

Weekly Cat Report

May 6, 2022





Executive Summary



Event	Affected Region(s)			Page
Severe Convective Storm	United States	3+	100s of Millions	3
Flooding	Guadeloupe	2+	Millions	9
Flooding	Venezuela	1+	Millions	9
Severe Convective Storm	Puerto Rico	0	Millions	9
Flooding	Tanzania	5+	Unknown	9
Severe Convective Storm	Nigeria	7	Unknown	9
Tropical Storm Jasmine	Madagascar	5+	Unknown	10
Flooding	Spain	0	Millions	10
Heatwave	India	25+	N/A	10
Flooding	United States, Canada	0	Millions	10

Please note that any financial loss estimate is preliminary and subject to change. These estimates are provided as an initial view of the potential financial impact from a recently completed or ongoing event based on early available assessments. Significant adjustments may inevitably occur. All losses in US dollars (\$) unless noted otherwise.

Along with this report, we continue to welcome users to access current and historical natural catastrophe data and event analysis on Impact Forecasting's Catastrophe Insight website: <u>http://catastropheinsight.aon.com</u>



Severe Convective Storm: United States

Overview

An active weather pattern featuring an unblocked Pacific jet stream and a succession of systems ejecting into the Plains resulted in elevated activity for the severe convective storm peril across the central United States between April 28 - May 5. Hazards included damaging tornadoes, very large hail, severe straight-line winds, and localized flash-flooding. On April 29, a destructive EF3 tornado struck the Wichita, Kansas suburb of Andover impacting over 1,000 structures. Considerable impacts were incurred in Texas and Oklahoma by several supercells on May 4. Throughout the period, multiple instances of baseball to softball size and larger hailstones pelted communities across the southern and central Plains. A Flash Flooding Emergency was issued in Oklahoma on May 5. Economic and insured losses were each individually expected to reach into the hundreds of millions (USD).

Meteorological Recap

April 28 - 30

A robust storm system ejecting over the Central Plains, and associated highly amplified upper-level trough, aided in several days of impactful severe convective storms (SCS) and critical fire weather conditions across the central United States as the system meandered northeastward into the Upper Mississippi Valley primarily between April 28 - 30.

On April 28, discrete storms and storm clusters developed in the vicinity of a quasi-stationary boundary draped across the Central Plains – largely in Nebraska and Kansas. The storms generated large hail and isolated damaging wind gusts into the evening and overnight.

By April 29, severe storm development occurred along and near a dryline (boundary which separates a moist air mass from a dry one) and trialing cold front which extended southward from the area of surface low pressure deepening in the Central Plains. Ahead of the system, an increasingly unstable environment was sustained by a plume of warm and moist air surging northward. Concurrently, along the systems backside hot and dry air from the Southwest further reinforced the dryline. The Storm





Prediction Center (SPC) issued a **Moderate Risk** (level 4 out 5) for severe storms in southern Nebraska and northern Kansas, surrounded by a broader region of Enhanced Risk (level 3 out 5).

By late afternoon, storm clusters, linear segments, and supercells developed in a volatile environment characterized by large Convective Available Potential Energy or CAPE (which is directly related to the updraft strength in a thunderstorm). The storms produced reports of baseball to softball sized hail, straight-line wind gusts in excess of 70 mph (112 kph), and tornadoes. A supercell which developed ahead of a line of storms in western Kansas, east of Wichita, produced an EF3 tornado that significantly impacted the **City of Andover** in Butler County shortly after 8:10 PM (local time). The same supercell later resulted in a **Particularly Dangerous Situation** (PDS) tornado warning near Rosalia before it was overtaken by the line of storms.

As the pattern evolved eastward on April 30, severe storms were reinvigorated across the Midwest as a warm front lifted northward through the region. Additional SCS development occurred along the approaching cold front that spanned from Illinois into central Texas. The primary hazards included large hail and severe non-tornadic winds. Further instances of large hail and damaging wind gusts occurred across the Carolinas on May 1 before the front exited off the East Coast.

May 1 - 2

As the previous system departed the United States, a second disturbance organized in the Rockies and Plains on May 1 – continuing a highly active period for the severe convective storm peril across the country. Throughout the day, ample moisture advected northwestward from the Gulf of Mexico toward southern and western Texas aided in a destabilizing atmosphere. The SPC issued and Enhanced Risk (level 3 out 5) for severe storms in far eastern New Mexico and western Texas.



The threat for severe storms was further enhanced by diurnal heating, abundant low-level moisture, and steep lapse rates (changes in temperature with height). U.S Surface Weather Analysis on May 1 Data: Weather Prediction Center

Steep lapse rates, which correlate to relatively colder air not far from the surface, contribute to the potential of large hail reaching the ground due to a shortened melting time while falling toward the surface.

Throughout the evening, multiple supercells across western Texas generated instances of baseball sized and larger hailstones – impacted areas included populated regions south and west of Amarillo. Additional instances of large hail impacted northern Mexico in the State of Coahuila.

A more substantial **Moderate Risk** (level 4 out 5) was delineated across southeastern Kansas and northern Oklahoma on May 2, as the shortwave trough shifted eastward, and the associated surface low-pressure system continued to strengthen.

By evening, cellular storms across western and central Oklahoma quickly congealed into a complex linear structure ahead of the approaching cold front. Subsequent supercells were sustained for a brief period prior to merging with the line of storms which hastily swept eastward. Intense updrafts and embedded rotation in several cells resulted in very large hail and brief tornadoes. A **Particularly Dangerous Situation** (PDS) Tornado Warning was issued for a tornado in Seminole County.







A third storm system in a week's time began to intensify as a wave of low pressure moved over the High Plains on May 4 – bringing another period of active severe convective storms, heavy rainfall, and critical fire weather conditions to the Southwest and Plains. The SPC highlighted a region centered along the Red River Valley in the eastern Texas Panhandle and eastward along the Texas and Oklahoma border and into central Oklahoma for a **Moderate Risk** (level 4 out 5) for SCS on May 4, surrounded by a broader swath of Enhanced Risk (level 3 out 5). Throughout the day an area of heavy rainfall and embedded thunderstorm activity associated with a warm front lifting through the region evolved across Oklahoma and continued northeastward.

Concurrently, a destabilizing atmosphere was present in the warm sector (south of the warm front), where severe storms were triggered in the vicinity of the triple point (the intersection point of frontal boundaries which favors thunderstorm development) and an approaching dry line.

A particularly bad situation unfolded in central Oklahoma and northwestern Texas where multiple supercells produced confirmed tornadoes and very large hail throughout the evening. Pottawatomie and Seminole Counties in Oklahoma incurred storm damage for the second time in a week and were among





the most heavily impacted. In Texas, a robust supercell in Foard and Wilbarger Counties prompted a **Particularly Dangerous Situation** (PDS) tornado warning as the rotation neared the Town of Lockett.

Furthermore, 24-hour radar estimated rainfall totals exceeding 5 to 9 in (125 to 230 mm) in western Oklahoma, prompted the NWS to issue a top tier **Flash Flooding Emergency** for Okmulgee County in the early morning hours of May 5.

The threat for SCS shifted eastward into the Southern Plains and Lower Mississippi Valley on May 5, where an evolving convective system and vigorous thunderstorm activity resulted in multiple tornado warnings and triggered flash-flooding across east-central Texas and Arkansas. Repeating thunderstorms in these regions produced rainfall rates which exceeded 1 to 2 in (25 to 50 mm) per hour. A confirmed tornado was reported in Texas in Rusk County.

Event Details

April 28 - 30

On April 28, hail reaching 2.0 in (5.1 cm) fell in parts of Phillips and Sedgwick Counties in **Kansas**, Furnas County in **Nebraska**, and Moody County in **South Dakota**. Minor hail damage to roofing and shingles were noted in the most affected regions. A wind gust of 80 mph (128 kph) in Nebraska resulted in tree damage and power outages in Cuming County.

On April 29, a preliminary tally of 14 tornadoes were confirmed across **Nebraska** and **Kansas** alone: EF3 (1), EF1 (8), EF0 (5). As of this writing, no fewer tha 187 instances of severe weather were reported across the United States on April 29, of which 64 were for hail.

In **Kansas**, exceptional damage was incurred in portions of Sedgwick and Butler Counties, west of Wichita, due a powerful EF3 tornado which struck in the evening of April 29. The tornado touched down around 8:10 PM (local time) and tracked nearly 13 mi (21 km), obtaining maximum wind speeds of 155 mph (250 kph). Considerable damaged resulted across the densely populated suburb of Andover, where homes were knocked from their foundations and entire sub-divisions were impacted. The City Hall, YMCA building, and an Elementary School were among the damaged structures. Localities southeast of Highway 54 and Andover Road, and east of 13th street in northeast Andover were among the hardest hit.



Preliminary surveys indicated no less than 1,074 structures were impacted to varying degrees – of which 300 to 400 were destroyed. At least 15,000 customers in the region lost electricity, and at least three injuries were directly related to the tornado - with additional injuries reported during recovery efforts. Immediately following the storm, the Governor enacted a State of Disaster Emergency Declaration to



further assist affected communities. Subsequently, the same supercell which spawned the Andover tornado produced an additional EF1 tornado in a rural region of Butler County, near Rosalia.

Previously, the City of Andover was notably impacted by a catastrophic F5 tornado in April 1991, which tracked slightly west of the April 2020 EF3 and resulted in 17 fatalities.

During the same period, large hail greater than 2.0 in (5.1 cm) pelted localities in Kansas and Nebraska. Softball size and larger hail, 4.0 in (10.1 cm), were observed in Kearney County in Nebraska, near Axtell, and in Dickinson County in Kansas, near Enterprise. Concurrently, severe non-tornadic winds resulted in exterior damage to property and outbuildings, downed trees, and toppled utility poles regionwide. In



Tornado damage near Andover, Kansas Source: NWS-DAT

Nebraska, a 91 mph (146 kph) wind gust was measured in Thayer County.

Furthermore, a tragic traffic accident in Oklahoma which resulted from a hydroplaning vehicle led to the death of three meteorology students returning from a scientific storm chasing outing.

In **Missouri**, hailstones reaching 2.0 in (5.1 cm) were observed in Sainte Genevieve and Madison Counties on April 30. In **Illinois**, minor tornadic and straight-line wind damage was incurred in central and northern parts of the state following multiple rounds of storms throughout the day.

May 1 - 2

On May 1, supercells in western **Texas** resulted in baseball size and larger hailstones accompanied by severe winds – while bringing localized beneficial rainfall to the drought-stricken region. Hail reaching 2.75 in (7.0 cm), baseball size, were reported in Brown, Deaf Smith, Hockley, Lea, Lynn, Pecos, Potter, and Yoakum Counties. In Deaf Smith County, wind driven hail resulted in damage to property, siding, and electrical infrastructure near Herford. The same cell continued to produce damaging hail into portions of Randall and Potter Counties, south and west of Amarillo – which included dented vehicles and busted windshields. In Scurry County, a brief EF2 tornado damaged a home, RV park, and vehicles near Hermleigh. A wind gust of 86 mph (138 kph) was recorded in Potter County near Valley de Oro. In **New Mexico**, hailstones approaching 2.5 in (6.3 cm) were reported in Lea County.



On May 2 severe weather targeted parts of southern **Kansas**, **Oklahoma**, and **Nebraska**. In **Oklahoma**, hailstones approaching and exceeding 2.0 in (5.1 cm) fell in Blaine, Grady, Kingfisher, and Seminole Counties. Giant hailstones, softball size and larger, pelted communities in Seminole County, near



Seminole. Additionally, impacts in Pottawatomie and Seminole Counties were incurred from strong winds and a likely brief tornado associated with a robust supercell. Elsewhere, localities in Blaine and Caddo Counties reported notable property, vehicular, and structural damages in the wake of the storms.

May 4 – 5

On May 4, structural damage, downed trees, and debris covered roadways were reported in parts of Seminole and Pottawatomie Counties in **Oklahoma**, following a pair of dangerous supercell storms – particularly in the Towns of Seminole and Earlsboro. The Academy of Seminole was among the damaged buildings. A minimum of 14,000 customers across the state lost electricity – a majority of whom resided in Seminole County.

Further northeast, torrential rainfall resulted in widespread flash-flooding in localities south of Tulsa. A Flash Flooding Emergency was enacted in Okmulgee County, where several homes were evacuated, and roadways were inundated and impassable. Additional water rescues and evacuations occurred in parts of **Arkansas** (near Fayetteville) and in **Missouri**.



In **Texas**, significant property and structural damage occurred near the rural Town of Lockett as a confirmed tornado turned northward and impacted the region on May 4. Damage surveys remained ongoing, however multiple homes and outbuildings suffered major damage. Several injuries were reported. Hailstones 2.0 in (5.1) or larger were observed in Cottle, Kinney, and Dickens Counties. On May 5, multiple injuries were reported at an RV park in Rusk County following an observed tornado.

As of this writing, severe weather remained ongoing in parts of the Southern Plains and Lower Mississippi Valley. If necessary, updates will be provided in future Weekly Cat Reports.

Financial Loss

While the progressive weather pattern across the central United States between April 28 – May 5 generated enhanced severe convective storm activity, the months of April to June are historically the peak season for severe weather and tornadoes in the Southern and Central Plains. Total economic and insured losses from the most recent episodes of severe weather across the United States in the past week were each individually expected to reach well into the hundreds of millions (USD). Damage surveys remained ongoing. Through the end of April, total 2022 U.S. SCS insured losses topped USD6 billion.



Natural Catastrophes: In Brief

Flooding (Guadeloupe)

Exceptional rain hit the Caribbean Island of Guadeloupe on April 30, resulting in notable material damage and casualties. Multiple flood and landslide events occurred after rainfall accumulation over a 12-hour period exceeded 300 mm (11.8 in) in some localities, breaking several rainfall records from the passage of Hurricane Lenny in November 1999, according to local meteorological institute (Météo France). At least two people died, and one person remains missing. Dozens of roads were inundated, power outages were reported, and houses and vehicles were damaged. Firefighters rescued at least 35 people during 61 interventions, according to local government. Total economic damage is expected to be in millions (USD). Damage assessments remained ongoing.

Flooding (Venezuela)

Severe flooding and landslides associated with recent heavy rain affected several states of Venezuela since mid-April, particularly Anzoátequi, Caracas, Mérida, and Zulia States. As of this writing, at least 560 houses and dozens of roads collapsed throughout the most affected area. Thousands of families were affected and at least one fatality was caused by flooding, according to local authorities. The Venezuelan government announced the activation of special fund totalling \$2.2 million to assist with the impacts caused by the rains.

Severe Convective Storm (Puerto Rico)

Severe thunderstorms across north-central Puerto Rico spawned an EF1 tornado which impacted the City of Arecibo on May 1. The brief tornado obtained maximum estimated wind speed topping 100 mph (160 kph). This was the first instance of a confirmed tornado in the City of Arecibo since reliable records began in 1950. The tornado resulted in major damage to a Thermo King warehouse, at least 26 homes, and impacted dozens of additional structures. Snapped tree limbs and hundreds of power outages were observed in the local area.

Flooding (Tanzania)

Parts of southern Tanzania have been affected by heavy rains and subsequent flooding since late April. Among the worst affected regions were Mbeya and Songwe. According to preliminary information from the local Red Cross organization, at least five people were killed and five went missing. Assessments cited 400 damaged homes and another 300 destroyed. Additional impacts were noted on agriculture, as more than 10,000 ha (25,000 acres) were affected.

Severe Convective Storm (Nigeria)

A severe windstorm hit several villages in the Taraba State, southeastern Nigeria, on April 30. Strong winds resulted in property damage and casualties, while at least 300 houses were destroyed and seven people lost their lives under collapsed buildings, according to media and the National Emergency Management Agency (NEMA).



Tropical Storm Jasmine (Madagascar)

Jasmine formed northwest of Madagascar on April 21 and later tracked through the Mozambique Channel, until making landfall in southwestern Madagascar on April 26. Jasmine became the 6th named storm to make landfall in Madagascar during the current season, breaking the previous record established during the 1993/1994 season. Districts of Toliara I, Betioky Atsimo, Morombe, Ampanihy Andrefana and Benenitra, located in the Atsimo-Andrefana region, were affected by heavy rain and strong winds. Preliminary assessments indicated five fatalities and several hundred homes impacted, while at least seven people remained missing.

Flooding (Spain)

Parts of Spain experienced very heavy rainfall and hailstorms, associated with flooding on May 3-4. In the Valencia region, which was the hardest hit, a nearly stationary storm brought rain accumulation which topped 200 mm (7.9 in) in a 24-hour period across several localities, according to the regional meteorological institute (AVAMET). A total of 144 interventions were carried out by local police and fire brigades, rescuing dozens of people trapped in flooded vehicles and buildings. Fortunately, no injuries or fatalities were initially reported. Local public transport was interrupted by closed roads and suspended rail services. Multiple incidents and interventions related to heavy rain and hail were reported elsewhere in the region, including parts of the capital, Madrid. Damage from the larger hail, which exceeded 3 cm (1.2 in) in diameter, contributed to the total material damage. In neighbouring Murcia, extensive hail damage to the regions Apricot crop was incurred on May 2. Total economic damage was expected to be in the millions (USD).

Update: Heatwave (India)

The ongoing heatwave in India led to another record hottest April in 2022. Maharashtra in western India reported at least 25 fatalities due to heat stroke since late March. In addition to wheat damages, the country's electricity grid was strained by increased demand and a shortfall of coal. India Railways cancelled more than 750 passenger trains to enable more transport of coal rakes around the country. The current electricity shortage was the worst in at least six years; any further deterioration of the conditions is likely to pose a major health concern.

Flooding (United States & Canada)

Abundant rainfall, seasonal snow melt, and ice jams have contributed to significant flooding in parts of the Upper Midwest in the United States and Manitoba in Canada since mid-April 2022. Expanses of the Red River Valley in this region have recorded 400 to 600 percent or normal precipitation since early April. In Canada, 18 communities declared a local state of emergency due to flooding as of May 2. Provincial officials reported inundated roadways, flooded properties, and damages to agricultural operations and infrastructure. In several instances, homes were evacuated. In the United States, various rivers crested at the highest, major flood stage, in both North Dakota and Minnesota. A State of Emergency was declared in Minnesota on April 24. In North Dakota, Flood Emergencies were in place along the Sheyenne, Maple, and Pembina Rivers. The Town of Neche was isolated by flooding on May 2. Water levels were anticipated to remain high in the coming days. Damage assessments remained ongoing, however total economic losses were expected to reach well into the millions (USD).





Global Temperature Anomaly Forecast

Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA





Global Precipitation Anomaly Forecast

Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA





Weekly Sea Surface Temperature (SST) Maps (°C)



El Niño-Southern Oscillation (ENSO)

Overview

La Niña conditions are likely to continue into the Northern Hemisphere summer. NOAA cites a 59 percent chance of La Niña conditions persisting during the June-August timeframe, and a 50-55 percent chance of transitioning to ENSO neutral conditions into the early fall.



Probabilistic ENSO Model Projections: April 2022

El Niño: Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.

La Niña: Cool phase of an ENSO cycle. Sea surface temperatures of -0.5°C occur across the east-central equatorial Pacific.

Neutral: A period when neither El Niño nor La Niña conditions are present.

El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5 °C (-0.5 °C). This is known as the Oceanic Niño Index (ONI).



Global Tropics Outlook



Source: Climate Prediction Center (NOAA)



Current Tropical Cyclone Activity



* TD: Tropical Depression, TS: Tropical Storm, HU: Hurricane, TY: Typhoon, CY: Cyclone

** N: North, S: South, E: East, W: West, NW: Northwest, NE: Northeast, SE: Southeast, SW: Southwest

Source: National Hurricane Center, Joint Typhoon Warning Center, Central Pacific Hurricane Center (NOAA)



Global Earthquake Activity (≥M4.0): April 29 - May 5



Source: United States Geological Survey



U.S. Hazard Outlook



Made: 05/05/2022 3PM EDT

www.wpc.ncep.noaa.gov

- A series of shortwave disturbances pivoting around a broader upper-level trough will result in heavy mountain snow and lower elevation rainfall across the Cascades and Sierras on May 8-9. Heavy snow is also expected in the Northern Rockies.
- High winds will impact the Southwest, Great Basin, and Rockies on May 8-9. Windy and dry conditions will lead to enhanced fire weather in parts of New Mexico and Texas during the same period.
- An upper-level ridge will aid in summer-like warmth across the central United States, with excessive heat likely in the Central and Southern Plains between May 8-10.
- The potential for severe weather exists across Iowa and Minnesota on May 9. Farther east, an upperlevel Iow lingering offshore will result in high winds from the Carolinas into New Jersey on May 8-9.

Source: Weather Prediction Center (NOAA)





U.S. Wildfire: Significant Fire Risk Outlook & Activity

Annual YTD Wildfire Comparison: May 5

Year	Number of Fires	Acres Burned	Acres Burned Per Fire
2018	19,085	1,411,115	73.94
2019	11,031	213,731	19.38
2020	12,897	262,569	20.36
2021	19,459	527,025	27.08
2022	22,693	1,265,214	55.75
10-Year Average (2012-2021)	16,609	711,666	42.85

Top 5 Most Acres Burned by State: May 5

State	Number of Fires	Acres Burned	Acres Burned Per Fire
Texas	4,047	446,254	110.27
New Mexico	194	324,014	1,670.17
Oklahoma	962	168,029	174.67
Kansas	50	57,938	1,158.76
Mississippi	1,256	42,781	34.06

Source: National Interagency Fire Center



U.S. Current Riverine Flood Risk



 $A \ge 99^{th}$ percentile indicates that estimated streamflow is greater than the 99th percentile for all days of the year. This methodology also applies for the other two categories. A steam in a state of severe drought has 7-day average streamflow of less than or equal to the 5th percentile for this day of the year. Moderate drought indicates that estimated 7-day streamflow is between the 6th and 9th percentile for this day of the year and 'below normal' state is between 10th and 24th percentile.

Top 5 Rivers / Creeks: Highest Percentile for Water Height

Location	Current Stage (ft)	Percentile
Red River of the North at Grand Forks, North Dakota	43.58	99.15
Pembina River at Neche, North Dakota	21.49	99.13
Little Fork River at Littlefork, Minnesota	15.64	99.01
James River at Galena, Missouri	18.74	99.00
Wild Rice River at Twin Valley, Minnesota	7.81	98.92

Source: United States Geological Survey



Source Information

United States: Severe Convective Storms

U.S. National Weather Service U.S. Storm Prediction Center U.S. Weather Prediction Center Poweroutage.US Tornado rips through Kansas; 3 students killed in crash, *Associated Press* Ferocious tornado strikes Andover, Kan., causing severe damage, *The Washington Post* Huge hail, high winds pummel the Panhandles on May 1, *ABC 7 News* Extensive Tornado Damage Reported in Parts of Texas, Oklahoma; Flooding Forces Evacuations in Arkansas, *The Weather Channel*

Natural Catastrophes: In Brief

Floods in the Pointoise agglomeration, *Guadeloupe Government* Exceptionally heavy rainfall hits Guadeloupe, triggering deadly floods and landslides, *The Watchers* U.S National Weather Service Rare tornado touches down in Puerto Rico, jolts residents, *AccuWeather* National Emergency Management Agency (NEMA) Windstorm Wreaks Havoc In Taraba, Kills 7 Children, Destroys 300 Houses, *Daily Trust* Jasmine in Madagascar: 5 dead, 7 missing and 2,246 victims. Temoignages Floodlist Valencia's meteorological institute (AVAMET) European Severe Weather Database (ESWD) 25 heat stroke deaths in Maharashtra, most in 6 years. *Times of India* Manitoba Government – Canada



Contacts

Steve Bowen Managing Director Head of Catastrophe Insight steven.bowen@aon.com

Brian Kerschner Senior Catastrophe Analyst brian.kerschner@aon.com

Ondřej Hotový Catastrophe Analyst ondrej.hotovy@aon.com Michal Lörinc Senior Catastrophe Analyst michal.lorinc@aon.com

Jin Zheng Ng Senior Catastrophe Analyst jin.zheng.ng@aon.com



About Aon

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions. Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

© Aon plc 2022. All rights reserved.

The information contained herein and the statements expressed are of a general nature and are not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information and use sources we consider reliable, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

Copyright © by Impact Forecasting®

No claim to original government works. The text and graphics of this publication are provided for informational purposes only.

While Impact Forecasting[®] has tried to provide accurate and timely information, inadvertent technical inaccuracies and typographical errors may exist, and Impact Forecasting[®] does not warrant that the information is accurate, complete or current. The data presented at this site is intended to convey only general information on current natural perils and must not be used to make life-or-death decisions or decisions relating to the protection of property, as the data may not be accurate. Please listen to official information sources for current storm information. This data has no official status and should not be used for emergency response decision-making under any circumstances.

Cat Alerts use publicly available data from the internet and other sources. Impact Forecasting[®] summarizes this publicly available information for the convenience of those individuals who have contacted Impact Forecasting[®] and expressed an interest in natural catastrophes of various types. To find out more about Impact Forecasting or to sign up for the Cat Reports, visit Impact Forecasting's webpage at impactforecasting.com.

Copyright © by Aon plc. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise. Impact Forecasting[®] is a wholly owned subsidiary of Aon plc.