

ABSTRACT

Los Angeles County is home to devastating wildfires that burn hundreds of thousands of acres and destroy many homes every year. There are a variety of reasons why some homes burn and others do not. For example, homes located along a Wildland- Urban Interface (WUI) usually means that the home is in what the Los Angeles County Fire Department calls a "Very High Fire Hazard Severity Zone" (VHFHSZ). Homes can burn due to the defensible space of surrounding vegetation and the types of structural materials. It is important to understand why certain homes burn and others remain unharmed. This thesis uses mobile mapping in GIS to capture different fire risk attributes of homes located in Los Angeles County's VHFHSZ. The purpose of this study is to determine which homes have the greatest risk of burning so that improved mitigation techniques can be implemented to prevent those homes from igniting during future wildfires. The spatial video data is archived for post-wildfire analyses to conclude if a burnt home was damaged due to its building materials and surrounding vegetation. Results of the analyses have shown clusters of fire hazardous homes and have determined individual homes with high fire risk attributes. Ultimately, this research provides the Los Angeles County Fire Department with timely relevant data to improve mitigation plans and conduct post-fire investigations if a wildfire burns in the studied areas.