

Monthly Electric Consumption

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Introduction

The goal of this analysis is to explore factors which influence electric consumption at buildings within New York City. To accomplish this, we collect three data sets: one which describes the surrounding weather, one which measures a buildings energy consumption, and one which describes the physical characteristics of the building.

Ideally, in order to separate electric consumption due to seasonal trends, hourly data would have been preferable. Indeed the inductive basis for making conclusions with high temporal resolution data would be stronger since we would not have to worry about confounding with say energy differences due to holidays. Alas the highest resolution data set that was found was monthly.

Data

Historical weather data was collected off NOAA's database. Fortunately, they have a simple API which allows for quick querying of basic weather data. A particular aspect of their database is that NOAA only offers access to select daily weather summaries. Hourly, and monthly averages are only given as "normal" averages which the NOAA defines as 30-year averages. The observations include daily minimum temperature, maximum temperature, precipitation, snow fall, and average wind speed.

Data Processing

The electricity consumption and costs data file

Annual Energy Consumption

