

California Fires: Building Resilience From The Ashes

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Climate-related risks are increasingly being recognized as a defining challenge of our time. The 2020 Global Risks Report from the World Economic Forum was released January 15, 2020. For the first time in the history of the report, the top five risks in terms of likelihood are all climate-related.

Even as many leaders work to address climate change and reduce its impacts, severe weather and wildfires are not going away. Hazards may be natural, but disasters are not always inevitable.

This is why Zurich strives to be at the leading edge of understanding risk, by:

- Applying lessons learned from studying disasters
- Helping customers and communities reduce the devastation from these events and build back better.

This presentation provides an overview of how Zurich approaches challenges associated with wildfires and the findings from Zurich's California Wildfire Post Event Review Capability (PERC).

The California Wildfire PERC Provides Actionable Recommendations To Build Back Better



Summary Of The Report & Methodology

- *California Fires: Building Resilience From the Ashes* focuses on lessons learned and opportunities to build resilience following the historic 2017 and 2018 wildfire seasons, the most destructive in the state's recorded history.
- It was written in collaboration with Zurich North America, DuPont and the nonprofit Institute for Social and Environmental Transition (ISET-International).
- The research team, using a methodology developed by Zurich called the Post-Event Review Capability, explored successes and failures before, during and after the fires for purposes of providing cost-effective, actionable recommendations for a range of different players.



The California PERC Is Zurich's 15th PERC And The First That Assesses A Wildfire

The PERC Method

- The Post-Event Review Capability (PERC) analyzes major natural hazard events to identify lessons learned and suggest actionable improvements.
- PERC is a methodology for understanding why a hazard becomes a disaster, and then from that, identifying entry points for building resilience.
- The methodology draws out insights that span the entirety of the disaster management cycle.

The Report

- Many people are recognizing that climate-related risks are a problem yet have no idea how they can help build resilience through their own actions.
- With this report we're helping them navigate that chasm.
- As an insurance provider, we're not only here to help with risk transfer needs but also with insights to help build resilience.

Wildfires Present A Number Of Complexities That Make It Difficult To Assess Their Risk



Weather, fuels, topography, and exposure all play a role in how weather influences a fire's intensity, severity, and scale.

- These four elements are undergoing changes that increase wildfire challenges.



Addressing future wildfire risk will require thinking critically about which risk factors we can effectively and meaningfully address.

- We must commit to acting on those quickly and decisively.



Living in the Wildland Urban Interface means a number of actions need to be taken into consideration. This includes:

- Maintaining forest health and defensible space
- Understanding and mitigating wildfire vulnerability

The 2017 Wildfires In California Burned At Record Catastrophic Rates

At the time, 2017 was the most destructive wildfire season on record in California, with over 9,000 fires burning close to 1.2 million acres of land.

- The following year became the deadliest and most destructive wildfire season ever recorded in the state, with 8,054 fires burning over 1.8 million acres.
- The notorious 2018 Camp Fire alone claimed the lives of 86 people and nearly wiped the town of Paradise off the map.



KEY FINDINGS

Most Broadly, Communities Must Reduce Risk And Increase Resilience

There are multiple components that contribute to communities' exposure to wildfire risk. These include:

- Sparks from power lines
- Continued development in the wildland-urban interface (WUI)
- Insufficient action to “harden” homes and other structures against wildfires
- Gaps in insurance coverage
- Shared management/maintenance of land in the WUI



Within each of these areas, various steps can reduce risk and increase resilience.

Statewide Fire Hazard Mapping And Chapter 7A Building Codes

- California has already taken a leadership role in the U.S. on wildfire hazard and risk, in part through statewide fire hazard mapping and Chapter 7A building codes which prescribe fire-resistant building standards in certain areas designated as high fire hazard severity zones.

Codes Regulate How Structures Are Constructed

- The codes regulate how structures are constructed and what materials to use to reduce the risk of ignition.
- For example, the codes prescribe tempered glass windows, and attic and underfloor vents that are screened to block embers from entering interior spaces.

Codes Should Applied And Enforced In More Areas

- Codes should be applied and enforced in more areas: In many blazes, wind-driven embers have ignited structures well beyond the boundaries of high fire hazard severity zones.

Smart Development Of Land

- Incentives can encourage smart development of land, particularly in the WUI.
- That can include using public lands, parks and playing fields to create buffer zones that slow the spread of fire.
- Prohibit building in areas that are too steep, prone to dangerous winds, etc.

Additional Resiliency In Communities

- Build additional resiliency into the communities situated in wildland areas. The urban sprawl comes with assumed hazards.
- If we're building into an area that's very dry, take down more vegetation than we would have liked to.
- Use different engineering methods, different construction materials.

Discussions On “What If?”

- Residents, governments, businesses and organizations need to consider fire behavior beyond the worst-case scenario. Foster discussions on “what if?”

Plan For Next Steps

- Consider how you would build back better!
- Identify the staff and the roles they will have during recovery.

When Building Resilience, Special Attention Should Be . . .

- Paid to how infrastructure (power, wastewater removal, communications, transportation) can fail and what actions can be taken in advance of disaster and in reconstruction to increase robustness and redundancy.

Resilient Materials And Building Methods

- Integrate more resilient materials and building methods.
- Studies have shown that such measures don't necessarily increase costs significantly.
- Those who do not learn from history are destined to repeat it!

Develop A Culture Of Wildfire Mitigation

- Wildfire-prone areas need to develop a culture of wildfire mitigation to reduce collective fire risk.
- What property owners do or don't do on their land, such as accumulating debris and dry brush around their property, can impact the safety of their neighbors.

Property Maintenance And Creation Of A Defensible Space

- Property maintenance in the WUI should be considered a social responsibility.
- There are cost-effective, practical actions for residents in wildfire-prone areas to play a vital role in building resilience where they live, such as creating defensible space.

Wildfire-Prone Communities Learning From The Past

- Wildfire-prone communities should actively learn from every event, even those in other states or counties.
- In addition to California, states including Montana, Colorado and New Mexico have an above-average percentage of households at high or extreme fire risk.

California As A Global Leader

- The state of California, in particular, is a leader not just nationally but globally in thinking about and beginning to address increasing wildfire risk.

Creation Of More Regulations

- Realistically, we need more regulations — and not solely in California but every fire-prone state.
- We can build to be much safer in these environments, but individuals and industry need to embrace the requirements.

Issue

- Power lines running through highly flammable vegetation in environments prone to high winds is fundamentally a problem.
- At the same time, we want and need power.

Possible Solutions

- Upgrading to coated conductor for power lines and moving power lines underground can reduce the risk of power lines sparking a fire.
- Moving to smaller, localized grids utilizing a much higher percentage of wind and solar energy.
- Burying more lines so that we reduce the number of power lines crisscrossing the country.

Shift To Resilience Measures

- Shifting the mindset from response after a fire to resilience measures before can save money in the long run.
- Research indicates that \$1 invested in wildland-urban interface fire hazard mitigation measures can save from \$3 to \$4 in future costs.

Resiliency As The Best Option

- With resilience, it's about minimizing impact, avoiding impact or shortening impact.
- Our job as an insurance provider is to make someone whole after an event. The best way to do that is through resiliency.
- Proper resiliency planning differs based on the customer and the region, among other variables. But it shares a common thread: planning before an event and communication about mitigation actions.

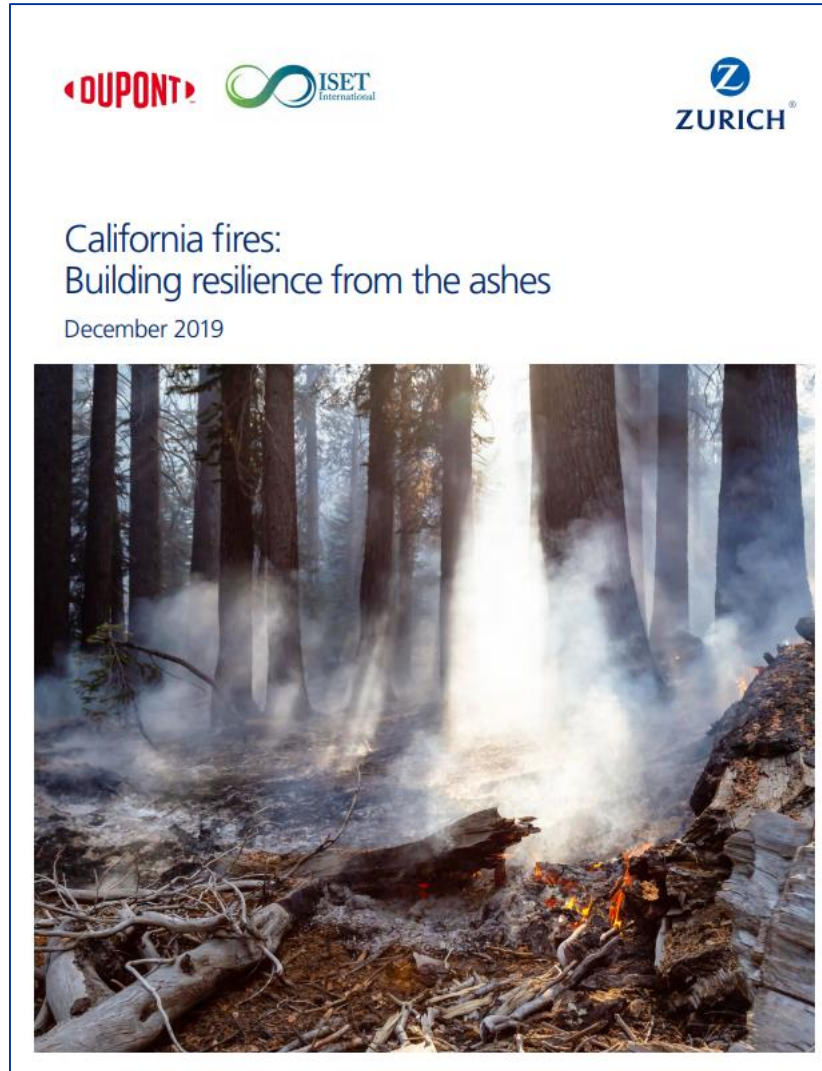
Resiliency is Key!

People Are Used To Living With Wildfire In California

- More work needs to be done to help individuals and communities embrace their role in adapting to a new normal of hotter, drier, windier conditions that intensify wildfires.
- Our response should not be limited to specific communities. These types of risks are interconnected.



Report is available at www.zurichna.com/CalWildfires



Thank you