

Addressing Burntfields™ Risks: Movement Strategies for Wildfires

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Background/Objectives. Climate change has rapidly influenced the frequency and severity of wildfires around the world. As recently witnessed in the western United States, Australia, Brazil and even the Arctic, wildfires are non-discriminatory in their global occurrence. Vast areas with once thriving communities have been devastated by wildfire. From 2017 through 2021 the United States suffered over 297,000 wildfires that resulted in the burning of 40-million acres. According to NOAA the five most destructive wildfires over the last five years resulted in \$80 billion in associated damages and 217 related deaths.

The speed and ferocity at which wildfires charge through communities leaves little time for residents to evacuate, and first responders to be deployed. As was witnessed in the 2018 Camp Fire, residents evacuating the town of Paradise found themselves traversing through extreme fire conditions on roads congested with other evacuees. A critical challenge for fire agencies and communities is how to ensure expedited and efficient evacuation of the public without hindering the deployment of firefighting resources.

Approach/Activities. This presentation will discuss the growing complexities of managing movement of people and equipment in and out of the fire zone during an emergency with examples from the 2018 Camp Fire which destroyed the town of Paradise, California, and other notable wildfire evacuations. The audience will also be introduced to scenario-based evacuation modeling and the advantages of this approach.

Results/Lessons Learned. Recommended by a Royal Commission report that studied the Victorian Bushfires in Australia, scenario-based models can improve movement of people and equipment in and out of the danger zone during a wildfire.