

**Impact Forecasting**

# September 2011 Monthly Cat Recap – Impact Forecasting

*October 4, 2011*

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## Executive Summary

- Flood events across Asia leave hundreds dead; economic losses well into the billions (USD)
- Global tropical cyclone activity brings landfalls in the United States and Asia
- Costliest single wildfire in Texas history destroys more than 1,550 homes

Seasonal monsoonal rains triggered significant flooding and landslide events throughout parts of Asia during the month, with China, Thailand, India, Pakistan and Cambodia being particularly affected. In China, consecutive weeks of heavy rain in nine separate provincial regions resulted in flash floods, river flooding and landslides leading to the deaths of at least 101 people. According to the Ministry of Civil Affairs, total economic losses were listed at CNY27.21 billion (USD4.25 billion). In Thailand, significant flooding persisted for another month as the death toll reached 206 and the number of damaged homes grew to more than 1.13 million. Total economic losses were estimated at THB32.4 billion (USD1.1 billion).

Southern Pakistan also saw continued flooding as the government recorded the death toll rising to at least 443 and the number of homes affected increasing to more than 1.52 million. The United Nations requested PKR31.2 billion (USD356 million) for relief and recovery efforts. In India, two separate waves of flooding affected the states of Orissa, Uttar Pradesh and Bihar during the month. At least 97 people were killed as nearly 80,000 homes were destroyed. Total combined economic losses were estimated in excess of INR49 billion (USD1 billion). Cambodia also saw its worst floods in years, as more than 150 people were killed in multiple central provinces. At least 130,200 homes were damaged.

Global tropical cyclone remained active in September, highlighted by Typhoon Nesat which made landfalls in the Philippines, China and Vietnam. At least 59 people were killed and a combined USD1.39 billion in economic damages was recorded.

Also in Asia, Japan saw separate landfalling cyclones (Roke and Talas) during the month. Talas left at least 68 people dead while bringing record rains to multiple prefectures. More than 25,117 structures were damaged by wind or flood as total economic losses were listed in excess of JPY23 billion (USD300 million). Typhoon Roke killed at least 13 people and injured 308 others while damaging more than 4,819 properties. Total economic damages were estimated to be in excess of JPY19.1 billion (USD250 million).

Tropical Storm Lee made landfall along the United States coastline in Louisiana before its remnants shifted northeastward. Excessive rains from the system led to significant flooding throughout parts of the Northeast and Mid-Atlantic. More than 80,000 claims were filed to insurers and the Federal Emergency Management Agency (FEMA) with payouts in excess of USD300 million. In terms of an economic loss, Pennsylvania government officials reported USD1 billion in flood losses in the state alone.

In Europe, the post-tropical remnants of Katia came ashore in northern sections of the United Kingdom. At least one person was killed. The Association of British Insurers (ABI) reported that the combination of damage, clean-up costs and business interruptions would cost at least GBP100 million (USD158 million).

Dozens of wildfires were ignited across much of central Texas, with the most destructive fire (the Bastrop County Complex Fire) destroying at least 1,554 homes. According to the Insurance Council of Texas, in excess of 7,000 claims had already been filed and payouts were anticipated to exceed USD500 million.

Also this month, earthquake events were recorded in India and Guatemala.

## United States

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/ Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
9/1-9/15	Wildfires	Texas	4+	7,000+	500+ million
9/1-9/3	Severe Weather	Great Lakes	0	15,000+	125+ million
9/4-9/8	TS Lee	Southeast, Northeast	13+	80,000+	1+ billion

Dozens of wildfires were ignited across much of central Texas during the first two weeks of September, destroying more than 2,000 homes and structures. At least four fatalities were recorded. The most destructive fire was the Bastrop County Complex Fire, which was triggered on the 4<sup>th</sup> just northeast of the city of Bastrop. The blaze charred more than 34,068 acres (13,786 hectares) of land and destroyed at least 1,554 homes. It is the single most destructive wildfire on record in Texas. Other fires destroyed an additional 385 homes as hundreds of thousands of acres of land were singed. According to the Insurance Council of Texas, in excess of 7,000 claims had already been filed and payouts were anticipated to exceed USD500 million – including USD250 million alone from at least 1,500 claims from the Bastrop fire.

Rounds of severe weather crossed parts of the Great Lakes between the 1<sup>st</sup> and the 3<sup>rd</sup> as a storm system slowly moved through the region. The Storm Prediction Center recorded hundreds of reports of hail and damaging winds during the event, which particularly affected parts of Wisconsin, Illinois, Indiana and Michigan. Total economic losses were approximately USD125 million, while various insurers received at least 15,000 claims with payouts in excess of USD75 million.

Tropical Storm Lee made landfall in south-central Louisiana on the 4<sup>th</sup>, before remnants shifted into the Mid-Atlantic and New England. At least 13 fatalities were blamed on the system. The storm brought excessive rains (and isolated severe weather) to many southern and northeastern states, including several still recovering from Hurricane Irene. Heavy rains prompted several rivers (including the Susquehanna (Pennsylvania), Delaware (Pennsylvania and New Jersey), Mohawk (New York), Passaic (New Jersey) and Chenango (New York)) to overflow their banks and flood thousands of homes, businesses and vehicles. Infrastructure damage was widespread as well. Economic flood losses in Pennsylvania alone were estimated at USD1 billion. In terms of insured losses, there have been in excess of 80,000 claims filed to various insurers and the Federal Emergency Management Agency (FEMA) at this time. Total insured losses were expected to top USD300 million.

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

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/ Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
9/19	Earthquakes	Guatemala	3+	388+	Unknown

Six separate tremors struck southwestern Guatemala near Santa Rosa during a 10-hour span on the 19<sup>th</sup>. At least three people were killed and 13 others were injured as the earthquakes damaged nearly 400 homes, in addition to windows shattering in highrise buildings. Infrastructure was also impacted, including several points on the Pan American Highway which were blocked by landslides.

## South America

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/ Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
9/6-9/9	Flooding	Brazil	3+	48,000+	Millions+

Brazil's Santa Catarina state declared a state of emergency after four days of rain ending on the 9<sup>th</sup> caused significant flooding in 15 separate towns. At least three people were killed after several rivers (including the Itajai-Acu River) overflowed their banks. More than 680,000 residents were left homeless after 48,000 homes were inundated. Landslides also closed several state highways.

## Europe

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/ Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
9/12-9/13	PT Katia	United Kingdom	1+	Hundreds+	158+ million

The post-tropical remnants of Hurricane Katia quickly crossed the Atlantic, and came ashore in the United Kingdom on the 12<sup>th</sup>. At least one person was killed as the system brought periods of very gusty winds, high surf and heavy rains. Widespread damage was reported in northern sections of Britain, Scotland, Wales and Ireland. The majority of the damage was torn off roofs, downed trees and flooding. The Association of British Insurers (ABI) reported that the combination of damage, clean-up costs and business interruptions would cost at least GBP100 million (USD158 million).

## Africa

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/ Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
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No major natural disaster events happened in Africa during the month of September.

## Asia

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/ Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
7/29-9/25	Flooding	Thailand	206+	1.13+ million	1.1+ billion
8/12-9/30	Flooding	Pakistan	443+	1.52+ million	356+ million
9/1-9/22	Flooding	China	101+	250,000+	4.25+ billion
9/2-9/4	TS Talas	Japan	68+	25,117+	300+ million
9/5-9/15	Flooding	India	42+	25,000+	432+ million
9/6	Earthquake	Indonesia	10+	1,000+	5.85+ million
9/10-9/29	Flooding	Cambodia	150+	130,220+	Unknown
9/10-9/14	Flooding	Vietnam	8+	2,000+	Unknown

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/ Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
9/18	Earthquake	India, Bhutan, Tibet	116+	140,000+	204+ million
9/21-9/22	TY Roke	Japan	13+	4,819+	250+ million
9/23-9/28	Flooding	India	51+	50,000+	568+ million
9/23-9/25	Flooding	Turkey	1+	Hundreds+	Unknown
9/27-9/30	TY Nesat	Philippines, China, Vietnam	60+	57,000+	1.39+ billion

Much of Thailand continued to endure significant flooding, which had begun in late July following the remnants of Tropical Storm Nock-ten combining with the beginning of the monsoon season. At least 206 people died and hundreds more were injured in floods that affected nearly 3.87 million people in 57 provinces. An official government report noted that 1.13 million homes had been damaged by overflowing rivers, flash floods and landslides. The agricultural sector saw more than 1.92 million hectares (4.74 million acres) of crops damaged. Total economic losses were estimated by the University of the Thai Chamber of Commerce at THB32.4 billion (USD1.1 billion).

Excessive monsoonal rains continued to fall throughout the month of September (after beginning in August) in Pakistan. According to the National Disaster Management Authority, at least 443 people died and 755 others were injured. The provinces of Sindh, Punjab and Khyber Pakhtunkhwa were worst affected as more than 1.52 million homes were damaged or destroyed and at least 890,000 hectares (2.2 million acres) of rice, sugarcane and cotton crops were submerged – nearly 80 percent of crops. The United Nations requested PKR31.2 billion (USD356 million) for relief and recovery efforts.

Consecutive weeks of heavy rain (beginning on September 1<sup>st</sup>) affected nine separate Chinese provincial regions with flash floods, river flooding and landslides during the month. At least 101 people were killed. According to China's Ministry of Civil Affairs, hundreds of thousands of homes were damaged or destroyed in addition to nearly 1 million hectares (2.47 million acres) of crops being submerged. Total economic losses were listed at CNY27.21 billion (USD4.25 billion).

Tropical Storm Talas made landfall in southern Japan on the 2<sup>nd</sup>, leaving at least 68 people dead and dozens more missing. The system brought record rains to multiple prefectures, which spawned flooding and landslides. According to government officials, widespread damage was prevalent in southern sections of the country, particularly Kii Peninsula on Honshu Island. Japan's Fire and Disaster Management Agency reported that more than 25,117 structures were damaged by wind or inundated by flash floods and rivers overflowing their banks. Thousands more vehicles were also impacted. Total economic losses were anticipated to reach in excess of JPY23 billion (USD300 million).

Monsoonal rains severely impacted India's eastern state of Orissa between the 5<sup>th</sup> and the 15<sup>th</sup>. The rains caused several rivers (including the Mahanadi) to burst their banks, leading to at least 42 people being killed. State officials reported that more than 25,000 homes had been damaged, in addition to a significant amount of crop acreage being affected. Additional flood damage was reported in the northern states of Uttar Pradesh and Bihar. Total economic losses were listed at INR21 billion (USD432 million).

A magnitude-6.6 earthquake rattled Indonesia's Aceh province on the 6<sup>th</sup>, leaving at least 10 people dead. The tremor, which struck 100 kilometers (62 miles) southwest of Medan, Indonesia at 12:55 AM local time (17:55 UTC Monday), caused widespread structural damage. Indonesia's Regional Disaster Mitigation Agency reported that economic losses would reach IDR50 billion (USD5.85 million).

Heavy rains fell throughout parts of Cambodia between the 10<sup>th</sup> and the 29<sup>th</sup>, leading to the deaths of at least 150 people in multiple central provinces. The National Committee for Disaster Management noted that several rivers and lakes overflowed their banks, which caused 130,200 homes to be damaged. At least 271,000 hectares (670,000 acres) of rice paddies were also submerged by the flooding.

Heavy rains between the 10<sup>th</sup> and the 14<sup>th</sup> in central Vietnam led to at least eight deaths. The provinces of Nghe An, Thanh Hoa and Binh Thuan were primarily impacted, where more than 2,000 homes were destroyed and at least 72,120 hectares (178,000 acres) of rice paddy fields were submerged. Widespread damage to infrastructure was also recorded.

A strong earthquake struck northeastern India on the 18<sup>th</sup>, leading to the deaths of at least 116 people. At least 500 others were injured as more than 140,000 homes and structures were damaged or destroyed. The magnitude-6.9 earthquake occurred at 6:10 PM local time (12:40 UTC) with an epicenter 68 kilometers (42 miles) northwest of Gangtok, India at a depth of 19.7 kilometers (12.2 miles). The Indian state of Sikkim sustained the most substantial impacts, with the most extensive damage coming in a stretch between Gangtok and Chung Thang. In Nepal, government officials reported at least 11 fatalities and 89 injuries in addition to major infrastructure damage occurring. In China's Tibet Autonomous Region, at least seven people died and 136 others were injured in 17 counties after at least 17,500 homes were damaged or destroyed. In Bhutan, at least one fatality was recorded after the temblor left structural damage. The Indian government allocated INR10 billion (USD204 million) for damage costs.

Typhoon Roke made landfall in southern portions of Japan on the 21<sup>st</sup>, killing at least 13 people and injuring 308 others. The storm brought torrential rains and very gusty winds, leading to downed trees, infrastructure damage and rivers overflowing their banks and inundating nearby structures in at least one dozen prefectures. Official data noted that 4,819 properties suffered damage from flood inundation and wind damage. Flights and bullet train service was disrupted, in addition to several global companies being forced to temporarily suspend plant production. Total economic and insured damages were estimated to be in excess of JPY19.1 billion (USD250 million).

Monsoonal rains brought renewed flooding to parts of the Indian states of Orissa, Bihar and Uttar Pradesh between the 23<sup>rd</sup> and the 28<sup>th</sup>. In Orissa, at least 42 people died in floods that occurred after several rivers overflowed their banks and submerged at least 3,569 villages. More than 46,936 homes were destroyed by the floods in addition to 220,000 hectares (544,000 acres) of cropland. At least 13 additional fatalities were recorded in Bihar. Total economic losses in the region were listed at a combined INR28 billion (USD568 million).

Heavy rains in Turkey between the 23<sup>rd</sup> and the 25<sup>th</sup> led to the death of at least one person. The rains, which were prevalent in the northern province of Rize (located along the Black Sea), prompted flash flooding that damaged hundreds of homes and businesses.

Typhoon Nesat made separate landfalls in the Philippines, China and Vietnam between the 27<sup>th</sup> and the 30<sup>th</sup>, leaving dozens of people dead. In the Philippines, effects were widespread as government officials noted at least 55 fatalities, 65 injuries and more than 42,273 homes damaged or destroyed. Damage was also prevalent throughout Manila, where the city's financial district was impacted. Economic losses were listed at PHP8.8 billion (USD200 million). In China, the storm killed four people, damaged 12,000 homes and submerged crops on Hainan Island and other southern provinces. Total economic losses were listed at CNY7.6 billion (USD1.19 billion). In Vietnam, one person was killed and more than 1,000 homes and wide swaths of crops were destroyed. Total losses were listed at VND50 billion (USD2.4 million).

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

<b>Event Date</b>	<b>Event Name Or Type<sup>1</sup></b>	<b>Event Location</b>	<b># of Deaths<sup>2</sup></b>	<b># of Structures/ Claims<sup>2,3</sup></b>	<b>Damage Estimates<sup>2,4</sup> (USD)</b>
9/17	Severe Weather	Australia (Western Australia)	0	114+	Unknown

An advancing cold front brought heavy rains and gusty winds across central and southern sections of Western Australia on the 17<sup>th</sup>. According to the State Emergency Service, more than 114 property damage requests were received in the greater Perth metropolitan area and the Goldfields region primarily as a result of downed trees and flood inundation.

## APPENDIX

Updated Jan. 2011 – Aug. 2011 Data

### United States

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
12/31-1/1	Severe Weather	Midwest, Southeast	8+	10,000+	Millions+
1/1-9/30	Drought	Texas	0	Unknown	5.2+ 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	185+	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 <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (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
7/27-8/9	Wildfires	Oklahoma	2+	136+	20+ million
7/29-8/1	Severe Weather	Plains, Midwest, Northeast	0	50,000+	300+ 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
8/18-8/19	Severe Weather	Plains	0	100,000+	750+ million
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+	7.2+ billion
8/30-9/1	Wildfires	Texas, Oklahoma	0	77+	Millions+

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

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (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+
8/3-8/7	TS Emily	Hispaniola, Puerto Rico	5+	10,000+	60+ million
8/9	Flooding	Canada	0	405+	8.03+ million

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
8/21-8/24	Severe Weather	Canada	1+	500+	Millions+
8/22-8/26	HU Irene	Caribbean, Bahamas, Canada	9+	Thousands+	1+ billion

## South America

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (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+
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 <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (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
8/18	Severe Weather	Belgium	5+	Unknown	Unknown

## Africa

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

## Asia

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (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
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+	1+ million	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+

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (USD)
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
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
7/29-9/30	Flooding	Thailand	206+	1.13 million+	1.1+ billion
7/31	Severe Weather	Russia	1+	250+	3+ 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
8/12-9/30	Flooding	Pakistan	443+	1.52 million+	356+ million
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

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

Event Date	Event Name Or Type <sup>1</sup>	Event Location	# of Deaths <sup>2</sup>	# of Structures/Claims <sup>2,3</sup>	Damage Estimates <sup>2,4</sup> (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

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

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

<sup>2</sup> As reported by public news media sources

<sup>3</sup> **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.

<sup>4</sup> 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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