

Abstract

The purpose of this thesis project is to empower San Diego County, California residents by educating them on the potential wildfire risk to their homes by providing local hazard and preparedness information through a publically accessible, web-based geospatial application. Wildfires are uncontrolled vegetation fires that directly threaten the homes, populations, and livelihoods of all Southern Californian residents. Exponential population growth in California has expanded home constructions into more rural geographies, which increase the frequency of wildfires in the region. The growth of the Wildland-Urban Interface (WUI), areas where new home construction meets vegetation fuel, has fed the frequency and scale of destruction incurred by manmade and spontaneous wildfire occurrences in San Diego County. Whether wildfires are caused by nature or influenced by people, the unpredictable nature of these hazards means they can easily spread to populated areas and present a reoccurring threat to San Diego County communities. The focus of this research is the development of a web map mashup that incorporates well-documented, published spatial data such as the wildfire hazard potential and fire hazard severity zones in the San Diego region into easily understood features on a publicly accessible web map. San Diego County homeowners may utilize the web map mashup to understand the relative risk of a wildfire to their home, the history of local wildfire burns, their proximity to emergency response resources, and real-time wildfire information. This study utilized Esri's ArcGIS desktop to prepare the data, ArcGIS Online to publish and host the data, and ArcGIS Web AppBuilder to produce a custom map template with analytical widgets and tools. Lastly, professional and public review of the web map mashup was solicited and incorporated into the final version of the web map application.