

Project Proposal: Climate Change Data Visualization

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Repo: https://github.com/EricMartinRP/ClimateChangeExplorer_Group2

Introduction:

Our project aims to visualize and analyze climate change data related to average temperature and precipitation by state. By focusing on these key climate indicators, we intend to provide insights into the changing climate patterns across different regions in the United States. Through interactive visualizations and data-driven storytelling, we aim to raise awareness about the impact of climate change on temperature and precipitation trends and encourage discussions on climate action.

Data and Field of Interest:

We will work with climate data specifically related to average temperature and precipitation. Our field of interest is climate science and environmental studies, with a focus on understanding the impact of climate change on regional climate patterns. By analyzing and visualizing this data, we aim to educate users about the changing climate trends and foster a better understanding of the potential consequences.

Key Questions:

1. Average Max and Min Temperature: How has the average temperature changed over time in different states?
2. Average Precipitation: How has the average precipitation changed over time in different states?
3. Average wind speed: How has the average wind speed changed over time in different states?

Data Sources:

- To gather the necessary data, we will utilize reliable sources, including:
- National Centers for Environmental Information (NCEI) Climate Data Online (CDO) API: Provides access to historical climate data, including average temperature and precipitation records, by state.
- <https://www.ncdc.noaa.gov/cdo-web/search>

Project Deliverables:

- Python Flask-powered API: Retrieve, process, and serve climate data from the selected sources, focusing on average temperature and precipitation by state.
- Interactive web-based user interface: Develop an intuitive and visually appealing interface using HTML, CSS, and JavaScript to present the climate data visualizations and allow user interactions.
- Visualizations: Create visual representations, such as line charts, bar graphs, and heatmaps, to showcase the trends and variations in average temperature and precipitation by state over time.
- User-driven interactions: Incorporate dropdowns, filters, and interactive elements to enable users to explore and customize the visualizations based on specific states, time periods, and other relevant parameters.

- Data story: Develop a clear and engaging narrative that guides users through the visualizations and communicates the impact of climate change on average temperature and precipitation patterns by state. The data story should be easily understood by users of all levels of climate science knowledge.

By following this revised project proposal, we aim to create an informative and visually compelling climate change data visualization project. Through interactive visualizations and user-driven interactions, we hope to convey the changing climate trends in average temperature and precipitation by state, highlighting the urgency of climate action and the need for sustainable solutions.

Note: Please note that the specific API endpoints, data processing techniques, and visualization tools may vary based on the chosen data sources and technologies.

Data Viz Inspo pics:

Regional Mapping

Regional Data Info

Region(s):

Climate Regions

Parameter:

Average Temperature

Year:

2023

Month:

January

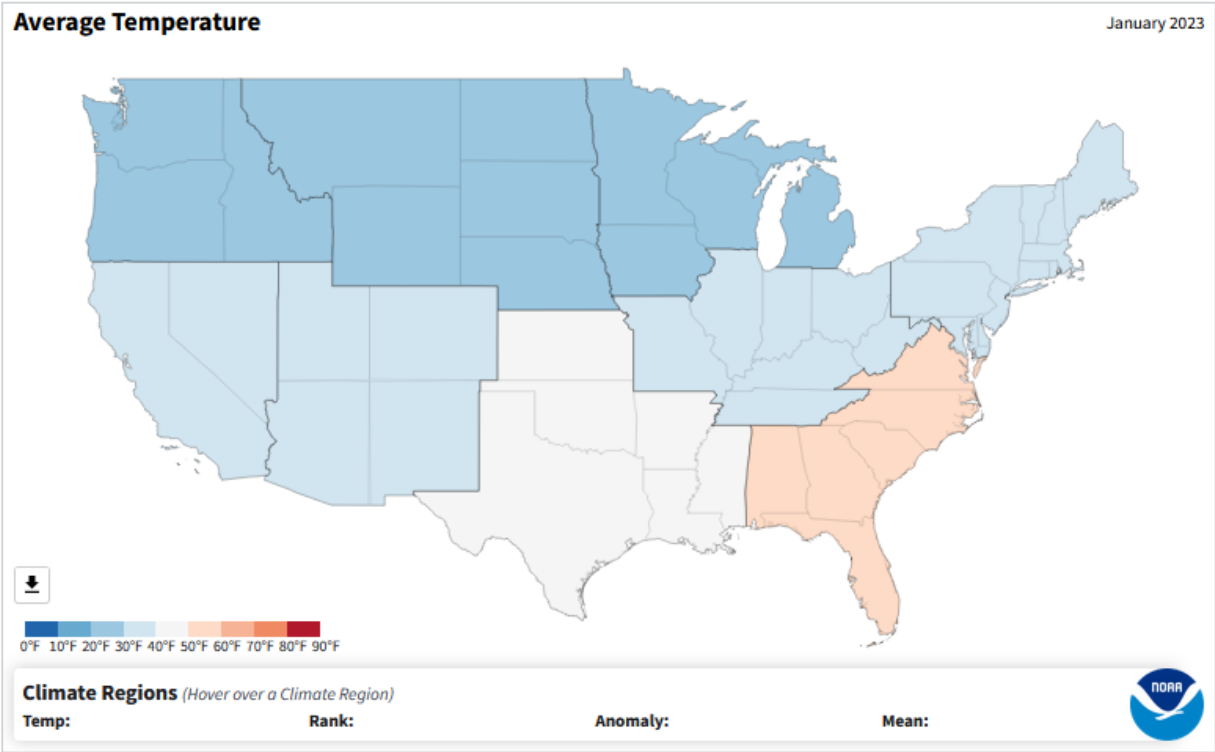
Time Scale:

1-Month

Please note, **Palmer Indices** are not available for **NWS Regions**. **Degree Days** are not available for **Great Plains, Souther Plains and Gulf Coast Rockies and Westward, River Basins, or Agricultural Belts**. *Palmer Drought Severity Index (PDSI), Palmer Hydrological Drought Index (PHDI), and Palmer Modified Drought Index (PMDI) are not offered for multiple-month time scales. Data are available for [bulk download](#).*

Plot

- Value
- Rank
- Anomaly
- Mean



30-yr Normal Precipitation: Annual
Period: 1981-2010

