Interactive Data Visualization -Final Project

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Background

- Nelson and Congdon. "Measuring the Relative Importance of Different Agricultural Inputs to Global and Regional Crop Yield Growth Since 1975." (Working paper).
 - Investigate effects of climate change on crop yields over time.
 - Climate change effects on crop yield eclipsed by other developments (technology, crop mix change).
 - Help make informed decisions for sustainable growth.

Data Specifications

- Dataset spans 1975 2002, 104 countries
- Data attributes: crop yield measurements, area of farm land, share of crop types
 (8), temperature, precipitation, fertilizer, etc.
- Rich dataset allowed us to consider many options
 - Cross-sectional time-series data

Questions

- "How does crop yield change over time with respect to daytime and nighttime temperature?"
 - "Does precipitation factor into the relationship?"
 - \Rightarrow Visualization choice: scatterplot with animation
- "How did a country's crop yield change in relationship with other countries across the globe?"
 - "How does that relationship change over time?"
 - \Rightarrow Visualization choice: choropleth map

Demo



New Concepts & Challenges

- Slider
- Animation
- Map & Paths
- Data compatibility
- Design principles (color scheme, interface layout, etc.)
- Version control :)

Future Work

- Interactive Line Graph to investigate questions regarding crop types
 - Graph overlay



Future Work (cont.)

- Enhance the current visualizations to be more effective
 - Better layout
 - More intuitive
- Fix bugs that still exist in the program.
 - E.g. scatter slider

References

- Nelson and Congdon. "Measuring the Relative Importance of Different Agricultural Inputs to Global and Regional Crop Yield Growth Since 1975." (Working paper). http://digitalcommons.bowdoin.edu/econpapers/12
- D3 custom-slider: http://bl.ocks.org/shancarter/5979700
- Murray, Chapter 12, D3 Map
- Reference codes from Project 1
- StackOverflow, Google, etc.

