



Global Catastrophe Recap

May 2019

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Executive Summary

- Prolonged U.S. severe weather & flooding prompts multi-billion-dollar insurance industry payout
- Cyclone Fani makes India landfall & causes estimated USD2 billion direct economic cost
- Significant flooding impacts parts of the United States, Poland, Germany, China & the Middle East



362+ Number of May tornadoes in the U.S.; highest May total since 2015 (381)



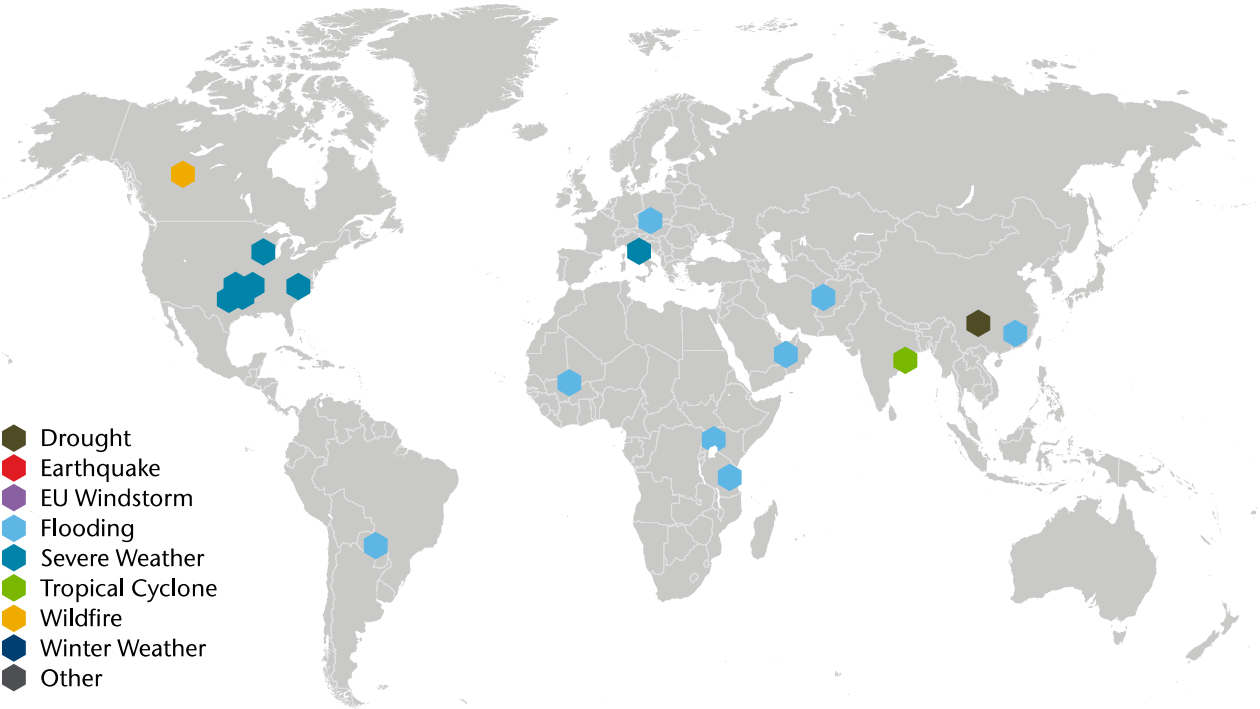
5.5 inches Diameter of largest U.S. hailstone during May 2019 outbreaks



115 mph Cyclone Fani's 3-minute average wind speed at landfall in Odisha; highest in state since 2013



1.3 million Acres burned thru May 31 in Alberta's wildfire season



United States

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
05/04-05/10	Severe Weather	Plains, Midwest, Southeast	1	85,000+	875+ million
05/13	Severe Weather	North Carolina	0	20,000+	290+ million
05/16-05/17	Severe Weather	Plains, Midwest	0	45,000+	425+ million
05/17-05/19	Severe Weather	Plains, Midwest, Southeast	0	Thousands	100s of Millions
05/20-05/23	Severe Weather	Plains, Midwest, Southeast, Northeast	9	Thousands	100s of Millions+
05/24-05/25	Severe Weather	Rockies, Plains, Midwest, Northeast	2	Thousands	100s of Millions
05/26-05/31	Severe Weather	Rockies, Plains, Midwest, Southeast	3	Thousands	100s of Millions+

Severe convective storms affected the eastern two-thirds of the U.S. from May 4-10. At least one person was killed, and dozens of others were injured. The multi-day outbreak of severe weather resulted in dozens of tornado touchdowns, hail approaching the size of tea cups, straight-line winds topping 100 mph (160 kph), and flash flooding. Parts of Texas, Louisiana, Oklahoma, Kansas, and Arkansas were the hardest-hit. Total economic losses were estimated at up to USD850 million. Public and private insurance was expected to cover up to USD620 million.

A powerful cluster of thunderstorms swept across parts of North Carolina on May 13, leading to reports of large hail, damaging straight-line winds, and a confirmed EF2 tornado. The most significant damage resulted from golf ball to baseball-sized hail, notably near the city of Raleigh. Total economic losses were estimated at nearly USD300 million. Insurers were expected to payout roughly USD215 million.

Severe storms prompted up to baseball-sized hail and straight-line winds gusting to 78 mph (126 kph) that caused severe damage to structures and vehicles in parts of Iowa, Illinois and Indiana on May 16-17. Some of the highest concentration of damage occurred in the greater Chicago, IL metro region as tennis ball-sized hail occurred. Total economic losses were minimally estimated at up to USD425 million, with insurers covering USD325 million.

Widespread severe weather led to damage across parts of the Plains, Midwest, and Northeast from May 17-19. Most of the damage occurred in Texas due to tornado touchdowns (multiple rated EF2 or EF3), up to baseball-sized hail, and winds gusting to 70 mph (110 kph). Notable damage areas included Abilene, Fort Worth, Plano, Fort Stockton, Ballinger, and San Angelo. Additional convective storm damage was cited in Louisiana, Nebraska, Arkansas, Kansas, Oklahoma, Missouri, Indiana, Pennsylvania, and New York. Total economic and insured losses were expected to reach into the hundreds of millions (USD).

A multi-day severe weather outbreak left at least nine people dead in the Plains, Midwest, Southeast, and Northeast from May 20-23. More than 100 others were injured. The stretch was marked by six EF3 tornadoes in Missouri, Texas, Kansas, and Oklahoma – along with dozens of others rated EF0, EF1 or EF2 – that caused fatalities and extensive damage. Also, hail the size of softballs and damaging straight-line winds impacted a dozen states. Torrential, record-setting rains across the Arkansas River, Missouri River, and Mississippi River basins further enhanced historic spring flooding and prompted states of emergency declarations. Total economic losses will minimally reach into the hundreds of millions; likely higher. A majority of wind and hail-related damage will be covered by insurers.

Another multi-day outbreak of severe weather was recorded on May 24-25 in the Rockies, Plains, Midwest, and Northeast. At least two people were killed and dozens more were injured. The stretch was marked by dozens of tornado touchdowns (including an EF3 that struck El Reno, OK), extremely large hail, straight-line winds topping 90 mph (150 kph), and additional heavy rainfall which only exacerbated flood conditions in the Arkansas River Basin – including near Tulsa, OK. Notable convective storm damage also occurred across Texas, Kansas, Missouri, Illinois, Ohio, Pennsylvania, and New York. Total economic and insured losses were expected to reach into the hundreds of millions (USD).

A significant severe weather outbreak impacted central and eastern sections of the U.S. from May 26-31. At least three people were killed and more than 150 others were injured. Two EF4 tornadoes with up to 170 mph (275 kph) winds caused major damage in Dayton, OH and Linwood, KS. More than 100 other tornadoes were also confirmed in the Rockies, Plains, Midwest, Northeast, and Southeast. Large hail reaching up to 4.0 inches (10.1 centimeters) and straight-line winds gusting to 90 mph (150 kph) additionally occurred while causing extensive damage to many urban areas. Further heavy rains also exacerbated flooding in the Arkansas, Missouri, and Mississippi River Basins. Total economic losses will minimally reach into the hundreds of millions; likely higher. Most wind and hail-related damage will be covered by insurers.

Remainder of North America (Non-US)

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
03/01-06/06	Wildfire	Canada	0	16+	100s of millions

Since the official start of wildfire season on March 1, more than 502 wildfires were ignited in Canada's Alberta province. Nearly 530,000 hectares (1.3 million acres) of land has already burned, with more than 370,000 hectares (914,000 acres) charred alone between May 12-31. Approximately 10,000 people were evacuated as the fires destroyed the Steen River CN Railway bridge as well as 16 buildings. Government agencies provided a minimum of CAD250 million (USD185 million) alone for firefighting costs.

South America

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
03/15-05/20	Flooding	Paraguay	6	Dozens	Millions

A prolonged stretch of seasonal rainfall impacted much of Paraguay from mid-March through most of May, which led to widespread flooding. At least six people were killed near the capital city of Asunción. Officials evacuated more than 40,000 people. Perhaps the most significant impacts were incurred to the agricultural sector, as floods caused considerable harm to the cattle industry.

Europe

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
05/11-05/13	Severe Weather	Italy, Croatia, Bosnia	0	Hundreds	10s of Millions
05/20-05/22	Flooding	Germany, Poland	0	Thousands	100+ million

An outbreak of severe weather impacted portions of Southern Europe on May 11-13. One of the most notable events occurred on May 13, as abundant rainfall caused an overflow of rivers in the Emilia-Romagna region. As many as 600 homes were inundated along with a number of businesses and adjacent agricultural land. The same system also affected the Balkans

A large, slow-moving area of low pressure affected several Central European countries on May 20-22 week, generating locally heavy rainfall, strong winds and multiple damaging tornadoes. The most notable damage occurred as a result of both riverine and flash flooding across central and southern Germany due to heavy rain. Additional events were recorded across southern Poland; while the flood threat was also elevated across river basins in the Czech Republic, Slovakia and northeast Switzerland.

Middle East

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
05/17-05/27	Flooding	Oman, Yemen, UAE, Saudi Arabia	7	Hundreds	Millions

Much of the Arabian Peninsula endured heavy rainfall from May 17-27 that prompted flooding that was exacerbated by poor infrastructure. Parts of Oman, Yemen, Saudi Arabia, and the United Arab Emirates were all affected. Six fatalities were noted in Yemen alone, including in parts of Sanaa. At least six people went missing after being swept away by flash flooding in the Wadi Bani Khalid in Oman on May 18. One person was swept away by floodwaters in Saudi Arabia on May 23. Total economic costs were likely to reach well into the millions (USD).

Africa

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
05/08-05/17	Flooding	Tanzania	5	1,000+	Millions
05/15-18	Flooding	Mali, Guinea	21	Hundreds	Millions
05/26-05/29	Flooding	Uganda	8	Dozens	Unknown

Seasonal spells of heavy rainfall resulted in localized flooding in parts of Tanzania. Among the hardest hit were Dar es Salaam and the Mbeya region. Five people died and more than 1,000 homes were flooded. Thousands were displaced.

As western Africa enters its rainy (monsoonal) season, several countries experienced spells of heavy rainfall and instances of flooding. On May 15, urban flooding in Bamako resulted in death of at least 15 people and two injuries. According to local authorities, 101 families were affected in total. Between May 17 and 18, a different storm system affected Conakry, the capital of Guinea and caused at least 6 deaths in the Matoto sub-prefecture. Both events are expected to result in negligible economic impacts.

At least eight people died in Uganda due to flooding caused by heavy rain between May 26 and 29. The capital Kampala was among the hardest-hit regions. According to local reports, more than 500 households were affected, mostly in the Kampala suburbs of Kikajjo, Lubowaa, and Lufuka.

Asia

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
05/01-05/31	Drought	China	0	N/A	138+ million
05/03-05/05	Cyclone Fani	India, Bangladesh	89	Thousands	Billions
05/22-05/25	Flooding	Afghanistan	24	330+	Millions
05/23-05/29	Flooding	China	9	Hundreds	165+ million

Ongoing drought conditions persisted in China's Yunnan Province during the month of May. The drought has led to notable impacts to agriculture. More than 273,000 hectares (675,000 acres) of cropland was affected with a financial cost of CNY953 million (USD138 million).

Tropical Cyclone Fani struck the state of Odisha in India as a Category 4 storm on May 3, killing at least 89 people. The storm caused widespread damage in the towns of Puri, Cuttack, and the state capital of Bhubaneswar. At least 64 people died in the state before Fani tracked into the neighboring state of West Bengal where significant damage was reported to public infrastructure and non-engineered houses. Fani entered Bangladesh on May 4 bringing heavy rain and storm surge, resulting in 17 deaths. Total economic losses are likely to exceed USD2 billion. The Indian insurance industry preliminarily expected payouts to reach USD500 million.

Heavy rain between May 22-25 triggered flash floods in at least six of Afghanistan's 35 provinces, including the capital city of Kabul. No fewer than 24 people were killed and 11 more injured in the event, which damaged or destroyed more than 336 houses.

Heavy rains swept across parts of southern China from May 23-29, leaving at least nine people dead or missing. The hardest-hit areas were found in Guangxi, where more than 2,000 homes and nearly 23,000 hectares (57,000 acres) of cropland were inundated. Further impacts were felt in Hubei, Guizhou, and Guangdong. Total economic losses in Guangxi alone were listed at CNY1.14 billion (USD165 million).

Oceania (Australia, New Zealand, South Pacific Islands)

There were no significant disasters in Oceania during the month of May.

Appendix

Updated 2019 Data: January-April

United States

Date	Event	Location	Deaths	Structures / Claims	Economic Loss (USD)
01/05-01/06	Winter Weather	West	0	7,500+	125+ million
01/11-01/14	Winter Weather	Plains, Midwest, Mid-Atlantic	13	Thousands	Millions
01/16-01/18	Winter Weather	West	0	12,000+	275+ million
01/18-01/24	Winter Weather	Midwest, Northeast	10	22,000+	300+ million
01/29-01/31	Winter Weather	Midwest, Northeast, Southeast	22	45,000+	950+ million
02/01-02/03	Flooding	California	0	11,000+	250+ million
02/05-02/08	Winter Weather	Midwest	4	Hundreds	Millions
02/09-02/12	Winter Weather	Northwest, Midwest, Northeast	0	Hundreds	Millions
02/10	Severe Weather	Hawaii	1	Hundreds	10s of Millions
02/18-02/21	Winter Weather	Northern Plains, Southeast	3	Hundreds	Millions
02/22-02/26	Severe Weather	Central/Eastern U.S.	4	175,000+	1.4+ billion
02/26-02/28	Flooding	California	1	6,000+	175+ million
03/03-03/04	Severe Weather	Southeast, Mid-Atlantic, Northeast	23	13,000+	190+ million
03/08-03/09	Severe Weather	Plains, Midwest, Southeast	1	Thousands	Millions
03/12-03/28	Flooding	Central & Western U.S.	5	125,000+	5.0+ Billion
03/23-03/25	Severe Weather	Plains, Midwest	0	100,000+	1.1+ billion
03/27	Severe Weather	Florida	0	22,000+	225+ Million
04/05-04/08	Severe Weather	Southeast	0	25,000+	250+ million
04/10-04/12	Winter Weather	Rockies, Plains, Midwest, Southeast	0	Thousands	100+ million
04/13-04/15	Severe Weather	Plains, Southeast, Midwest, Northeast	9	90,000+	925+ million
04/17-04/19	Severe Weather	Plains, Southeast, Midwest	4	40,000+	350+ million
04/23-04/25	Severe Weather	Plains, Southeast	5	57,500+	575+ million
04/30-05/02	Severe Weather	Plains, Midwest, Southeast	2	35,000+	750+ million

Remainder of North America (Non-U.S.)

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/27	Severe Weather	Cuba	6	Hundreds	Millions
02/03-02/05	Flooding	Canada	0	4,500+	110+ million
02/24-02/25	Winter Weather	Canada	0	8,000+	105+ million
03/09-03/11	Flooding	Canada	0	6,000+	110+ million
03/13-03/16	Flooding	Canada	0	11,000+	225+ million
04/16-05/05	Flooding	Canada	1	10,000+	100s of Millions

South America

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-01/20	Flooding	Argentina, Uruguay	5	Thousands	2.3+ billion
01/27	Landslide	Peru	15	100+	Negligible
02/01-02/10	Flooding	Chile	6	5,700+	91+ million
02/02-02/05	Landslide	Bolivia	23	Unknown	Unknown
02/07	Landslide	Peru	10	Dozens	Unknown
02/22	Flooding	Colombia	0	4,000+	Millions
03/10-03/12	Flooding	Brazil	13	Hundreds	Millions
03/15-04/05	Flooding	Peru, Paraguay, Bolivia, Colombia	5	Thousands	10s of millions
04/08-04/09	Flooding	Brazil	10	Hundreds	Millions
04/20-04/22	Severe Weather	Colombia	30	Dozens	Unknown

Europe

Date	Event	Location	Deaths	Structures / Claims	Economic Loss (USD)
01/01-01/02	Windstorm Alfrida	Northern Europe	0	15,000+	50+ million
01/01-01/14	Winter Weather	Central Europe	26	Thousands	100s of Millions
01/22-01/24	Flooding	Spain	4	3,600+	46+ million
01/29	Windstorm Gabriel	France	0	4,000+	Millions+
02/08-02/09	Windstorm Erik	United Kingdom, Ireland	1	Thousands	10s of Millions
02/10-02/11	Windstorm Isaias	France, Germany	0	Thousands	10s of Millions
02/23-02/26	Severe Weather	Italy, Greece, Malta, Croatia	8	Hundreds	250+ million
03/03-03/05	Windstorm Freya	Central & Western Europe	2	Thousands	100s of Millions
03/10	Windstorm Eberhard	Central & Western Europe	2	100,000+	1.5+ billion
04/06	Flooding	Greece	0	Hundreds	Millions
04/18-04/20	Severe Weather	Spain	0	Hundreds	10s of millions

Middle East

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/27-01/29	Flooding	Saudi Arabia	12	1,000+	Millions
01/24-01/26	Severe Weather	Turkey	2	4,100+	20+ million
03/09-03/10	Flooding	Iran	0	Hundreds	80+ million
03/17-04/09	Flooding	Iran	77	85,000+	8.3+ billion*
03/24-03/29	Flooding	Iraq, Syria	10	Unknown	Unknown

*Global free market currency conversion; unofficial local free market conversion cost is USD2.6 billion

Africa

Date	Event	Location	Deaths	Structures / Claims	Economic Loss (USD)
01/01-01/31	Flooding	Mozambique, Malawi, Zambia	22	Hundreds	Millions
01/17-01/21	Flooding	Burundi	10	Hundreds	Unknown
01/19	Flooding	Madagascar	9	Unknown	Unknown
02/10	Cyclone Gelena	Mauritius	0	Hundreds	Millions+
02/12-02/18	Flooding	Zimbabwe	26	Unknown	Unknown
02/21-02/22	Flooding	Angola	4	711+	Unknown
03/04-03/22	Cyclone Idai	Southern Africa	1,100+	150,000+	2.0+ billion
03/10-03/12	Flooding	South Africa	10	7,000+	7.0+ million
03/16-03/19	Flooding	Angola	27	Hundreds	Millions
04/22-04/24	Flooding	South Africa	87	1,000+	100+ million
04/23	Flooding	Uganda	17	Unknown	Unknown
04/24-04/26	Cyclone Kenneth	Comoros, Mozambique	48	60,000+	100+ million

Asia

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/03-01/05	Tropical Storm Pabuk	Thailand, Vietnam, Malaysia	9	2,300+	150+ million
01/06	Flooding	Afghanistan	30	0	Negligible
01/21-02/01	Flooding	Indonesia	80	22,500+	Millions
02/01-02/28	Winter Weather	China	3	N/A	95+ million
02/20-02/21	Flooding	Pakistan	26	Hundreds	Millions
02/24-02/25	Earthquake	China	2	11,000+	37+ million
02/25-02/27	Severe Weather	India	6	Hundreds	Millions
03/01-03/04	Flooding	Afghanistan, Pakistan	65	6,000+	Unknown
03/07-03/10	Flooding	Indonesia	8	Dozens	Unknown
03/16-03/18	Flooding	Indonesia	200	Hundreds	Millions
03/18	Flooding	Afghanistan	13	Dozens	Unknown
03/19-03/21	Flooding	China	0	2,500+	40+ million
03/29-03/30	Flooding	Afghanistan	45	13,000+	10s of Millions
03/30-04/09	Wildfire	China	31	N/A	N/A
03/31	Severe Weather	Nepal, India	35	2,400+	Millions
03/31	Severe Weather	Bangladesh	15	Hundreds	Unknown
04/04-04/05	Wildfire	South Korea	2	1,400+	Millions
04/09	Severe Weather	Pakistan	8	Dozens	Unknown
04/11-04/12	Flooding	China	11	Unknown	Unknown
04/13-04/14	Flooding	Pakistan	20	Dozens	Unknown
04/15-04/17	Severe Weather	Afghanistan, Pakistan, India	146	Hundreds	Millions
04/19-04/20	Wildfire	Russia	0	311	20+ million
04/22-04/23	Earthquake	Philippines	21	5,100+	50+ million
04/25-04/27	Flooding	Indonesia	44	1,200+	15+ million

Oceania (Australia, New Zealand, South Pacific Islands)

Date	Event	Location	Deaths	Structures/ Claims	Economic Loss (USD)
01/01-01/31	Heatwave	Australia	N/A	Unknown	Unknown
01/28-02/07	Flooding	Australia	3	29,089+	1.8+ billion
02/04-02/27	Wildfire	New Zealand	0	Dozens	Millions
02/11-02/25	Flooding	Papua New Guinea	4	Hundreds	Unknown
03/01-03/20	Wildfire	Australia	0	432+	40+ million
03/24-03/25	Flooding	New Zealand	1	Hundreds	Millions+

Additional Report Details

TD = Tropical Depression, TS = Tropical Storm, HU = Hurricane, TY = Typhoon, STY = Super Typhoon, 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 public and private insurance entities 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 determined based on various public media sources, including news websites, publications from insurance companies, financial institution press releases, and official government agencies. Economic loss totals are separate from any available insured loss estimates. An insured loss is the portion of the economic loss covered by public or private insurance entities. In rare instances, specific events may include modeled loss estimates determined from utilizing Impact Forecasting's suite of catastrophe model products.

Contact Information

Adam Podlaha

Head of Impact Forecasting
Impact Forecasting
Aon
adam.podlaha@aon.com

Steve Bowen

Director & Meteorologist
Impact Forecasting
Aon
steven.bowen@aon.com

Michal Lörinc

Senior Catastrophe Analyst
Impact Forecasting
Aon
michal.lorinc@aon.com

Anwasha Bhattacharya

Senior Analyst
Impact Forecasting
Aon
anwasha.bhattacharya@aon.com

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