Farming Locations and Climate Change

Making informed decisions through data

Agenda

- Introduction
- Data Source
- Exploratory Data Analysis
- Model
- Conclusion and Next Steps
- Q&A

As global temperatures change, where should farmers look to continue their businesses?
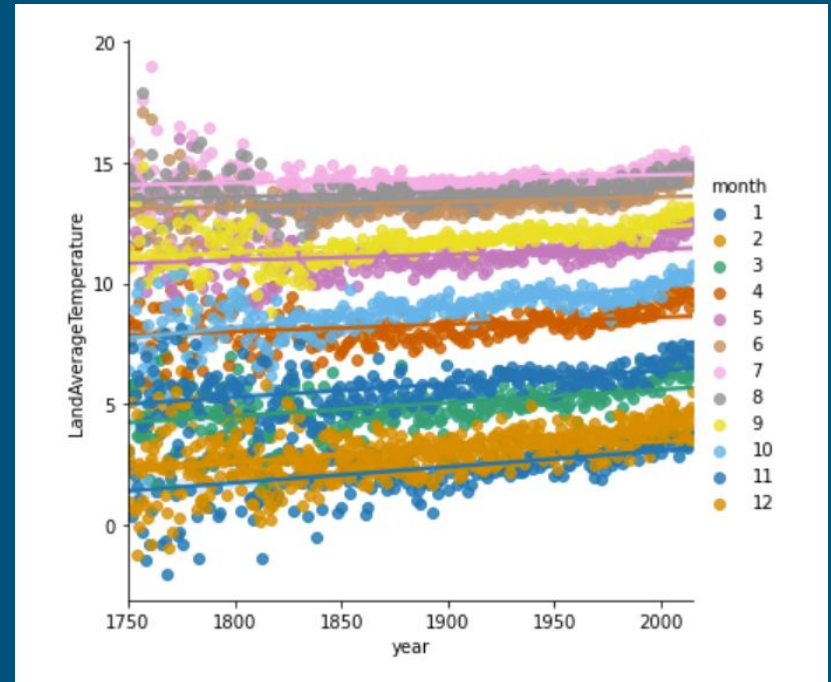
Data

Raw data from Berkeley Earth

Compiled data from Kaggle, edited by Kristen Sissener

Exploratory Data Analysis

- In the global data, we can see that temperatures are increasing across every month from 1750-2015.
- Within the U.S., this increase is also evident in the updated USDA Plant Hardiness Zone Map
- As temperatures increase and zones change, farmers need to look into which crops will now grow better in different locations.

Model

- In the linear regression model for the climate data by major cities, the largest factors (most impactful features), were latitude and year.
- In our training and test datasets broken out by month, the R scores were .71 and .72, respectively.
- We can use this model to estimate the average temperature for a given month and year using the coordinates of a location.

Conclusion and Next Steps

- As the climate is changing, farmers will need to reassess which crops can grow best in potentially new locations.
- Using this model to estimate average monthly temperatures of a location, farmers can make a more informed decision on changing crops or acquiring land for a farm in a new location.

Q&A