

Impact Forecasting

August 2011 Monthly Cat Recap – Impact Forecasting

September 8, 2011

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Executive Summary

- Major Hurricane Irene makes multiple U.S. landfalls; insured losses estimated at up to USD6.6 billion
- Typhoons Muifa and Nanmadol leave dozens dead across East Asia
- Magnitude-5.9 earthquake rattles the U.S. East Coast

Major Hurricane Irene made four separate landfalls (including three in the United States) during the month, becoming the first U.S. landfalling hurricane since 2008's Hurricane Ike. Impacts from Irene were felt from the Carolinas to Maine, where at least 46 people were killed and dozens more were injured. The storm brought a dangerous storm surge, high winds and significant flash flood and river flooding. Nearly eight million power outages were recorded at the peak of the event. Widespread damage was recorded to tens of thousands of homes, businesses, other structures and vehicles. Impact Forecasting estimates that insured losses in the U.S. will range between USD1.6 and 6.6 billion.

Outside of the U.S., Irene directly impacted parts of the Caribbean and the Bahamas, leaving at least eight people dead. Puerto Rico sustained widespread damage, where the government estimated damages would exceed USD500 million. An additional USD149.4 million in lost productivity to the public and private sectors was reported. In Hispaniola, the Dominican Republic listed at DOP1 billion (USD26.3 million) in damages. In the Bahamas, major damage occurred on Cat, Mayaguana, Acklins and Crooked Islands; while the islands of Grand Turk, New Providence and Grand Bahama saw limited levels of damage. Total Caribbean economic losses were estimated at nearly USD1.5 billion, with combined insured losses listed around USD1 billion – primarily coming from damage in the Bahamas.

Irene's extratropical remnants also affected eastern Canada, where the provinces of Quebec, Nova Scotia, New Brunswick and Newfoundland and Labrador sustained widespread flooding and downed trees. Thousands of homes, structures and vehicles were affected and at least one fatality was recorded.

In other tropical cyclone news, Typhoons Muifa and Nanmadol made landfalls and left dozens of people dead across parts of the Philippines, China, Taiwan, Japan and Korea. The storms caused nearly USD1 billion in combined economic losses.

A rare, magnitude-5.9 earthquake rattled the Mid-Atlantic region in the United States, causing widespread damage. The most notable impacts were felt in Washington, D.C., where several monuments sustained cracks. Additional damage and isolated incidents of broken gas and water pipes were confirmed in parts of Virginia, West Virginia, New York, Maryland, New Jersey, Delaware and Pennsylvania. Economic losses were listed at approximately USD250 million, with insured losses around USD100 million.

Major flooding events were felt in areas around the globe, with parts of North America, Africa and Asia sustaining affects. Pakistan was impacted the most, where at least 143 people were killed and nearly 700,000 homes were damaged or destroyed.

Severe weather spawned reports of tornadoes, large hail and damaging winds in the U.S., Canada, Belgium and Australia.

Extreme wildfire conditions led to dozens of homes being destroyed in the U.S. states of Texas and Oklahoma. Texas endured its hottest summer on record in 2011, combining with a historic drought.

United States

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/ Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
7/27-8/9	Wildfires	Oklahoma	2+	136+	20+ million
8/7-8/10	Severe Weather	Plains, Midwest, Northeast	1+	Thousands+	Millions+
8/13-8/14	Severe Weather	Midwest, Mid-Atlantic	7+	Thousands+	Millions+
8/13-8/14	Flooding	Northeast, Ohio Valley	0	Thousands+	20+ million
8/18	Severe Weather	Plains	0	10,000+	Millions+
8/22	Earthquake	Colorado, New Mexico	0	Hundreds+	Unknown
8/23	Earthquake	Mid-Atlantic States	0	1,500+	250+ million
8/23-8/24	Severe Weather	Midwest, Ohio Valley	0	Thousands+	Millions+
8/26-8/28	HU Irene	Mid-Atlantic, Northeast	46+	25,000+	1.6-6.6+ billion
8/30-9/1	Wildfires	Texas, Oklahoma	0	77+	Millions+

The combination of a lingering drought and tremendous heat led to ideal wildfire conditions across parts of Oklahoma between July 27th and August 8th, leading to multiple blazes. The most notable wildfire occurred in Pawnee County, where thousands of acres (hectares) of land were charred. At least 123 structures (including 46 homes) were destroyed. Total economic losses were listed at USD20 million. Another fire destroyed at least 13 homes in addition to other barns and sheds in the town of Edmond.

Rounds of severe weather impacted parts of the Plains, Midwest and the Northeast between the 7th and the 10th as a stationary frontal boundary draped across the region. At least one fatality and multiple injuries were reported. The most notable damage came in the Plains, particularly in Oklahoma, Kansas, Nebraska and Missouri, where the SPC recorded wind gusts up to 90 mph (150 kph) and hail as large as baseballs. Additional storm damage was reported in parts of the Great Lakes and New England as well.

An advancing cold front spawned severe weather in the Midwest, the Tennessee and Ohio Valleys and the Mid-Atlantic on the 13th and 14th. The Chicago, Illinois metropolitan region reported golf ball-sized hail and winds gusting to 65 mph (100 kph) before the storms continued to strengthen while entering central Indiana. A wind gust of 70 mph (110 kph) caused a concert stage to collapse at the Indiana State Fair, leading to seven fatalities and dozens of injuries. Elsewhere, additional damage from the activity was recorded in parts of Michigan, Ohio, Kentucky, Virginia, Maryland and the Carolinas.

Torrential rains spawned flooding in parts of the Ohio Valley and New England on the 13th and 14th. Notable damage came in New Jersey, where as much as 11 inches (280 millimeters) of rain fell that caused extensive damage in Cumberland County. Total infrastructure damages in the county were listed at USD20 million. Parts of Ohio also sustained major effects, particularly in the community of Port Clinton. Additional flood damage was recorded in parts of New York, Pennsylvania and Delaware. Total damages were estimated in excess of USD50 million.

Powerful thunderstorms spawned widespread large hail and straight-line wind damage throughout parts of the Plains on the 18th. The greater Omaha, Nebraska region was particularly affected as baseball-sized hail causing extensive damage. At the local airport, numerous airplanes and the main terminal sustained severe hail damage. Additional damage was reported in southwest Iowa, northwest Missouri and eastern Kansas. More than 10,000 claims were filed, with losses expected to reach well into the millions of dollars (USD).

A magnitude-5.3 earthquake struck southern Colorado late on the 22nd, causing widespread minor damage. The tremor, with an epicenter 9 miles (15 kilometers) west-southwest of Trinidad, Colorado or 180 miles (290 kilometers) south of Denver, Colorado, damaged some homes and other structures in the state as well as northern New Mexico. The most common damage type was toppled chimneys and cracked walls. Minor rockslides also left debris on several roadways. According to the USGS, this was the strongest earthquake to strike this region in at least 40 years.

A magnitude-5.8 earthquake struck the Mid-Atlantic region on the 23rd, causing sporadic reports of damage and forcing temporary evacuations. No serious injuries or fatalities were reported. The tremor occurred at 1:51 PM local time (17:51 UTC) with an epicenter 5 miles (8 kilometers) south-southwest of Mineral, Virginia at a depth of 3.7 miles (6 kilometers). The tremor was widely felt throughout the eastern seaboard, including in Washington, D.C., where three pinnacles in the central tower of the National Cathedral broke off in addition to other minor structural damage. The U.S. Park Service reported that cracks were found in the Washington Monument and the Smithsonian Castle. Additional minor damage and isolated incidents of broken gas and water pipes were confirmed in parts of New York, Maryland, New Jersey, Delaware, Pennsylvania and West Virginia. Closer to the epicenter in Virginia, sporadic damage was reported in the greater Richmond area. Economic losses were listed at approximately USD250 million, with various insurers anticipating insured losses around USD100 million.

An advancing storm system across parts of the Great Lakes and the Ohio Valley spawned reports of severe weather damage on the 23rd and the 24th. One particular thunderstorm cell spawned an EF-2 tornado with 130 mph (210 kph) winds in Clark County, Wisconsin leaving at least one person dead. Local officials reported that upwards of 75 homes, barns and other structures were damaged or destroyed. Hail and straight-line wind damage was prevalent throughout parts of Michigan, Indiana, Ohio and northwest Pennsylvania.

Hurricane Irene made three separate landfalls along the East Coast between the 26th and the 28th, bringing torrential rains and very gusty winds from the Carolinas to Maine. At least 46 people were killed and dozens more were injured as Irene prompted a dangerous storm surge in addition to flash floods and river flooding. Nearly eight million power outages were recorded at the peak of the event, in addition to more than 13,000 flight cancellations. Widespread damage was recorded to tens of thousands of homes, businesses, other structures and vehicles in North Carolina, Virginia, Maryland, Washington D.C., Delaware, Pennsylvania, New Jersey, New York, Connecticut, Rhode Island, Vermont, New Hampshire, Massachusetts and Maine. Impact Forecasting estimates that insured losses will range between USD1.6 and 6.6 billion. Total economic losses will be slightly higher.

Dozens of wildfires were sparked at the end of August in parts of Texas and Oklahoma, as the combination of an extreme drought, triple-digit temperatures and high winds created ideal fire conditions. The most notable fire came in Texas, where the 101 Ranch Fire in Palo Pinto County scorched at least 6,200 acres (2,500 hectares) of land. At least 39 homes and nine recreational vehicles were destroyed, most of which came near the town of Brad. In Oklahoma, fires were reported in central sections of the state just to the northeast of Oklahoma City. One particular fire charred more than 4,000 acres (1,620 hectares) of land and destroyed at least 30 homes.

Remainder of North America (Canada, Mexico, Caribbean Islands)

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/ Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
8/3-8/7	TS Emily	Hispaniola, Puerto Rico	5+	10,000+	60+ million
8/9	Flooding	Canada	0	405+	8.03+ million
8/21-8/24	Severe Weather	Canada	1+	500+	Millions+
8/22-8/26	HU Irene	Caribbean, Bahamas, Canada	9+	Thousands+	1+ billion

Tropical Storm Emily affected the eastern and central Caribbean Islands between the 3rd and the 7th, leaving at least five people dead. Minor damage was reported in Martinique and Guadeloupe, though more notable effects were felt in Puerto Rico. The storm caused at least USD5 million in infrastructure damage and forced a two-day work suspension that prompted an additional USD55 million loss to the economy. Hispaniola was also impacted, where five fatalities were reported in addition to nearly 8,000 homes being damaged.

A powerful storm system spawned torrential rainfall that flooded hundreds of homes in the town of Amherstburg, Ontario on the 9th. According to multiple insurers, at least 405 homes sustained flood inundation with losses anticipated to top CAD8 million (USD8.03 million).

Rounds of severe weather swept across parts of eastern Canada between the 21st and the 24th, highlighted by the strongest tornado to touch down in the country in 15 years. The twister struck the town of Goderich in Ontario, Canada with winds up to 240 kph (150 mph) – an EF-3 on the Enhanced Fujita Scale. Significant damage occurred across a nearly 1.5-kilometer-wide (0.93-mile) path throughout the town as hundreds of homes were directly impacted, in addition to 150 other businesses, churches and the town's port and historic downtown. The local mayor declared a state of emergency. At least one fatality and 37 minor injuries were blamed on the twister. On the 24th, large hail, damaging winds and funnel clouds again pelted parts of southern Ontario.

Major Hurricane Irene developed and impacted parts of the Caribbean and the Bahamas between the 22nd and the 26th, leaving at least eight people dead. According to official reports out of Martinique, Guadeloupe, the Virgin Islands, St. Thomas and St. Croix, damage was largely minimal. Puerto Rico sustained widespread damage throughout the island, where at least one fatality was reported. The Puerto Rican government estimated that damages would exceed USD500 million, with an additional USD149.4 million in lost productivity to the public and private sectors. Similar damage was reported in Hispaniola, where more than 37,700 homes were affected across 88 separate communities in the Dominican Republic. At least four people were killed and economic losses were listed at DOP1 billion (USD26.3 million). In Haiti, the torrential rains led to three fatalities. As the system headed into the Bahamas, major damage occurred on Cat, Mayaguana, Acklins and Crooked Islands. Government reports noted that upwards of 90 percent of all homes and structures on the islands were damaged. On the islands of Grand Turk, New Providence and Grand Bahama, damage was limited though still notable. Total Caribbean economic losses were estimated at nearly USD1.5 billion, with combined insured losses listed around USD1 billion – primarily coming from damage in the Bahamas.

The remnants of Irene passed through eastern Canada on the 28th and 29th, bringing high winds and heavy rains to the provinces of Quebec, Nova Scotia, New Brunswick and Newfoundland and Labrador. Widespread flooding and downed tree branches which damaged homes, structures and vehicles was reported throughout the region (including in the cities of Montreal, Quebec and Charlevoix). Rising waters along the St. Lawrence and Yamaska rivers also led to widespread damage to hundreds of homes. Additional damage occurred to large stretches of the transportation infrastructure. At least one fatality was recorded.

South America

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/ Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
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There were no major natural disaster events in South America during the month of August.

Europe

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/ Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
8/18	Severe Weather	Belgium	5+	Unknown	Unknown

A severe thunderstorm brought extremely gusty winds and large hail to the town of Hasselt, Belgium on the 18th. At least five people were killed and 71 others were injured at an outdoor music festival after major damage occurred to the main stage area.

Africa

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/ Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
8/10-8/31	Flooding	Uganda	43+	30,000+	Unknown
8/20-8/31	Flooding	Nigeria	102+	10,000+	Unknown

Excessive rains, which fell persistently throughout the month of August, prompted significant flooding in eastern, western and southwestern sections of Uganda. Red Cross officials reported that more than 30,000 homes had been damaged or destroyed by floodwaters, which impacted at least 150,000 people. Tens of thousands of hectares (acres) of crops were also submerged by the floods. At least 43 fatalities were recorded as separate large landslides in Bulambuli district crushed dozens of homes at the foothills of the Elgon Mountains.

Weeks of heavy rains between the 20th and the 31st led to the deaths of at least 102 people across nearly every section of Nigeria. Officials from the National Emergency Management Agency reported that the rains spawned flash flooding and also caused rivers and streams to overflow their banks. The states of Bauchi and Oyo were affected most severely, where at least 10,000 homes were destroyed and tens of thousands of hectares (acres) of cropland were submerged. Hundreds of livestock also perished.

Asia

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/ Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
8/3-8/31	Flooding	Thailand	54+	1.13 million+	33.4+ million
8/8-8/10	TY Muifa	China, Philippines, Korea	22+	20,000+	658+ million
8/9	Earthquake	China	0	22,800+	Millions+
8/11	Earthquake	China	0	318+	Unknown
8/12-8/31	Flooding	Pakistan	143+	690,000+	Millions+
8/13-8/17	Flooding	China	10+	Thousands+	323+ million
8/20-8/29	Flooding	India	47+	Thousands+	275+ million
8/22	Flooding	China	0	300+	9.22+ million
8/27-8/31	TY Nanmadol	Philippines, Taiwan, China	37+	10,000+	250+ million

Parts of northern Thailand sustained significant flooding during the month of August, initially spawned by the remnants of Tropical Storm Nock-ten before the monsoon season kicked in. At least 37 people died and dozens were injured in the floods that affected nearly 3.87 million people in 36 provinces. An official government report noted that 1.13 million homes had been damaged by overflowing rivers, flash floods and landslides. Economic losses in Sukhothai province alone were listed at THB1 billion (USD33.4 million). Nationwide losses were expected to be even more extensive.

Typhoon Muifa developed and made landfall near the China/North Korea border on the 8th, though its impacts were felt before and after coming ashore. In the Philippines, the cyclone spawned flash floods and landslides throughout several regions on Luzon Island. At least eight people were killed. In Japan's Okinawa prefecture, at least 37 people were injured in flash floods. As the storm brushed eastern China, damage was widespread to more than 14,300 homes and swaths of agricultural land. According to the Ministry of Civil Affairs, direct economic losses were listed at CNY4.24 billion (USD658 million). The cyclone also impacted North and South Korea, where a combined 14 people were killed. More than 1,000 homes were damaged or destroyed in addition to thousands of hectares (acres) of crops.

A magnitude-5.0 struck at 7:50 PM local time (11:50 UTC) on the 9th with an epicenter 168 kilometers (104 miles) west-southwest of Dali, China in Yunnan Province, China. According to the China Earthquake Networks Center, at least six people were injured after more than 22,800 homes and other infrastructure facilities were damaged throughout the hardest hit areas in Tengchong County.

A magnitude-5.2 struck in far eastern China with an epicenter 103 kilometers (64 miles) east-northeast of Kashi, China in Xinjiang Province on the 11th. Reports from the region indicated that at least 21 people were injured. More than 318 homes crumbled in Kashgar prefecture, and several train lines were forced to suspend service due to track damage.

Torrential monsoonal rains struck northern sections of Pakistan from the 12th through the end of the month, leaving at least 143 people dead and 405 others injured. According to the National Disaster Management Authority, the provinces of Sindh, Punjab and Khyber Pakhtunkhwa were worst affected as more than 690,000 homes were damaged or destroyed and at least 728,000 hectares (1.8 million acres) of rice, sugarcane and cotton crops were submerged. Government officials reported that relief efforts were hampered by the lack of reconstruction of roads and bridges which had been destroyed in last year's historic floods.

A wave of heavy rains between the 13th and the 17th led to the deaths of at least 10 people in China. The Ministry of Civil Affairs reported that flooding and landslides were recorded in 138 counties across 16 provinces during the period, with Hubei, Gansu and Qinghai provinces sustaining the worst effects. Direct economic losses were listed at CNY2.07 billion (USD323 million).

Heavy rains in India's West Bengal region spawned flooding that killed at least 47 people across 81 municipalities between the 20th and the 29th. State government officials noted that all of the fatalities occurred along the Damodar, Kangsabati and Mayurakshi rivers, which burst their banks and also led to intentional water releases to prevent even more catastrophic flooding. Total economic losses were listed at INR12.7 billion (USD275 million).

Excessive rainfall in China's Hubei Province triggered widespread flooding and landslides on the 22nd. At least 42,000 people were directly impacted as the floods destroyed 294 homes and more than 15.5 kilometers (9.63 miles) of roads. Direct economic losses were listed at CNY59 million (USD9.22 million).

Typhoon Nanmadol churned through the Northwest Pacific Basin and made three separate landfalls in the Philippines, Taiwan and China between the 27th and the 31st. In the Philippines, Nanmadol's torrential rains and winds gusting well in excess of 160 kph (100 mph) led to widespread damage across 17 separate provinces on Luzon. At least 35 people were killed and 37 others were injured as the typhoon. According to the National Disaster Risk Reduction and Management Council, the system affected nearly 3,000 homes and led to extensive damage to the agricultural and transportation infrastructures. Economic losses were estimated at PHP1.46 billion (USD34.4 million). In Taiwan, the system's heavy rains triggered knee-high flooding in many locations. Government officials noted that the most significant impacts came as the floods inundated vast areas of crop land and damaged more than 2,000 homes. Various reports suggested total economic losses reaching into the hundreds of millions of dollars (USD). As a weakened Nanmadol made its final landfall in southeast China, the storm damaged or destroyed thousands of homes in Fujian and Zhejiang provinces. Direct economic losses were at least CNY440 million (USD68.9 million).

Oceania (Australia, New Zealand, New Guinea, Micronesia, Guam, Northern Mariana Islands)

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/ Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
8/13	Severe Weather	Western Australia	0	10+	1.05+ million

A powerful storm pounded parts of Western Australia's Midwest region on the 13th. According to the local State Emergency Service, nearly one dozen homes sustained roof damage in the Greenough community as torrential rains and winds gusting to 90 kph (55 mph) affected the region. No injuries or fatalities were reported. Total economic losses were estimated at AUD1 million (USD1.05 million).

APPENDIX

Updated Jan. 2011 – July 2011 Data

United States

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
12/31-1/1	Severe Weather	Midwest, Southeast	8+	10,000+	Millions+
1/1-9/30	Drought	Texas	0	Unknown	5+ billion
1/7-1/12	Winter Weather	Midwest, Southeast, Northeast	11+	Thousands+	Millions+
1/17-1/24	Winter Weather	Plains, Midwest, Northeast, Tennessee Valley	10+	Thousands+	Millions+
1/24-1/26	Winter Weather	Southeast, Northeast, Mid-Atlantic	0	Thousands+	Millions+
1/31-2/2	Winter Weather	Midwest, Southeast, Northeast	36+	100,000+	3.9+ billion
2/2-2/6	Winter Weather	Plains, Southeast, Southwest	4+	45,000+	650+ million
2/20-2/21	Winter Weather	Midwest, Ohio Valley, Northeast	1+	4,000+	Millions+
2/24-2/25	Winter Weather	Midwest, Southeast, Northeast	4+	20,000+	225+ million
2/27-3/4	Wildfires	Texas	1+	241+	14.5+ million
2/27-2/28	Severe Weather	Southeast, Midwest, Mid-Atlantic	4+	45,000+	250+ million
3/5-3/7	Winter Weather	Southeast, Midwest, Northeast	1+	Thousands+	Millions+
3/7-3/9	Wildfires	New Mexico	0	60+	Unknown
3/8-3/11	Winter Weather	Southeast, Midwest, Northeast	4+	20,000+	200+ million
3/11	Tsunami	West Coast, Hawaii	1+	Hundreds+	88.4+ million
3/12-3/13	Wildfires	Oklahoma, Texas	0	67+	3+ million
3/20-3/23	Severe Weather	West, Southeast, Northeast	3+	Thousands+	27+ million
3/26-3/28	Severe Weather	Southeast	0	25,000+	225+ million
3/29-3/31	Severe Weather	Southeast	0	37,500+	350+ million
4/3-4/5	Severe Weather	Midwest, Southeast, Plains	9+	275,000+	2.5+ billion
4/8-4/11	Severe Weather	Midwest, Southeast, Plains	0	290,000+	2.25+ billion
4/8-4/14	Flooding	Red River Valley	3+	Hundreds+	20+ million
4/9-4/30	Wildfires	Texas	2+	310+	183+ million
4/14-4/16	Severe Weather	Plains, Southeast, Midwest	48+	150,000+	2.5+ billion
4/19-4/21	Severe Weather	Plains, Southeast, Midwest	0	125,000+	1+ billion
4/22-4/28	Severe Weather	Southeast, Plains, Midwest	344+	650,000+	9+ billion
4/15-5/15	Flooding	New England	0	2,000+	75+ million
4/25-6/15	Flooding	Mississippi Valley	9+	25,000+	5+ billion
5/10-5/13	Severe Weather	Midwest, Southeast	2+	50,000+	300+ million
5/15-6/30	Flooding	Missouri River Basin	1+	5,000+	1+ billion
5/21-5/27	Severe Weather	Plains, Midwest, Southeast	183+	640,000+	7.5+ billion
5/25-7/5	Flooding	Souris River Basin	0	5,000+	1+ billion
5/28-5/30	Wildfires	Texas	0	12+	Unknown
5/28-6/1	Severe Weather	Plains, Midwest, Northeast	3+	30,000+	500+ million
5/29-6/23	Wildfires	Arizona, New Mexico, Texas	2+	300+	160+ million
6/1-6/2	Severe Weather	Central Plains	0	10,000+	75+ million

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
6/8-6/10	Severe Weather	Midwest, Northeast, Plains	0	35,000+	300+ million
6/14-6/15	Severe Weather	Southern Plains	0	20,000+	125+ million
6/16-6/22	Severe Weather	Midwest, Plains, Southeast	0	160,000+	1.25+ billion
6/26-6/30	Wildfires	New Mexico, Texas	0	100+	512+ million
6/30-7/4	Severe Weather	Midwest	2+	70,000+	425+ million
7/10-7/14	Severe Weather	Midwest, Rockies, Plains	0	120,000+	900+ million
7/22-7/24	Severe Weather	Midwest	0	25,000+	200+ million
7/29	TS Don	Texas	0	Unknown	Unknown
7/29-8/1	Severe Weather	Plains, Midwest, Northeast	0	50,000+	300+ million

Remainder of North America (Canada, Mexico, Caribbean Islands)

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
1/10-1/13	Winter Weather	Canada	0	Hundreds+	Unknown
1/11-1/15	Winter Weather	Mexico	16+	Unknown	Unknown
1/27-1/28	Winter Weather	Canada	0	Hundreds+	Unknown
2/1-2/2	Winter Weather	Canada	0	Dozens+	Unknown
2/15-2/16	Winter Weather	Canada	0	Dozens+	Unknown
3/7	Winter Weather	Canada	0	Hundreds+	20.6+ million
4/7	Earthquake	Mexico	0	Unknown	Unknown
4/14-5/31	Flooding	Canada	5+	10,000+	1.03+ billion
5/15-5/18	Wildfires	Canada	0	522+	800+ million
6/1-6/10	Flooding	Hispaniola, Jamaica	31+	Hundreds+	Unknown
6/8	Severe Weather	Canada	1+	Thousands+	Unknown
6/20-6/21	HU Beatriz	Mexico	3+	100+	Unknown
6/21-6/30	Flooding	Canada	0	Hundreds+	Unknown
6/30	TS Arlene	Mexico	25+	50,000+	Millions+
7/5-7/7	Flooding	Dominican Republic	0	1,900+	Unknown
7/15-7/17	Flooding	Mexico, Guatemala	5+	40,000+	Unknown
7/17-7/19	Severe Weather	Canada	2+	1,000+	Millions+

South America

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
12/25-1/6	Flooding	Brazil	35+	30,000+	Unknown
1/1-3/5	Flooding	Bolivia	52+	25,000+	20+ million
1/1-5/31	Flooding	Colombia	116+	375,000+	5.85+ billion
1/10-1/14	Flooding	Brazil	902+	21,500+	1.2+ billion
1/20-1/31	Flooding	Brazil	6+	21,000+	Unknown
2/27	Landslides	Bolivia	0	400+	Unknown
3/10-3/14	Flooding	Brazil	10+	25,000+	Millions+

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
3/11	Tsunami	Chile, Peru	0	500+	Unknown
4/3-21	Flooding	Peru	9+	5,500+	Unknown
4/25-4/26	Severe Weather	Brazil	1+	5,000+	255+ million
6/1-6/6	Flooding	Brazil	0	1,000+	9.4+ million
6/4-6/15	Volcano	Chile	0	Unknown	Unknown
6/7	Severe Weather	Chile	0	100+	Unknown
7/16-7/18	Flooding	Brazil	10+	1,000+	Unknown
7/23-7/28	Flooding	Brazil	3+	Thousands+	Unknown

Europe

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
1/9-1/14	Flooding	Germany, Poland, Czech Republic	5+	Thousands+	Millions+
1/29	Earthquake	Hungary	0	8,481+	5+ million
2/1-2/28	Winter Weather	Poland	29+	Unknown	Unknown
4/8-4/10	Severe Weather	Iceland, Norway	0	500+	Unknown
5/12	Earthquakes	Spain	9+	20,000+	125+ million
5/19	Earthquake	Turkey	3+	2,500+	Unknown
5/21-5/25	Volcano	Western & Central Europe	0	Unknown	50+ million
5/23	Severe Weather	Scotland	1+	Hundreds+	6.5+ million
6/28	Severe Weather	Netherlands	0	Hundreds+	Millions+
7/2-7/3	Flooding	Denmark	0	60,000+	650+ million
7/8	Flooding	Scotland	0	100+	1+ million

Africa

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
1/1-1/31	Flooding	South Africa, Mozambique	136+	38,000+	495+ million
2/14-2/16	CY Bingiza	Madagascar, Mozambique	22+	35,729+	Unknown
3/27-3/31	Flooding	Namibia	62+	30,000+	15+ million
6/21-6/22	Flooding	Nigeria	24+	1,000+	4.5+ million
7/22-7/29	Flooding	Benin	0	1,000+	Unknown

Asia

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
1/1-5/31	Drought	China	0	Unknown	2.3+ billion
1/1-1/28	Flooding	Philippines	75+	5,729+	46.6+ million
1/1-1/24	Winter Weather	China	2+	150,000+	1.77+ billion

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
1/2-1/15	Flooding	Sri Lanka	43+	50,000+	500+ million
1/19	Earthquake	Pakistan	0	200+	Unknown
1/29-1/31	Flooding	Malaysia	5+	25,000+	Unknown
1/31-2/7	Flooding	Philippines	22+	2,598+	12.3+ million
2/1-2/10	Flooding	Sri Lanka	18+	27,497+	450+ million
2/1	Earthquake	China	0	678+	Unknown
2/3-2/17	Winter Weather	Afghanistan	25+	3,000+	Unknown
2/11-2/13	Winter Weather	South Korea	0	1,000+	70+ million
3/10	Earthquake	China	26+	68,000+	16+ million
3/11	Earthquake	Japan	15, 930+	425,000+	198- 309 billion
3/17-3/31	Flooding	Indonesia	13+	5,000+	Unknown
3/21-4/8	Flooding	Thailand	61+	609,679+	880+ million
3/24	Earthquake	Myanmar, Thailand	75+	3,194+	3.6+ million
4/4	Severe Weather	Bangladesh	17+	500+	Unknown
4/7	Earthquake	Japan	4+	Hundreds+	Unknown
4/9-4/15	Flooding	Kazakhstan	2+	9,000+	5.97+ million
4/10	Earthquake	Japan	3+	Dozens+	Unknown
4/11	Earthquake	China	0	5,900+	6.1+ million
4/17	Flooding	Indonesia	10+	Dozens+	Unknown
4/17-4/18	Severe Weather	China	0	3,200+	26.2+ million
4/22	Flooding	Philippines	14+	50+	Unknown
4/28-4/30	Sandstorm	China	0	21,000+	Unknown
4/30-5/2	Severe Weather	China	0	5,000+	20.5+ million
5/7-5/9	Flooding	China	19+	1,000+	Millions+
5/8-5/9	TS Aere	Philippines	35+	9,420+	31.6+ million
5/15-7/15	Flooding	Nepal	75+	500+	Millions+
5/26-5/29	STY Songda	Philippines, Japan	17+	1,000+	3+ million
6/1-6/24	Flooding	China	199+	500,000+	5.41+ billion
6/1-6/19	Flooding	Philippines	10+	1,000+	9.4+ million
6/1-8/12	Drought	China	0	Unknown	923+ million
6/4-6/11	TS Sarika	Philippines, China	32+	15,000+	248+ million
6/5	Flooding	Singapore	0	Dozens+	Unknown
6/11-6/12	Flooding	Tajikistan	0	500+	Unknown
6/19-6/24	TS Haima	China, Philippines, Vietnam	23+	5,000+	50+ million
6/20	Earthquake	China	0	12,094+	9.2+ million
6/25-6/30	TS Meari	Philippines, China, Korea	17+	5,000+	44+ million
6/27-6/28	Flooding	India	31+	25,750+	Unknown
6/28	Flooding	Philippines	30+	500+	Unknown
7/1-7/8	Flooding	China	49+	100,000+	989+ million
7/9-7/11	Flooding	South Korea	9+	500+	Millions+
7/11-7/14	Flooding	China	6+	5,000+	54.1+ million
7/18-7/20	TY Ma-on	Japan	5+	Hundreds+	50+ million
7/19	Earthquake	Kyrgyzstan, Tajikistan, Uzbekistan	14+	1,500+	9.3+ million

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
7/22-7/25	Flooding	China	54+	150,000+	962+ million
7/26-7/29	Flooding	South Korea, North Korea	100+	20,000+	200+ million
7/27-7/30	TY Nock-ten	Philippines, China, Vietnam	94+	340,000+	126+ million
7/27-7/31	Flooding	Japan	3+	3,000+	Millions+
7/28-8/2	Flooding	China	13+	25,000+	52.7+ million
7/31	Severe Weather	Russia	1+	250+	3+ million

Oceania (Australia, New Guinea, New Zealand, Micronesia, Guam, Northern Mariana Islands)

Event Date	Event Name Or Type ¹	Event Location	# of Deaths ²	# of Structures/Claims ^{2,3}	Damage Estimates ^{2,4} (USD)
1/1-1/14	Flooding	Australia (Queensland)	35+	57,730+	7.2+ billion
1/13-1/18	Flooding	Australia (Victoria)	1+	7,791+	150+ million
1/23-1/24	Flooding	New Zealand	0	500+	11.4+ million
1/25-1/29	CY Wilma	Tonga, New Zealand	3+	1,000+	22+ million
2/3	STC Yasi	Australia	1+	71,145+	1.8+ billion
2/4-2/6	Severe Weather	Australia	0	48,962+	420+ million
2/5-2/6	Bushfire	Australia	0	410+	50+ million
2/16-2/22	STC Carlos	Australia	0	4,000+	15+ million
2/16-2/17	STC Dianne	Australia	0	Unknown	Unknown
2/22	Earthquake	New Zealand	182+	156,267+	12+ billion
2/28	Severe Weather	Australia	0	170+	1.02+ million
3/20-3/21	Flooding	Australia (New South Wales)	1+	800+	3.7+ million
4/26-4/27	Flooding	New Zealand	0	Hundreds+	8.3+ million
5/3	Severe Weather	New Zealand	1+	100+	8.3+ million
6/9-6/16	Flooding	Australia (New South Wales)	1+	1,500+	38+ million
6/13	Earthquake	New Zealand	1+	42,250+	500+ million
6/19	Severe Weather	New Zealand	0	50+	810,500+
7/5	Severe Weather	Australia (New South Wales)	0	1,700+	Unknown
7/19-7/22	Flooding	Australia (NSW, Victoria)	0	1,273+	Unknown
7/27-7/28	Severe Weather	Australia (Western Australia)	0	60+	Unknown

¹ TD = Tropical Depression, TS = Tropical Storm, HU = Hurricane, TY = Typhoon, STY = Super Typhoon, CY = Cyclone

² As reported by public news media sources

³ **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.

⁴ Damage estimates obtained from various public media sources, including news websites, publications from insurance companies and financial institution press releases. These estimates can include insured or economic losses.

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