University of California, Irvine Department of Continuing Education

Data Analytics & Visualization

Project 1

**Analyzing California Wildfire Severity Through Time**

Golden Jaguar Warriors

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The goal of this project is to identify–through the analysis of data–if wildfires in California have become more severe over time and to potentially define the cause(s) that have exacerbated or placated this circumstance.

First, we must define what we are measuring: number of fires, acreage burned, or is there another datapoint worth analyzing. Is the circumstance of wildfires worse because there were more of them or because they burned more. On the same note, is a wildfire more severe simply if it is more destructive *(i.e. burns buildings, homes, infrastructure)*.

* (As a criterion/definition of fire severity) Are fires burning longer? (Surely there’s some code to figure out a fire’s duration by finding the difference between CONT\_DATE and DISCOVERY\_DATE?)
  + datetime.timedelta or CON\_DOY minus DISCOVERY\_DOY. If the result is a negative number then it went into the next year so we just add 365 and that will give us the total number of days burned.
* Number of fires: number of fires per year?

What is the cause of most wildfires: nature or man? Are wildfires caused by mankind worse than those caused by nature? Are wildfires caused by mankind mostly accidental or malicious/ intentional? Which causes worse wildfires?

* Which areas of California have experienced more wildfires? (And thus may have greater risk)
* I found a page on the [**EPA with graphs showing wildfires**](https://www.epa.gov/climate-indicators/climate-change-indicators-wildfires) as a climate change indicator. It can give us some ideas on what we can try to find from our dataset (and how to visualize them too).
* I was thinking of doing a heat map (no pun intended) of the most common areas burned. We have the latitude and longitude of each fire so we can plot them on a map and use the average size of the fire to determine the colors? (+1)

**Tasks**

Erik

* Analysis and presentation documentation/ writeup
* Lead presenter

Jake

Kenneth