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2/12/19

Data Science and Big Data 95-885

Project 1: Project Proposal

Motivation

* Apparent increased occurrence and severity of forest fires in recent years.
* Goal of curbing fires in near future, based on findings here regarding cause, location, month of year.
  + Loss of life, property. Monetary Cost
* Has risen as an important issue on the national stage: increased focus on forest fires due to climate change, disaster cost, political discourse.
* Sister lives in the San Diego area, girlfriend is originally from Oakland area, so know some of those who have been affected.
* Reducing habitat/species for animals
* Why now. Why does this problem matter right now. Why not 10 years ago? WHO CARES?
* At the end of the day, we need to make a story out this whole project.

Related Work

* Any prior research on forest fire frequency?
* Kaggle dataset -> what have they done with this data in the past?
* How are we going to build on it?
* Is the government working on reducing the forest fires?

Data

* Detail nature of the data. How many tables?
* Number rows, columns
* URL source
* Is the data clean or does it need to be transformed / cleaned?
* Has this been used in any other projects before?
* Potential future work: pulling in rainfall data and merging it with the fire data.

Questions

* Has fire frequency increased over recent years? If so, is that increase accelerating? Are fires becoming more severe (size, length of time)?
* What regions are most impacted by fire and how has that changed over time?
* Are there hot spots for fires in the U.S? If so, what are the most common reason for the cause? This could help us have targeted solutions for different areas of the country. Enforcing policies in different locations based on causes.
* Are fires occurring more frequently on private or public land? How has that changed over time? Idea is that private fires less preventable?
* Is there a relationship between the Forest Service budget and forest fire frequency on national land? Need to normalize somehow since it will naturally increase.
* Does rainfall have an impact on forest fire frequency? May omit due to need to gather another dataset…

Possible Findings and Implications