Rhoads MacGuire
Capstone #1

Gambling and Weather in the NFL

Problem: The NFL is the only major american sporting league in which extreme weather is a factor. It is also the most widely gambled on sport from week to week, which means understanding the effects of weather on a game have large monetary implications for sports books. Furthermore, as sports gambling becomes more widely legal and socially accepted, the importance of establishing the correct line increases.

Client: As sports gambling becomes legal across the country, new sportsbooks are attempting to gain advantages over their contemporaries in Las Vegas. The Fanduel sportsbook in New Jersey sees an opportunity to mitigate its risk in NFL games by adjusting gambling lines as weather forecasts become more clear leading up to the game. To better understand how they should be adjusting their lines with the weather, they commission a report from my company.

Data: Ten years of data on point spreads, Over/Unders, temperature, wind speed and weather condition collected from Kaggle. I will combine this data with data on the point differentials for each team for the season of each matchup in question gathered from the NFL's website. My hope is that this helps me control for spreads that were incorrect in the first place.

Approach: I intend to use a linear regression model to reveal the amount of impact, in points, of weather on the outcome of games relative to the spread and whether extreme weather favors

underdogs or favorites. My main interest is how the presence of precipitation or extreme cold/hot temperature affects the over/under.

Deliverables: I will deliver to Fanduel my regression data, an executive summary and a power point presentation based on my findings. I intend to provide actionable data that will aid fanduel in the way they set point spreads and over/unders in the NFL next season.

Datasets:

https://www.kaggle.com/tobycrabtree/nfl-scores-and-betting-data/version/10#spreadspoke_scores.csv

https://www.nfl.com/standings/league/2018/REG?sortField=netPts&sortIsAscending=false