

Impact of Climate Change



Prepare all firefighters for the climate-driven increase in wildfires in the wildland urban interface (WUI) by providing them with the proper training and equipment.

Issue

WUI fires are one of the most devastating fire problems in the United States. Currently, most structural firefighters receive little to no training on how to respond, remain safe, and/or how to operate effectively in an extremely dangerous and dynamic fire environment.

Impact Areas

Occurrence of Wildfire

According to a June 2022 U.S. Congressional Budget Office report, the intensity of wildfires has increased, as has the number of wildfires impacting the built environment over the past 30 years. As our nation continues to grow and develop in the WUI, our communities are faced with increased wildfire threats associated with:

- ▶ **Increased populations.**
- ▶ **Reduced land management practices.**
- ▶ **Dangerous increase of fuel buildup.**
- ▶ **Climate change.**

The fire service today is faced with three main fire types:

1. **Structural fires** — fires involving built construction where trained firefighters have specific strategies and tactics to maintain life safety and gain control of a fire, including interior attack, exterior attack, search and rescue, ventilation, salvage, and overhaul.
2. **Wildland fires** — fires typically involving trees and other vegetation where wildland trained firefighters use specific strategies and tactics to gain control and suppress the fire, including offensive (direct attack) and defensive (indirect attack), backfire burning, and trenching. These strategies use equipment and/or resources such as bulldozers, aircraft, hand crews, and fire engines to construct fire lines that provide control and containment of the fire.
3. **WUI fires** — fires occurring in the built (structural) environment directly adjacent to or intermixed with a wildland area. WUI fire operations have non-standardized and relatively new and different strategies and tactics when compared with either strictly structural or wildland firefighting. Firefighters operating in the WUI use primary and secondary tactics typically conducted by structural engine crews attempting to adapt these tactics to fit the wildland fire situation.



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Firefighting Resources

Wildfire knows no boundaries. Fires can start and burn across federal, tribal, state, local, and private lands. That means fires are often fought with a combination of agencies and firefighters from different training backgrounds and employers. These differences include seasonal federal and state wildland firefighters, state and local career firefighters, and volunteer firefighters from community-based fire stations. While some firefighters trained to operate in the built environment are also specifically trained to engage in wildland firefighting, the majority have little to no training for operating in an urban or suburban conflagration with multiple structures burning simultaneously.

Advances in command and coordination, especially at large, long-duration wildland and WUI fire events, have improved resource deployment and operations on the ground. However, these resources often take time to get into place. Therefore, initial response often comes from state and local fire departments, many of which are already dealing with limited and overworked staff.

Training, Equipment, and Water

Local fire department responders are typically trained as structural firefighters given that single family dwellings are the most common fire risk they encounter. Structural firefighters, accustomed to fighting one structure fire at a time, are now being confronted with multiple structures burning simultaneously. They must react and respond with uncharacteristic tactics and strategies to successfully mitigate the event by reducing or eliminating fire spread. The reality is that they must add urban interface wildfire strategies and tactics to their operational repertoire.

As the risk of losing entire communities from wildfire extends to a year-round threat, staffing resources, proper training, and equipment are necessary to fight these WUI fires.

Training and Equipment

Communities across the nation are experiencing an increasing number of larger and more destructive wildland, urban interface, and suburban conflagration fires. Because these fires are occurring more often in both suburban and rural areas adjacent to or intermixed with the wildland, structural firefighters are regularly involved in suppression efforts and responsible for defending homes and critical infrastructure. According to the National Fire Protection Association Needs Assessment, 88% of structural fire departments in the U.S. respond to urban interface fires, but only 40 percent of those fire departments provide training on urban interface strategy and tactics.

Additionally, there is often difficulty accessing wildland firefighting equipment including PPE and proper footwear, for both women and men who attend training and are involved in WUI firefighting.

Water Access

Particularly in the West, water is a limited and often contested resource. Drought conditions elsewhere in the country are causing similar effects to spread eastward. Scarcity of water has a severe impact on firefighting efforts. Additionally, fire in watershed areas and burn scars following a fire can contaminate water resources as debris and other contaminants affect both availability of potable water and treatment efforts.

More Information



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