October 2013 Global Catastrophe

## Recap



Empower Results ${ }^{\circ}$
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## Executive Summary

- Windstorm Christian affects western and northern Europe; insured losses expected to top USD1.35 billion
- Cyclone Phailin and Typhoon Fitow highlight busy month of tropical cyclone activity in Asia
- Deadly bushfires destroy hundreds of homes in Australia's New South Wales

Windstorm Christian moved across western and northern Europe, bringing hurricane-force wind gusts and torrential rains to several countries. At least 18 people were killed and dozens more were injured. The heaviest damage was sustained in the United Kingdom, France, Belgium, the Netherlands and Scandinavia, where a peak wind gust of 195 kph ( 120 mph ) was recorded in Denmark. More than 1.2 million power outages were recorded and travel was severely disrupted throughout the continent. Reports from European insurers suggest that payouts are likely to breach EUR1.0 billion (USD1.35 billion). Total economic losses will be even higher. Christian becomes the costliest European windstorm since WS Xynthia in 2010.

Cyclone Phailin became the strongest system to make landfall in India since 1999, coming ashore in the eastern state of Odisha. At least 46 people were killed. Tremendous rains, an estimated 3.5-meter (11.0-foot) storm surge, and powerful winds led to catastrophic damage to more than 430,000 homes and 668,000 hectares ( 1.65 million) acres of cropland. Total economic losses were estimated at INR65 billion (USD1.1 billion). The General Insurance Corporation of India cited losses of at least INR18.5 billion (USD300 million) - primarily associated with crop losses.

Typhoon Fitow made landfall in China after first skirting Japan's southern Ryukyu Islands. At least 12 people were killed. Significant damage was inflicted in the Chinese provincial regions of Fujian, Zhejiang and Shanghai as a powerful storm surge, winds gusting beyond $160 \mathrm{kph}(100 \mathrm{mph})$ and torrential rainfall led to nearly 95,000 homes being damaged and 75,000 hectares (185,000 acres) of cropland submerged. The Ministry of Civil Affairs (MCA) cited economic losses at CNY63 billion (USD10.4 billion), with insured losses listed at CNY6.0 billion (USD1.0 billion).

Additional typhoon impacts in Asia during October were registered in association with Typhoon Nari ( 37 deaths and USD153 million in economic losses in the Philippines and Vietnam), Typhoon Wipha (39 deaths, 107 injuries and more than 6,500 homes damaged in Japan), and Typhoon Krosa (four dead and 34,725 homes damaged in the Philippines).

According to data from the Joint Typhoon Warning Center (JTWC), an October record of seven typhoons developed in the Western Pacific Ocean Basin.

More than 100 bushfires were ignited across Australia's New South Wales (NSW), prompting a state of emergency declaration. Two people were killed. The NSW Rural Fire Services (RFS) reported that a combined 330 homes and 51 other buildings were damaged or destroyed after fires charred at least 128,000 hectares ( 316,000 acres) of land. The Insurance Council of Australia declared an insurance catastrophe and noted that at least 1,632 claims had been filed with payouts in excess of AUD183 million (USD172 million). Total economic losses were even higher.

A powerful earthquake struck the central Philippines, killing at least 222 people and injuring 976 others. The magnitude-7.1 tremor occurred at 8:12 AM local time (00:12 UTC) with an epicenter located 2.0 kilometers (1.0 mile) northeast of Catigbian, Philippines. Significant damage was reported in the central provinces of Bohol, Cebu and Siquijor, where 73,002 homes and thousands of commercial structures and churches were damaged or destroyed. The government listed damage and reconstruction costs at PHP7.0 billion (USD163 million).

An early winter storm brought record snowfall to the Rockies and High Plains in the United States, while vigorous thunderstorms occurred from the Plains to the Northeast. At least three people were killed, and the heavy snow in South Dakota caused a substantial number of cattle to perish. In Wayne, Nebraska, an EF-4 tornado with 170 mph ( 275 kph ) winds damaged dozens of residential and commercial properties.

Severe flooding events were recorded in parts of India, the Philippines, and Indonesia.

United States

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | :--- | ---: | ---: | ---: |
| $10 / 3-10 / 7$ | Winter Weather | Plains, Midwest, Northeast | 3 | Thousands+ | 100+ million |
| $10 / 29-11 / 1$ | Severe Weather | Plains, Midwest, Northeast | 3 | $15,000+$ | $250+$ million |

An early October winter storm brought record snowfall to the Rockies and High Plains, while vigorous thunderstorms occurred from the Plains to the Northeast. At least three people were killed. The heaviest snow fell in South Dakota, where blizzard conditions damaged homes and shut down interstates. Ranchers in western sections of the state endured substantial cattle losses. In Wayne, Nebraska, an EF-4 tornado with 170 mph ( 275 kph ) winds damaged dozens of residential and commercial properties. Widespread hail and wind damage was also recorded across the Great Lakes, Ohio Valley and Northeast. Total economic losses from the entire storm were at least USD100 million.

A strong storm system brought flooding rains and severe thunderstorms across the central and eastern U.S. between October 29 and November 1, killing at least three people. The most severe impacts were sustained in central Texas, where up to 14 inches ( 36 centimeters) of rain fell in parts of the greater Austin region. Extensive flooding occurred in many low-lying areas and neighborhoods. Elsewhere, at least 40 tornadoes touched down across the Plains and Midwest causing widespread damage. Damaging straight-line winds also left considerable impacts from the Ohio Valley to the Northeast. Total economic losses were at least USD250 million, with insured losses USD100 million.

## Remainder of North America (Canada, Mexico, Central America, Caribbean Islands, Bermuda)

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |

No major natural disaster events were recorded during the month of October.

## South America

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |

No major natural disaster events were recorded during the month of October.

## Europe

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $10 / 27-10 / 29$ | WS Christian | Western/Northern Europe | 18 | Thousands + | $2.0+$ billion |

Windstorm Christian tracked across western and northern Europe between the 27th and 29th, bringing hurricaneforce wind gusts and torrential rains to several countries. At least 18 people were killed and dozens more were injured. The heaviest damage was sustained in the United Kingdom, France, Belgium, the Netherlands and Scandinavia, where a peak wind gust of $195 \mathrm{kph}(120 \mathrm{mph})$ was recorded in Denmark. Much of the damage was attributed to downed trees, partially ripped off roofs and flooding, and the storm led to more than 1.2 million power outages in Europe. Reports from European insurers suggest that payouts are likely to breach EUR1.0 billion (USD1.35 billion). Total economic losses will be even higher.

## Africa

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| ---: | ---: | ---: | ---: | ---: | ---: |

No major natural disaster events were recorded during the month of October.

## Asia

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $10 / 4-10 / 8$ | Flooding | Philippines | 20 | $1,500+$ | $3.2+$ million |
| $10 / 5-10 / 8$ | TY Fitow | China, Japan | 12 | $97,000+$ | $10.4+$ billion |
| $10 / 11-10 / 13$ | CY Phailin | India | 46 | $430,000+$ | $1.1+$ billion |
| $10 / 11-10 / 15$ | TY Nari | Philippines, Vietnam | 37 | $171,000+$ | $153+$ million |
| $10 / 14-10 / 16$ | TY Wipha | Japan | 39 | $6,594+$ | $250+$ million |
| $10 / 15$ | Earthquake | Philippines | 222 | $100,000+$ | $163+$ million |
| $10 / 19$ | Flooding | Indonesia | 0 | $4,000+$ | Unknown |
| $10 / 21-10 / 26$ | Flooding | India | 60 | $21,760+$ | 375+ million |
| $10 / 22$ | Earthquake | Indonesia | 1 | $650+$ | Unknown |
| $10 / 31$ | TY Krosa | Philippines | 4 | $32,745+$ | $6.4+$ million |

Continuous showers and thunderstorms affected central and southern sections of the Philippines between the 4th and 8 th, spawning floods that killed at least 20 people. Nearly 1,500 homes sustained flood inundation. Economic losses to infrastructure and agriculture alone were listed at PHP137 million (USD3.2 million).

Typhoon Fitow made landfall in China on the 7th, killing at least 12 people. Prior to landfall in China, Fitow skirted Japan's southern Ryukyu Islands, where more than 1,464 homes were damaged by high winds and flooding rain. In China, heavy damage was inflicted in the provincial regions of Fujian, Zhejiang and Shanghai - particularly in Fujian's Wenzhou City, which was close to the landfall point. Significant flooding, storm surge and winds gusting beyond 160 $\mathrm{kph}(100 \mathrm{mph}$ ) led to nearly 95,000 homes being damaged and vast areas of cropland submerged. The Ministry of Civil Affairs (MCA) cited economic losses at CNY63 billion (USD10.4 billion), while insurance groups listed insured losses at CNY6.0 billion (USD1.0 billion). This became the second-costliest insured loss event in China's history

Cyclone Phailin made landfall in the eastern India state of Odisha on the 12th, killing at least 46 people. Tremendous rains, an estimated 3.5 -meter (11.0-foot) storm surge, and powerful winds led to catastrophic damage in multiple areas. The most severe damage was registered in the Odisha district of Ganjam, where nearly 240,000 homes were damaged. Extensive losses were sustained to the agricultural, electrical and transportation infrastructures as well. The states of Andhra Pradesh, Jharkhand, Bihar, West Bengal, and Chhattisgarh were also damaged. Nationwide, more than 430,000 homes and structures were damaged and 668,000 hectares ( 1.65 million) acres of cropland were submerged. Total economic losses were estimated at INR65 billion (USD1.1 billion). The General Insurance Corporation of India cited losses of at least INR18.5 billion (USD300 million) - primarily associated with crop losses.

Typhoon Nari made separate landfalls in the Philippines and Vietnam between the 11th and 15th, killing a combined 37 people and injuring more than 150 others. In the Philippines, heavy damage was recorded across Luzon and Visayas as at least 15 people were killed and more than 59,000 homes were damaged or destroyed. Economic losses solely to agriculture and infrastructure were estimated at PHP3.3 billion (USD77 million). In Vietnam, 19 people were killed in the hardest-hit provinces of Da Nang, Quang Nam, Thua Thien Hue, and Quang Ngai. More than 112,000 homes and other structures either lost their roofs or were inundated by floodwaters. Total economic losses were estimated at VND1.6 trillion (USD76 million).

Typhoon Wipha grazed the eastern coast of Japan between the 14th and 16th, bringing tremendous rainfall and typhoon-strength winds to much of the country. At least 39 people were killed and 107 others were injured. The hardest-hit area came south of Tokyo on Izu Oshima Island, where 824 millimeters ( 33.44 inches) of rain fell in 24 hours. Heavy damage was also noted in the prefectures of Chiba, Saitama, Ibaraki and Tochigi. Japan's Fire and Disaster Management Agency (FDMA) reported that a combined 6,594 homes and structures sustained wind and flood damage across the country. Total economic losses were anticipated to reach the hundreds of millions (USD).

A powerful earthquake struck the central Philippines on the 15th, killing at least 222 people and injuring 976 others. The magnitude-7.1 tremor occurred at 8:12 AM local time (00:12 UTC) with an epicenter located 2.0 kilometers (1.0 mile) northeast of Catigbian, Philippines. Significant damage was reported in the central provinces of Bohol, Cebu and Siquijor, where 73,002 homes and thousands of commercial structures and churches (including several dating to the 16th Century) were damaged or destroyed. Heavy impacts were also felt to Infrastructure, with 41 bridges and 18 roads damaged. The government listed damage and reconstruction costs at PHP7.0 billion (USD163 million).

Heavy rainfall affected the Indonesian provinces of North Sumatra and West Sumatra on the 19th, spawning flash floods and landslides. No fatalities or serious injuries were reported. The excessive rainfall prompted multiple rivers to overflow their banks as more than 4,000 homes were damaged.

An active northeast monsoon prompted severe flooding in the eastern Indian states of Odisha and Andhra Pradesh between the 21st and 26th, killing at least 60 people. Nearly 300,000 residents were evacuated from their low-lying homes, as flash floods and overflowing rivers inundated thousands of villages. More than 21,000 homes were damaged and at least 1.25 million hectares ( 3.09 million acres) of cropland was submerged. Total economic losses were estimated by state governments at a combined INR23 billion (USD375 million).

A magnitude-5.3 earthquake struck Indonesia's Aceh Province on the 22nd, killing at least one person and injuring three others. The tremor was recorded at 12:40 PM local time (5:40 UTC) with an epicenter 32 kilometers ( 20 miles) west-southwest of Reuleuet, Indonesia. Officials reported that at least 547 homes, 36 businesses, 17 schools, 12 mosques, and four government offices were damaged across 16 villages.

Typhoon Krosa made landfall in the northern Philippines on the 31st, bringing periods of heavy rains and typhoonstrength winds across Luzon Island. Four people were killed. Data from the National Disaster Risk Reduction and Management Council (NDRRMC) indicated that more than 32,745 homes were damaged or destroyed in the provincial regions of llocos Norte, Cagayan and Apayao. The agency cited economic losses to damaged infrastructure and agriculture at PHP282 million (USD6.4 million).

## Oceania (Australia, New Zealand and the South Pacific Islands)

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $10 / 17-10 / 31$ | Bushfires | Australia (NSW) | 2 | $1,632+$ | $250+$ million |

A state of emergency was declared in Australia's New South Wales (NSW) after more than 100 bushfires were ignited during the second half of October, killing at least two people. The NSW Rural Fire Services (RFS) reported that a combined 330 homes and 51 other buildings were damaged or destroyed throughout the state, with most of the damage recorded in the Springwood area of the Blue Mountains. Fire officials indicated that the blazes charred at least 128,000 hectares ( 316,000 acres) of land. The Insurance Council of Australia declared an insurance catastrophe and stated that at least 1,632 claims had been filed with payouts in excess of AUD183 million (USD172 million). Total economic losses were even higher.

## APPENDIX

## Updated 2013 Data: January - September

## United States

| Date | Event | Location | Deaths | Structures/ Claims | Economic Loss <br> (USD) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1/8-1/10 | Severe Weather | Southeast | 0 | 500+ | 10+ million |
| 1/11-1/17 | Winter Weather | California | 0 | Unknown | 28+ million |
| 1/29-1/30 | Severe Weather | Southeast, Midwest, Plains | 3 | 25,000+ | 350+ million |
| 2/8-2/9 | Winter Weather | Northeast, Mid-Atlantic | 15 | 10,000+ | 100+ million |
| 2/9-2/11 | Winter Weather | Midwest, Plains, Southeast | 1 | 7,500+ | 100+ million |
| 2/21-2/22 | Winter Weather | Plains, Midwest, Southeast | 2 | Thousands+ | Millions+ |
| 2/24-2/27 | Winter Weather | Plains, Midwest, Northeast | 3 | 100,000+ | 1.0+ billion |
| 3/4-3/8 | Winter Weather | Plains, Midwest, Northeast | 5 | Thousands+ | 50+ million |
| 3/18-3/20 | Severe Weather | Southeast, Northeast | 2 | 225,000+ | 2.0+ billion |
| 3/23-3/25 | Winter Weather | Plains, Midwest, Northeast | 0 | Unknown | Unknown |
| 3/29-3/31 | Severe Weather | Plains, Southeast | 0 | 35,000+ | 325+ million |
| 4/1-4/2 | Severe Weather | Texas | 0 | 25,000+ | 250+ million |
| 4/7-4/11 | Severe Weather | Nationwide | 3 | 135,000+ | $1.75+$ billion |
| 4/17-4/19 | Severe Weather | Central and Eastern U.S. | 3 | 75,000+ | 900+ million |
| 4/17-4/30 | Flooding | Midwest, Mississippi Valley | 4 | 25,000+ | $325+$ million |
| 4/26-4/28 | Severe Weather | Plains, MS Valley, Southeast | 0 | 45,000+ | 350+ million |
| 4/29 | Severe Weather | Midwest | 0 | 12,500+ | 125+ million |
| 5/8-5/11 | Severe Weather | Texas, Oklahoma, Kansas | 0 | 30,000+ | 200+ million |
| 5/15-5/17 | Severe Weather | Plains, Southeast | 6 | 25,000+ | 500+ million |
| 5/18-5/22 | Severe Weather | Plains, Midwest, Northeast | 29 | 160,000+ | $3.75+$ billion |
| 5/19 | Flooding | Georgia | 0 | Hundreds+ | 10+ million |
| 5/23 | Severe Weather | Texas | 0 | Thousands+ | Millions+ |
| 5/25 | Flooding | Texas | 3 | Thousands+ | Millions+ |
| 5/26-6/2 | Severe Weather | Plains, Midwest, Northeast | 27 | 150,000+ | $2.25+$ billion |
| 5/30-6/8 | Wildfire | California | 0 | 58+ | $21.4+$ million |
| 6/6-6/8 | TS Andrea | Florida, Eastern Seaboard | 3 | Hundreds+ | Unknown |
| 6/11-6/20 | Wildfire | Colorado | 2 | 4,500+ | 500+ million |
| 6/12-6/13 | Severe Weather | Midwest, Northeast, Mid-Atlantic | 4 | 65,000+ | 525+ million |
| 6/20-6/28 | Severe Weather | Central and Eastern U.S. | 2 | 80,000+ | 800+ million |
| 6/28-7/10 | Wildfire | Arizona | 19 | 129+ | Millions+ |
| 7/8-7/10 | Severe Weather | Central and Eastern U.S. | 1 | 20,000+ | $175+$ million |
| 7/19-7/20 | Severe Weather | Plains, Midwest, Northeast | 1 | 25,000+ | $215+$ million |
| 7/21-7/24 | Severe Weather | Plains, Rockies, Midwest | 0 | 20,000+ | $275+$ million |
| 7/27-7/28 | Flooding | North Carolina, Pennsylvania | 2 | Hundreds+ | 25+ million |
| 8/1 | Severe Weather | Rockies, Plains | 0 | Thousands+ | 50+ million |
| 8/2-8/3 | Severe Weather | Rockies | 0 | 30,000+ | 400+ million |
| 8/5-8/7 | Severe Weather | Midwest, Plains | 2 | 85,000+ | 1.25+ billion |


| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $8 / 5-8 / 12$ | Flooding | Plains, Tennessee Valley | 3 | $5,000+$ | $25+$ million |
| $8 / 22$ | Severe Weather | Colorado | 0 | $15,000+$ | $250+$ million |
| $8 / 17-9 / 20$ | Wildfire | California | 0 | $111+$ | $175+$ million |
| $8 / 30-8 / 31$ | Severe Weather | Plains, Midwest | 0 | $20,000+$ | $170+$ million |
| $9 / 9-9 / 15$ | Wildfire | California | 1 | $211+$ | $10+$ million |
| $9 / 9-9 / 16$ | Flooding | Colorado, New Mexico | 10 | $25,000+$ | $2.0+$ billion |
| $9 / 29-9 / 30$ | Severe Weather | Washington, Oregon | 0 | Hundreds + | Millions + |

## Remainder of North America (Canada, Mexico, Caribbean, Bermuda)

| Date | Event | Location | Deaths | Structures/ Claims | Economic Loss <br> (USD) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1/1-5/31 | Drought | Panama | 0 | Unknown | 200+ million |
| 2/7-2/10 | Winter Weather | Canada | 3 | Thousands+ | 4.0+ million |
| 4/18 | Severe Weather | Canada | 0 | Hundreds+ | Unknown |
| 4/15-5/10 | Flooding | Canada | 0 | 2,000+ | Millions+ |
| 5/22 | Flooding | Bahamas | 0 | 1,000+ | 45+ million |
| 5/28-5/30 | HU Barbara | Mexico, Central America | 4 | 5,000+ | Unknown |
| 6/19-6/24 | Flooding | Canada | 4 | 25,000+ | 5.3+ billion |
| 6/20-6/21 | TS Barry | Mexico, El Salvador, Belize | 3 | 2,000+ | Unknown |
| 7/5-7/9 | HU Erick | Mexico | 2 | Hundreds+ | Unknown |
| 7/8 | Severe Weather | Canada | 0 | 25,000+ | 1.65+ billion |
| 7/9-7/11 | TS Chantal | Caribbean | 1 | Unknown | 10+ million |
| 7/19-7/20 | Severe Weather | Canada | 1 | Hundreds+ | Millions+ |
| 7/20-7/21 | Severe Weather | Canada | 0 | Hundreds+ | Millions+ |
| 8/21 | Earthquake | Mexico | 0 | Hundreds+ | Unknown |
| 8/25-8/26 | TS Fernand | Mexico | 14 | 1,000+ | Millions+ |
| 8/28-8/29 | TS Juliette | Mexico | 1 | Unknown | Unknown |
| 9/5-9/8 | Flooding | Mexico | 13 | Hundreds+ | Unknown |
| 9/6 | Earthquake | Guatemala | 1 | 500+ | Millions+ |
| 9/10-9/11 | TS Gabrielle | Bermuda | 0 | Unknown | Unknown |
| 9/13-9/17 | HU Ingrid | Mexico | 23 | 10,000+ | 1.5+ billion |
| 9/13-9/20 | HU Manuel | Mexico | 169 | 35,000+ | 4.2+ billion |

## South America

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $1 / 1-5 / 31$ | Drought | Brazil | 0 | Unknown | 8.0+ billion |
| $1 / 1-1 / 20$ | Flooding | Brazil | 4 | $10,000+$ | Millions + |
| $1 / 1-2 / 20$ | Flooding | Peru | 31 | $12,000+$ | Unknown |
| $1 / 24$ | Flooding | Ecuador | 10 | Dozens + | Unknown |
| $1 / 28-2 / 15$ | Flooding | Bolivia | 24 | $582+$ | $2.5+$ million |
| $1 / 30$ | Earthquake | Chile | 1 | Hundreds + | Unknown |


| Date | Event | Location | Deaths | Structures/ Claims | Economic Loss <br> (USD) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2/9 | Earthquake | Colombia | 0 | 4,050+ | 4.0+ million |
| 2/21-2/22 | Wildfire | Chile | 0 | 100+ | Unknown |
| 3/15-3/18 | Flooding | Colombia | 0 | 11,200+ | Unknown |
| 3/17-3/18 | Flooding | Brazil | 30 | 1,000+ | 1.5+ million |
| 4/2-4/4 | Flooding | Argentina | 86 | 105,000+ | 1.3+ billion |
| 4/23 | Flooding | Ecuador | 14 | Dozens+ | Unknown |
| 6/20-7/19 | Flooding | Paraguay, Argentina, Brazil | 0 | 13,000+ | Unknown |
| 7/16 | Earthquake | Peru | 0 | 691+ | Millions+ |
| 8/24-8/31 | Winter Weather | Bolivia, Peru, Paraguay | 15 | Thousands+ | Millions+ |
| 9/10-9/30 | Winter Weather | Chile | 0 | Unknown | 1.15+ billion |
| 9/21-9/22 | Severe Weather | Brazil, Paraguay | 4 | 20,000+ | 115+ million |
| 9/23 | Flooding | Bolivia | 19 | Unknown | Unknown |
| 9/25 | Earthquake | Peru | 0 | 1,411+ | Unknown |

## Europe

| Date | Event | Location | Deaths | Structures/ Claims | Economic Loss <br> (USD) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1/17-1/22 | Winter Weather | Western Europe | 7 | 7,000+ | 715+ million |
| 1/28 | Flooding | Turkey | 7 | Unknown | Unknown |
| 2/15 | Meteor Explosion | Russia | 0 | 108,000+ | 33+ million |
| 2/22 | Flooding | Greece | 1 | 1,000+ | Millions+ |
| 2/24-2/26 | Flooding | Macedonia, Serbia | 1 | 2,000+ | Millions+ |
| 3/12-3/31 | Winter Weather | West/Central/East Europe | 30 | 150,000+ | 1.8+ billion |
| 3/14 | Severe Weather | Azores | 3 | 500+ | 45+ million |
| 4/23 | Earthquake | Hungary | 0 | 600+ | Unknown |
| 5/3 | Severe Weather | Italy | 0 | 5,000+ | 13.1+ million |
| 5/11-5/14 | Severe Weather | Turkey | 3 | 1,000+ | Unknown |
| 5/12 | Severe Weather | Armenia | 0 | 12,800+ | $61+$ million |
| 5/22 | Severe Weather | Russia | 0 | 250+ | 3.2+ million |
| 5/30-6/15 | Flooding | Central Europe | 23 | 100,000+ | 22+ billion |
| 6/18-6/19 | Severe Weather | France, Spain | 3 | 100,000+ | $1.25+$ billion |
| 6/20-6/21 | Severe Weather | Switzerland | 0 | 25,000+ | 250+ million |
| 7/19 | Flooding | Georgia | 0 | 3,800+ | Unknown |
| 7/27-7/28 | Severe Weather | Germany, France | 0 | 750,000+ | $4.25+$ billion |
| 8/4-8/7 | Severe Weather | Central/Western Europe | 0 | 50,000+ | 500+ million |
| 8/4-8/31 | Flooding | Russia | 0 | 11,500+ | 1.0+ billion |
| 9/11-9/15 | Flooding | Romania | 9 | 2,000+ | $11+$ million |
| 9/14-9/15 | Flooding | Ukraine | 2 | Hundreds+ | $21+$ million |

## Africa

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $1 / 1-8 / 31$ | Drought | Namibia | 0 | Unknown | $64+$ million |

## $10 N_{\text {BENFIELD }}$

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $1 / 10-2 / 28$ | Flooding | Southern Africa | 175 | $125,000+$ | $525+$ million |
| $1 / 10-3 / 31$ | Flooding | Namibia | 0 | $12,000+$ | Unknown |
| $1 / 27-2 / 2$ | CY Felleng | Madagascar, Seychelles | 18 | $9,965+$ | $10+$ million |
| $2 / 13$ | Flooding | Mauritius | 0 | $1,500+$ | $30+$ million |
| $2 / 20-2 / 23$ | CY Haruna | Madagascar | 26 | $16,449+$ | $25+$ million |
| $3 / 4$ | Severe Weather | Central African Republic | 0 | $1,314+$ | Unknown |
| $3 / 30$ | Flooding | Mauritius | 11 | Thousands+ | Millions+ |
| $3 / 1-4 / 30$ | Flooding | Ghana | 5 | $10,000+$ | Unknown |
| $3 / 10-4 / 30$ | Flooding | Kenya | 66 | $35,000+$ | 36+ million |
| $4 / 6-4 / 7$ | Flooding | Angola | 9 | $1,000+$ | Unknown |
| $4 / 10-4 / 30$ | Flooding | Ethiopia | 0 | $5,256+$ | $2.2+$ million |
| $5 / 1-5 / 5$ | Flooding | Uganda | 10 | $5,000+$ | $3.1+$ million |
| $6 / 1$ | Severe Weather | South Africa | 3 | $547+$ | Unknown |
| $7 / 17$ | Earthquake | Algeria | 0 | Thousands + | Unknown |
| $7 / 15-8 / 19$ | Flooding | Niger | 20 | $15,000+$ | Unknown |
| $8 / 1-8 / 4$ | Flooding | Sudan | 73 | $40,000+$ | $7.0+$ million |
| $8 / 9$ | Flooding | Nigeria | 1 | $1,000+$ | Unknown |
| $8 / 28$ | Flooding | Mali | 55 | $1,000+$ | Unknown |
| $8 / 5-9 / 25$ | Flooding | Mauritania | 8 | $1,000+$ | Millions + |

Asia

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $1 / 1-1 / 20$ | Winter Weather | India, Bangladesh, Nepal | 329 | Unknown | Unknown |
| $1 / 1-8 / 31$ | Drought | China | 0 | Unknown | 10+ billion |
| $1 / 3-1 / 9$ | Winter Weather | China | 0 | $7,500+$ | 204+ million |
| $1 / 6-1 / 9$ | Winter Weather | Flooding | Middle East | 11 | $5,000+$ |
| $1 / 11$ | Flooding | China | 46 | $63+$ million |  |
| $1 / 15-1 / 23$ | Winter Weather | Philippines | 10 | $5,000+$ | 48+ million |
| $1 / 17-1 / 18$ | Flooding | India | 0 | Thousands+ | 185+ million |
| $1 / 20-1 / 27$ | Earthquake | Indonesia | 41 | $100,274+$ | 3.31+ billion |
| $1 / 22$ | Flooding | Indonesia | 1 | $100+$ | Unknown |
| $1 / 25-1 / 27$ | Flooding | Sri Lanka | 1 | $2,164+$ | Unknown |
| $1 / 27$ | Earthquake | Indonesia | 21 | $100+$ | Unknown |
| $1 / 28$ | Flooding | TD Two | Kazakhstan, China | 1 | $8,900+$ |
| $2 / 15-2 / 22$ | Indonesia | 17 | $11,608+$ | 29+ million |  |
| $2 / 18-2 / 20$ | Whilippines | 5 | $5,000+$ | 1.68+ million |  |
| $2 / 18-2 / 21$ | Winter Weather | China | 2 | $2,700+$ | $124+$ million |
| $2 / 19-2 / 20$ | Earthquakes | Flooding | China | 0 | $3,271+$ |
| $2 / 26-2 / 28$ | Winter Weather | Earthquake | Indonesia | 3 | $3,000+$ |
| $2 / 23-3 / 3$ | Japan | 9 | $384+$ | Unknown |  |
| $3 / 3$ |  | China | 0 | $85,542+$ | $56+$ million |
| $3 / 9-3 / 13$ | Severe Weather | China | 1 | $46,650+$ | $161+$ million |

## $10 N_{\text {BENFIELD }}$

| Date | Event | Location | Deaths | Structures/ Claims | Economic Loss <br> (USD) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3/11 | Earthquake | China | 0 | 864+ | Unknown |
| 3/17-3/18 | Flooding | China | 0 | 7,000+ | 13+ million |
| 3/18-3/20 | Severe Weather | China | 25 | 279,600+ | 259+ million |
| 3/22 | Severe Weather | Bangladesh | 35 | 3,387+ | Unknown |
| 3/25 | Flooding | Indonesia | 13 | 10+ | Unknown |
| 3/26-4/2 | Severe Weather | Vietnam | 1 | 25,000+ | 14.4+ million |
| 3/27 | Earthquake | Taiwan | 1 | 1,000+ | 1.0+ million |
| 3/29-3/30 | Severe Weather | China | 3 | 5,000+ | 26+ million |
| 3/29-3/30 | Severe Weather | Bangladesh, India | 11 | 5,004+ | Unknown |
| 4/6-4/9 | Severe Weather | Japan | 3 | 555+ | Unknown |
| 4/7-11 | Flooding | Indonesia | 11 | 22,830+ | Unknown |
| 4/9 | Earthquake | Iran | 41 | 3,100+ | 600+ million |
| 4/13 | Earthquake | Japan | 0 | 2,802+ | Unknown |
| 4/16 | Earthquake | Iran, Pakistan | 36 | 3,500+ | Unknown |
| 4/17 | Earthquake | China | 0 | 16,109+ | 38+ million |
| 4/17-4/19 | Severe Weather | China | 2 | 57,100+ | 309+ million |
| 4/20 | Earthquake | China | 196 | 620,000+ | 14+ billion |
| 4/20-5/15 | Flooding | Maldives | 0 | 1,000+ | Unknown |
| 4/22 | Flooding | China | 11 | Unknown | Unknown |
| 4/23-4/24 | Flooding | Afghanistan | 20 | 2,100+ | Unknown |
| 4/24 | Earthquake | Afghanistan | 18 | 2,000+ | Unknown |
| 4/25 | Earthquake | China | 1 | 29,000+ | 47+ million |
| 4/28-5/1 | Severe Weather | China | 12 | 43,400+ | 154+ million |
| 5/1 | Earthquake | India | 2 | 12,000+ | $4.6+$ million |
| 5/6-5/10 | Flooding | China | 19 | 51,000+ | 293+ million |
| 5/13-5/16 | CY Mahasen | Bangladesh, Myanmar, India | 52 | 150,000+ | 200+ million |
| 5/14-5/16 | Flooding | China | 55 | 60,000+ | 935+ million |
| 5/19-5/23 | Flooding | China | 12 | 20,000+ | 445+ million |
| 5/24-5/27 | Flooding | China | 12 | 40,000+ | $333+$ million |
| 6/1 | Earthquake | Taiwan | 4 | 500+ | 1.1+ million |
| 6/1-6/3 | Earthquake | Philippines | 0 | 500+ | Unknown |
| 6/1-8/31 | Flooding | Laos | 20 | 20,000+ | 60+ million |
| 6/5-6/8 | Flooding | China | 15 | 5,000+ | 277+ million |
| 6/8-6/10 | Severe Weather | Sri Lanka | 58 | 4,295+ | Millions+ |
| 6/14-6/18 | Flooding | India, Nepal | 6,500 | 25,000+ | 1.1+ billion |
| 6/14-6/21 | Flooding | China | 11 | 56,100+ | 555+ million |
| 6/21-6/23 | TS Bebinca | China, Vietnam | 0 | 1,000+ | 45+ million |
| 6/23-6/25 | Severe Weather | China | 11 | 10,000+ | 118+ million |
| 6/29-7/3 | Flooding | China | 55 | 125,000+ | 1.4+ billion |
| 6/29-7/2 | TY Rumbia | China, Philippines | 7 | 4,500+ | 178+ million |
| 7/1-7/31 | Flooding | North Korea | 33 | 6,000+ | Unknown |
| 7/1-8/31 | Flooding | Nepal | 118 | 10,000+ | Unknown |
| 7/2 | Earthquake | Indonesia | 39 | 20,333+ | 134+ million |

## AONameno $^{2}$

| Date | Event | Location | Deaths | Structures/ Claims | Economic Loss <br> (USD) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7/7-7/17 | Flooding | China | 125 | 375,000+ | 4.5+ billion |
| 7/9-7/10 | Flooding | India | 174 | Thousands+ | Millions+ |
| 7/13-7/15 | STY Soulik | China, Taiwan | 9 | 10,000+ | 460+ million |
| 7/16-7/18 | TS Cimaron | China, Philippines | 1 | 10,000+ | 253+ million |
| 7/21-7/25 | Flooding | China | 36 | 143,700+ | 1.4+ billion |
| 7/22 | Earthquake | China | 95 | 80,000+ | $3.25+$ billion |
| 7/25-7/28 | Flooding | Myanmar, Thailand | 13 | 20,000+ | 97+ million |
| 7/25-8/1 | Flooding | China | 10 | 25,000+ | $571+$ million |
| 7/28 | Flooding | Japan | 2 | 2,178+ | Millions+ |
| 7/28-7/30 | Flooding | Vietnam | 5 | 1,000+ | $6.5+$ million |
| 7/28-7/30 | Flooding | Indonesia | 12 | 1,628+ | Unknown |
| 8/1-8/9 | Flooding | Philippines | 11 | Hundreds+ | 36+ million |
| 8/2-8/4 | TS Jebi | China, Vietnam | 7 | 2,000+ | $21+$ million |
| 8/3-8/15 | Flooding | Afghanistan | 75 | 10,000+ | Unknown |
| 8/3-9/30 | Flooding | Pakistan | 234 | 79,208+ | 1.9+ billion |
| 8/4-8/8 | Flooding | China | 18 | 20,000+ | 490+ million |
| 8/5-10/31 | Flooding | Cambodia | 168 | 120,000+ | 500+ million |
| 8/9-9/5 | Flooding | China | 118 | 215,000+ | 5.0+ billion |
| 8/10-8/14 | Flooding | Afghanistan | 31 | 500+ | Unknown |
| 8/12-8/15 | STY Utor | China, Philippines | 81 | 126,053+ | 2.6+ billion |
| 8/14-9/4 | Flooding | Yemen | 37 | 10,000+ | Unknown |
| 8/18-8/21 | Flooding | Philippines | 27 | Thousands+ | 2.2+ billion |
| 8/19-8/21 | Flooding | China | 43 | 51,000+ | 457+ million |
| 8/21-8/23 | TY Trami | China, Taiwan | 2 | 11,100+ | 388+ million |
| 8/23-8/26 | Flooding | Japan | 2 | 1,861+ | Millions+ |
| 8/22-8/27 | Flooding | India | 73 | Thousands+ | Unknown |
| 8/23-8/27 | Flooding | China | 12 | 9,000+ | 278+ million |
| 8/27-8/31 | TS Kong-rey | Philippines, Taiwan, Japan | 4 | 1,000+ | 25+ million |
| 8/31 | Earthquake | China | 3 | 107,600+ | 155+ million |
| 9/1-10/31 | Flooding | Thailand | 80 | 35,000+ | 482+ million |
| 9/2-9/4 | Severe Weather | Japan | 0 | 1,288+ | Millions+ |
| 9/3-9/4 | Flooding | Vietnam | 8 | Hundreds+ | Unknown |
| 9/3-9/5 | TS Toraji | Japan | 1 | 1,439+ | Millions+ |
| 9/10 | Flooding | Afghanistan | 24 | 500+ | Unknown |
| 9/16-9/17 | TS Man-yi | Japan | 6 | 11,919+ | Millions+ |
| 9/16-9/18 | Flooding | China | 17 | 30,000+ | 343+ million |
| 9/16-9/18 | TD 18 | Vietnam, Laos | 7 | 15,000+ | $61+$ million |
| 9/20-9/23 | STY Usagi | China, Philippines, Taiwan | 37 | 105,000+ | $3.8+$ billion |
| 9/23-9/27 | Flooding | Philippines | 32 | 1,000+ | 4.0+ million |
| 9/24 \& 9/28 | Earthquake | Pakistan | 825 | 47,000+ | 100+ million |
| 9/29-10/2 | TY Wutip | Vietnam, China | 20 | 225,448+ | 517+ million |

## Oceania (Australia, New Zealand and the South Pacific Islands)

| Date | Event | Location | Deaths | Structures/ <br> Claims | Economic Loss <br> (USD) |
| :--- | ---: | ---: | ---: | ---: | ---: |
| $1 / 1-5 / 10$ | Drought | New Zealand | 0 | Unknown | 1.6+ billion |
| $1 / 1-1 / 17$ | Wildfires | Australia (TAS, NSW, VIC) | 1 | $3,500+$ | 175+ million |
| $1 / 21-1 / 30$ | Flooding | Australia (QLD, NSW) | 6 | $87,843+$ | $2.5+$ billion |
| $2 / 6$ | Earthquake | Solomon Islands | 13 | $1,066+$ | Millions + |
| $2 / 22-2 / 24$ | Severe Weather | Australia (NSW, QLD) | 1 | $6,000+$ | $16+$ million |
| $2 / 25-2 / 27$ | CY Rusty | Australia (WA) | 0 | Unknown | Unknown |
| $3 / 21$ | Severe Weather | Australia (VIC, NSW) | 0 | $1,198+$ | $21+$ million |
| $4 / 20-4 / 21$ | Flooding | New Zealand | 0 | $1,500+$ | 39+ million |
| $6 / 18-6 / 21$ | Winter Weather | New Zealand | 0 | $9,500+$ | $40+$ million |
| $7 / 21$ | Earthquake | New Zealand | 0 | $4,612+$ | $50+$ million |
| $8 / 3$ | Severe Weather | Australia (South Australia) | 0 | $100+$ | $9.1+$ million |
| $8 / 16$ | Earthquake | New Zealand | 0 | $2,945+$ | Millions+ |
| $8 / 29-9 / 2$ | Flooding | Solomon Islands | 0 | $2,055+$ | Millions + |
| $9 / 10-9 / 11$ | Severe Weather | New Zealand | 0 | $2,000+$ | $20+$ million |

## Additional Report Details

TD = Tropical Depression, $\mathrm{TS}=$ Tropical Storm, $\mathrm{HU}=$ Hurricane, $\mathrm{TY}=$ Typhoon, $\mathrm{STY}=$ Super Typhoon, $\mathrm{CY}=$ Cyclone
Fatality estimates as reported by public news media sources and official government agencies.
Structures defined as any building - including barns, outbuildings, mobile homes, single or multiple family dwellings, and commercial facilities - that is damaged or destroyed by winds, earthquakes, hail, flood, tornadoes, hurricanes or any other natural-occurring phenomenon. Claims defined as the number of claims (which could be a combination of homeowners, commercial, auto and others) reported by various insurance companies through press releases or various public media outlets.

Damage estimates are obtained from various public media sources, including news websites, publications from insurance companies, financial institution press releases and official government agencies. Damage estimates are obtained from various public media sources, including news websites, publications from insurance companies, financial institution press releases and official government agencies. Economic loss totals include any available insured loss estimates, which can be found in the corresponding event text.

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## About Impact Forecasting

Impact Forecasting ${ }^{\circledR}$ is a catastrophe model development center of excellence within Aon Benfield whose seismologists, meteorologists, hydrologists, engineers, mathematicians, GIS experts, finance, risk management and insurance professionals analyze the financial implications of natural and man-made catastrophes around the world. Impact Forecasting's experts develop software tools and models that help clients understand underlying risks from hurricanes, tornadoes, earthquakes, floods, wildfires and terrorist attacks on property, casualty and crop insurers and reinsurers. Impact Forecasting is the only catastrophe model development firm integrated into a reinsurance intermediary. To find out more about Impact Forecasting, visit impactforecasting.com.

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