Forest Fires

Green Beans

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Topic & Motivation

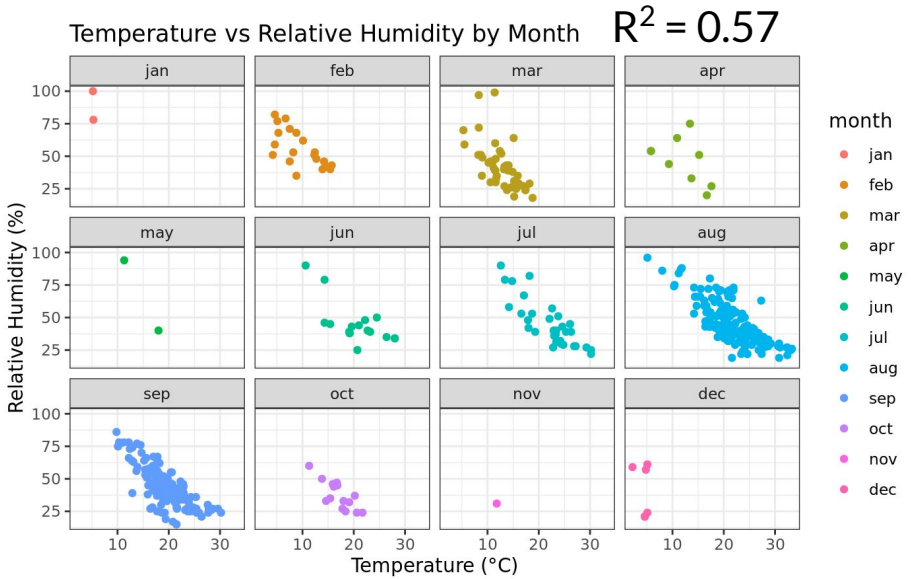
- UC Irvine Machine Learning Repository
- Predicting burned area of forest fires
- Northeastern Portugal (Montesinho Park)
- Important to be able to predict extreme weather

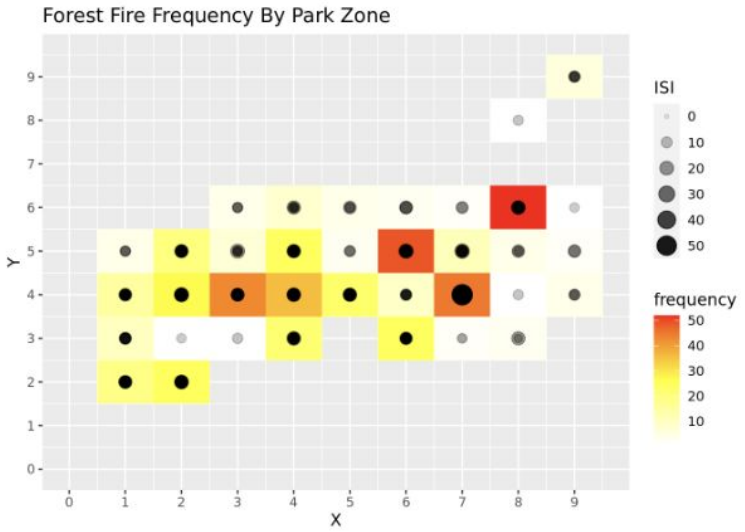
Data Introduction

Montesinho Park, Portugal

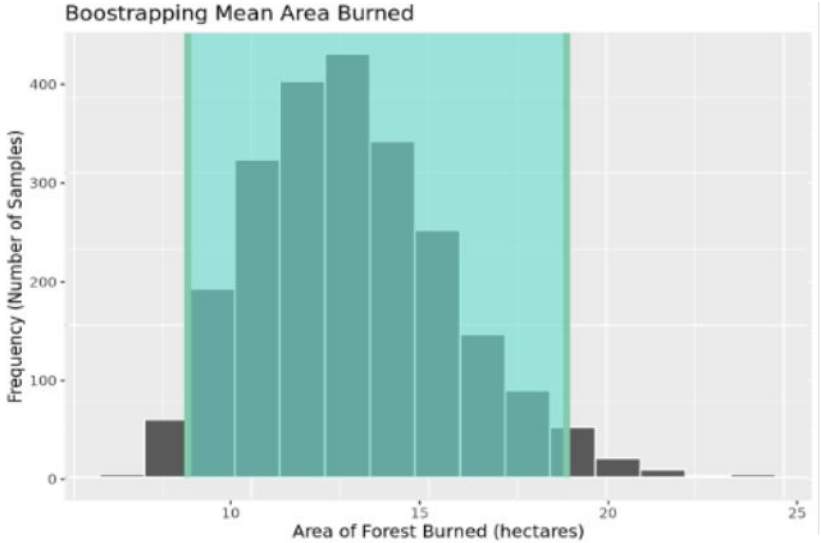
- Date of fire
- temperature, relative humidity, wind speed, rain accumulation
- Fine Fuel Moisture code (FFMC), Duff Moisture code (DMC), Drought code (DC)
- Initial Spread Index (ISI)
- X and Y axis spatial coordinates within the Montesinho park
- total area burned

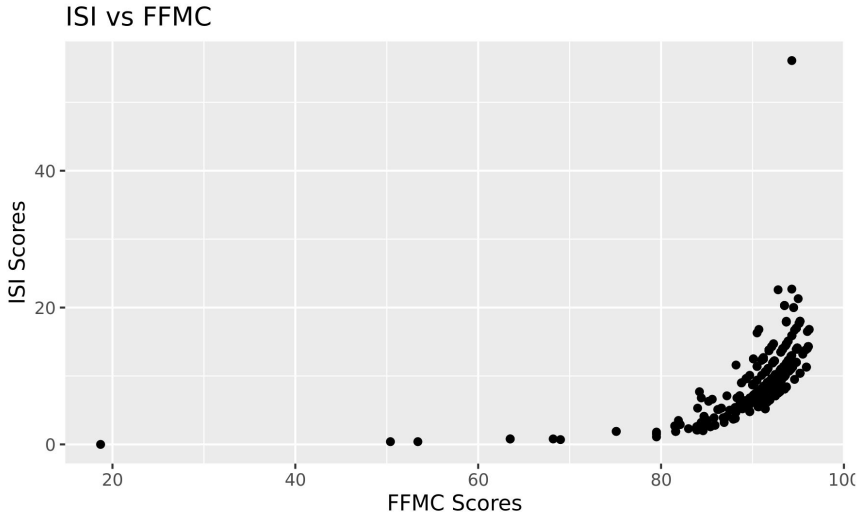
Exploratory Data Analysis



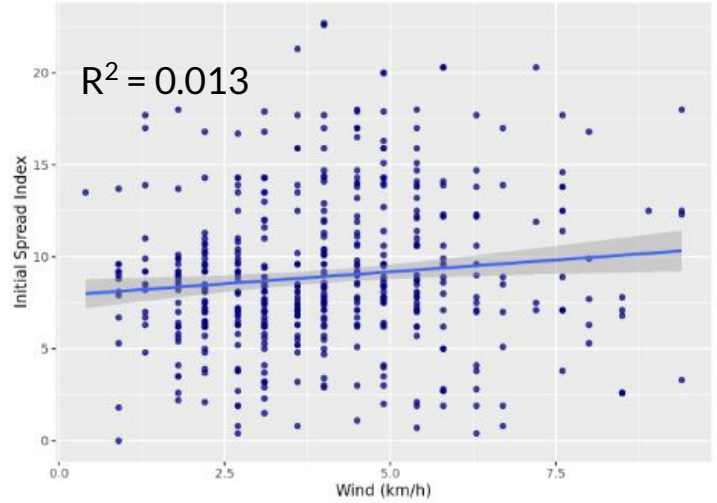


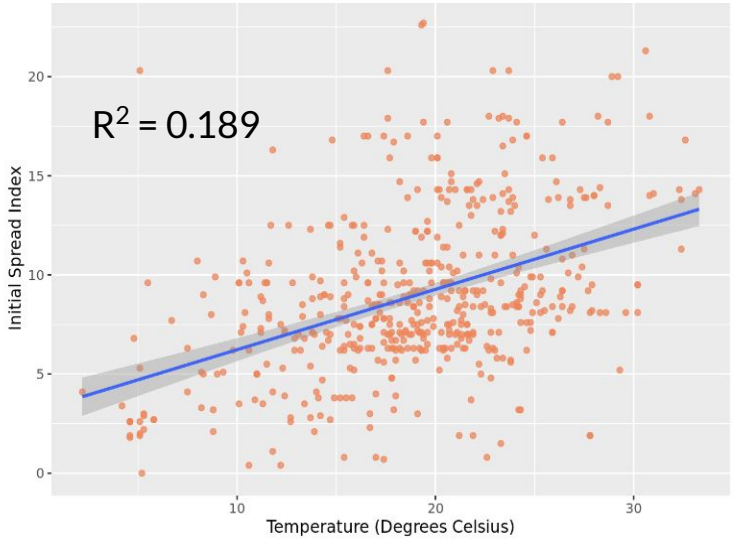
Mean Area Burned and Fine Fuel Moisture Content

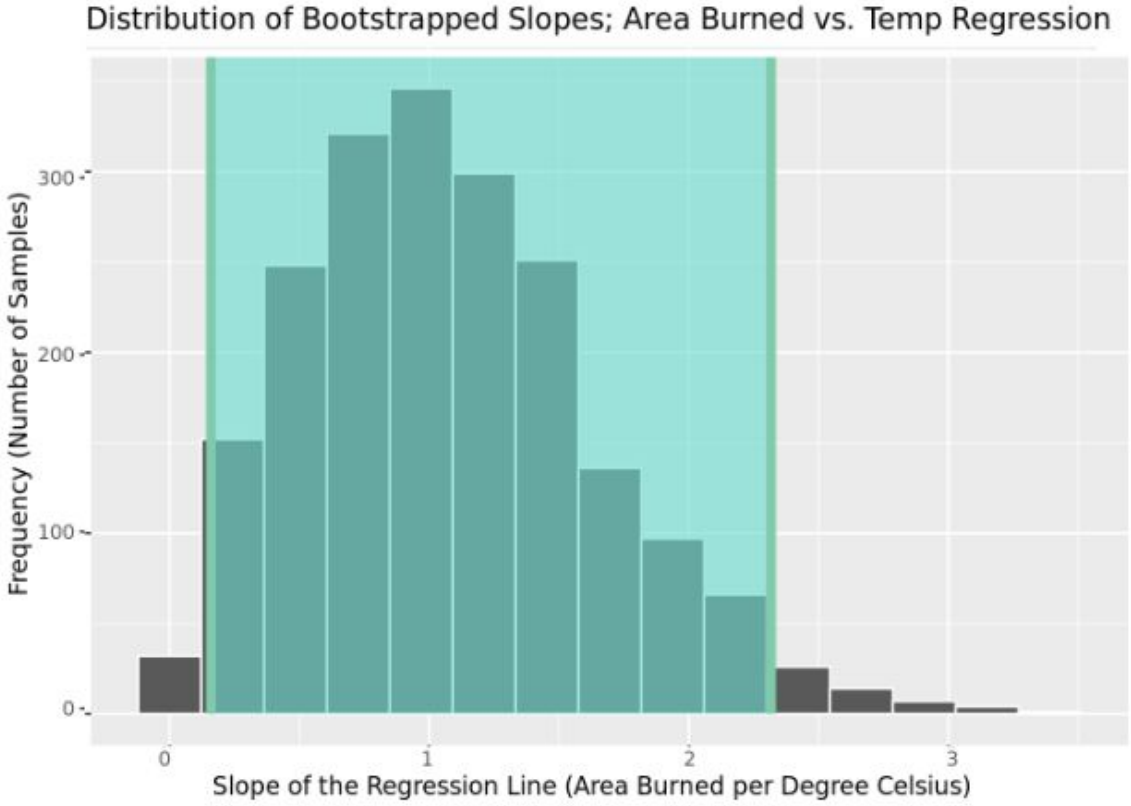




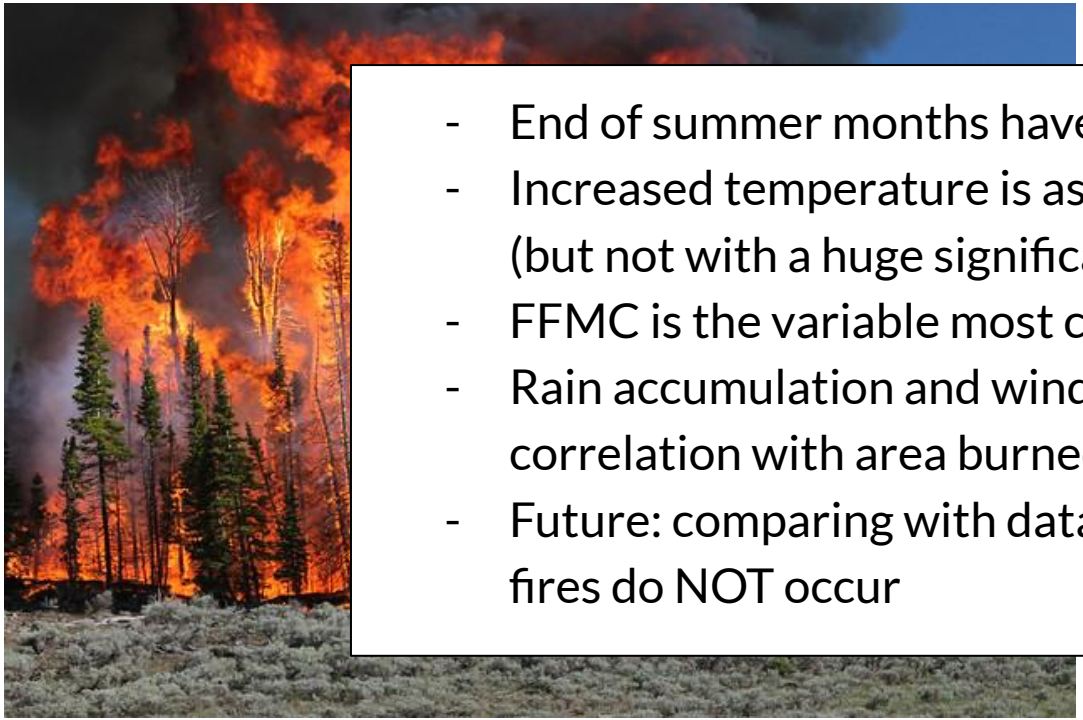
More modeling!







Conclusions/Future Work



- End of summer months have most wildfires
- Increased temperature is associated with increased ISI (but not with a huge significance)
- FFMC is the variable most correlated with ISI
- Rain accumulation and wind do not have significant correlation with area burned
- Future: comparing with data points on days that forest fires do NOT occur