Using zonal statistics we analyzed how ignition points were correlated to slope, northness, elevation, and distance from trails and roads. We found that human ignitions were clustered around roads and trails. Average elevation for human ignition points was 6,200 ft. while average elevation for natural ignition points was 8,500 ft. Slope was similar for both natural and human caused ignitions, but human ignition points varied in range more than natural ignitions. Northness index showed that both natural and human ignition points were predominately on south facing slopes.

Using this forty year data set from Sequoia National Parks Service we have:

- Human Vs. Natural
- Vegetation Analysis: Percent vegetation acres burned per decade
- Derived from the DEM; Slope, Northness, & Elevation

Using this forty year data set from Sequoia National Parks Service we have shown a significant temporal analysis that reveals historically how fire has behaved in this region of the Sierra. Learning how fire acts in this system is important for planning future resource management needs. This national park is comprised mainly of evergreen vegetation which should be the focus for future ecosystem management.

In order to protect these large wilderness areas the forest composition must be managed for fire using thinnings and prescribed fire techniques. Fire is indigenous to this area and many species rely on the natural and anthropogenic fire regimes. Future studies should take into consideration moisture index and climate change scenarios with an emphasis on fuel composition.