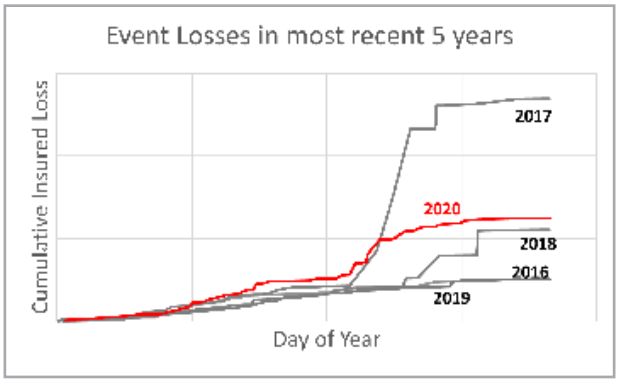
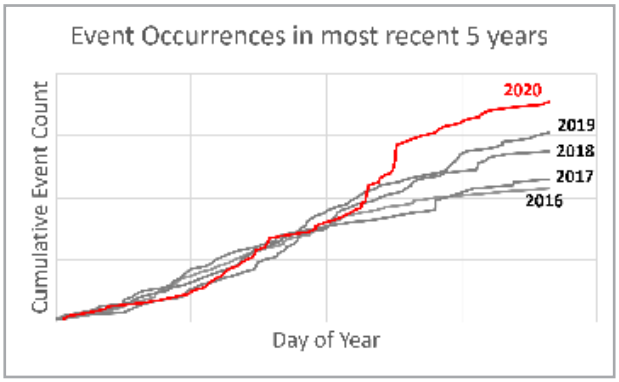
# 2020 Catastrophe Snapshot

**It still must be said: 2020 was a record-breaking year any way you cut it.**

The entire world has been dealing with the fallout from COVID-19, the most expansive and deadly pandemic since the 1918 Spanish Flu. After George Floyd's death in March, riots broke out across 20 states from May to June becoming the costliest riots in U.S. history. The North Atlantic hurricane season started two weeks early and became the most active season on record. The Western United States had one of its worse wildfire seasons with a handful of states setting new records for the largest fires in their history. California topped the charts with the country's largest recorded wildfire burning an area the size of Rhode Island in Northern California. The Hurricane strength derecho that tore through the Midwest in August was the largest loss caused by a single event since 1980. Unbeknownst to many, Puerto Rico, Utah and North Carolina all felt their most intense earthquakes since 1918, 1992 and 1926 respectively. The year closed out with the relatively small Nashville bombing, making 2020 a year in which every peril was experienced. Among all these records, the year was marked by an extremely large number of low severity events leading to large retained losses for insurers.




*Caption: based on PCS losses and cat codes trended to 2020*

## COVID19

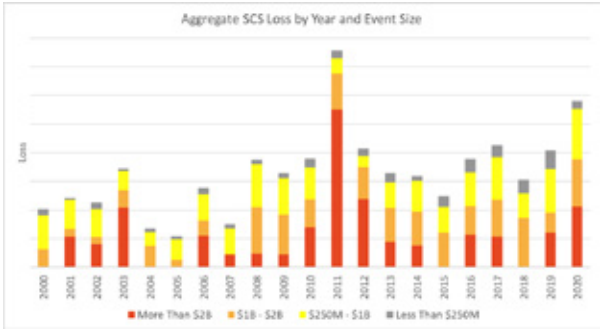
By March, the novel Coronavirus pandemic captured the attention of the entire world, resulting in periods of stay-at-home orders, mask mandates, and a new way of living across the globe. As expected, a second wave arose in the fall from a surge of cases across the United States and Europe. In the United States there were  over 12 million confirmed cases in the fourth quarter, and roughly 20 million during the year leading to 350 thousand deaths. While data collection has been inconsistent, 2020 experienced at least 80 million cases and 1.8 million deaths around the globe. A glimmer of hope arrived in November, with the announcements of successful vaccine trials by Moderna, Pfizer, and AstraZeneca, all with efficacy rates of at least 90%. Distribution for some vaccines began near the end of 2020 and hundreds of millions of people are expected to be vaccinated in the first half of 2021. In addition to the direct costs of sickness and death, attempts to slow and reduce the spread of the disease led to the cancellation of nearly all large gatherings, temporary closures of many businesses, and other economic losses. Lloyd's of London predicts global insured losses relating to COVID-19 will exceed $107B.

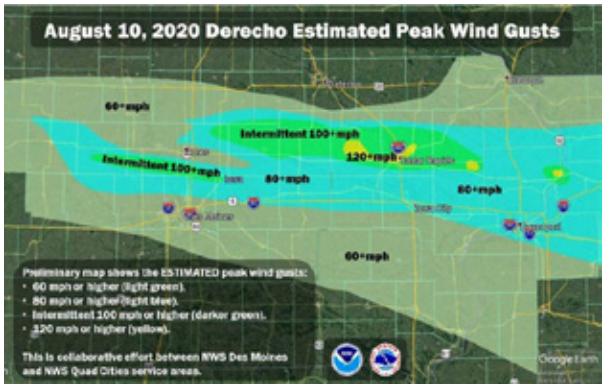
# RIOTS

As detailed in our Mid-Year Review, social and political unrest led to rioting across the United States resulting in industry losses estimated over $2B from property damage and business interruption. In some ways this value is surprisingly small given the widespread destruction. It only modestly exceeds the $1.4B of inflation adjusted losses from the 1992 Rodney King riots. Furthermore, compared to the record-breaking count of natural catastrophes that occurred this year, the impacts of these riots on the market were minimal overall.

# SEVERE STORM

An above average US severe storm season caused nearly $30B in insured losses with significant loss coming from large scale events (loss of $1b or more). Derechos, geographically large storms associated with straight line wind damage, played a key role in 2020. In April and May, two derechos occurred in the Southern United States within the same week. Similarly, three more derechos occurred in the Midwest and Northern United States in one week in June. The June 3rd derecho spanned from Pennsylvania to New Jersey resulting in significant damage across cities including Philadelphia, with wind gusts over 90 mph. An August 10th derecho hit the Midwest hard with catastrophic straight-line winds reaching speeds of up to 140 mph. Damages estimated to be at around $7.5B by NOAA included significant crop damages making it the costliest single severe storm event since 1980. This derecho had the second highest cat loss of the year, with Hurricane Laura being the only event to surpass it, yet it was largely underreported due to the sheer number of events that took hold of the news cycle this year. Despite the Nashville tornado in March, tornado frequency was lower than average. This contrasts with 2019, which saw losses driven largely by above average tornado activity.




*Caption: Estimated peak gusts from the Midwest*

# HURRICANE

Keeping the industry and news cycle busy was the hyperactive Hurricane season of 2020, which produced a record of 30 named storms. This exceeds the prior record in 2005 of 28, and it is the first year to date that the Greek letters Eta, Theta, and Iota were used. The season had an early start in May for the 6th year in a row, with Tropical Storm Arthur, and continued with high frequency up until mid-November. There were 13 hurricanes, just below the record set in 2005. Of those storms, 6 became major hurricanes, twice the atlantic hurricane season average. Of the 12 US named storm landfalls, Louisiana was hit five times, a record number of landfalls for the state in one season, with Hurricanes Laura and Delta striking Louisiana just 13 miles and six weeks apart. Major Hurricane Laura was the costliest event of the year, with industry losses estimated between $8B and

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$14B in total. Hitting Southwest Louisiana with sustained winds of 150 MPH, the storm led a destructive path through the state impacting areas of Texas, Arkansas and Mississippi. Regardless of records broken for sheer frequency of storms, the year was not particularly remarkable when it came to losses overall, with notable and recent past years like 2017 still eclipsing 2020 in total hurricane losses. 2020 saw under $20B in Hurricane losses, while the lower frequency year 2017 saw above $70B overall, with Hurricane Irma surpassing 2020 in just a single event. 2005, a comparable year in frequency to 2020, saw almost $60B in losses, further illustrating that for hurricanes, this was a season of high frequency, but low severity.


*Caption: Maximum wind speed observed from 2020 Tropical Cyclones derived from Verisk Respond*

# WILDFIRE

Wildfire conditions were ideal in 2020 leading to large and fast-moving fires across the Western United States. The summer winds were extremely unusual in terms of timing, extent and strength. Typically, these winds happen in early September but cold air in the interior of the Western states and the record heat on the West Coast set up the atmospheric conditions that drove strong coastal winds over a large area. Strong winds paired with dry thunderstorms – a natural phenomenon where the atmosphere produces thunder and lightning, but most or all of the precipitation evaporates before reaching the ground – ignited simultaneous fires throughout an already dry west coast. Multiple fires in Oregon, California and Washington covered more than 20 miles in 24-hours and in some cases burned more than 100,000 acres in one day. In Oregon, more than 900,000 acres burned in just 72 hours, almost double the state's 10-year annual burn area average of 500,000 acres. California, Colorado and Arizona all recorded their largest ever fires. In California, more acreage burned this year than in the last 3 years combined. The state saw five of the six largest fires with the August Complex Fire taking the top spot as the largest US wildfire on record, burning over 1,000,000 acres.
In addition to the wind, scientists suggest that climate change is accelerating the rate of vegetation drying through increases in both temperature and the vapor pressure deficit which is a measure of atmospheric dryness. Studies have shown that the Creek Fire, that burned 100,000 acres in one day in the Sierra Forest, was fueled by trees that died during the 2011-2017 drought that was exacerbated by human-caused climate change – an issue that is likely to persist for some time and has been highlighted by land managers. Colorado also set several records with three of the state's largest fires occurring this year. The late October East Troublesome Fire exploded overnight burning at a rate of 6,000 acres per hour allowing it to cross the continental divide by climbing the highest point in the continental USA and continuing down the opposite side. Though the frequency and severity with respect to area burned is up this year, insured losses are much lower than they were in 2017 and 2018, with ongoing loss development.

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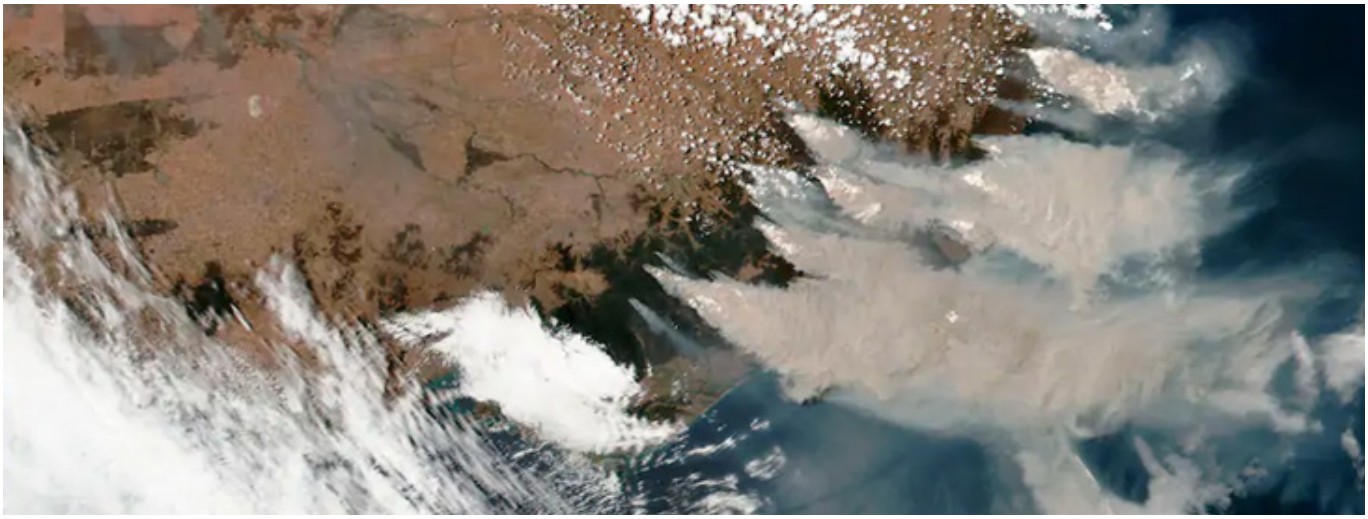
# GLOBAL

Outside the United States, plenty of catastrophic events occurred. On August 4th 2,750 tons of improperly stored ammonium nitrate exploded in a port in Beirut Lebanon resulting in 200 deaths, more than 12,000 reports of bodily injuries and damaged buildings within the 10 km blast radius that is estimated to draw damages upwards of $3B. In March, nine months after the first fires began in Australia, bushfires were finally extinguished after scorching an area the size of Washington state. It was one of the worst wildfire seasons on record fueled by record heat, drought and high winds. The East Pacific saw one of its strongest storms ever in late October when super typhoon Goni rapidly intensified over warmer than average seas bringing it from a tropical depression to a 175 mph super typhoon in 54 hours. Goni made landfall at a strength equivalent to a category 4 hurricane in the Philippines causing flooding, mudslides and strong winds. In France, storm Alex is estimated to have caused upwards of $1.75B of loss in the Alpes Maritime region and Nice from landslides and flooding caused by the 1-in-100-year precipitation event. As much as 19 inches of rain fell in 24 hours akin to nearly four months of precipitation.



2020 was an eventful year for the reinsurance and insurance industries, memorable for its records set and the persistent events felt worldwide. Total US Insured losses are not out of the ordinary at approximately a 5-year return period. The high frequency of low severity events, however, reflects a 50-year or greater return period and is nearly double the 10-year average. While the year is ending on a somewhat hopeful note as COVID-19 vaccines begin to ship across the nation, the effects of COVID-19 will continue to spill into 2021. Increased retained losses and quickly filling aggregate deductibles from the bombardment of low severity events has reinsurers looking closely at aggregate covers and lower layers. Overlapping events and pandemic restrictions complicated loss adjustment and will surely slow down the processing time of losses throughout the industry. What we have been given is the opportunity to study the impact of multiple events – will we find that event interactions result in compounding losses, maybe that 1+1 is more than 2? TigerRisk will continue to monitor the impacts of 2020 to ease the transition into 2021 and prepare for what's to come.