Large-Loss Fires and Explosions in the United States in 2021

Stephen G. Badger
April 2023
Key Findings

In 2021, there were 24 large-loss fires or explosions in the United States. These included 20 structure fires, two wildland/urban interface fires, and two boat fires.

The estimated direct property damage caused by the 24 large-loss fires was $1.54 billion, accounting for 9.7 percent of the total estimated dollar loss from all fires reported in the 2021 Fire Loss Report.

The number of incidents in 2021 (24) is tied for the second-lowest number of large-loss fires or explosions in a year in the last decade.

In 2021, 14 fires, four more than the previous year, each resulted in more than $20 million in property damage. Four fires caused losses of $100 million or more each: two structure fires, a wildland fire, and a ship fire, for a combined loss of $1.1 billion.

The Marshall Fire in Colorado in December 2021 was the costliest fire of 2021, with an estimated property loss of $678 million.

The Costliest Fire Incident of 2021

In Boulder County, Colorado, a very wet first half of 2021, with greater than normal precipitation, led to tall grass growth in the area. Following several very dry months in the second half of the year, the grass dried out. This, along with the area experiencing the second driest and warmest period on record and strong winds from a mountain wavefront, made the area ripe for fire.

On the morning of December 30, several wildfires broke out and were handled by local fire departments. Then calls came in reporting what would become the most destructive fire in state history. The fire developed and spread rapidly through the dried-out grass. Aiding this was very low humidity and winds of up to 100 miles per hour (161 kph) and gusts of 125 mph (201 kph). Firefighters struggled to control the fire, which was rapidly spreading due to the wind, heat, smoke, and flying embers.

Residential and commercial structures, including a local hospital, were ordered to evacuate, resulting in thousands of evacuees. The fire burned into several communities before being controlled.

By the next morning, the fire, referred to as the Marshall Fire, had burned over 6,026 acres (2,438 hectares), destroyed 1,084 residential and seven commercial properties, and damaged more than 200 additional properties. There were two fatalities related to this fire. Over 300 law enforcement personnel and hundreds of firefighters from 70 fire agencies were on scene to assist with evacuation.

Large-Loss Fires and Explosions in 2021

The NFPA reports annually on large-loss fires and explosions in the United States. These are defined as fires or explosions that result in property damage of at least $10 million. In 2021, there were 24 such fires and explosions, resulting in an estimated $1.54 billion in direct property damage and losses.

To compare losses over the past 10 years, we adjust losses for inflation to 2012 dollars. When adjusted, the number of fires in 2021 that would have been categorized as large-loss fires—that is, fires resulting in a loss of $10 million or more in 2012 dollars—drops to 19 fires, with an adjusted loss of slightly more than $1.42 billion (See Figures 1 and 2).
In 2021, 14 fires, four more than the previous year, each resulted in more than $20 million in property damage. These fires resulted in a combined property loss of $1.41 billion, or 91.4 percent of the total loss caused by large-loss fires in 2021.

Compared to the past 10 years, the number of incidents in 2021 (24) is tied for the second-lowest number of large-loss fires or explosions. Over the past 10 years, 28 fires have occurred that each resulted in a loss of $100 million or more. Of these largest-loss fire events, 16 were wildland/urban interface (WUI) fires, nine were structure fires, and three were ship fires. These fires resulted in combined losses of over $37.7 billion. In 2021, four fires fell into this category: two structure fires, a wildland fire, and a ship fire, which combined for a loss of $1.1 billion.

According to the summary of the 2021 US fire loss report published in the fall of 2022, US fire departments responded to an estimated 1,353,500 fires last year. Those fires resulted in an estimated loss of $15.9 billion. Many of these fires were small or resulted in little or no reported property damage. Although the 24 large-loss fires accounted for 0.002 percent of the estimated number of fires in 2021, they accounted for 9.7 percent of the total estimated dollar loss. In human terms, these 24 fires accounted for two civilian deaths and at least six injuries to firefighters and civilians.

In 2021, there were five fewer large-loss fires than in 2020, with a decrease of more than $6.6 billion in losses. The difference was due to major wildfires fires in 2020 that accounted for a combined loss of $4.2 billion and a ship fire that accounted for a $3 billion loss. In 2021, there were three fewer large-loss structure fires than in 2020, and the property loss associated with those fires was $66 million less than the year before. There were two fewer large-loss non-structure fire incidents in 2021 than in 2020, and the losses associated with those fires was $6.5 billion less.

Where the Fires Occurred

Of the 24 large-loss fires in 2021, 20 involved structures and resulted in a total property loss of $735.6 million, or 47.8 percent of the combined losses for all large-loss fires. The four non-structural fires included two wildland/urban interface fires, which resulted in a combined loss of $688.0 million, and two boat fires, which resulted in a combined loss of $116.4 million. The non-structural fires had a combined total loss of $804.5 million, or 52.2 percent of the total losses of all the large-loss fires. Figure 3 shows the 2021 large-loss fires broken down by property use.

Figure 3. Large-Loss Fires by Property Use: 2021
Of the 20 structure fires, seven occurred in manufacturing plants: four at a food-related processes, one at a chemical manufacturer, one at a rubber products manufacturer, and one at a facility with multiple processes. The combined loss totaled $471.7 million.

The five fires in storage properties were all in warehouses and led to a combined loss of $101.5 million. There were four department store fires and one office building fire with a combined loss of $72 million and one fire each in a structure under construction (loss of $35 million), an apartment building (loss of $30.2 million), and a restaurant (loss of $25.2 million).

**Causes of Fires**

A cause was determined for seven of the 24 fires. There were two mechanical failures (no additional info reported), which resulted in losses of $29.6 million. There was one fire each due to cutting/welding too close to combustibles (loss of $15.5 million), an unknown part failure (loss of $100 million), an electrical short circuit (loss of $26 million), and an electrical failure of an unreported type (loss of $10 million). One incendiary fire resulted in a loss of $14 million.

For 17 of the fires, the cause of the fire was undetermined, unknown, or not reported. In several cases, the destruction was so extensive that investigators could not determine a definitive cause or could not rule out several possibilities. Other fires are still under investigation or their causes have not yet been reported.

The operating status was reported for 20 of the 24 fires, with 18 properties being open or operating to some extent or having workers on-site when the fires broke out. Two were closed or unoccupied properties. Seven fires broke out between 11 p.m. and 7 a.m.—six structure fires and one ship fire—and caused a total direct property loss of $319.3 million.

**Smoke Detection and Automatic Suppression Equipment**

Information about automatic fire or smoke detection equipment was reported for 10 of the 22 large-loss structure and vehicle fires. Of those seven, seven properties had detection equipment present; six of these seven systems operated as designed, but no reason was reported as to why the fires became so large. In one case, the operation was unreported. Three properties had no automatic detection equipment installed. Twelve incidents had no information on detection equipment reported.

Information on automatic suppression equipment was reported for 11 of the 22 structure and vehicle fires. Of those fires, seven properties had suppression systems and four had none. Six systems operated, but no information was reported as to why the fire was not controlled. In one fire, the system did not operate because it had been shut down prior to the fire after severe winter weather damaged the system.

Complete information on the presence of both detection and suppression equipment was reported for eight of the 24 structure and vehicle fires. Five had both detection and suppression equipment and three had neither system installed.

**What We Can Learn**

Adhering to the fire protection principles reflected in NFPA’s codes and standards is essential to reducing the occurrence of large-loss fires and explosions in the US. Proper construction, proper use of equipment, and proper procedures for chemical processing, storage, and housekeeping can help make fires and explosions less likely and limit fire spread if one occurs.

When fires do occur, proper design, maintenance, and operation of fire protection systems and features can keep those fires from becoming large-loss fires.
When it comes to large-loss wildfires, NFPA has called on policymakers at all levels of government to act to end these disasters. Outthink Wildfire™ encourages the use of NFPA’s wildfire safety standards for new construction and building updates and for at-risk neighborhoods to work together using the guidance provided in the NFPA Firewise USA® recognition program. These standards and guides can help reduce the risk of wildfire to structures and their surroundings and can help limit fire spread and the resulting destruction.

**Where We Get Our Data**

NFPA identifies potential large-loss incidents by reviewing national and local news media, as well as fire service publications. A clipping service reads all US daily newspapers and notifies NFPA’s Research Division of major large-loss fires. The NFPA annual survey of the US fire experience is an additional data source, although not the primary one. Web searches have proven useful in several cases where fire department and government reports have been released and published.

Once a fire has been identified, NFPA requests information about it from the applicable fire department or jurisdictional agency. We also contact federal agencies that have participated in investigations, as well as state fire marshals’ offices and military sources. The diversity and redundancy of these data sources enables NFPA to collect the most complete data available on large-loss fires. This report includes only fire incidents for which NFPA has official dollar-loss estimates; other fires with large losses might have occurred but are not included here because no official information has been reported to NFPA.

Due to a lack of confirmed dollar loss, several 2021 fires that might have resulted in property loss greater than $10 million were not included. These include fires in a hotel in Texas, an apartment building under construction in New Jersey, and a large warehouse in North Carolina. There were also several major wildland/urban interface fires around the country in 2021 for which no loss was reported.

**Acknowledgments**

NFPA thanks the US fire service for its contribution of data, without which this report would not be possible. In some cases, the fire department, forestry officials, or government officials were unable to contribute complete details because legal action was pending or ongoing, the incident was of a sensitive nature, or the size of the situation was overwhelming and reports had not yet been released. The authors also wish to thank Nancy Schwartz and the NFPA Applied Research group for their support for this study.

*Stephen G. Badger, a fire data analyst with NFPA's research department, is retired from the Quincy, Massachusetts Fire Department.*

To learn more about research at NFPA, visit [nfpa.org/research](http://nfpa.org/research). Email: research@nfpa.org.

NFPA #LLS10
Table 1. Large-Loss Fires That Caused $10 Million or More in Property Damage: 2012–2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Fires</th>
<th>Number of Fires That Caused $10 Million or More in Damage in 2012 Dollars</th>
<th>Property Loss (Unadjusted)</th>
<th>Property Loss in 2012 Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>26</td>
<td>20</td>
<td>$1,590</td>
<td>$1,530</td>
</tr>
<tr>
<td>2013</td>
<td>21</td>
<td>17</td>
<td>$845</td>
<td>$805</td>
</tr>
<tr>
<td>2014</td>
<td>26</td>
<td>23</td>
<td>$714</td>
<td>$684</td>
</tr>
<tr>
<td>2015</td>
<td>27</td>
<td>22</td>
<td>$2,535</td>
<td>$2,485</td>
</tr>
<tr>
<td>2016</td>
<td>25</td>
<td>19</td>
<td>$1,464</td>
<td>$1,404</td>
</tr>
<tr>
<td>2017</td>
<td>24</td>
<td>21</td>
<td>$12,572</td>
<td>$12,542</td>
</tr>
<tr>
<td>2018</td>
<td>38</td>
<td>27</td>
<td>$12,980</td>
<td>$12,867</td>
</tr>
<tr>
<td>2019</td>
<td>26</td>
<td>19</td>
<td>$1,887</td>
<td>$1,815</td>
</tr>
<tr>
<td>2020</td>
<td>29</td>
<td>22</td>
<td>$8,094</td>
<td>$8,019</td>
</tr>
<tr>
<td>2021</td>
<td>24</td>
<td>19</td>
<td>$1,540</td>
<td>$1,422</td>
</tr>
</tbody>
</table>

Note: Number of fires and unadjusted loss are based on data from studies that appeared in previous annual large-loss studies. Some of the information may differ from previously published material because the material was updated after publication.

Table 2. Direct Dollar Loss in Large-Loss Fires, Unadjusted and Adjusted: 2011–2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Property Loss (Unadjusted)</th>
<th>Property Loss in 2012 Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>$1,590</td>
<td>$1,530</td>
</tr>
<tr>
<td>2013</td>
<td>$845</td>
<td>$805</td>
</tr>
<tr>
<td>2014</td>
<td>$714</td>
<td>$684</td>
</tr>
<tr>
<td>2015</td>
<td>$2,535</td>
<td>$2,485</td>
</tr>
<tr>
<td>2016</td>
<td>$1,464</td>
<td>$1,404</td>
</tr>
<tr>
<td>2017</td>
<td>$12,572</td>
<td>$12,542</td>
</tr>
<tr>
<td>2018</td>
<td>$12,980</td>
<td>$12,867</td>
</tr>
<tr>
<td>2019</td>
<td>$1,887</td>
<td>$1,815</td>
</tr>
<tr>
<td>2020</td>
<td>$8,094</td>
<td>$8,019</td>
</tr>
<tr>
<td>2021</td>
<td>$1,561</td>
<td>1,422</td>
</tr>
</tbody>
</table>

Table 3. Large-Loss Fires by Major Property Use: 2021

<table>
<thead>
<tr>
<th>Property Use</th>
<th>Number of Fires</th>
<th>Percent of Fires</th>
<th>Total Dollar Loss</th>
<th>Percent of Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>7</td>
<td>29.2%</td>
<td>$471,650,000</td>
<td>30.6%</td>
</tr>
<tr>
<td>Storage</td>
<td>5</td>
<td>20.8%</td>
<td>$101,500,000</td>
<td>6.6%</td>
</tr>
<tr>
<td>Stores/Offices</td>
<td>5</td>
<td>20.8%</td>
<td>$72,000,000</td>
<td>4.7%</td>
</tr>
<tr>
<td>Wildfires</td>
<td>2</td>
<td>8.3%</td>
<td>$688,000,000</td>
<td>44.7%</td>
</tr>
<tr>
<td>Vehicles</td>
<td>2</td>
<td>8.3%</td>
<td>$116,460,850</td>
<td>7.6%</td>
</tr>
<tr>
<td>Special Properties</td>
<td>1</td>
<td>4.2%</td>
<td>$35,000,000</td>
<td>2.3%</td>
</tr>
<tr>
<td>Residential</td>
<td>1</td>
<td>4.2%</td>
<td>$30,240,000</td>
<td>2.0%</td>
</tr>
<tr>
<td>Public Assembly</td>
<td>1</td>
<td>4.2%</td>
<td>$25,225,000</td>
<td>1.6%</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100.0%</td>
<td>$1,540,075,850</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 4. Large-Loss Fires That Caused $20 Million or More in Damage: 2021

<table>
<thead>
<tr>
<th>State</th>
<th>Type of Incident</th>
<th>Dollar Loss (in Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>Wildland/urban interface, Marshall Fire</td>
<td>$678.00</td>
</tr>
<tr>
<td>Illinois</td>
<td>Chemical manufacturing</td>
<td>$160.00</td>
</tr>
<tr>
<td>California</td>
<td>Textile manufacturing</td>
<td>$128.00</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Ship in for repairs</td>
<td>$100.00</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Cereal manufacturing</td>
<td>$98.55</td>
</tr>
<tr>
<td>Nevada</td>
<td>Apartments under construction</td>
<td>$35.00</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Rubber manufacturing</td>
<td>$35.00</td>
</tr>
<tr>
<td>Colorado</td>
<td>Apartment building (81 units)</td>
<td>$30.24</td>
</tr>
<tr>
<td>Texas</td>
<td>Warehouse with foam products</td>
<td>$26.00</td>
</tr>
<tr>
<td>California</td>
<td>Restaurant</td>
<td>$25.23</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Nut products manufacturing</td>
<td>$25.00</td>
</tr>
<tr>
<td>Georgia</td>
<td>Warehouse with wood pallets</td>
<td>$24.00</td>
</tr>
<tr>
<td>New York</td>
<td>Office building</td>
<td>$23.00</td>
</tr>
<tr>
<td>Florida</td>
<td>Warehouse with unreported material</td>
<td>$20.00</td>
</tr>
<tr>
<td>Total</td>
<td>14 fire incidents</td>
<td>$1,408.02</td>
</tr>
</tbody>
</table>
Large-Loss Incidents

Manufacturing, Illinois
Month, Time of Alarm, Dollar Loss:
June, 7:00 a.m., $160,000,000

Property Characteristics and Operating Status:
No information was reported other than that this was an industrial chemical manufacturing facility.

Fire Protection Systems
No information was reported on detection or suppression equipment.

Fire Development:
The only information reported was that the ignition was caused by an open flame and flammable/combustible liquids.

Contributing Factors and Other Details:
The fire also extended spread into the buildings of the four adjoining businesses.

Manufacturing, Tennessee
Month, Time of Alarm, Dollar Loss:
July, 4:04 p.m., $98,555,000

Property Characteristics and Operating Status:
This was a two-story, 750,000-square-foot (69,677-square-meter) cereal manufacturing plant that was in operation.

Fire Protection Systems:
There were smoke detectors present and they operated. Also present was a wet-pipe sprinkler system. The systems operated as designed, but no details were provided as to why the fire became so large.

Fire Development:
The fire broke out on a conveyer belt in the upper levels of the plant. The cause was not reported.

Contributing Factors and Other Details:
The building contained a large food supply. Three firefighters were injured fighting this fire.

Manufacturing, California
Month, Time of Alarm, Dollar Loss:
November, 7:48 p.m., $128,000,000

Property Characteristics and Operating Status:
This was a one-story, 80,000-square-foot (7,432-square-meter) textile manufacturing building with four adjoining businesses. No information was reported on its operating status.
Manufacturing, Tennessee
Month, Time of Alarm, Dollar Loss:
March, 1:52 a.m., $35,000,000

Property Characteristics and Operating Status:
This was a three-story, 15,000-square-foot (1,394-square-meter) rubber products manufacturing plant. The plant was in operation at the time with several employees in the building.

Fire Protection Systems:
There were smoke detectors present but their operation was not reported. There was a wet-pipe sprinkler system present and it operated as designed, but no details were provided as to why the fire became so large.

Fire Development:
Information on the cause and origin was undetermined.

Contributing Factors and Other Details:
It was reported there had been an explosion with an ensuing fire. When firefighters arrived, they found that all the employees had been evacuated and accounted for. One worker was injured in the fire.

Manufacturing, Pennsylvania
Month, Time of Alarm, Dollar Loss:
August, 6:28 p.m., $25,000,000

Property Characteristics and Operating Status:
This was a one-story, 65,000-square-foot (6,039-square-meter) nut and snack food preparation and packaging facility of unprotected, non-combustible construction. It was in operation at the time.

Fire Protection Systems
No information on detection equipment was reported. There was no sprinkler system present.

Fire Development:
No information was reported on the cause or origin of the fire.

Contributing Factors and Other Details:
No additional information was reported.

Manufacturing, Illinois
Month, Time of Alarm, Dollar Loss:
January, 10:08 p.m., $15,000,000

Property Characteristics and Operating Status:
This was a one-story, 75,000-square-foot (8,968-square-meter) meat processing plant. It was in operation at the time with six people in the building.

Fire Protection Systems:
No information was reported on smoke detection or sprinkler systems.

Fire Development:
No information was reported on the cause or origin of the fire.

Contributing Factors and Other Details:
No additional information was reported.
Manufacturing, California
Month, Time of Alarm, Dollar Loss: February, 11:04 p.m., $10,100,000

Property Characteristics and Operating Status:
This was a one-story, 75,000-square-foot (6,968-square-meter) manufacturing plant that was in operation at the time. The type of manufacturing processes used and the building’s construction type were not reported.

Fire Protection Systems
No information was reported on detection equipment. There was a wet-pipe sprinkler system that operated, but no details were provided as to why the fire became so large.

Fire Development:
A mechanical malfunction of electrical equipment in a conveyer belt caused ignition in a process area.

Contributing Factors and Other Details:
No additional information was reported.

Storage, Texas
Month, Time of Alarm, Dollar Loss: February, 12:45 p.m., $26,000,000

Property Characteristics and Operating Status:
This warehouse for recycled polyurethane products was a 25-foot-high (7.6-meter), 113,000-square-foot (10,498-square-meter) structure of protected ordinary construction. The plant was in operation at the time of the fire.

Fire Protection Systems:
There was a full coverage smoke/fire detection system present. Due to severe winter conditions prior to the fire, the system had been shut down.

Fire Development:
A short in an electrical box on a grinding machine caused sparks to ignite foam materials nearby.

Contributing Factors and Other Details:
Employees attempted to extinguish the fire with handheld extinguishers but were unsuccessful. One employee was injured.

Storage, Georgia
Month, Time of Alarm, Dollar Loss: May, 7:30 p.m., $24,000,000

Property Characteristics and Operating Status:
No information was reported other than this being a warehouse full of wood pallets.

Fire Protection Systems:
No information was reported.

Fire Development:
No information was reported.

Contributing Factors and Other Details:
No information was reported.
**Storage, Florida**
Month, Time of Alarm, Dollar Loss:
March, time not reported, $20,000,000

Property Characteristics and Operating Status:
No information was reported other than this being a warehouse.

Fire Protection Systems
No information was reported.

Fire Development:
No information was reported.

Contributing Factors and Other Details:
No additional information was reported.

**Storage, North Dakota**
Month, Time of Alarm, Dollar Loss:
February, 2:16 p.m., $19,500,000

Property Characteristics and Operating Status:
This was a three-story, 14,000-square-foot (1,301-square-meter) L-shaped warehouse of unprotected, non-combustible construction containing vehicles and fuel. The warehouse was in operation at the time.

Fire Protection Systems:
There were no smoke alarms and no automatic suppression equipment present.

Fire Development:
Arcing electrical equipment in a vehicle storage area ignited nearby combustibles.

Contributing Factors and Other Details:
Arriving firefighters made an interior attack on the fire but were withdrawn due to a partial collapse of the building.

**Storage, Pennsylvania**
Month, Time of Alarm, Dollar Loss:
September, 4:30 p.m., $12,000,000

Property Characteristics and Operating Status:
This was a one-story seafood warehouse that was operating at the time. No information was reported on its size or construction.

Fire Protection Systems:
No information was reported.

Fire Development:
No information was reported.

Contributing Factors and Other Details:
No additional information was reported.

**Stores and Offices, New York**
Month, Time of Alarm, Dollar Loss:
July, 6:23 p.m., $23,000,000

Property Characteristics and Operating Status:
This was a one-story office building. The building was in operation at the time. The size and type of construction were not reported.

Fire Protection Systems:
No information was reported on smoke detection equipment. There was a wet-pipe sprinkler system present. The system operated but the flow was insufficient to control the fire.
Fire Development:
The fire broke out in cardboard boxes stored on pallets in a storage room. The cause was undetermined.

Contributing Factors and Other Details:
None reported.

Stores and Offices, North Carolina
Month, Time of Alarm, Dollar Loss:
March, 9:00 p.m., $15,000,000

Property Characteristics and Operating Status:
This was a one-story department store of unprotected, ordinary construction that was closed at the time. The store’s size was not reported.

Fire Protection Systems:
No information was reported.

Fire Development:
No information was reported.

Contributing Factors and Other Details:
None reported.

Stores and Offices, Alabama
Month, Time of Alarm, Dollar Loss:
May, 3:38 p.m., $14,000,000

Property Characteristics and Operating Status:
This was a one-story, 26,842-square-foot (2,494-square-meter) department store of protected, ordinary construction. The store was open with customers inside at the time.

Fire Protection Systems:
No information was reported.

Fire Development:
No information was reported.

Contributing Factors and Other Details:
None reported.

Stores and Offices, Arizona
Month, Time of Alarm, Dollar Loss:
March, about 9:00 p.m., $10,000,000

Property Characteristics and Operating Status:
This was a one-story department store that was open and operating at the time. No information was reported on the size or construction type of the building.

Fire Protection Systems:
No information was reported.

Fire Development:
No information was reported.

Contributing Factors and Other Details:
No information was reported.
Stores and Offices, Pennsylvania
Month, Time of Alarm, Dollar Loss:
April, 4:45 p.m., $10,000,000

Property Characteristics and Operating Status:
This was a one-story, 500-square-foot (46.5-square-meter) vehicle sales building that was in operation at the time. The construction type was not reported.

Fire Protection Systems:
No information was reported on smoke detection or automatic suppression equipment.

Fire Development:
The fire was caused by an electrical failure (the type was not reported).

Contributing Factors and Other Details:
Upon arrival, firefighters found the building had been evacuated and was fully involved. The building contained motor vehicle parts and components.

Wildland/Urban Interface, Colorado
Month, Time of Alarm, Dollar Loss:
December, 11:05 a.m., $678,000,000

Setting:
Forest land and urban interface.

Climate:
At the time of this fire, the area had experienced several months of warm, dry weather, with precipitation near record lows. It was also the second warmest fall on record. Winds were 70 to 100 mph (113 to 161 kph) with gusts to 115 mph (185 kph) and the relative humidity was at 20 percent.

Fire Origin and Path:
No cause or origin information was reported.

Contributing factors:
The fire burned 6,026 acres (2,438 hectares), destroyed 1,084 homes and seven commercial structures, and damaged 149 residential structures and 130 commercial structures. The fire also caused two deaths.

Wildland/Urban Interface, California
Month, Time of Alarm, Dollar Loss:
September, 2:00 PM, $10,000,000

Setting:
Wildland/urban interface.

Climate:
High temperatures, low humidity

Fire Origin and Path:
No information was reported.

Contributing factors:
The fire destroyed 46 structures, damaged five additional structures, and burned over 257 acres (104 hectares).

Vehicle, Wisconsin
Month, Time of Alarm, Dollar Loss:
February, 1:38 a.m., $100,000,000

Property Characteristics and Operating Status:
This was a large steel-hulled cargo ship 858 feet (262 meters) long by 105.1 feet (32 meters) wide with six decks. The ship
was docked for repairs. There was one person on board at the time.

Fire Protection Systems:
There were smoke detectors on board that operated and alerted the lone crew member. There were also alarms (type not reported) that were set to notify off-site persons of a problem. No information was reported on any suppression equipment.

Fire Development:
The fire broke out in the engine room on the second deck when a mounting failure caused a burner assembly to detach from the furnace, fall, and fracture a fuel supply line to a 4,144-gallon (15,686-liter) tank. This caused fuel to spray on the furnace and ignite. When the fire was extinguished, the tank was empty.

Contributing Factors and Other Details:
A nearby gate guard noticed the smoke and called 911. Arriving firefighters found a large fire under the decking with high heat and smoke conditions. The fire spread to an offloading conveyor belt almost the length of the ship. Firefighters fought the fire for nearly 12 hours before extinguishment. The National Transportation Safety Board investigated, and their report can be found here: https://www.ntsb.gov/investigations/Pages/DCA21FM015.aspx

Vehicle, Washington
Month, Time of Alarm, Dollar Loss:
February, 8:32 p.m., $16,460,850

Property Characteristics and Operating Status:
This fire involved a steel-hulled 233-foot (71-meter) long by 39.4-foot (12-meter) wide commercial fishing boat that was docked for repairs. No one was onboard the vessel at the time.

Fire Protection Systems:
Smoke detectors were present and said to have operated. No information was reported on any suppression equipment.

Fire Development:
The cause was reportedly due to hot slag that resulted from cutting igniting combustibles that had not been removed from the area. Earlier in the day, during welding operations below the bridge, a piece of plywood had caught fire and was extinguished by workers before the cutting operations continued. After the completion of the work, a fire watch remained in the area for an hour. About five hours later, a passerby observed smoke coming from the boat and did not report it, as he thought there was ongoing work at the time. About an hour later, a 911 call was made reporting the fire.

Factors and Other Details:
Firefighters prepared for an offensive attack on the fire but shortly switched to a defensive attack.

Under Construction, Nevada
Month, Time of Alarm, Dollar Loss:
January, 11:50 p.m., $35,000,000

Property Characteristics and Operating Status:
This was a three-story, 286,000-square-foot (26,570-square-meter) apartment complex of unprotected, wood-frame construction that was under construction. No one was on-site at the time.

Fire Protection Systems:
There was no automatic detection or suppression system present.
Fire Development:
No information on the cause or origin was reported.

Contributing Factors and Other Details:
No additional information was reported as there is an ongoing criminal investigation.

Residential, Colorado
Month, Time of Alarm, Dollar Loss:
October, 3:32 a.m., $30,240,000

Property Characteristics and Operating Status:
This was an 81-unit, three-story, 23,000-square-foot (2,137-square-meter) apartment building of wood-frame construction located above a parking garage.

Fire Protection Systems:
There were smoke detectors present and they operated. There was a wet-pipe sprinkler system present. The system did operate but was not in the area of ignition.

Fire Development:
A fire of undetermined cause in a paper/plastic recycle bin ignited the wood exterior siding and extended upward to the attic of one building and into a breezeway that was built in the middle of the six-building complex.

Contributing Factors and Other Details:
The fire spread up into the attic and throughout, collapsing the roof. There were no sprinklers in the attic area.

Public Assembly, California
Month, Time of Alarm, Dollar Loss:
January, 10:19 a.m., $25,225,000

Property Characteristics and Operating Status:
This was a two-story, 7,140-square-foot (663-square-meter) building of unprotected, ordinary construction containing several businesses. It was partially operating at the time. The fire broke out in a restaurant.

Fire Protection Systems:
There was no smoke detection equipment or suppression equipment present.

Fire Development:
The fire broke out in the second-story restaurant. The cause was undetermined.

Contributing Factors and Other Details:
No information was reported.