What is the Correlation Between Urbanization and Climate Change?

- **Background**: from sustainability presentation

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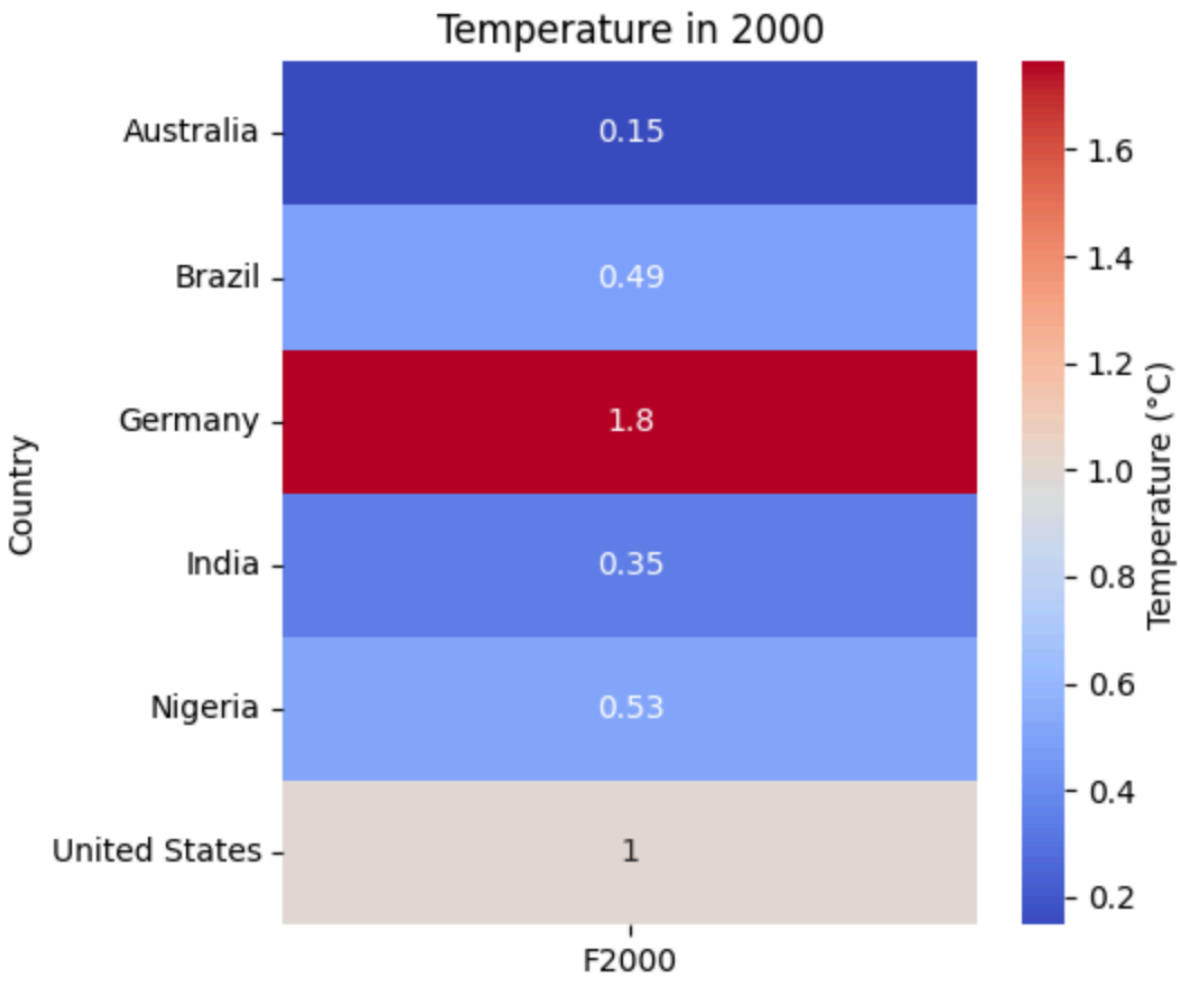
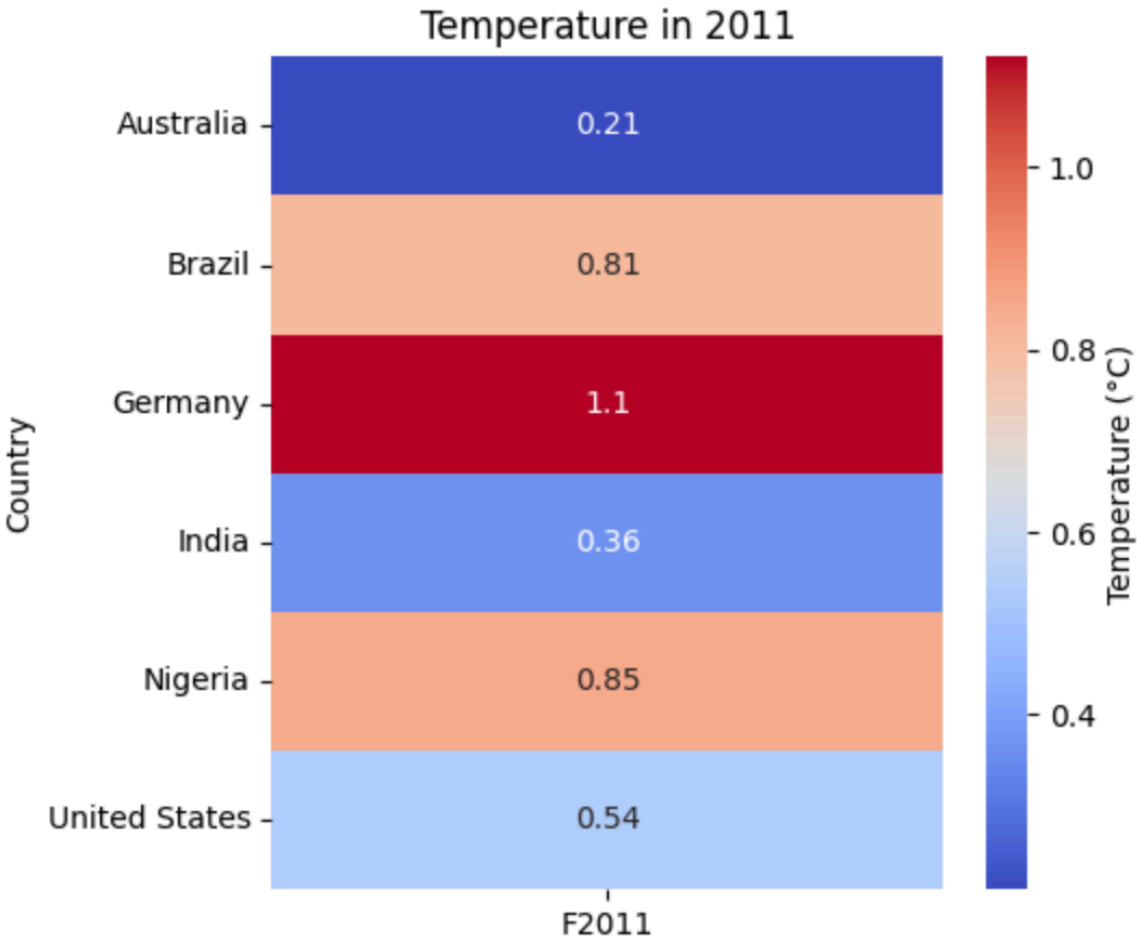
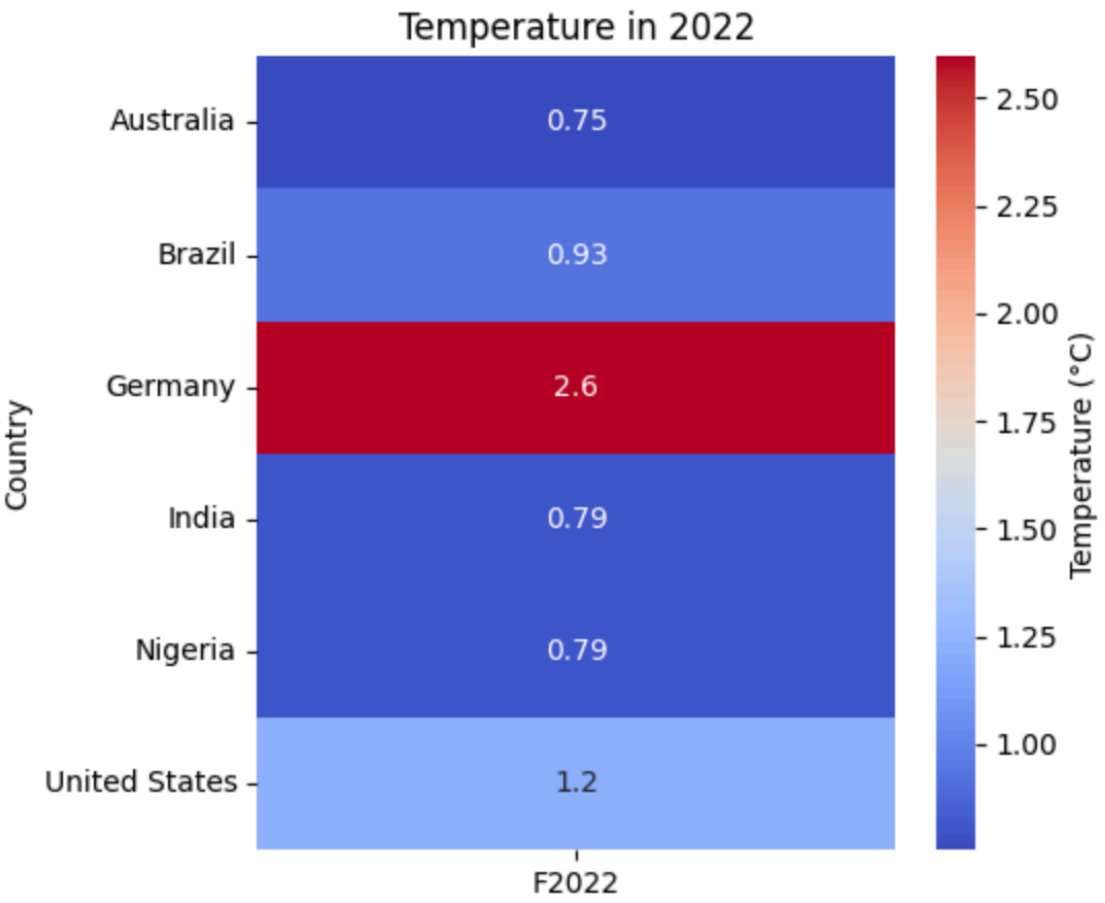
  - We prioritize our economy (bottom line and cash flow) and tend to leave the environment for the backburner (conservation of resources and ecosystems)
- **Our hypotheses**
  - The more urbanized a country is, the greater effect is has on climate change
  - Does the urban vs rural population of a country play a role?
  - Does access to and use of technology affect climate change?
- **Two datasets**
  - **Global Urbanization**: https://www.kaggle.com/datasets/bushraqurban/global-urbanization-and-climate-metrics
  - **Climate Warming Trends**: https://www.kaggle.com/datasets/jawadawan/global-warming-trends-1961-2022/data
- **Notes on Data Cleaning**
  - ***Can't visualize all 182 countries***: overwhelming to analyze in given time
  - ***Instead***: one country from each continent (except Antarctica because it has no countries or measurable urbanization)
    - *North America*: United States of America
    - *South America*: Brazil
    - *Europe*: Germany
    - *Asia*: India
    - *Africa*: Nigeria
    - *Australia*: counting it as a country-continent
  - ***Filtering both datasets by year***
    - Lots of missing data before 2000s

        - ***Hence***: we will focus on 2000s to 2022
            - Full data
            - Relevancy
    - ***Temperature Units***: degrees Celsius
- Global Urbanization Dataset
- Climate Warming Trends Dataset
- Comparing Data From Both Datasets


Temperature in 2000
Australia
Brazil
Germany
India
Nigeria
United States
0.15
0.49
1.8
0.35
0.53
1
Country
F2000
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
Temperature (°C)


Temperature in 2011
Australia
Brazil
Germany
India
Nigeria
United States
0.21
0.81
1.1
0.36
0.85
0.54
Country
F2011
1.0
0.8
0.6
0.4
Temperature (°C)


Temperature in 2022
Australia
Brazil
Germany
India
Nigeria
United States
0.75
0.93
2.6
0.79
0.79
1.2
Country
F2022
2.50
2.25
2.00
1.75
1.50
1.25
1.00
Temperature (°C)