

NATURAL DISASTERS WILL HAPPEN. ARE YOU PREPARED?

PropertyCasualty360.

FC&S EXPERT COVERAGE INTERPRETATION

NOTE FROM THE EDITOR

Natural disasters are something no one wants to think about or experience, but they occur on a regular basis in certain parts of the country. Thunderstorms are getting stronger, and atmospheric rivers are dropping massive amounts of rain in various parts of the country. Areas that seem to be safe, such as the mountains of North Carolina, have experienced devastating floods. Regions that are shielded from rivers or coastal waters have been inundated by floods from snowmelt.

From floods to wildfires, hurricanes and tornadoes, earthquakes and even droughts, it's always best to know what your risk is and how to prepare. We have pulled together these articles to help you for when - not if - you face these circumstances.

Christine G. Barlow, CPCU
Executive Editor, **FC&S Expert Coverage Interpretation**

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What You Need to Know About Disaster Season

April is the beginning of tornado season, and in some ways, disaster season. Many insureds feel secure in their homes but are not aware of how frequently floods, snow melt, tornadoes and other natural disasters occur or what they should do in order to be prepared.

Introduction

When spring comes many people are relieved that winter is over and the mess of snow and ice are behind us. However, spring is just the beginning of seasonal weather that can cause significant damage to property and generate claims. February to April is snow melt season; as the snow melts, flooding is possible, and many people overlook flood insurance because they are not by the ocean, a lake, or river. Plenty of areas nowhere near water flood due to snow melt.

FEMA lists four different types of spring flood risks. The first is spring thaw, which is when warmer temperatures melt existing ice and snow and produce a large amount of water runoff

at once. Frozen ground prevents the melting snow or ice from seeping into the ground, forcing the water to runoff into lakes, streams or rivers, and causing excess water to overflow the banks. Each cubic foot of compacted snow contains roughly 7.48 gallons of water. In many areas locals call this mud season.

Then come spring rains, which can bring several inches of rain in just a few hours or the storm can stall over an area for days. These heavy rains can saturate the ground, leading to the overfilling of storm drains or rivers to overflow their banks.

Next we have flash floods, which occur when a low-lying area is flooded in less than six hours by intense rainfall from thunderstorms. They also occur in drought conditions when the ground is so dry that water at first runs off instead of soaking into the ground.

The last thing FEMA mentions as a spring flood risk is levees and dams. As they age and weaken over time, they can be overtopped or fail during larger flood events. During Hurricane Katrina levees and floodwalls fell in more than fifty locations flooding 80 percent of the city.

Tornado season generally begins April 1 and runs through July. Predictions for 2025 from AccuWeather indicate that 1,300 to 1,450 tornadoes can be expected for the year, above the historical average of 1,225. The 2024 season was one of the worst on record, with 1,796 tornadoes throughout the season confirmed by NOAA, with over 500 in May alone.

A recent study shows that the number of strong tornadoes has been significantly underestimated. Because of their short duration, the strength of the winds is often estimated based on the amount of damage to existing structures in the tornado's path. When tornadoes move over a well populated area, there is plenty of damage to review to estimate the wind speed of the storm that just passed by. However, when the storm moves over open fields, there's no damage to view. In order to accurately determine wind speed using radar, the radar has to be within a certain distance to give an accurate reading. Not all buildings are created equal, and the angle at which the tornado struck a building may also have an effect on the amount of damage reported.

An analysis of wind speed data gathered by Doppler radar from tornadoes that had been rated by the National Weather Service showed that overall tornado categories are 1.2 to 1.5 categories lower than they should be.

June brings both hurricane and wildfire seasons. While the east coast is threatened by hurricanes, the central and western parts of the country are threatened by droughts and wildfires. Along with the threat of wildfires the threat of dust storms exists; anytime there are droughts and dry land, dust storms can become an issue.

With the changing climate the wildfire season has become longer and longer. Burn scars, areas where vegetation has been burned away leaving charred ground, are areas ripe for mudslides when spring rains start. New research from the United States Geological Survey predicts that post-wildfire landslides are now likely to occur each year in Southern California, and that the region can expect major landslides every ten to thirteen years. A major landslide is one that can damage forty or more structures.

The National Centers for Environmental Information's billion-dollar disaster report showed that 2020 was a historic year for extreme events. There were twenty-two separate billion dollar weather and climate disasters across the United States costing $95 billion dollars. The costliest events were Hurricane Laura with $19 billion in costs, the Western wildfires with $16.5 billion in costs, and the August midwest derecho with $11 million in costs. Over the past fifteen years, from 2006 to 2020, disasters have cost $1.036 trillion. April through September have the most billion-dollar disasters. Since then disasters have continued to increase. The total cost of disasters from 2015 - 2024 exceeds $1.4 trillion. In 2024 there were 27 events costing $182.7 billion.

By August of 2020, every state from the Great Plains to the West Coast had experienced drought. Much of the Northeast was also in a stage of drought, and other pockets existed in the Midwest, Plains and Hawaii. Drought only enhances wildfires, making it easier for vegetation to burn and fires to spread rapidly. The drought has worsened over the past 4

years, with more than 20 percent of the country reporting abnormally dry conditions since June of 2024, and overall 36.31 percent of country is showing drought according to the National Integrated Drought Information System.

As an agent, you want to do what you can to alert your insureds before weather gets ahead of them and they find themselves under or uninsured and unprepared to handle a loss. More importantly, there are steps they need to take to protect themselves from injury as well. Many things apply across multiple situations.

Inventory

The importance of a home inventory cannot be stressed enough. An insured who has an inventory of belongings is in a much better position in event of a loss. That way, whether property is burned, flooded, blown away, or otherwise destroyed, the insured has a catalog of his belongings and can readily provide the carrier the required inventory list. There are many free smartphone apps including HouseBook, Find My Stuff, Encircle and others; many carriers also have their own apps or software on their websites that an insured can use to build an inventory. An advantage of a smart phone app is the ability to take pictures of items that immediately shows exactly what the insured had. Another important action is keeping receipts; while some carriers may not request receipts, especially in these days of identity theft where people are advised to shred documents, a record of receipts for big purchase items is important. An insured can scan them into the computer or take photos of the receipts and store them electronically so that in case of a dispute there is a record of when and where the item was purchased and the purchase price. A copy of the inventory should be given to the agent or the company so that the record is safe in event of a total loss.

Once an inventory is created, coverage needs to be reviewed: is it adequate? Many people underestimate the amount of property they have. Once you add up all the towels, lamps, silverware, CDs, DVDs, and other items including what is in the junk drawers, the insured may need to increase limits.



Hazards

Next look at the hazards the insured is most exposed to. Is he in a high snow area where snow melts routinely lead to flooding? Is the insured in a known flood, wildfire, earthquake, hurricane, tornado, or other area? Have any of these areas expanded over time, such that while it wasn't a hazard when the insured moved in, it is more of a hazard now? While fire is always a covered peril, there are areas where those in wildfire areas may be required to maintain defensible space. Knowing how to do so, and being able to coach your insureds in doing so, can help your insureds avoid or at least mitigate a fire loss. Maintaining clear space around the dwelling, a certain amount of space between trees so fire cannot jump from one to another, and planting drought resistant and native plants all help in wildfire areas. In certain areas with frequent wildfires carriers may be requiring that such mitigation measures be taken in order for a property to be eligible for coverage.

With tornadoes or hurricanes the removal of anything that can become airborne is important; both tornadoes and hurricanes have great winds and can throw loose objects into or through dwellings and cause significant damage. As tornadoes arise with little to no warning, encouraging an insured to maintain a clear yard is helpful.

Earthquakes require particular home maintenance as well. As items shake and fall during an earthquake, ensuring that pictures are hung securely to walls, items in cupboards or on mantels are secure, or that items are not kept on mantels at all is important. Furniture should be anchored to the walls as well. Another thing to consider aside from whether or not the insured is in a traditional earthquake zone is whether or not the insured is in an area where fracking has begun. The United States Geological Survey now tracks earthquakes caused by fracking and not just earthquakes caused by tectonics. As earth movement is not covered under traditional policies, advising insureds to add endorsements or purchase separate earthquake coverage is important for those exposed to the risk.

Every insurance agent knows homeowners and commercial property policies do not cover flood; the National Flood Insurance Program starts running commercials in April advising people that standard property policies do not cover flood yet still many, many people do not obtain a flood policy. While it may be expensive, it is usually much more expensive to sustain a loss and replace all the drywall in a lower level than purchase the coverage. At the least, an insured should be made aware of the risks and advised to not store items on the basement floor. Items should be kept up on shelves and off the floor; valuable items should be kept in other areas of the home. Remember, the flood policy has a thirty-day waiting period, so the discussion should be had well before hurricane season starts.

For decades flood insurance was primarily provided through the National Flood Insurance Program (NFIP). With better modeling, access to coverage through private carriers is becoming more available. ISO has developed both a commercial flood program and a personal flood program. Private providers of flood insurance are also available in many areas.

Wildfires, dust storms, blizzards, and volcanoes are other natural disasters that are problematic. The National Oceanic and Atmospheric Administration (NOAA) reports that wildfires burned 10,274,679 acres in 2020 which is the most on record. There were 58,258 fires that year, and the fires burned 176.4 acres per fire, again the most on record.

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There are a number of different terms used for watches, warnings, and advisories for various types of weather. Knowing these terms lets you know just what to expect from oncoming storms.

One of the most important things an insured can do is have a plan and an emergency kit with medications, important papers—including medical records for pets—cash, and basic first aid supplies. Also needed is knowledge of various safe actions: what areas of a building are safest in a tornado, and what if you are in a vehicle? What if you are in a vehicle and the road floods, or wildfires overtake you? Sharing this knowledge with your insured can help him be prepared in event of a disaster. There are many online resources: ready.gov provides information for biological, chemical, cyber, drought, earthquakes, floods, fires, hurricanes, landslides, tornadoes, wildfires, and other types of disasters with instructions on what to do before, during, or after such an event.



The Truth about 100-Year Floods

Whenever a strong hurricane or storm causes significant flooding, there is often talk of a 100-year flood. When people hear this term they think a flood of that magnitude occurs once every hundred years, so they should be safe from harm for the next hundred years. Unfortunately, some base their decision to buy flood insurance on this false belief, putting them at risk of a catastrophic loss.

The reality of this is different. It involves frequency analysis and statistical probability. In order to determine the frequency of floods of a given level, scientists create a history of the area. Generally, scientists start with a minimum of ten years of information. The longer the record, the better and more accurate predictions. They look at the frequency of different size floods and the average number of years between them in order to develop the probability of a given size flood in any given year.

In order to consider a flood extreme, experts start by determining the normal amount of rainfall and stream stage for a given body of water. Stream stage is the level of water, measured in feet, above a certain arbitrary point. The measurement is the distance from the riverbed to the height of the water. A stream or river in normal conditions could have a stage of two feet, meaning the stream is two feet deep. If a big storm hits suddenly the stream stage could quickly rise to fifteen or twenty feet. A flood occurs when the stream or river overtops the natural or artificial banks of the stream. Rain volume alone does not always create a flood; the condition of the ground before the rain starts is critically important. Has the area received a lot of rain recently and is the ground already saturated? Less rain is needed to create a flood under those conditions. Likewise, if the area has been under a drought and the rain is falling fast, it is possible for the water to run off instead of soaking into the ground. This can lead to mud and landslides, depending on the ground in the surrounding area.

If a river basin is altered such that it affects the flow of water, scientists will re-evaluate the frequency. The addition of dams and levees will change the odds. Once a flood has receded, high-water marks are surveyed to estimate maximum flows that cannot be measured during an active storm. Streamgauges record the height and quantity of flow. As rivers and streams flow and flood, the beds and flow of water change causing sediment to flow downstream and the bed itself to change, which can change the flow of water.

The accumulation of data allows for a determination of the annual probability that a given stream or river will exceed its banks. This is known as annual exceedance probability or AEP. A one-percent AEP flood has a 1 in 100 chance of occurring every year, with an average recurrence every 100 years. This is the 100-year flood. A 500-year flood has an AEP of 0.2 percent chance, or a one in 500 chance of occurring in any given year. It is entirely possible for there to be 100-year or 500-year floods in consecutive years. Because of the confusion and misunderstanding the term 100-year flood generates, the United States Geological Survey is

encouraging the use of the AEP terminology, so the phrase 1-percent AEP flood is preferred over a 100-year flood. During the span of a thirty-year mortgage, there is a 26 percent chance of a home in a 1-percent AEP, or 100-year flood area, being flooded.

The National Weather Service provides a calculator (found at *https://www.weather.gov/epz/wxcalc_floodperiod*) so it can be determined just how often a storm of a given strength will occur over a given time period. In the following chart we have calculated the risk of a 100-year and other floods over 1, 10, 20, 30, and 50 years.

Time	10 Years Flood	25 Years Flood	50 Years Flood	100 Years Flood	Total Percent Risk
1 year	10%	4%	2%	1	**17%**
10 years	65%	34%	18%	10%	**127%**
20 years	88%	56%	33%	18%	**195%**
30 years	96%	71%	45%	26%	**238%**
50 years	99%	87%	64%	39%	**289%**

As you can see, areas susceptible to a 1% chance of a 100-year flood are at significant risk of some type of water incident much sooner than 100 years; at the ten-year mark, the chances of some sort of water damage is 127%. If I had a 127% chance of winning the lottery I'd definitely buy a ticket. At 20 years the chance of some water damage is 195%. It may not be catastrophic, but water damage is expensive, especially in warmer climates where mold can grow quickly and cause even more damage.



Common Issues After a Storm

Hurricane season starts June 1 and runs until November 30. There are quiet seasons and busy seasons, but one thing is a given – when a strong storm hits land, there's sure to be damage and insurance claims. Storms often cause flooding, damage buildings and vehicles, knock out power, affect transportation, and cause other problems.

Without electricity, there is no air conditioning in residences, businesses, and essential services such as hospitals and emergency shelters. Gas pumps need electricity in order to pump fuel, leaving no way to refill the tanks of vehicles or generators. A lack of power to appliances leads to food spoilage and equipment damages. Cell phones will lose power, and people won't be able to recharge them. Water treatment plants will be affected as well. This leaves people without air conditioning, water, transportation, and communication.

It's not unusual for the local civil authorities to issue evacuation orders before a storm and restrict access to damaged property after a storm. There are a number of coverage issues that can be expected that are related to evacuations and restricted access on both personal and commercial policies.

Homeowners Issues

The homeowners policy provides coverage to insureds when a civil authority has prohibited use of the "residence premises" due to direct damage to neighboring premises by a peril insured against, and coverage is provided for no more than two weeks. Coverage is also provided when a loss makes the "residence premises" not fit to live in as a result of a covered loss under additional living expense coverage. Coverage is for the shortest time required to repair or replace the damage, or if the insured permanently relocates elsewhere. What does this mean to those insureds who left their premises because of evacuation requirements by the authorities because of predicted but not yet happened damage, and for the inability to return home due to the widespread loss of utilities?

The HO 00 03 excludes power failure if the failure of power or other utility service takes place off the "residence premises." An exception exists for a power failure that results in a loss from a peril insured against on the "residence premises"; the policy covers that loss. For example, if the power failure starts a fire, that fire is covered.

If an insured evacuated because of orders of civil authority before any damage occurred, and there is no damage to the "residence premises" but the insured still cannot return to his property because power is out, is there coverage under additional living expenses?

For additional living expenses coverage to apply, there must be a loss covered under Section I that makes the premises not fit to live in. Wind from the hurricane caused widespread power outages; wind is a covered cause of loss. Lack of air conditioning and power when the

temperature is in the high 80s and 90s could be seen as making the premises uninhabitable; therefore there could be coverage for additional living expenses.

Determining coverage is much easier if the insured's premises received damage from the storm as well. If the insured's property is damaged making the premises unfit to live in, then additional living expense coverage applies as outlined.

When the property has been damaged, one of the insured's duties after a loss is to protect the property from further damage. If repairs are needed, the insured needs to make reasonable repairs to protect the property – what this entails is often temporary repairs, such as a tarp over a hole in the roof or moving furniture out of standing water, until the claim can be filed and the damage can be assessed. The Commercial Property policy lists the same duties.

Business Income

Another factor is that of business income; many businesses close as well, and employers and employees alike often have to evacuate to avoid the storm. Business income coverage, if purchased, will cover the lost income if the business was damaged by a covered cause of loss, or if physical damage away from the business caused the business to have to close, such as downed trees causing road closure, or due to acts of civil authority if the area was closed off and patrons could not come to the business. There is of course a seventy-two hour waiting period before such coverage takes effect.

The damage directly affecting the business must be due to a covered cause of loss for business income coverage to apply. Typically, wind damage from the hurricane is a covered cause of loss. However, if the damage was due to a flood, then there would need to be flood coverage added to the policy for the business income coverage to apply to the business damaged by flood. Most small businesses are covered by a Businessowners policy, which includes business



income within the form. However, both the BOP and the commercial property causes of loss forms contain a utility services exclusion that precludes coverage for loss or damage caused by utility failure to the premises if it involves equipment used to supply service to the business from the utility or other source that is away from the business. Therefore, a problem could arise if, for example, the business lost power but was otherwise undamaged by the hurricane, but the hurricane knocked out transmission lines that were not on the insured's premises. However, if the windstorm caused damage to a transformer on the insured's premises, then the exclusion would not apply and coverage would be available. It is noted that coverage may be purchased for off-premises power failure; if a business purchased that endorsement, coverage could be available if a hurricane tore down lines away from the insured premises, causing it to shut down, even though there is no direct damage to the insured site.

If covered, the business income coverage would include the insured's normal operating expenses that continue even while the business is shut down, which would include such things as utility charges for the period of the shutdown, leased operating expenses, and salaries of the employees.

In order for the civil authority coverage to be triggered, the insured must actually incur a loss of business income because the civil authority prohibited access to the described (insured) premises. The coverage grant requires there be direct physical loss of or damage to property away from the insured premises as the result of a covered cause of loss.

The forced evacuation of certain areas and the closing of highways and bridges that lay in the path of a hurricane—which already had damaged property elsewhere—would appear to meet this requirement for coverage. Again, a windstorm must be a covered cause of loss on the business's policy, and the business must sustain a loss of business income because it was shut down by the evacuation order.

Another coverage provision included in the businessowners policy is that of up to $5,000 for damage to insured businesses that lose business income because one of their "dependent properties" is damaged by a covered cause of loss. The $5,000 may be increased for additional premium. A dependent property is one that delivers materials to the insured, accepts the insured's products or services, manufactures products under contract for the insured, or attracts customers to the insured's business.

For example, a restaurant may be in a shopping center that is anchored by a large, prestigious department store. Shoppers might generate the bulk of the restaurant's business. The occurrence triggering business income coverage for the restaurant would have to occur at the department store in order for coverage to emanate from the dependent properties provision. Again, there is a requirement for physical damage at one of these properties that arises from a covered cause of loss.

While flooding caused by hurricanes could lead to business interruption losses, flood is not a covered cause of loss on most policies. Although flood insurance may be available to commercial property insureds through the National Flood Insurance Program, the NFIP coverage does not include a provision for business interruption losses. So, if a business is affected solely by flood waters and not by actual windstorm, business income insurance may not be available.

Extra Expense

In line with business income, extra expense is another valuable coverage in hurricane situations. For example, if generators are purchased to keep operations running, it is a covered extra expense, as is the gas needed to run the generators—even including an insured's gas and car expenses needed to possibly go to another state to obtain the gas. As long as the expense reduces the amount of time the business is nonoperational, or is an expense that will keep the business running, it is a covered extra expense.

If employees are injured by a hurricane-related incident while in the course of employment, such as while boarding up windows and doors or preventing looters from coming into the business, there should be workers compensation coverage available to cover these types of injuries.

Summary

These are some of the coverage issues beyond property damage that arise when a storm moves through an area. Additional living expenses, actions of civil authority, business income, and extra expense are all important coverages to understand, especially during hurricane season.



Earthquakes and Insurance

Summary: Mother Nature is a powerful and uncontrollable force. Of all the natural events that occur, earthquakes are among the most destructive. According to the U.S. Geological Survey (USGS), our nation experiences approximately 20,000 earthquakes a year, mostly small. According to a 2006 National Research Council (NRC) report, 42 states have some degree of earthquake risk, 18 of which have areas of high or very high seismicity. Since 1900, there have been earthquakes in 39 states, with damage in all 50 states. While California is known for having many earthquakes, Alaska has far more. The difference is that Alaska has fewer people, so not as many structures or buildings are impacted when an earthquake occurs.

A National Earthquake Hazards Reduction Program (NEHRP) was established in 1977 to lead government efforts to reduce property damage, injury and fatalities due to earthquakes.

The Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the U.S. Geological Survey (USGS) are tasked to work together to implement and maintain the program.

What is an earthquake?

An earthquake is caused by a sudden shaking of the ground caused by a disturbance deep within the earth's crust. Most earthquakes occur when masses of rock straining against one another along a fault line suddenly fracture and slip.

Fault lines are where the fault cuts the earth's surface. Fault lines are located everywhere, which means that seismic activity can happen any place and at any time. While earthquakes typically run along fault lines, there are various kinds of earthquakes or movement of the ground and therefore you no longer have to be located on or near a fault line to suffer damage and feel the ground shake.

Some types of earth transmit the movements much farther away than others; the type of bedrock in the central United States means that an earthquake can shake an area approximately 20 times larger than earthquakes in California. Many fault lines are small and not surprisingly numerous slight earthquakes go undetected. It is easier to indicate the possibility of earthquakes along larger fault lines because of previous earthquakes along those faults. That being said however, there really is no definitive way to predict an earthquake. An area that has had no seismic activity in decades may be quiet forever, or it may just be storing up energy for the next big quake.

Fracking

Even though some places are more earthquake-prone, it is a possibility that an earthquake can occur in any of the 50 states. In western states, including of course California, everyone should be well aware of the risks and the need for insurance. In other regions however, frequent seismic activity may come as a surprise. For example, Virginia and Oklahoma have both had devastating–and utterly unexpected–earthquakes in the last few years. New faults are being discovered all the time, and until they shake the earth, there's no way to know they exist.

In 2011, a 5.7 magnitude earthquake hit in the state of Oklahoma. According to the Insurance Institute and later publications, researchers at the University of Oklahoma, Columbia University and the U.S. Geological Survey believe that this quake, as well as many others in the middle of the U.S., may be the result of human activity such as fracking, which is awakening fault lines that have been dormant for millions of years. Enough quakes due to fracking have occurred that the United States Geological Survey now tracks quakes caused from fracking as well as traditional earth movement.

Wastewater Injections

One of the major concerns with fracking is the wastewater and its disposal. Wastewater treatment is not a viable option because there is generally too much water for the treatment to be able to remove all of the chemicals. For disposal, the wastewater can be injected into the ground or put into a lined pond and allowed to evaporate. Even though the water is injected far below groundwater levels, there is still concern from individuals claiming that it contaminates the groundwater from which they drink.

Injecting the water into the ground can lubricate faults and cause earthquakes. While previously under dispute, the USGS has confirmed that the injection of wastewater from fracking can cause small quakes; however actual results show increasing frequency and higher magnitude

earthquakes from the period 1975 to mid-2013. For the years 1975-2008, one to three magnitude 3.0 earthquakes or larger occurred in Oklahoma annually, but from 2009 to mid-2013 that number rose to 40 earthquakes per year, all of which were attributed to fracking. The largest earthquake caused by fluid injection occurred in 2016—a magnitude of 5.8 in central Oklahoma. Two more earthquakes of magnitude 5.0 or greater occurred that year in Oklahoma, and in 2011 a 5.3 magnitude earthquake occurred in Colorado.

Today, because of the increases in fracking and wastewater disposal in Oklahoma, the state now has more earthquakes of magnitude 3 or greater than California. In addition, Arkansas, Colorado, Kansas, Oklahoma, and Texas all have recorded earthquakes between magnitudes 4.5 and 5 due to fracking.

The earthquakes are not always near the point of injection; they can be as many as several miles away from the injection point and two miles or more deeper. The USGS is developing methods to assess earthquakes associated with fracking and wastewater disposal and has placed seismometers at sites of known or possible injection-induced earthquakes in Arkansas, Colorado, Kansas, Oklahoma, Ohio, and Texas. Temporary set-ups have been placed in Ohio, Illinois, Kansas, Oklahoma, and Texas to look at other regions.

There is now no doubt that human activity may be placing us at greater risk of earthquake damage than we realize. In fact, in places where the injection of fracking wastewater has stopped, earthquakes have dropped down to near zero.

Building Construction

The National Seismic Hazard Model from the USGS forecasts the strength and frequency of ground shaking in future earthquakes. The most recent update to the model includes an updated catalog of past and recent earthquakes, new ground-shaking models on the central

and eastern United States, improved ground-shaking estimates at sites overlying deep soils near parts of California, Washington, and Utah, and more detailed shaking estimates for a wider range of building and soil types.

In earthquake-prone areas, building construction codes require that seismic features be added to withstand earthquakes, particularly in the state of California, which is second only to Alaska as the U.S. state experiencing the most earthquakes. For example, many new buildings and homes are built with flexible wooden frames and bolted to the foundation. For newly constructed buildings, the California building code requires specific tests for masonry to ensure that structures can adequately resist seismic forces during earthquakes. Brick walls must meet specifications for facing, bonding and distance between headers. Masonry must be tested using an in-place shear test that displaces a single brick, then applies weight and checks for movement. Wall anchors are tested and must pass code requirements, and embedded wall bolts receive periodic inspections. The exact guidelines change from time to time as California adds additional knowledge to its building standards. Older buildings are typically subject to retrofitting, in particular those of unreinforced masonry construction with the highest risk of collapse.

However, for areas not previously prone to earthquakes, such as states in the mid portion of the country where fracking has been occurring, construction standards do not address earthquake safety; as such, homes and buildings in these states are quite vulnerable to earthquake damage and many lives are at risk. Areas along the New Madrid fault through the middle of the country are at much greater risk of damage.

Loss prevention by way of building construction codes, building materials, and community preparation are very beneficial at lessening destruction and injuries caused by earthquakes. Even so, it does not totally mitigate all losses.



Is my property at risk for earthquake damage?

Your risk depends not only on your location, but even a specific location within a high-risk zone can also affect your risk of loss. For example, a building built on a foundation of sand or pilings, as opposed to concrete, would be more likely to suffer greater damage due to the instability of the ground. In addition, older buildings with weaker structural walls or foundations may suffer greater damage in an earthquake.

If you know you're in a risk zone for earthquakes, you can take steps to mitigate the earthquake risk, and this may affect the cost of your insurance. For example, bracing potentially weak walls, affixing your building firmly to the foundation, or securing valuables and equipment against movement may prevent unnecessary damage.

Since an earthquake can occur at any place and any time, and cannot be definitively predicted, if one does occur, you could be looking at serious losses. While not all-inclusive, the following are some examples of earthquake damage and risks:

- Building damage or destruction
- Building collapse
- Structural damage to buildings or other structures, creating dangerous circumstances and requiring repair or replacement
- Damage to business personal property
- Damage to property of others
- Explosions
- Fires
- Gas Leaks
- Landslides
- Avalanches
- Flash floods
- Tsunamis

If you have doubts that an earthquake could damage your property, or don't think that an earthquake would affect your location, you can check the frequency of earthquakes using the USGS damaging earthquake shaking map. You may be surprised to find there is a fault line closer than you think. The Insurance Information Institute can inform you about the insurance risks in your specific area, whether it be Central, Eastern, or the Western United States. Additionally, the data from a Federal Emergency Management Agency (FEMA) study will provide additional insight to help assess your risk.

Do I need earthquake insurance?

Since earthquakes can neither be prevented nor predicted, avoidance, loss prevention, and insurance are the best ways to cope with this threat. As earthquakes can occur anywhere, at any time, avoidance is not a viable option. Damage can span far away from the epicenter of the quake. That means that even if your business isn't situated near a fault line, a major earthquake can still do significant and costly damage. The standard commercial property policy will not cover damage caused by an earthquake.

Following are some basic questions to help determine if you need earthquake insurance:

- Can your business replace your business property like inventory, computers etc., if damaged or destroyed?
- Can your business pay for temporary relocation and other expenses if your location is uninhabitable?
- As a business owner, can you afford the cost of rebuilding or repairing your building if it is damaged or destroyed?

With all of that being said, earthquake insurance is something that all business owners–no matter where they operate–should consider. However, organizations that are located in earthquake-prone areas should definitely invest in this type of insurance coverage.

Earthquake insurance is not mandatory. However, even one large earthquake can be devastating, and you probably can't afford to rebuild your business and replace all your belongings out of pocket. That's where earthquake insurance comes in. For business owners who operate in areas that are prone to seismic activity, earthquake insurance is a wise investment.

What does earthquake insurance cover?

Commercial earthquake insurance is a specialized policy or endorsement that covers the damage associated with ground movement caused by earthquakes. Your business earthquake policy will generally cover damage to your building and to your business property such as your machinery, equipment, and inventory. Depending on the policy, demolition costs and lost business income caused by an earthquake may also be covered. Coverage only begins when damage has exceeded the policy's earthquake deductible. Earthquake insurance often requires high deductibles—ranging from 2 percent to 20 percent of the value of your building, depending on its location, age and condition. In states where the earthquake risk is low, that percentage will typically be at the lower end of the range. The deductible generally applies separately to each building or structure, to the contents of each building or structure, and to personal property in the open. However, the deductible does not typically apply to some additional coverages such as business income, extra expense, or civil authority.

While earthquake insurance will generally cover a wide range of damages that are associated with seismic activity, it will not cover everything. Some things that your earthquake coverage likely won't include:

Fire: Earthquake insurance usually does not cover anything that the businessowners or commercial property policy already covers. For example, if the property policy covers fire damage, even if an earthquake causes the fire, the earthquake insurance will not cover it.

Land: Earthquake insurance does not cover damage to land, such as sinkholes. However, additional coverage may be available to restore or stabilize land. In addition, earthquake insurance does not cover fences, trees, shrubs, plants, or unattached signs.

Vehicles: Earthquake insurance does not cover damage to vehicles. You should check your auto insurance carrier to see if earthquake coverage can be added.

Flood: Earthquake insurance does not cover water damage that is excluded under the businessowners or commercial property policy, such as sewer or drain back-up, floods or tsunamis. A flood insurance policy will be needed to cover these damages.

Non-covered losses are not included in the deductible. That means that if your businessowners or commercial property policy excludes certain items, those items likewise are not covered for earthquake loss, and as such the cost of replacing those items does not contribute towards your earthquake deductible. For example, your business signs not attached to a building would not be covered for earthquake loss and the replacement cost of those signs would not be applied to the earthquake deductible.

Immediately following an earthquake, some carriers may restrict their earthquake coverage. This is because aftershocks may follow a larger quake, and many businesses will want to add the coverage once they realize than an earthquake can in fact happen to them. Rather than take on the additional risk associated with aftershocks, many carriers will simply refuse or postdate coverage until a reasonable time after the initial earthquake.

Earthquake insurance cost

Commercial earthquake insurance premiums vary by carrier and coverage options. In addition, there are several factors that will impact the cost of this type of policy, such as how close your business is to a fault line, the history of seismic activity in your area, the size of your business, and the type of equipment and machinery used in your operation. To find out how much a commercial earthquake insurance policy will cost, speak to a broker who works with a reputable insurance company that offers this type of coverage.

Rates for earthquake insurance will depend on your coverage limits, deductible and numerous additional factors, such as:

- Your building ZIP code
- Building age and construction
- The number of stories in your building
- Rebuilding costs
- The property's soil type (sand, pilings, clay, etc.); Proximity to fault lines and seismic activity

Many carriers who make earthquake insurance available have restricted or limited capacity to provide the coverage, depending upon the area and the number of earthquake policies inforce and the limits insured. These carriers likely have additional reinsurance costs built into the premium as necessitated by the carrier's inability to bear all of the costs if there is a major earthquake affecting a large number of policyholders.

Homeowners

Homeowners' issues are very similar to those of commercial property insureds. Damage is likely for the building as well as personal property. Bookcases and pictures may fall, dishes may fall from cabinets, windows may break and significant damage may occur. Fire is a significant hazard as well.

The standard homeowner's policy does not provide coverage for land, earth movement, earthquake, earth rising, shifting or sinking, subsidence or sinkhole or land shock waves. However, fire, explosion or theft that results from an earthquake are covered. It is very common for gas lines to rupture and cause fires when an earthquake occurs.

An endorsement is available for standard homeowners' policies and some states may have specific earthquake carriers, such as the California Earthquake Authority. The endorsement provides coverage for earthquake and considers any shocks within a 72-hour period one event. Exterior masonry veneer is not covered, nor is damage by flood caused by the earthquake, nor is the cost of filling land. Deductibles for the endorsement range from 5% to 25% and the limits that apply to Section I coverage remain the same.

Conclusion

Since earthquakes cannot be prevented, predicted or avoided, loss prevention and insurance are the best ways to cope with this threat. It is therefore a wise decision for a business or homeowner to consider the purchase of earthquake insurance. While rare, earthquakes are often devastating, and recovery can be long and difficult.



Wildfires - A Look at the Aftermath

The January wildfires in California forced more than 200,000 people to evacuate their communities, killed at least 30 people, and destroyed more than 18,000 homes and structures. More than 57,000 acres of land were burned. Property loss estimates continue to change but current estimates are that damages will amount to $45 billion or more insured costs, and economic losses between $150 to $275 billion. Most of the losses are expected to be homeowner losses. Aside from the fire damage itself and loss of life, there are many secondary issues that arise.

The California insurance market was already particularly hard due to past fires in the state; the Camp fire in 2018 burned over 153,000 acres, destroyed almost 19,000 structures and cost $15 billion. The Woolsey fire in 2018 cost $5 billion and the Tubbs fire in 2017 cost $8.9 billion. Many insurers had already pulled out of the state, leading people to obtain insurance from the California FAIR Plan. The FAIR plan's exposure has grown significantly since 2018, from $50 billion to more than $450 billion. If the FAIR plan collapses or the capital cushion is significantly drained because of the fires, then an assessment may be levied on insurers in the state. The FAIR plan has $377 million in cash to pay claims.

A moratorium has been put in place for the next year to prevent insurers from canceling or nonrenewing policies of those in wildfire zones for the next year. This includes those who had received a non-renewal notice 90 days before the fires started.

While random house fires caused by Christmas trees, cooking accidents, open flames and other situations cause a large number of house fires, they are in varied areas at varied times. With wildfires, a large portion of a carrier's insured properties are exposed to catastrophic losses all at once. This concerns already wary insurers, as well as the fact that more development has occurred in areas closer to wildfire zones. The aftermath, however, is a different story.

Burn Scars

When wildfires destroy an area, the result is known as a burn scar. This is an area of ground that is now charred, barren and devoid of vegetation. The trees, plants and vegetation perform a vital purpose and hold the soil in place to absorb rainfall. When the trees, plants and vegetation are gone, the chance of mudslides and rockslides from rain is greatly increased. The scorched areas can be as water-repellant as pavement, so water can run off extremely quickly causing flash floods and debris flows. When the rains eventually come, the potential

exists for flash floods, mudflows and landslides causing more property damage as well as taking lives. Without the vegetation, the rain easily saturates the earth, which rapidly becomes fast-moving sheets of mud and debris headed downhill. When this occurs, houses that escapedthe fires could be carried off their foundations by mudflows.

Landslides, mudslides and mudflows are all considered earth movement under the standard homeowners policy, and are excluded. The exclusion falls under anticoncurrent causation language, so even though the wildfires may have contributed in some way to the loss, the damages are excluded. But what if an insured had already been evacuated due to the wildfires or was receiving additional living expenses due to damage from the fire, and the mudslides caused more damage, increasing the time the insured's residence is uninhabitable? Unfortunately, for the insured, the additional living expenses are available only if the loss is covered under Section I of the policy. Even under civil authority, the damage to a neighboring premises must be by a peril insured against.

Efficient Proximate Cause

After the wildfires of 2018, then Commissioner Jones issued a bulletin stating that if fire was the efficient proximate cause of a mudslide, the damage from the mudslide should be covered even if the policy excludes mudslide, mudflow, landslide, or other earth movement. The department required insurers to perform a diligent investigation before denying any claims for mudslide or mudflow to ensure that the fire was not the efficient proximate cause of the damage.

Efficient proximate cause doctrine provides that if a loss is caused by two or more events, one a covered cause of loss and the other not a covered cause of loss, despite any policy exclusions, the loss will be covered. For example, earth movement damages a premises and the earth movement is excluded, but the insured claims that a third party was bulldozing land



above her property, this is a non-excluded peril. Under efficient proximate cause, the earth damage should be covered because the bulldozing was the efficient proximate cause of loss of the earth movement. The California Insurance Code § 530 states that "An insurer is liable for a loss of which a peril insured against was the proximate cause, although a peril not contemplated by the contract may have been a remote cause of the loss; but he is not liable for a loss of which the peril insured against was only a remote cause."

Debris Removal

Once the fires have been extinguished, massive cleanup efforts will begin. But cleanup from fires that damaged property are more complicated than fires that simply burn vegetation. Burned cars and buildings, as well as furniture, clothing, and other products leave toxic ash and debris.

Certain metals will melt, gasoline and other fluids from cars, as well as household and industrial cleaning fluids, will likely have leached into the ground. All that needs to be cleaned up, and cleanup is likely to be more costly due to the toxic exposure. Both the homeowners policy and the commercial property policy have debris removal coverage. The homeowners policy HO 00 03 pays for the reasonable expense for the removal of debris from a covered peril, and if the cost of debris removal and actual damage exceeds the Coverage A policy limit, an additional 5% of the Coverage A amount is available for debris removal. While an exclusion exists for the discharge, dispersal, seepage etc. of pollutants, there is an exception if the discharge, release or escape is caused by a Coverage C peril. Fire is a Coverage C peril, so there is coverage for the debris removal of pollutants that resulted from the fire.

The commercial property policy is different, however. In the ISO form CP 00 10 10 12, the debris removal provision appears as an additional coverage providing for expenses to remove debris of covered property caused by or resulting from a covered cause of loss that occurs during the policy period, with fire being a covered cause of loss. The most the insurer will pay under the additional coverage is 25 percent of the amount paid for the direct physical loss plus 25 percent of the amount of the deductible. For example, the amount of the debris removal expense that would be available for a paid loss of $5,000 where a $500 deductible was used would be $1,375 (25 percent of $5,500).

If this amount is insufficient to cover the cost of debris removal, or the sum of the amount of direct physical loss plus debris removal exceeds the applicable limit of insurance, an additional $10,000 per occurrence for each location is available to cover debris removal. This amount may be increased by use of endorsement CP 04 15 10 12, Debris Removal Additional Insurance.

Also, under the Building and Personal Property Coverage form, all debris removal expenses must be reported in writing to the insurance company within 180 days of the date of direct physical loss or damage. And, though the cost of debris removal is not required to

be calculated for the coinsurance clause, debris removal costs still affect coinsurance calculations during loss settlement.

Additional Living Expenses

Homeowners are entitled to additional living expenses if the premises has been made unfit to live in. Coverage is for the shortest time to repair or replace the damaged property or the time for the insured to resettle elsewhere. Coverage is for what maintains the insured to their normal standard of living.

Commercial Properties

The commercial property form provides for certain specified extensions of coverage and additional coverages in event of a covered loss that will help an insured during the loss, or to continue or restore operations following a loss.

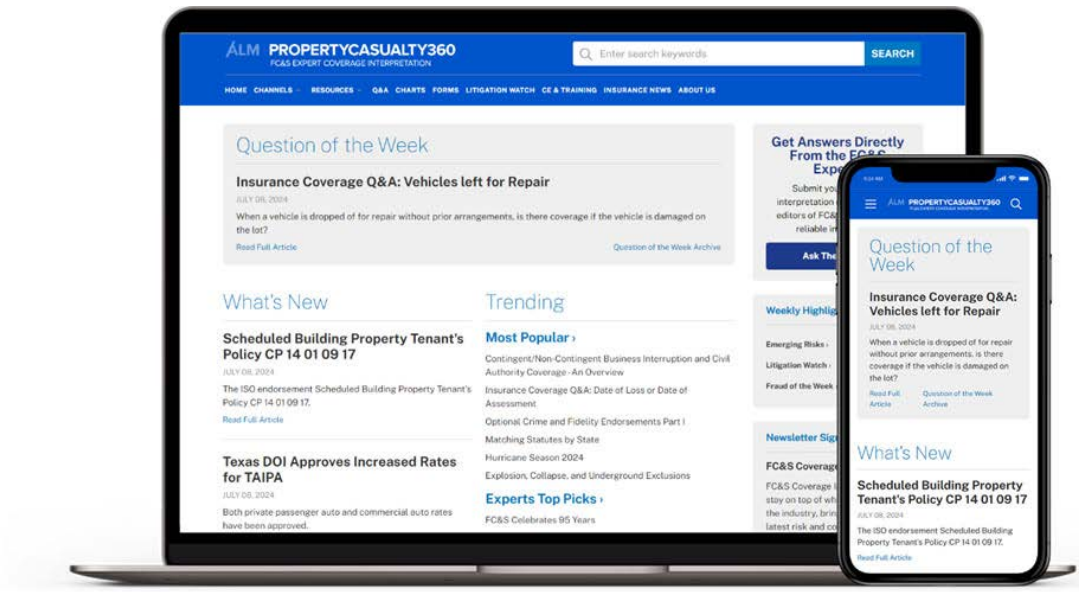
Business Income and Extra Expense

A business will lose not just the building, but income from the property being destroyed. Coverage for lost income exists under the Business Income and Extra Expense form. Business income includes net income, as well as normal operating expenses and payroll. Extra expenses cover the additional costs to keep the business running had not the loss occurred.

Conclusion

These are just some of the issues likely to occur after a catastrophe such as the wildfires in California. The loss of life and property is devastating, and cleaning up afterwards will take an extensive amount of time.

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