



## MITIGATION & RECOVERY: FIRES IN COMMERCIAL SPACES

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## TABLE OF CONTENTS

Introduction	3
Wildfires & Man-Made Fires	4
Loss Mitigation	6
Remediation & Recovery	8
After the Wildfire	9
Conclusion	10



# Introduction

The frequency and severity of wildfires has steadily increased over the past few years, particularly on the West Coast. These devastating fires have serious economic impacts, often wiping entire towns off the map. Man-made commercial and residential property fires, where the damage is localized to an individual building or business, have severe impacts on the people and companies invested in that building. Understanding and implementing fire prevention methods, and having a plan for fire recovery, is crucial for business owners, facility managers, and homeowners alike, regardless of the cause of the fire.

This paper will delve into the information needed to understand and live with the realities of fires. It will give an overview of wildfire season, areas of the United States most prone to wildfires, and the economic impacts fires have, including insurance considerations. It will also discuss fire prevention, loss mitigation, remediation and recovery, and the future environmental impacts after a wildfire have burned through an area.

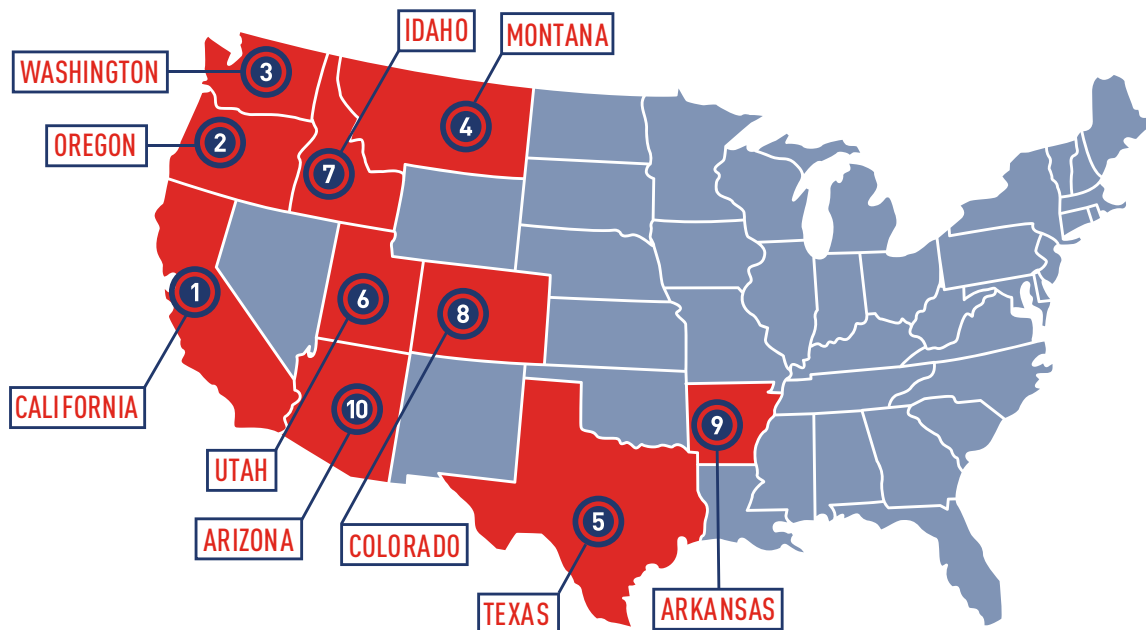


## Wildfires & Man-Made Fires

While there is no set wildfire season in the United States, according to the Center for Disaster Philanthropy, typically August is a peak month when areas become increasingly dry, hot and susceptible to disaster. The general trend is that wildfires are more common when wildlands are more likely to be impacted by drought. According to recent data provided by the Department of Interiors, we are experiencing one of the driest periods over the last 1,200 years. With severe drought comes wildfires like the Dixie Fire, the second-largest wildfire in California's history. Over the course of four weeks, it burned over 490,000 acres and, at the time of publishing, is only 35% contained. The 2021 wildfire season is predicted to be another severe one as is evident by the current major fires in California, Oregon, Washington, Nevada, and Idaho.

Up to 90% of all wildland fires are started by humans and human activities, such as ignoring campfire bans, improper disposal of cigarettes, or illegal discharge of firearms or fireworks, according to the Department of Interior. With climate conditions primed to make wildfires a more clear and present danger than ever before, it is crucial for humans to do what they can to prevent contributing to the destruction. For business and property owners, this means having proper prevention and mitigation measures in place, such as fire extinguishers and/or sprinkler systems. These are requirements for local fire codes, as well as for property insurance to protect your finances in the event of a fire at your property or business.

### TOP 10 STATES AT HIGH TO EXTREME WILDFIRE RISK:\*



\*MOVE.ORG

Three of the top causes of man-made fires in a building are cooking and cooking equipment, lack of maintenance to building heating systems, and malfunctions or misuse of electrical and lighting equipment, according to the National Fire Protection Association (NFPA). Proper training, cleaning, and maintenance can prevent or mitigate all three of these types of fires.

Smoking-related fires and intentional fires round out the top five reasons the NFPA lists as causes for fires. Providing proper disposal methods and designated smoking areas free of potential fire hazards is one safeguard that can be taken. Ensuring a property has interior and exterior fire suppression systems, such as fire extinguishers, sprinkler systems, fire hydrants, and fire hoses can help contain a fire more rapidly. Also, having strong security measures surrounding a property can help prevent intentional fire (arson) from being set.

The financial cost of property damage from fires in 2019 was estimated at \$14.8 billion dollars, according to a 2020 report from NFPA, with local fire departments responding to an estimated 1.3 million fires. The estimated damage from the 2018 California wildfires alone cost the state and the country over \$150 billion dollars, according to a report by the University College London. Data regarding the 2020 California wildfire season was still being compiled at the time of publication for this paper. Nearly every property fire is preventable with proper prevention and safety measures, like getting professional cleaning and maintenance services from a disaster recovery firm, and having safety tools that meet or exceed fire standards. Combined with prevention measures to reduce the number of wildfires caused by humans, a significant amount of money could be saved nationwide.



# Loss Mitigation

There are plenty of mitigation efforts that can help defend your property from destruction and reduce the amount of loss your property may experience in the event of a fire.

The Insurance Institute for Business & Home Safety recommends 9 key tasks for protecting a business:



## 1. CREATE DEFENSIBLE SPACE

This means having a cleared area of at least 100 feet, with up to 500 feet recommended, around your building. That area should be free of trees and any flammable materials or structures, making it harder for a fire to spread to your building, and reducing the amount of flammable material an ember could land on and ignite. This is the most crucial recommendation for any property in a wildfire-prone area, as it makes it easier to both prevent a fire from spreading and to defend a property from a fire in the area.



## 2. REDUCE VEGETATIVE FUEL

Having defensible space around your building doesn't mean that you can't have attractive landscaping; it just requires intentional planning to reduce the risk of fire. Selecting plants with characteristics like high moisture content, low oil or resin content, deep roots with thick leaves, and minimal production of deciduous materials are all good for keeping your space defensible.



## 3. CHECK FIRE HYDRANTS

Ensuring fire hydrants are 250 feet or less from primary buildings and connected to reliable water sources is crucial. If a fire does strike, emergency response crews must be able to use hydrants to suppress the fire.



## 4. USE NONCOMBUSTIBLE MATERIALS FOR ALL SIGNAGE

This may mean getting creative with budgets and design, but it is a worthwhile investment of time and funds to help keep your business safe.



## 5. CONSIDER EXTERIOR WALLS

Having the cladding on all buildings made of noncombustible materials such as concrete or brick, and starting siding a minimum of 6 inches above ground level, are ways to help keep the envelope of your building fire-resistant.



## 6. CHOOSE THE RIGHT WINDOWS

Dual-paned, tempered glass windows are less likely to burst from heat and allow fire into your building. For operational windows, screens can help keep an ember from floating in, and also help identify points of emergency exit. Windows should be kept shut if a wildfire is known to be in the area or an adjacent property is on fire.



## 7. PROTECT AGAINST EMBERS ENTERING THROUGH VENTS

1/8 inch noncombustible mesh screening over all vents into the building is a vital installation to help prevent embers from entering unseen and causing an interior fire.



## 8. CLEAN AND USE NONCOMBUSTIBLE MATERIALS FOR ROOF AND GUTTERS

Especially in areas with lots of deciduous trees that shed leaves and other debris seasonally, keeping roofs and embers clear reduces the risk of ember ignition. Aluminum is an excellent noncombustible material for spouts and gutters.



## 9. CHOOSE NONCOMBUSTIBLE MATERIALS FOR DECKS

Especially in areas like Florida, for properties overlooking bodies of water in any state, or for any kind of decking around a property, the materials selected should be non-combustible if possible, or compliant with local building codes to reduce risk of ignition during a wildfire.

Aside from what can be done to prepare the exterior of a building to mitigate loss from a fire, there are several prevention methods for inside a building, as well. Ensuring that there is proper safety equipment like fire extinguishers or fire blankets, especially near kitchen areas, is one way to help prevent a primary cause of commercial fires. Smoke detectors and fire alarms must be in good working order. Fire suppression systems, like sprinklers throughout the building, are a basic safety component that is often required by law, especially in commercial buildings, to stop and suppress fires in the event of an emergency. Staying up to date with fire inspections, and in some cases even going above and beyond fire marshal recommendations for safety measures in your building, are vital steps for property owners to ensure that they remain part of the solution around fire prevention. Your local disaster recovery firm can also help assess your building for its biggest risks when it comes to fire suppression.

**IN 2020, WILDFIRES IN JUST THE WESTERN UNITED STATES COST INSURERS ALONE \$7 BILLION TO \$13 BILLION DOLLARS. THAT DOESN'T ACCOUNT FOR OTHER COSTS TO BUSINESSES AND INDIVIDUALS—THOSE TOTALS ARE STILL UNCONFIRMED.\***

**\*REUTERS**



# Remediation & Recovery

Despite any property owners' best efforts, there is still a chance that a fire will devastate their building. That's when it's time to call in a disaster recovery firm to take the lead on remediation and reconstruction of the building to get the business back on track as quickly as possible to mitigate financial loss. There are several key services that a well-qualified disaster recovery firm can provide to ensure the building is safe, clean, and back to pre-fire conditions.

Before a disaster like a fire strikes a business or a building, preselecting a disaster recovery firm and implementing an Emergency Response Agreement (ERA) is one of the best steps to take. ERAs ensure that there is a minimum of downtime between a disaster and disaster recovery, making sure that businesses can return to operation and people can return to their homes within multifamily housing units as soon as possible. Especially in the case of a wide-reaching disaster like a wildfire, an ERA can potentially help a disaster recovery firm provide preferential services to those who have planned in advance. It eliminates delays by making sure there are local boots-on-the-ground to enact the response, while putting in place pre-determined pricing to prevent unexpected expenses. ERAs can cover every potential disaster recovery service needed.

Air quality is a critical factor for remediation and recovery post-fire. The soot from a fire is often laden with toxins from burning materials like paint, insulation, cars and more. Soot particles are hard to clean, cause lingering odors, and can require a variety of methods to properly address. In addition, the proper protective equipment is essential to prevent inhalation and other exposure. Having a disaster recovery firm clean the building and the HVAC system thoroughly to remove soot and remediate the odors left behind from smoke will ensure the health and safety of occupants of a building once it is restored after a fire.



Structural damage is also a critical factor that can be easy to miss until it is too late without professional guidance. Having a professional disaster recovery firm assess the building and perform any necessary demolition, restoration, and reconstruction work will ensure that the building is truly safe to inhabit after fire damage.

Water is the most abundantly available and affordable fire suppression method, making water damage inevitable after a fire. A full-service disaster recovery firm can extract excess water after a fire has been suppressed and address all the ensuing damage caused to a building or its contents, salvage items and materials to help keep costs down, and prevent issues like mold from taking root as the business goes back to being operational.

## After the Wildfire

Burn scars left behind in wildlands after a fire can cause their own sets of problems that might require disaster recovery for businesses and homes in the affected areas. Burn scars are defined as any burned area of land after a wildfire, which leads to an increased risk of erosion and increased silt, ash, and other debris. Debris flows and landslides, as well as flash floods, become high-risk events in areas severely impacted by a wildfire. Where burned land is characterized by steep terrain, rocky areas, or other factors that decrease the ability of the ground to absorb water, these risks become even greater.



**AS LITTLE AS 0.5 INCHES OF RAIN IN LESS THAN 60 MINUTES IS SUFFICIENT TO CAUSE FLASH FLOODING IN A BURN SCAR.\***

\*NATIONAL WEATHER SERVICE

Landslides, flash floods, and debris flows can have a severe impact on properties downstream or downhill from burn scar areas. All three can be both destructive and deadly. The National Weather Service (NWS) notes that debris flows caused by flash floods can damage bridges, roadways, culverts, buildings, and other infrastructure miles away from the burn scar where these flows and floods originate.



NWS recommends that homes and businesses that are downhill from a burn-scarred area should not wait for flash flood warnings to be issued during a storm to evacuate. It is advised to evacuate before or at the start of a storm in order to stay safe or protect your property. Have an evacuation plan, an emergency supply kit, and monitor the weather independently.

The most critical factor in recovering from a disaster is time. In our experience, the longer it takes to respond to a disaster, the higher the cost of recovery. An ERA provides priority service in times of peak demand, which translates to rapid response and efficient recovery. Pre-determined pricing also takes the guesswork out of your recovery budget process. An ERA is an important part of your Disaster Recovery Plan, providing peace of mind should an unfortunate disaster event occur.

## Conclusion

Fires are costly and deadly no matter the cause, and wildfires are becoming more likely than ever due to conditions like drought and rising annual temperatures. There are several ways a property owner or manager can be proactive in preventing a fire or mitigating the damage a fire does to their building, including creating a defensible zone, having proper safety and suppression equipment, and performing adequate cleaning and maintenance to prevent major causes of man-made fires.





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