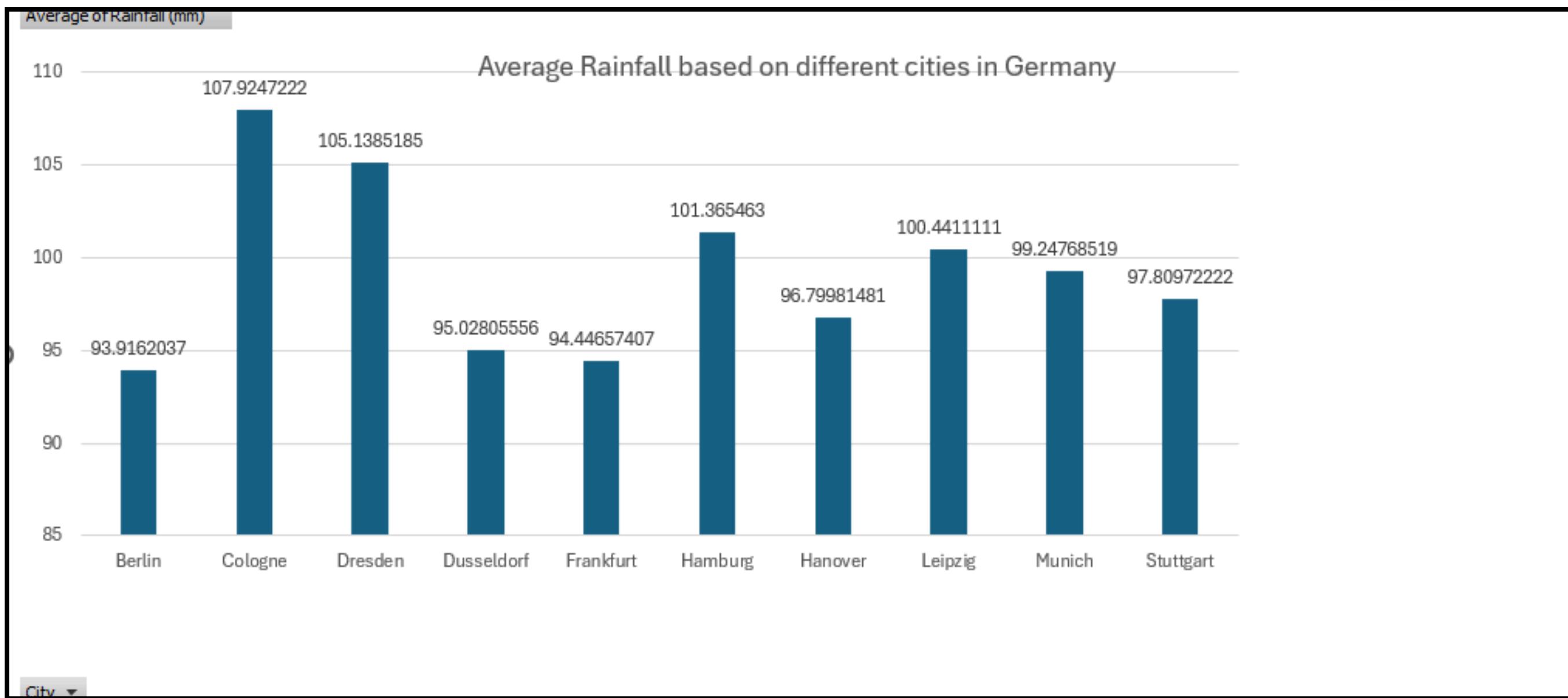
- **Rainfall:** Cologne experienced the highest average rainfall(107.92), while Berlin receives the least(93.91).
- **Temperature:** Hanover have highest avg temp(15.61 Celsius) while Dusseldorf is the coolest (13.97 Celsius).
- **Humidity:** Berlin has the Highest avg humidity%(70.44%), making it potentially the dampest city. Cologne has the lowest avg humidity(61.21% despite its highest avg rainfall.

Graphs



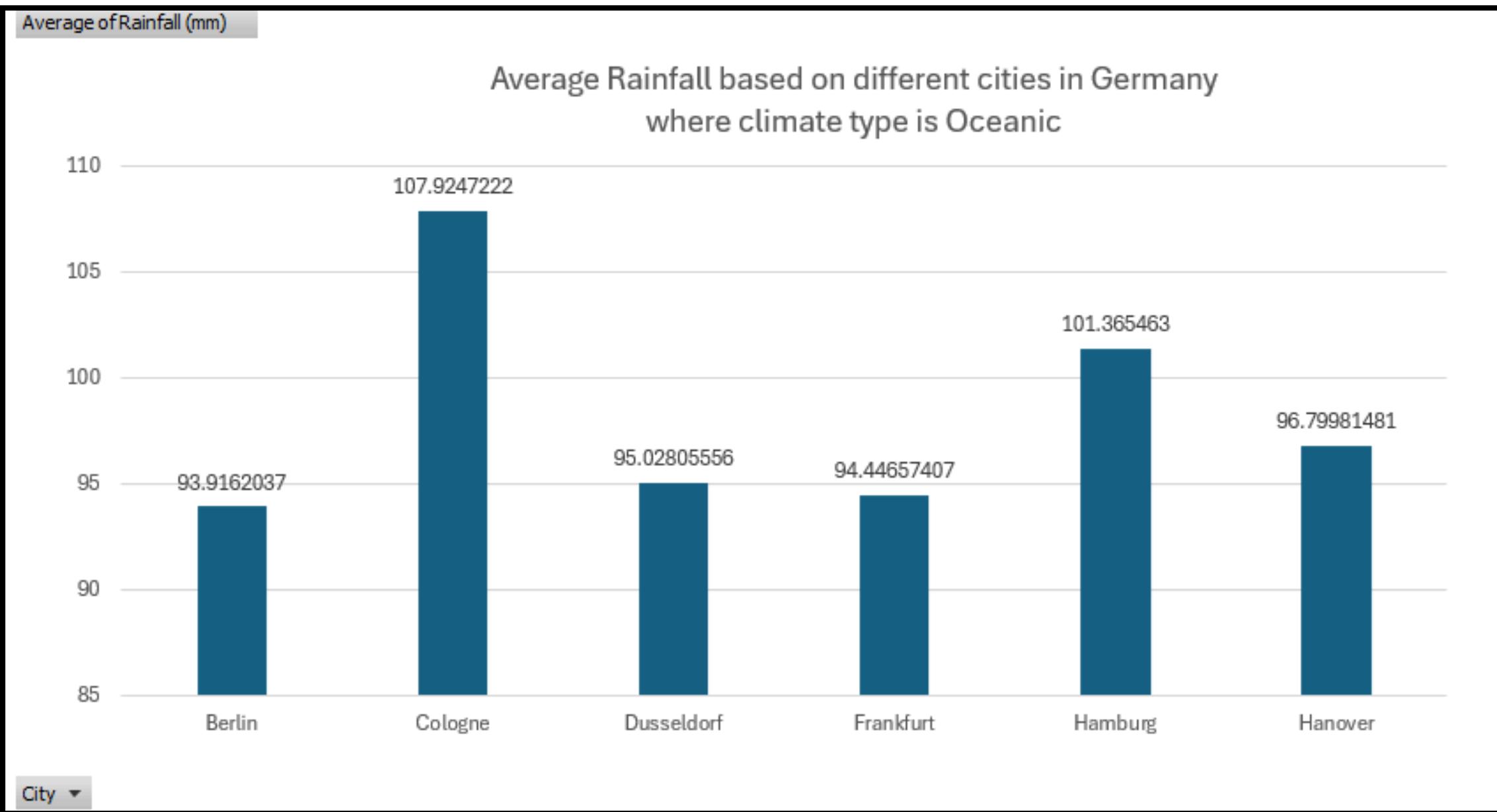
Rainfall and temperature don't strongly correlate with one another. Rainfall is not necessarily greatest in places with greater temperatures (like Hanover) or lowest in locations with lower temperatures (like Berlin).

Graphs



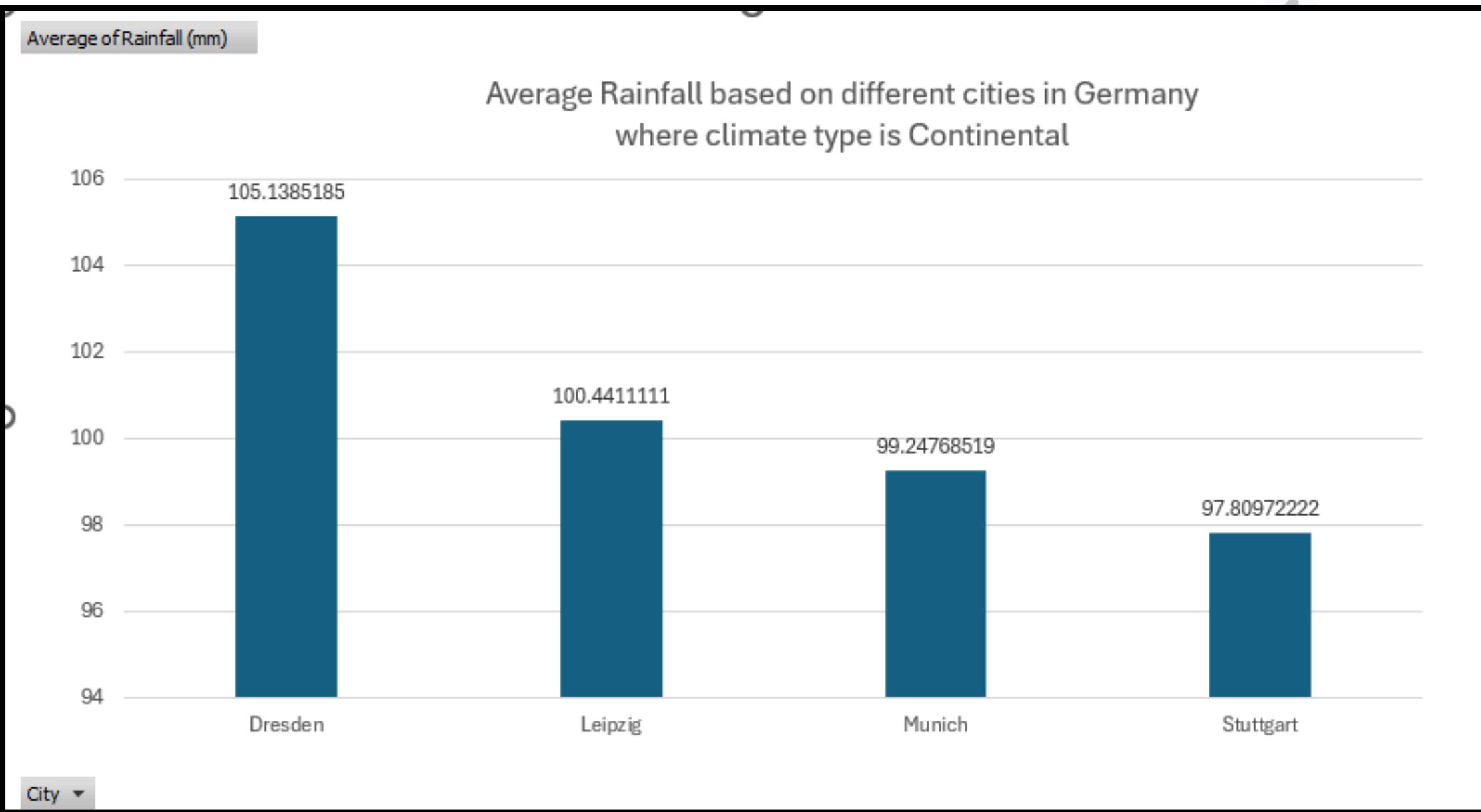
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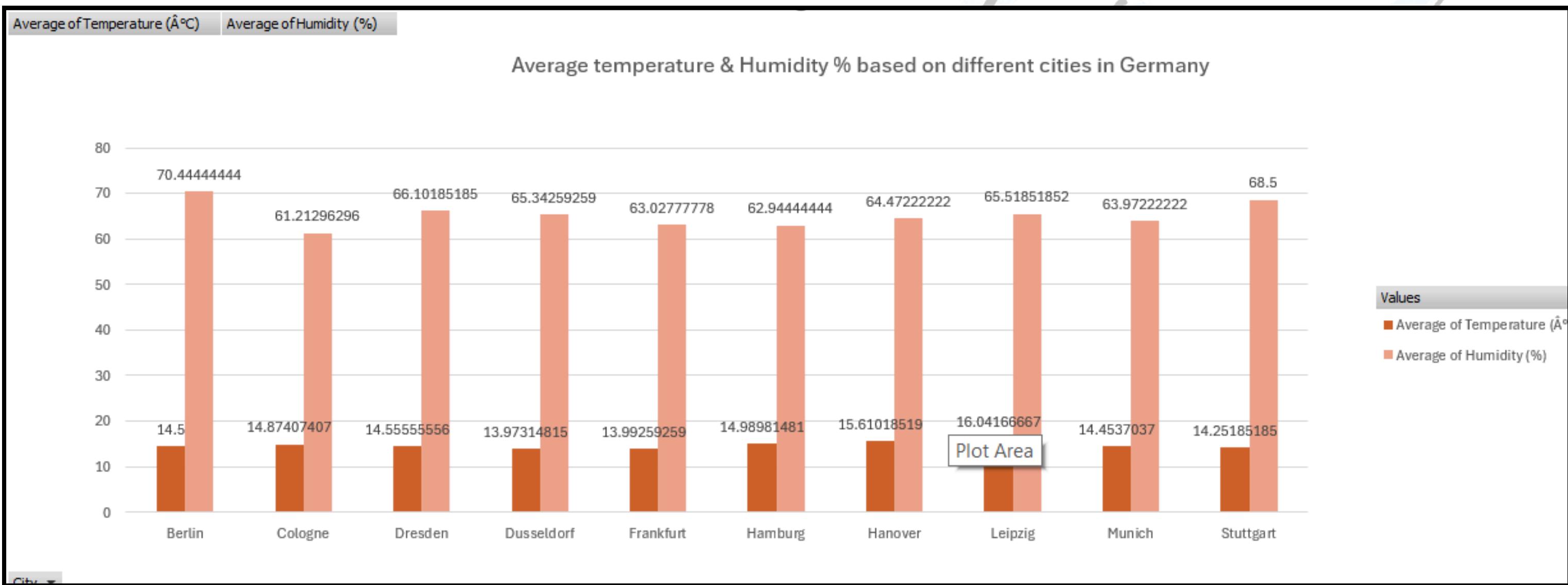
Cities like Cologne and Hamburg with oceanic climate has highest average rainfall and Berlin having the least rainfall

Graphs



Cities like Dresden and Leipzig with Continental climate has highest average rainfall and Stuttgart has least average rainfall.

Graphs



Temperature and humidity have a weak and irregular inverse connection.

Conclusion

Although the correlations between rainfall, temperature, humidity, and elevation are not as obvious as one might anticipate, this dataset offers some insights on the climate and weather patterns of German cities. The lack of a strong correlation between rainfall and temperature and humidity, despite their modest interactions, implies that other factors—such as geographic location, atmospheric pressure, wind patterns, and seasonal influences—must also be significant.