Project 1 Assignment Description

Dr. Bean - Stat 5100

Relevant Due Dates

Feb 14	Paper - First Draft
Feb 27	Writing Fellow Appointment
Feb 28	Paper - Final Draft

Motivation

Design ground snow loads are a serious consideration in all of the western states. A design ground snow load is the weight in snow on the ground that is expected to occur once every 50 years. Engineering build roofs that are strong enough to withstand these extreme events so that the building is sufficiently safe for its occupants. In the last few years, there have been several reports of snow related building failures in western states, most notably on the Oregon/Idaho border available at **this link**. You may choose to look for additional sources to provide further motivation for your analysis.

One of the great challenges in western states is accurately predicting the design ground snow load between locations where snow is actually measured. This is especially difficult in mountainous regions where quick changes in elevation cause drastic changes in the nature of the snow over short distances. In this project, you will attempt to create an appropriate simple linear regression model that predicts the design ground snow load (variable `snowload`) for a given location using elevation as its sole predictor variable.

Data

Variable Name	**Definition**
id	unique location identifier
longitude	measures the east/west location of the point in decimal degrees
latitude	measures the north/south location of the point in decimal degrees
elevation	number of meters above sea level
snowload	the design ground snow load measured in kilopascals (kPa)

Directions

Your report should be around 6-8 pages excluding the appendix and should follow the paper template provided on canvas. Be detailed, yet concise in your language. Please include relevant figures and tables within the paper and reference the figure numbers within the text. Please also adhere to all relevant aspects of the homework style guide.