Our Title

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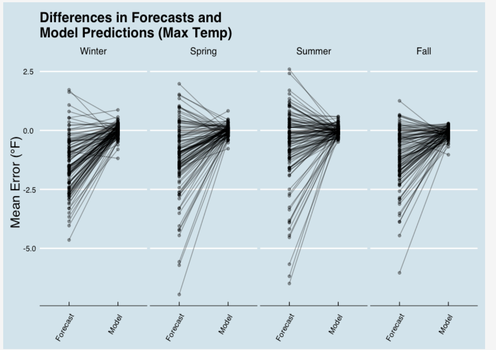
Background

- Forecast Data and Historical Weather Data for 113 cities in the U.S.
- Dates: July 2014 - September 2017
- Historical weather from city airports
- Forecasts for daily max temperature, min temp and chance precipitation
- Forecasts between 1 and 6 days out
- **Questions**:

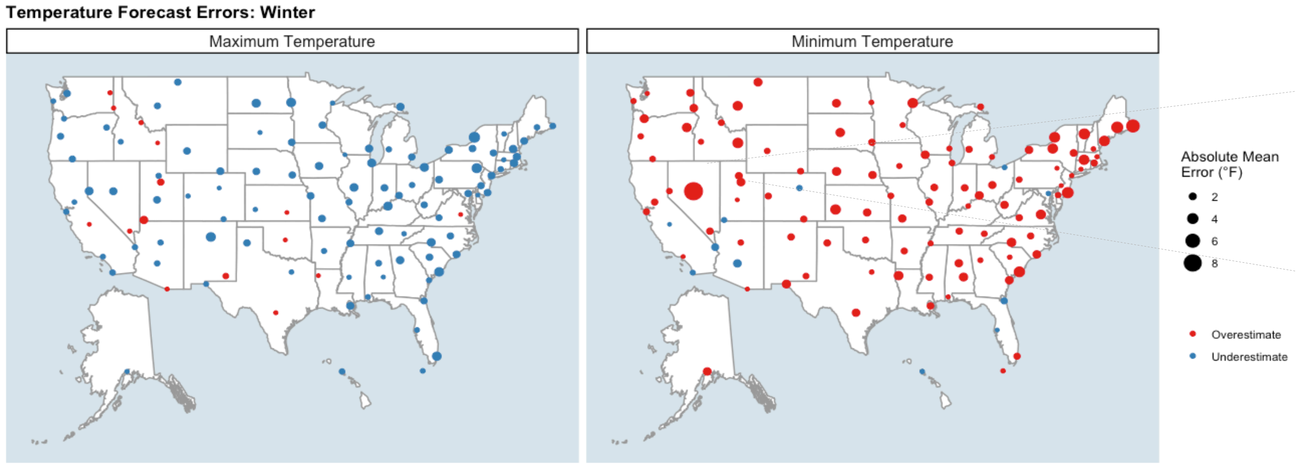
1. Do weather forecasts systematically bias temp. predictions?
2. Can we then improve the daily forecasts?
3. Might the bias in (1) come from misalignment in the airport historical data and the city center forecasts?
4. Are cities' prediction errors large due to bias or variance? Does this depend on the city?
5. Can we visualize how the number of days out a forecast was made impacts forecast accuracy?

MAPS

- Exploration: how do errors in temp. forecasts differ in locations?
- One-day forecast errors with the radii determined by forecast bias.
- Forecasted MinTemps > Observed MinTemps
- Forecasted Max Temps < Observed Max Temps
- Pattern consistent across all four seasons

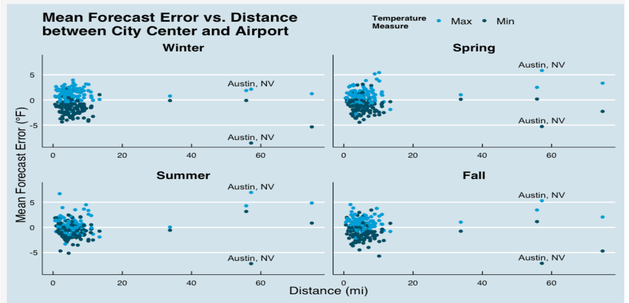


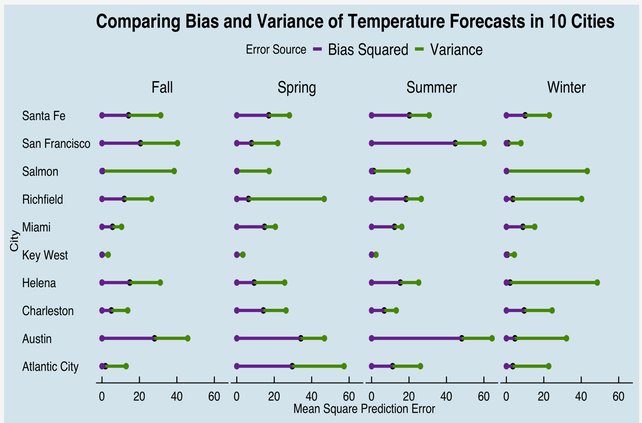
Blurb



DISTANCE HEADER

- Austin, NV has noticeably large forecast errors for min. temp.
  - Historical weather for Austin was collected approx. 57 miles from its city center where forecasts were made
- Richfield, UT forecast errors are relatively low for most seasons and temperature measures
  - However, Richfield also has a large distance between the airport and city center (appox. 55 miles)
- Distance alone may not be the best indicator of forecast errors





HEADER

- Key West, FL: Low temperature fluctuations makes forecasts great.
- Helena, MN: temperatures fluctuate more rapidly, making prediction harder.
- Miami, FL: Airport warmer than city center, resulting in high bias even with a small distance.
- Salmon, ID: just east of a mountain range, making temperature prediction difficult (high variance)