**AJ Hibshman**

**Data Analytics and Visualization Project 1**

**Title: Old AJ’s Snow Prediction Almanac**

**Project overview**:

Every year the Farmer’s Almanac comes out with a prediction of winter weather. This is eagerly awaited by all snow sports enthusiasts. My aim is to search for potential early lead time predictors of what a coming winter may hold in terms of snowfall for the north-central Colorado mountains. This may aid potential vacation planning or season pass purchases

*Null Hypothesis:* there is no correlation between each factor and seasonal snowfall

*Alternative Hypothesis:* One or more factors has a statistically significant impact on seasonal snowfall.

**Data Sources:**

Snowfall history data will be collected from a set of snotel sites in Colorado. These automated sites measure snowfall and a variety of other weather information. I will select a sample of these sites in the region of interest that have sufficiently long data history. This data is available via the NRCS report generator.

Some ideas for factors that could potentially correlate to snowfall are:

Aug avg air temps

Sept mean air temps

Aug precipitation

Sept precipitation

ENSO cycle (El-Nino/ La-Nina) (other macro level climate factors?) (ONI)

Prior year’s snowfall

Prior Year’s Bronco’s winning %

**Included Analysis:**

Plot location of Snotel sites (google map API)

Average snowfall by season (water year) across all sites – examine for trends

Predictors of snow water equivalent for 12/25 and 3/1 and season max of each year (to be relevant to potential vacation planning)