

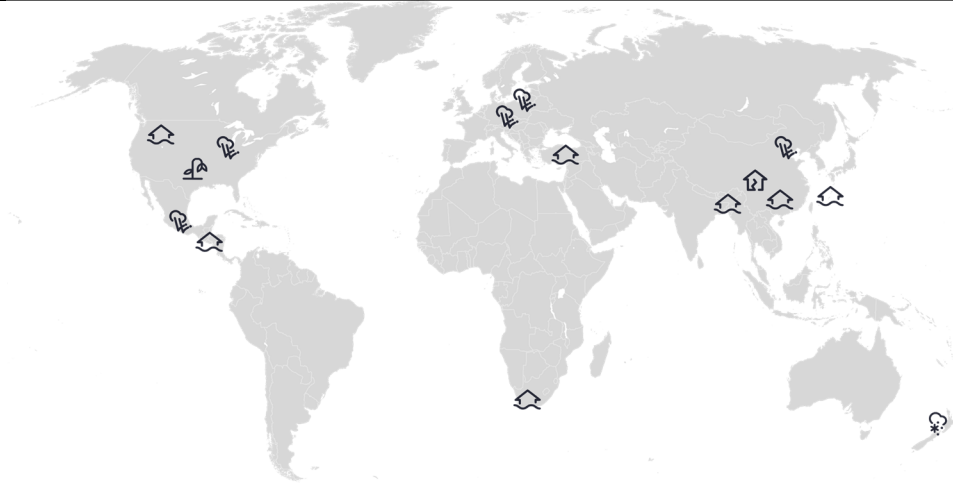
AON

Weekly Cat Report

June 17, 2022



Executive Summary



Event	Affected Region(s)	Fatalities	Economic Loss (\$)	Page
Severe Convective Storm	United States	1+	100s of millions	3
Flooding	China	12+	100s of millions	8
Severe Convective Storm	China	3+	100s of millions	10
Earthquakes	China	0	Millions	12
Flooding	India & Bangladesh	8+	Negligible	12
Winter Weather	New Zealand, Australia	1+	Negligible	12
Flooding	Japan	0	Unknown	12
Severe Convective Storm	Central & Southeastern Europe	2	Millions	13
Severe Convective Storm	Mexico	0	Unknown	13
Flooding	United States	0	Millions	13
Heatwave	United States	0	Unknown	13
Severe Convective Storm	Czech Republic	0	Negligible	14
Flooding	Turkey	5+	Unknown	14
Flooding	South Africa	0	Unknown	14
Flooding	El Salvador	6+	Unknown	14

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: <http://catastropheinsight.aon.com>

United States: Severe Convective Storm

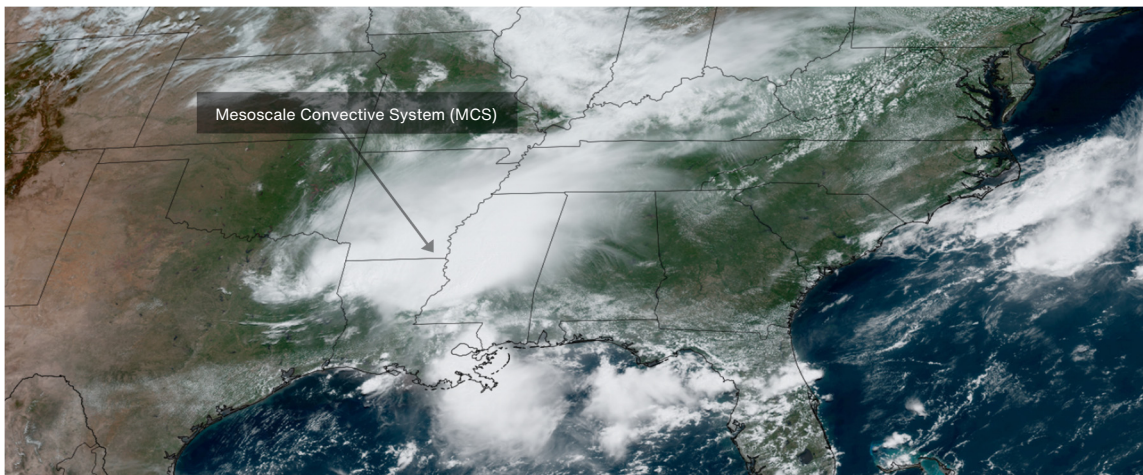
Overview

The period between June 9-16 continued a stretch of nearly daily notable severe convective storm (SCS) outbreaks across the United States amid record breaking heat. On June 13, multiple convective complexes, including a derecho, resulted in a wide swath of significant straight-line wind and localized hail damage spanning from the Midwest into the Appalachians. On June 15, tornadoes and strong winds evolved across central Wisconsin and generated losses to property and infrastructure. Total economic and insured losses were each individually expected to be in the hundreds of millions (USD).

Meteorological Recap

June 9-10

Severe storms across the Central / Southern Plains and Lower Mississippi Valley / Central Gulf Coast between June 9-10 were associated with a south-eastward moving wave of low pressure and warm frontal boundary. The Storm Prediction Center (SPC) issued an **Enhanced Risk** (level 3 out of 5) for severe weather in south-eastern Arkansas, western Mississippi, and Louisiana on June 10. Storms which initiated across the Plains organized into a Mesoscale Convective System (MCS) which evolved toward the Gulf Coast by June 10. The primary hazards included damaging wind, large hail, and localized flooding – particularly in parts of southern Louisiana.



Visible satellite imagery of a convective complex nearing the Gulf Coast on June 10

Source: NOAA/RAMMB

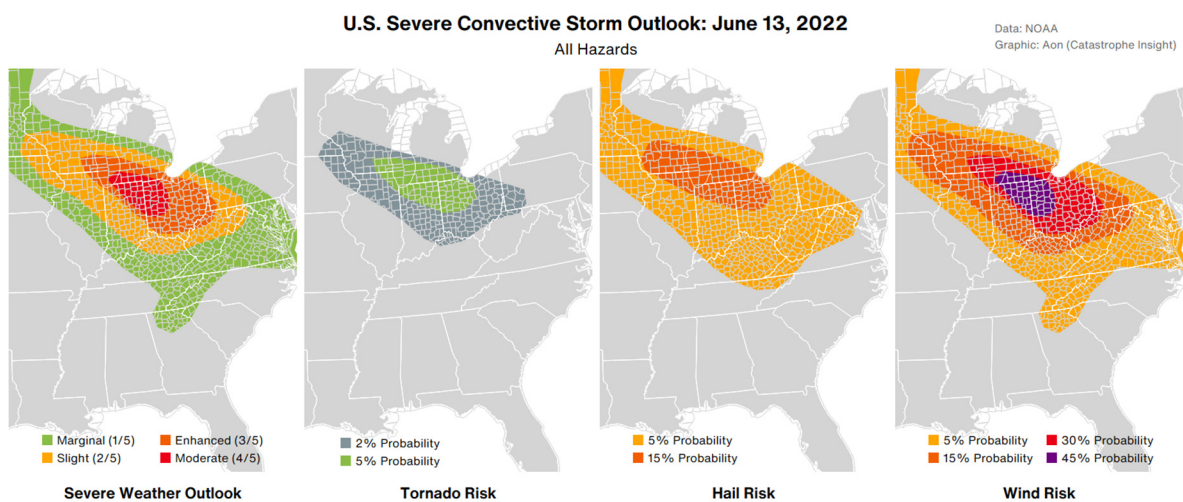
June 11 -12

A series of upper-level disturbances and frontal systems amid a progressive weather pattern continued nearly daily SCS outbreaks across the central United States between June 11-12. On June 11, an **Enhanced Risk** (level 3 out of 5) for severe weather was delineated across a corridor in Nebraska, Kansas, Iowa, and Missouri. A **Particularly Dangerous Situation** (PDS) tornado warning was issued for parts of Marshall County in Kansas as a convective complex / supercell moved across the region. On June 12, an

Enhanced Risk (level 3 out of 5) was issued in the north-central High Plains – where instances of damaging straight-line winds and very large hail occurred.

June 13

A regional severe weather outbreak occurred in the vicinity a quasi-stationary frontal boundary along the northern periphery of an anomalous and record-breaking heat dome on June 13. The SPC upgraded a corridor across lower Michigan, northern Indiana, and north-western Ohio to a **Moderate Risk** (level 4 out of 5) for SCS – encompassing nearly 3.5 million people. This was surrounded by a broader swath of **Enhanced Risk** (level 3 out of 5).



The volatile environment was characterized by ample wind shear (change in wind speed and or direction with height) along with strong diurnal heating and warm air advection associated with a persistent low-level jet. Storms in the Midwest evolved in a region of very high CAPE or Convective Available Potential Energy (which is directly related to updraft strength in a thunderstorm) across southern Wisconsin and northern Illinois. A supercell which moved through the Chicagoland region prompted a **Tornado Warning** which included no fewer than 3 million people. A subsequent derecho, defined as a widespread and long-lived windstorm, continued to push through Michigan, Indiana, and Ohio while producing hail and wind gusts topping 65 to 75 mph (105 to 120 kph).

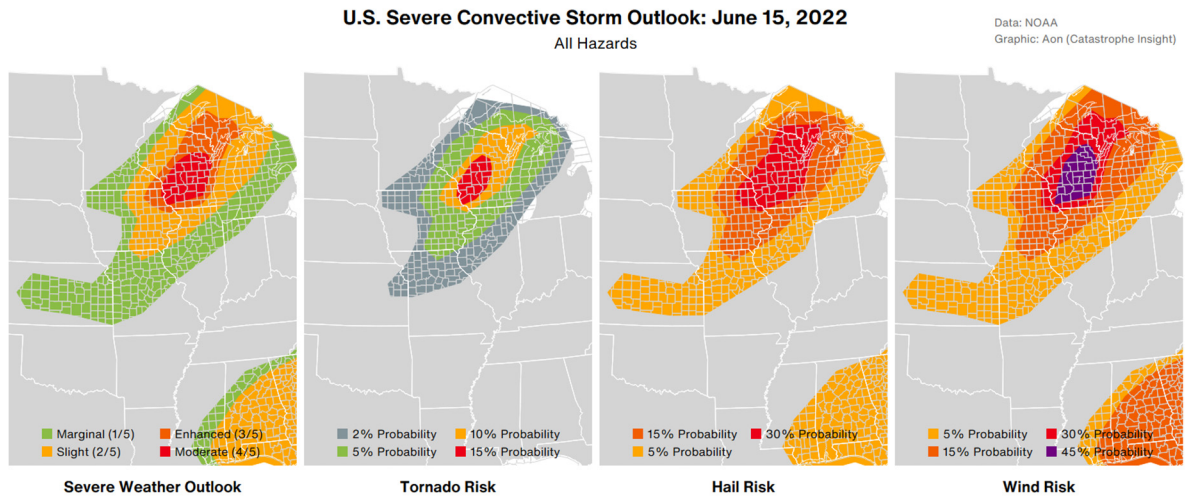
Concurrently, multi-clustered severe storms in central Indiana organized into an MCS while traveling east-southeastward toward the Appalachians, producing a swath of damaging wind gusts. A third cluster of SCS occurred ahead of an amplifying trough in the Rockies. These storms resulted in instances of damaging winds and large hail in the Northern Plains.

June 14-16

By June 14, reinvigoration of remnant MCS activity resulted in instances of damaging straight-line winds in the Southeast. Additional supercells caused impacts in Nebraska and Iowa.

A notable threat for SCS returned to the Upper Midwest and Great Lakes on June 15, ahead of a well-defined cold frontal boundary. The SPC issued a **Moderate Risk** (level 4 out of 5) for severe weather anchored across central and southern Wisconsin. All severe weather hazards were of a concern in this

region due to a strong low-level jet, favorable surface dewpoints, and steep mid-level lapse rates (change in temperature with height). By the late afternoon and evening, a rapidly organizing line of convection with embedded super cellular structures evolved across Wisconsin. A **Particularly Dangerous Situation** (PDS) tornado warning was issued for portions of Monroe, Juneau, and Adams Counties.



Event Details

June 9-10

Severe storms which tracked from the Central and Southern Plains toward the Gulf Coast generated reports of damaging winds and large hail on June 9-10. Impacts included toppled trees and utility lines, and damaged structures and crops. Hailstones approaching and exceeding 2.0 in (5.1 cm) fell in **Nebraska** and **Kansas**, including 2.5 in (6.4 cm) hail reported in Lincoln County in Nebraska.

Torrential rainfall resulted in flash-flooding across east New Orleans, where 48-hour totals topped 5.0 to 6.0 in (125 to 150 mm) through the evening of June 10 were measured. No fewer than 23,000 customers in Louisiana lost electricity. Multiple roadways were inundated or impassable, trapping motorists and prompting water rescues.

June 11-12

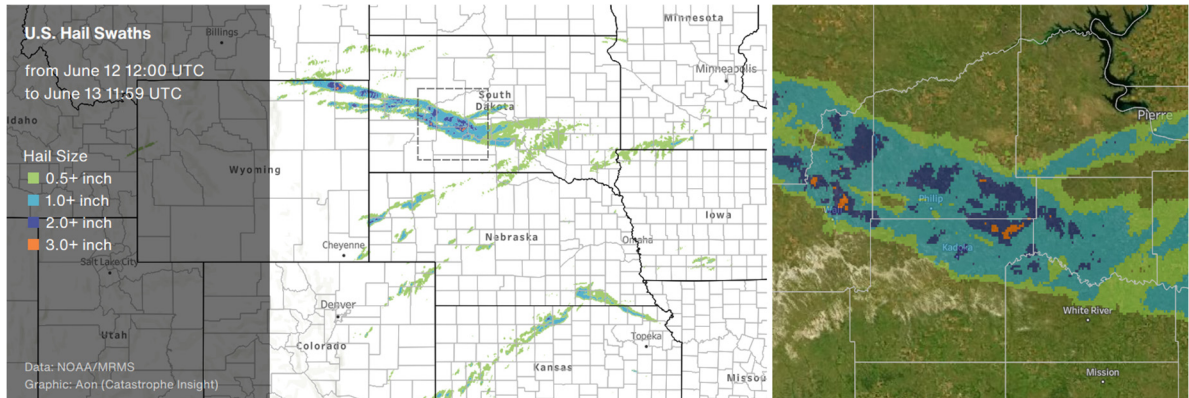
A supercell in eastern **Nebraska** and **Kansas** generated tornadoes, large hail, and severe straight-line winds approaching 90 to 100 mph (145 to 160 kph) on June 11. In **Nebraska**, hail reaching 5.0 in (12.7 cm) pelted localities in Gage County. The storm spawned at least four EF1 tornadoes in parts of Gage County in Nebraska, and Marshall and Pottawatomie Counties in Kansas which downed trees, destroyed outbuildings, tore off roofs, and flipped train cars. In Riley County (Kansas), preliminary surveys conducted by emergency management teams noted at least 20 properties with major damages and three



Wind damage in Riley County, Kansas
Source: Riley County Emergency Management

destroyed near the Town of Manhattan - including two sorority houses east of Kansas State University. Elsewhere, hail reaching 2.0 in (5.1 cm) were reported in Butte and Meade Counties in **South Dakota**.

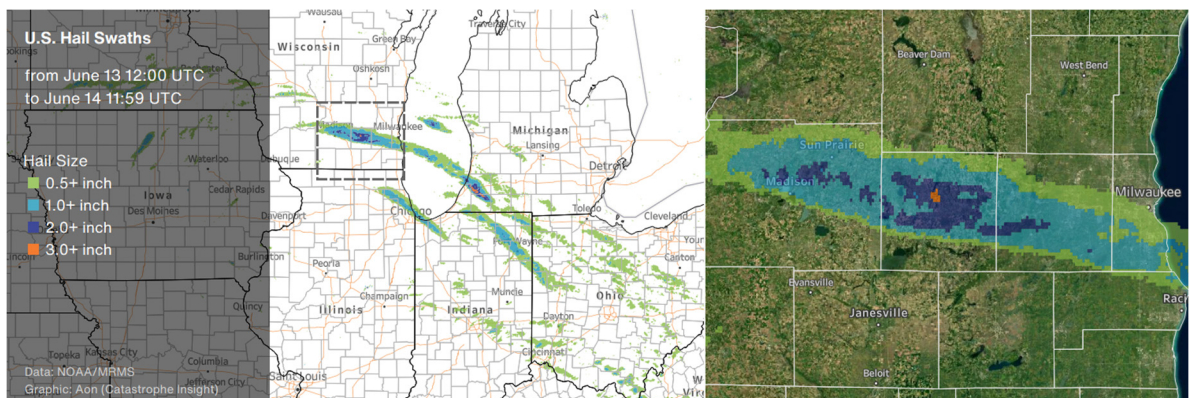
On June 12, instances of large hail were observed in similar regions of **South Dakota** for a second consecutive day. Hail greater than or equal to 2.0 in (5.1 cm) were reported in Butte, Lawrence, Meade, and Pennington Counties, while softball to grapefruit size hail fell in Butte and Pennington Counties. Wind driven hail damage to vehicles, roofs, and vegetation occurred across rural regions of the state.



June 13

A pair of significant SCS complexes left no fewer than 600,000 customers across the central and eastern United States without electricity through the morning of June 14 – of which at least 370,000 outages were in Ohio alone. The long-lived storm complexes resulted in swaths of wind damage spanning from Wisconsin into the western Carolinas on June 13. Throughout the entire path, storms toppled hundreds of trees, damaged and destroyed outbuildings and homes, and inundated roadways. As of this writing, no fewer than 368 filtered instances of severe winds were reported across the contiguous United States on June 13, according to data from the SPC.

In **Wisconsin**, a discrete cell pelted localities between Madison and south of Milwaukee with large hail on June 13. Hail approaching and exceeding 2.0 in (5.1 cm) were measured in parts of Dane and Jefferson Counties. As of this writing, one fatality was confirmed and two people remained missing in the state.

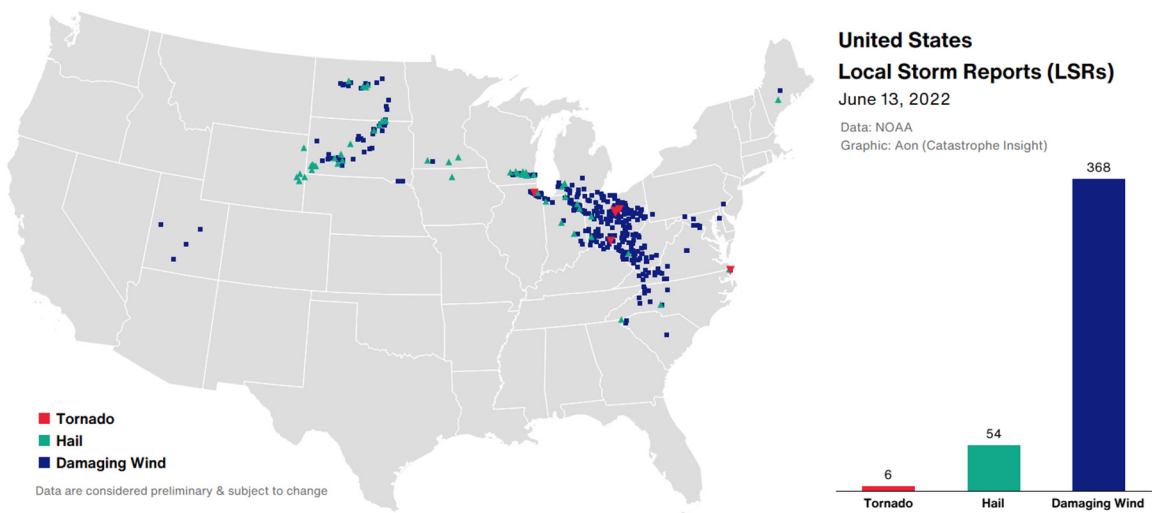


In **Illinois**, a wind gust of 84 mph (135 kph) was recorded at Chicago O'Hare International Airport. Swaths of damage were noted in nearby heavily populated regions, and included roofs torn from homes. In Cook County, the roof of a three-story apartment building in the Chicago suburb of Bellwood was torn off,

displacing 18 families and causing two injuries. Notable travel disruptions were incurred at both O’Hare and Midway airports. An EF0 tornado was confirmed in the suburb of Schaumburg. In **Indiana**, a record wind gust of 98 mph (158 kph) was measured at the Fort Wayne Airport on June 13 – surpassing the previous record of 91 mph (146 kph) set in 2012. Multiple structures and hangars at the airport were damaged.

In **Ohio**, a non-tornadic wind gust of 75 mph (120 kph) was felt in Putnam County near Belmore. A vast portion of the state was affected by severe winds which downed trees and utility lines and caused significant damage to infrastructure, homes, and vehicles.

Further west, an exceptional straight line wind gust of 120 mph (193 kph) occurred in **South Dakota’s** Edmunds County. Additionally, hail reaching 4.0 in (10.1 cm) were observed in Fall River County.



June 14-16

No less than 110,000 customers in **Wisconsin** lost electricity on June 15 in the wake of severe weather. Throughout central Wisconsin storms toppled numerous trees and power poles, and damaged multiple buildings and vehicles. Damage assessments remained ongoing as of this writing. In Juneau County, damages included flipped trailers, blown off roofs, and an impacted hospital near the Town of Mauston. Nearby, storms prompted the temporary closure of a section of Interstate 90/94. Flash-flooding caused additional impacts in south-eastern parts of the state, where several inches of rainfall fell in a short period of time.

As of this writing, the threat of severe weather remained ongoing in the Eastern U.S. If necessary, updates will be provided in future Weekly Cat Reports.

Financial Loss

Total economic and insured losses from the stretch of severe weather between June 9-16 were each individually anticipated to reach into the hundreds of millions (USD).

China: Flooding

Overview

An additional round of torrential rainfall battered southern China on June 12-16. Earlier, many areas in southern China experienced widespread flooding due to continuous heavy rain. According to the China Meteorological Administration, total precipitation between May 1 and June 8 in Guangxi was the highest since 1979. The current bout of rainfall was expected to bring about renewed riverine flooding with significant economic losses reaching well into the hundreds of millions (USD); if not higher.

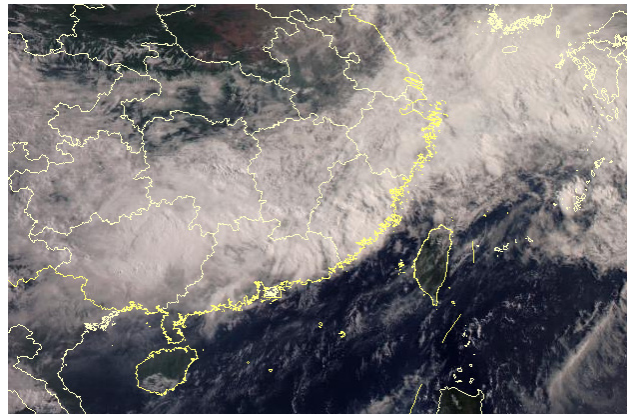
Meteorological Recap

June 9-11

The convergence zone was mainly confined to the southeastern fringes, with more intense spells of rain falling over Fujian, Guangdong, and Guangxi. More than 275 mm (10.8 in) rainfall fell over southeastern Guangxi on June 9, triggering deadly landslides.

June 12-14

A cold air mass associated with the northeast cold vortex descended from the north and gradually intensified the rain belt. Low-level moisture, brought about by the ongoing southwest monsoon and hovering subtropical high in the northwest Pacific, continued to sustain thunderstorm activity. The lack of tropical cyclones in the western Pacific this season also contributed to the concentration of moisture along the convergence line, as the flow was not diverted. Both the Han River and Xi River were flooded on June 13 as waters rose above regulated levels.



Long stretch of rain belt along southeast China on June 13

Source: Fengyun-4A

Event Details

At least 37 rivers were above their alert levels. Landslides led to at least nine fatalities in **Guangxi**. Two villages along coastal Beihai were severely inundated with flood above 2 m (6.6 ft). More than 130,000 consumers in Guigang were affected by power cuts on June 13. Railway services in **Fujian** were partially suspended on June 14. Over 90,000 households experienced electricity disruption, and close to 85,000 people were evacuated. A collapsed house killed three in Yongan city. Schools in parts of Fujian and Guangxi were closed.

Ganzhou, located in **Jiangxi** just east of Fujian, had severe flooding where no less than 101,000 people were evacuated. Rainfall topped 294 mm (11.6 in) and schools had to be closed. Saturated soils caused rail sections between Ganzhou and Longyan, Fujian, to fail. Floodwaters also submerged more than 10,000 ha (25,000 acres) of cropland in **Hunan**.



Flood in Wuzhou, Guangxi and Heyuan, Guangdong

Source: China Meteorological Administration (left) & Ministry of Emergency Management (Right)

Financial Loss

Floods in Jiangxi from May 28 to June 14 resulted in economic loss of CNY3.15 billion (USD470 million). Longyan city also estimated damages exceeding CNY600 million (USD90 million) between June 5 to June 13. Heavy rain during the month of May resulted in direct economic loss of CNY5.09 billion (USD760 million). With the rainy season forecast to continue, total flood losses for June were expected to accelerate.

China: Severe Convective Storm

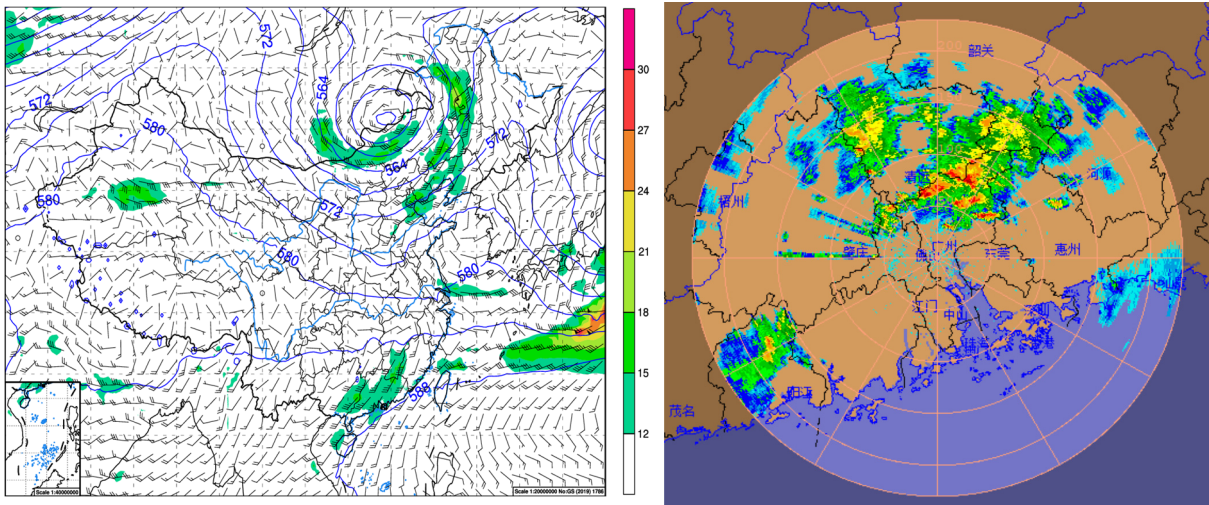
Overview

A stationary northeast cold vortex brought damaging hail, some as large as 5 cm (2 in), to North China on June 10-14. Extensive damages were reported on crops and properties in Beijing, Henan, Tianjin, and Inner Mongolia. Late on June 16, a tornado appeared over Conghua, an urbanized district in Guangzhou. Combined economic losses were minimally expected in the hundreds of millions (USD).

Meteorological Recap

June 10

June is typically the peak month for the hail season in China. A northeast cold vortex was developing north of Inner Mongolia late on June 10, causing hail to fall in Harqin Banner. The cyclonic features were fully formed by the next day.



850hPa wind and wind speed (m/s, colored) on June 12 00Z (left) and radar echoes in Guangzhou on June 16 12Z
Source: CMA MESO (left) and Guangzhou Weather Radar (right)

June 11-14

Beijing experienced two days of strong convective weather as the vortex continued to spin up and track slowly eastward. The capital received mainly short duration heavy rainfall on June 11. With the continual entrainment of the upper level dry and cold air, an increased thermal difference of the atmospheric column developed, making it more conducive for violent updrafts and hail formation. After lashing hail over Beijing, Hebei and Shandong received widespread hail on June 13. The vortex weakened the next day with a more disorganized outflow but brought rainy conditions to northeast China.

June 16

Guangzhou city, which had experienced days of heavy rain, recorded a tornado on June 16. The tornado struck in Conghua district, which had the highest amount of rainfall in the city since June 14. The tornado was tracking in a northeast direction.

Event Details

At least 11 districts in **Beijing** were hit by hail on June 12-13. Hail up to 5 cm (2 in) in diameter damaged cars and crops. Intense thunderstorms also fell trees and led to localized flash flooding. Seven stations in Beijing recorded above 100 mm (3.9 in) rainfall in 18 hours.

In **Hebei**, widespread hail fell over nine counties, damaging more than 66,700 ha (165,000 acres) of wheat and vegetables. Eight cities in **Shandong** experienced hail with accompanying strong winds, with a stretched shelf cloud observed over Yantai, on June 13. Three people in Inner Mongolia were killed while attempting to drive through flooded areas. Hail also struck in **Tianjin** and **Henan**, but detailed damage reports were limited.

Conghua district in **Guangzhou** was densely built. The tornado had reportedly caused damages to the Guangzhou Metro Line 14. More than 5,400 residents experienced power cuts. No one was injured at the time of this writing.



Hail covering crops in Inner Mongolia

Source: China Meteorological Administration

Financial Loss

This round of severe convective storm (SCS) left a large hail footprint in the Jingjinji Metropolitan Region, including the capital Beijing, and was on a scale larger than some of the SCS episodes in May. Hebei estimated damage of at least CNY590 million (USD88 million). In addition, the tornado in urbanized Guangzhou was expected to cause significant damages and pushed total economic losses potentially into the hundreds of millions (USD).

Natural Catastrophes: In Brief

Earthquakes (China)

Two magnitude-5.6 and magnitude-5.9 earthquakes jolted Sichuan, China on the early hours of June 10. Both strike-slip earthquakes were shallow at less than 15 km (9.3 mi) depth and situated about 53 km (32.9 mi) away from Barkam city. Sichuan Earthquake Administration activated emergency response level III dispatching no less than 1,300 rescue forces to the seismic zone. Close to 26,000 residents were evacuated. At least 260 houses were damaged with four villagers in Cao Deng Village injured. The magnitude-5.6 and magnitude-5.9 earthquakes had a 66 percent and 78 percent chance of losses exceeding the millions (USD) respectively, according to the United States Geological Survey (USGS).

Flooding (India & Bangladesh)

Torrential rainfall triggered widespread flooding in northeast India and Bangladesh on June 10-13. At least eight people died in landslides in Meghalaya and Assam, with another death reported in Tripura. Damaged houses in Meghalaya and Assam had been on the rise in subsequent days. On June 14, the Brahmaputra River in Assam rose to above the danger level. Floodwaters also submerged Sunamganj in Bangladesh, causing damage to paddy fields and concerns to clean water supplies.

Winter Weather (New Zealand & Australia)

A period of extended winter weather affected parts of New Zealand's South Island from June 10-16 which left some areas covered in heavy snow. Dozens of roads were closed. The Buller District was hit by power cuts, which affected 5,000 consumers. Power outages were also reported in western and southern Auckland in the North Island as a cold front brought strong winds, lightning, and hail to the region. Two tornadoes affected Waikanae on June 12. There were traffic disruptions which included closure of the Auckland Harbor Bridge and Westport Airport. Tasmania, Australia received low-level snow on June 11, cutting off power to 20,000 homes and killing one person.

Flooding (Japan)

The Meiyu front that caused flooding to Taiwan and China since the end of May also affected Okinawa. At least 318,000 households were advised to evacuate on May 31 as up to 110 mm (4.3 in) rainfall fell within an hour. According to Okinawa Electric Power, at least 4,000 households experienced power cuts. Flooding and landslides were reported in 11 municipalities, including Itoman city and Yaese Town which saw waters cresting to chest level.

Severe Convective Storm (Central & Southeastern Europe)

Thunderstorm activity along an extensive convergence line and a stationary frontal system associated with a low named Nana resulted in relatively minor damage in several countries in Central and Southeastern Europe on June 9-10. Impacts were caused by intense rainfall and subsequent flooding or landslides, with some additional effects noted due to hail. Most of the damage reports came from Poland, notably the Śląskie region (Silesia), as there were more than 1,600 emergency services interventions and about 10,000 power outages. Two people were killed in Albania as Shkodër and Vlorë counties were affected. Minor impacts were reported from other countries, including Hungary or Bosnia.

Severe Convective Storm (Mexico)

Severe storms and torrential rainfall impacted densely populated regions of Mexico's Federal District on June 12. Intense hail accumulated on roadways and generated notable impacts to transportation across regions near Mexico City – particularly the municipalities of Benito Juárez, Álvaro Obregón and Iztapalapa. Stranded vehicles, collapsed roofs, and downed trees were reported throughout the region.

Flooding (United States)

A robust and slow-moving Pacific storm brought a stream of exceptional moisture, high elevation snowfall, and strong winds to the northern Rockies between June 11-14. Torrential rainfall generated significant and historic flooding in parts of southern Montana and northern Wyoming – particularly near Yellowstone National Park. On June 13, the Yellowstone River at Corwin Springs crested at a record 13.88 ft (4.23 m) – reaching its highest level in 115 years of records and surpassing the previous record of 11.5 ft (3.5 m). The flooding prompted authorities to close all entrances to Yellowstone on June 13, and thousands of visitors were evacuated. In Montana, the town of Gardiner was isolated by floodwaters. Regionwide, extensive impacts were incurred to roadways, bridges, and water and power infrastructure. At least 200 homes were inundated by flooding in the towns of Red Lodge and Fromberg. Total economic damage to property and infrastructure was estimated well into the millions (USD).

Heatwave (United States)

An anomalous dome of high pressure, colloquially known as a heat dome, generated near to record breaking warmth, enhanced wildfire conditions, heightened drought concerns, and stifling heat indices across vast regions of the southern and central United States as it evolved from the Desert Southwest into the Plains / Southeast between June 10-16. By June 13, nearly 120 million people were impacted by Heat Advisories or Excessive Heat Warnings in the central and south-eastern U.S. Chicago's Midway Airport reported a reading of 100°F (37.8°C) on June 14 – their hottest day since 2012. In Ohio, a record dewpoint of 84°F (28.8°C) was reported on the same day in Columbus. The early season heat resulted in numerous hospitalizations, while adding further stress to crops and livestock and increasing energy demands.

Severe Convective Storm (Czech Republic)

Severe weather accompanied by intense rainfall, multiple supercell storms and a tornado hit parts of the Czech Republic on June 13. Among the worst affected was the region of Breclav where tornado of F1 intensity on the international Fujita Scale occurred. According to Czech Hydrometeorological Institute, tornado wind gusts topped 150 kph (93 mph) as a supercell tracked at least 200 km (124 mi). As a result, nearly 30 houses were damaged. Fire brigades carried out more than 60 interventions, mostly due to fallen trees, damaged roofs and flooded cellars. Electricity services to thousands of customers across the country were lost. No casualties were reported. Total economic losses were expected to be negligible as sub perils associated with storm activity caused very localized property damage.

Flooding (Turkey)

Heavy rainfall triggered flash flooding and landslides in central Turkey on June 11-12, particularly in densely populated area in Ankara Province. As of this writing, five people lost their lives, according to local authorities. Officials responded to 6,670 incidents related to flooding and severe weather. Heavy rains and landslides caused notable material damage on dozens of buildings, vehicles and infrastructure, several villages were isolated due to damaged and inundated roads, several schools remained closed.

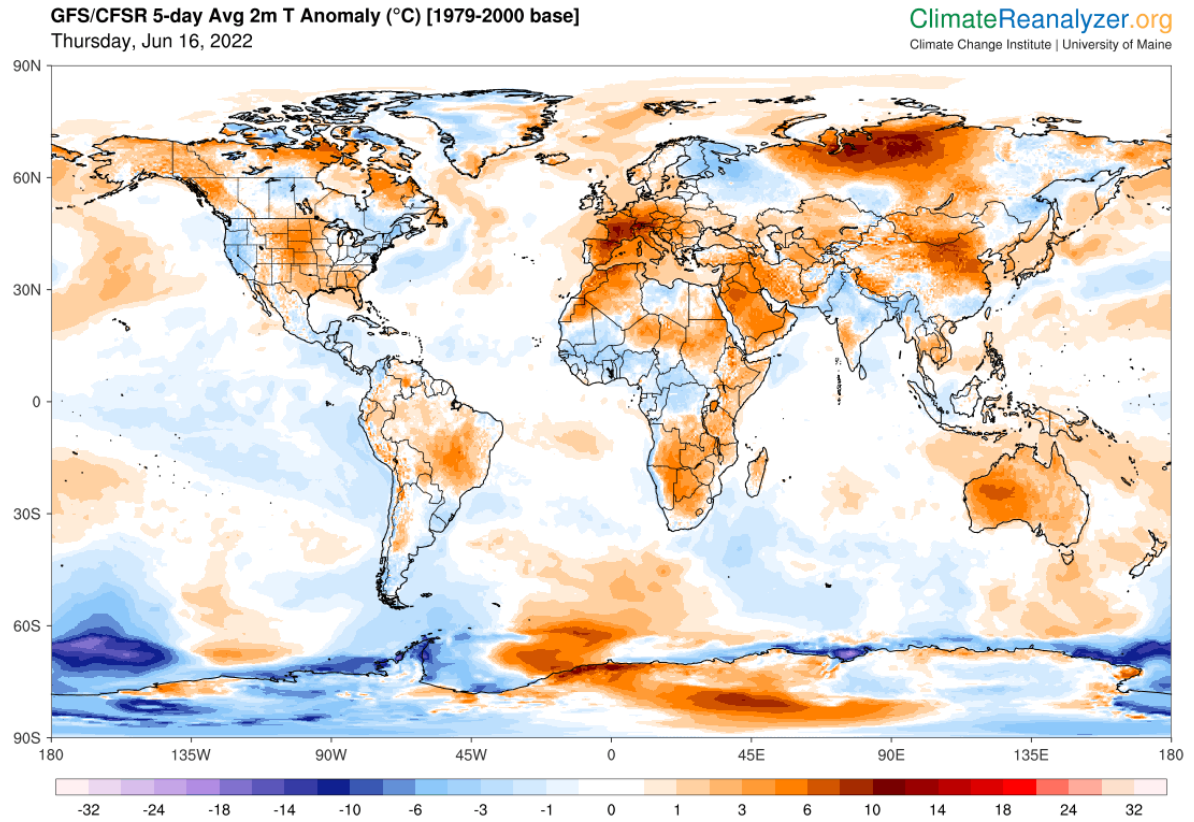
Flooding (South Africa)

Notable flooding occurred in parts of Cape Town and elsewhere in the south-eastern parts of South Africa on June 13 after a period of torrential rain, brought by a cold front. According to media reports, hundreds of homes and multiple streets were flooded, causing material damage and traffic disruption. Many of the affected areas comprised of informal settlements. At least four people were injured, and hundreds were displaced. Among the worst affected were neighbourhoods of Kleinlei, Ravensmead, Goodwood, Strand, Bonteheuwel, Belhar, Maitland and Bellville South.

Flooding (El Salvador)

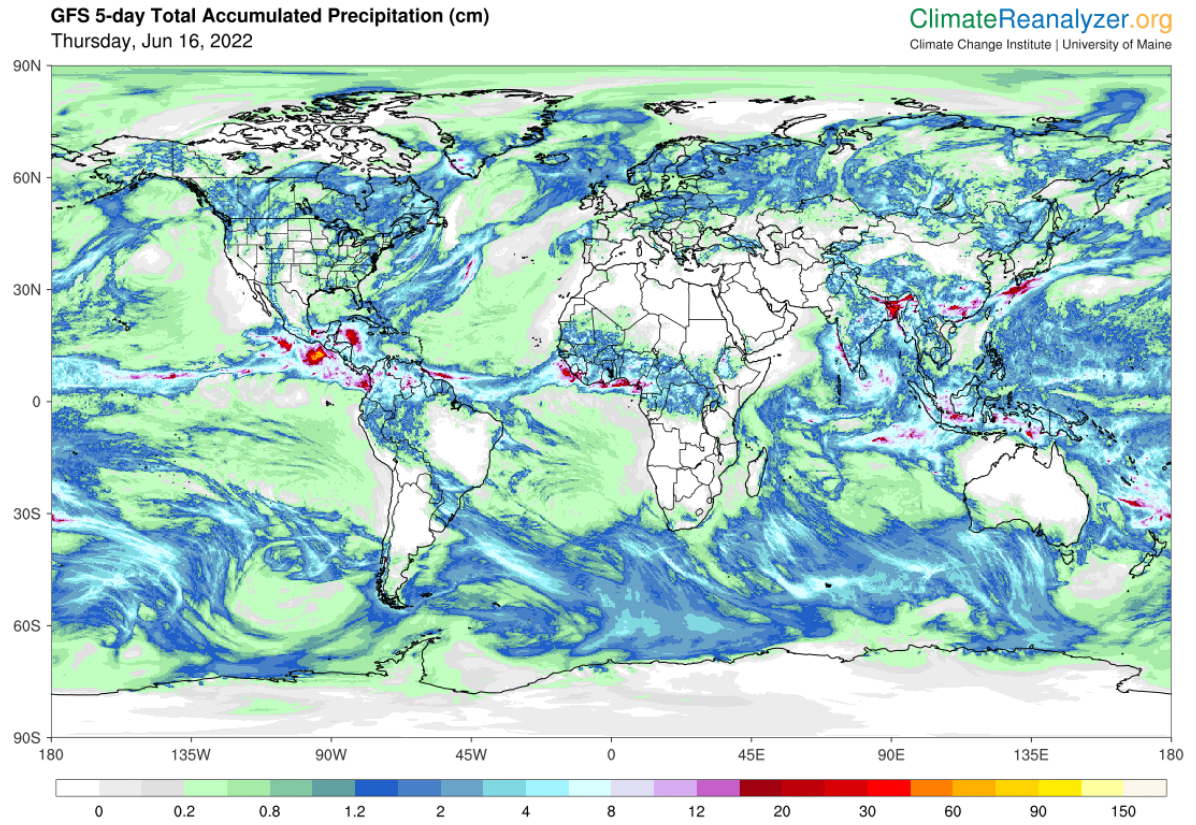
Torrential rainfall associated with flooding and landslides impacted El Salvador on June 14-15. According to National Civil Protection, at least six people died, four due to flooding and two fatalities were caused by landslides. Damage to local infrastructure, crops and at least 19 houses were incurred after rainfall intensity exceeded 70 mm (2.8 in) in a 12-hour period across multiple localities.

Global Temperature Anomaly Forecast



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

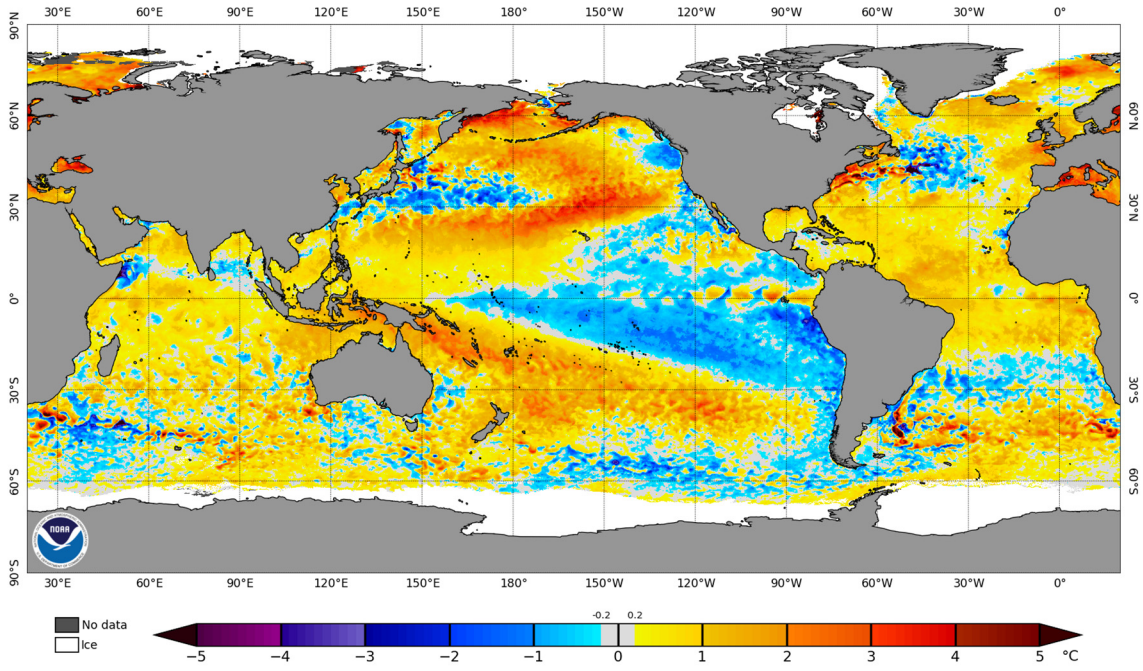
Global Precipitation Anomaly Forecast



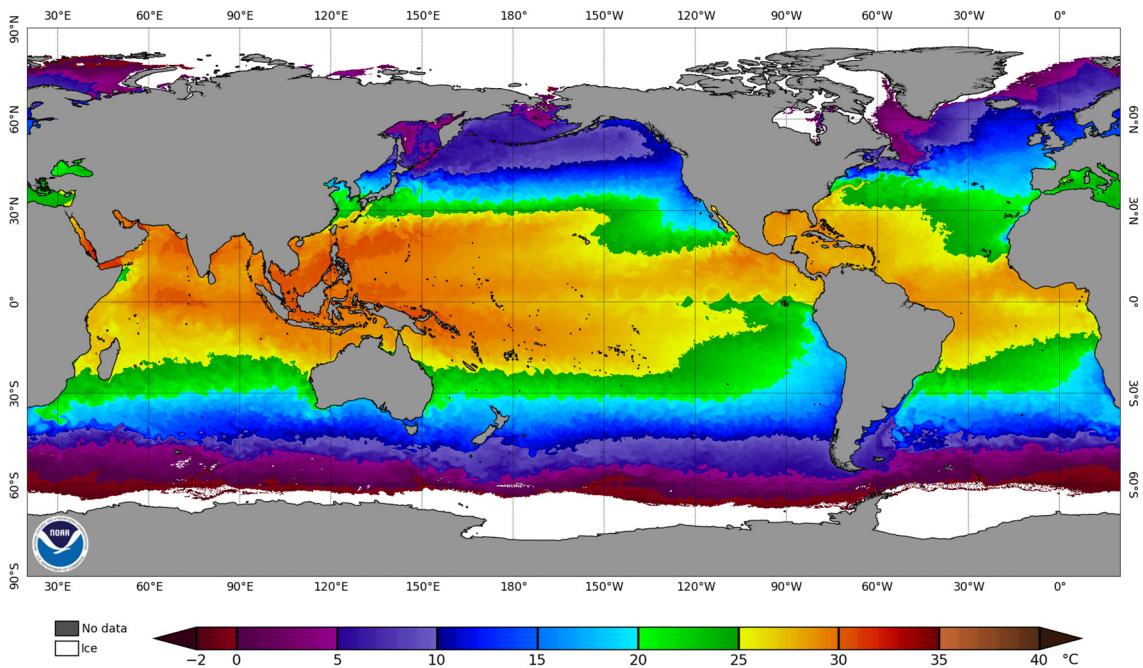
Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 14 Jun 2022



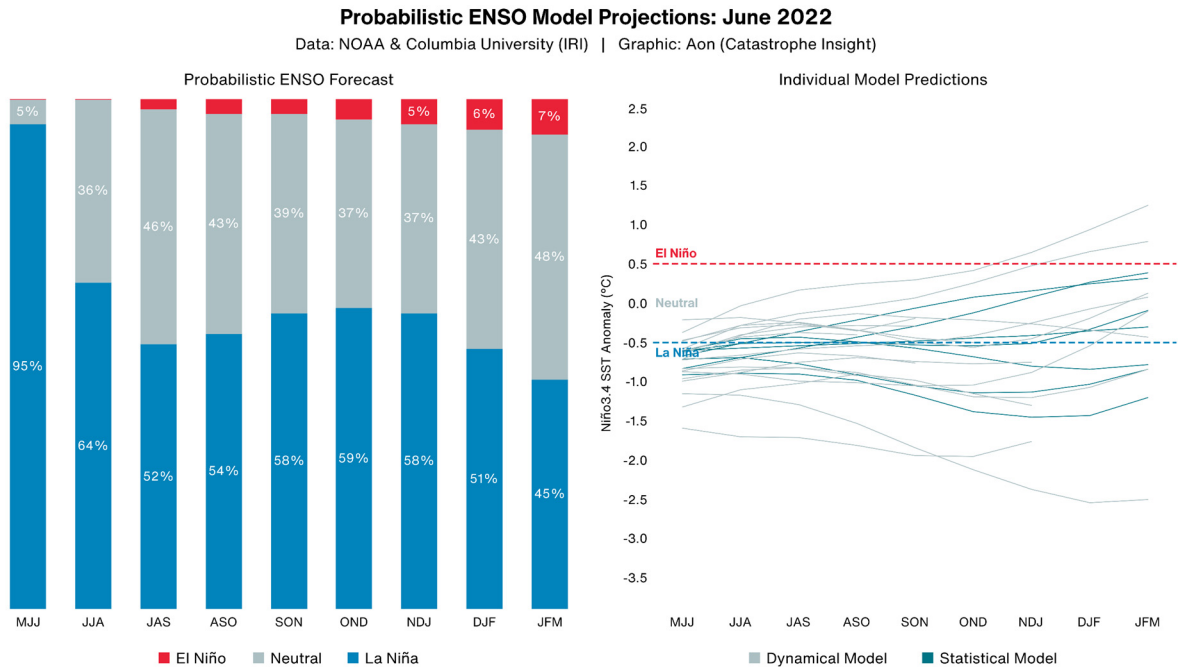
NOAA Coral Reef Watch Daily 5km Sea Surface Temperatures (v3.1) 14 Jun 2022



El Niño-Southern Oscillation (ENSO)

Overview

La Niña conditions are likely to continue for the next several months. NOAA cites a 52 percent chance of La Niña conditions persisting through most of the summer, and a 58 percent chance of continuing into the boreal (northern hemisphere) fall and early winter months.



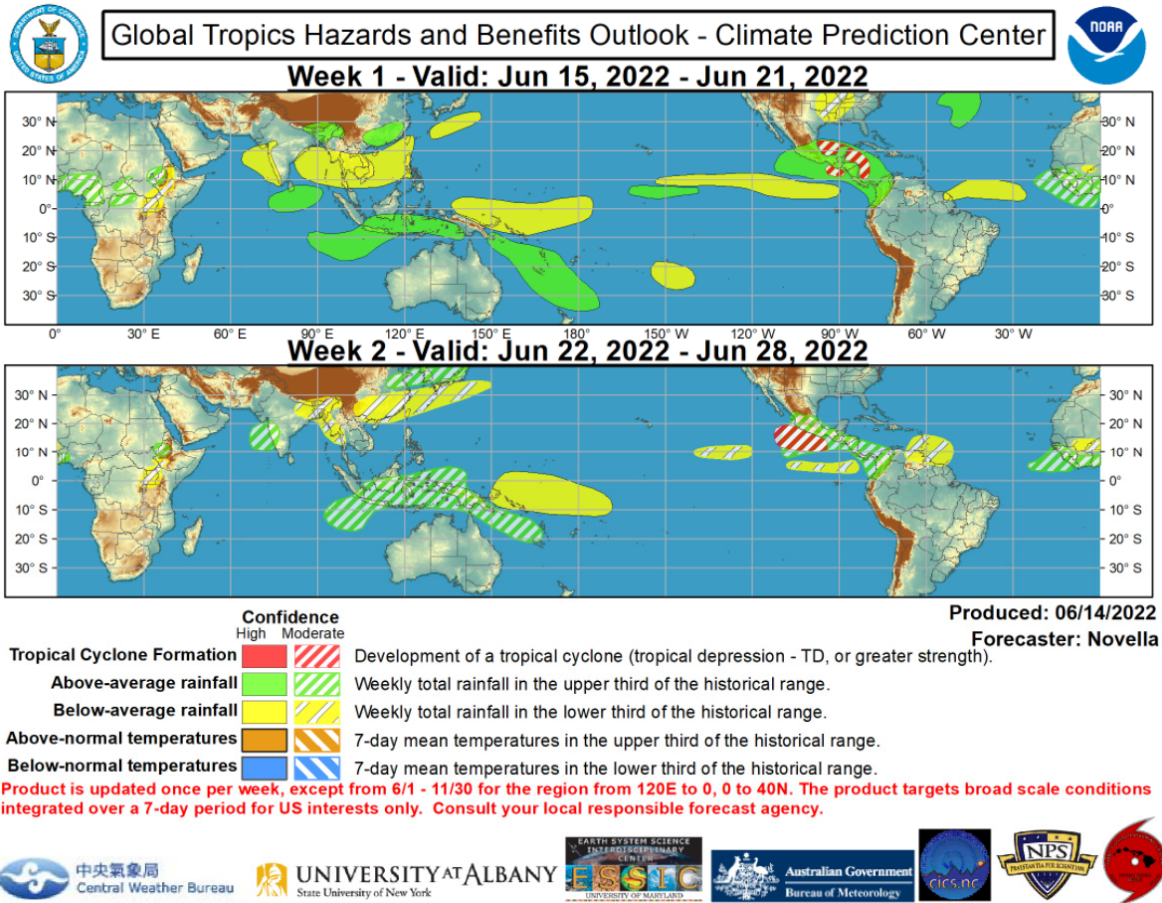
El Niño: Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.

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.

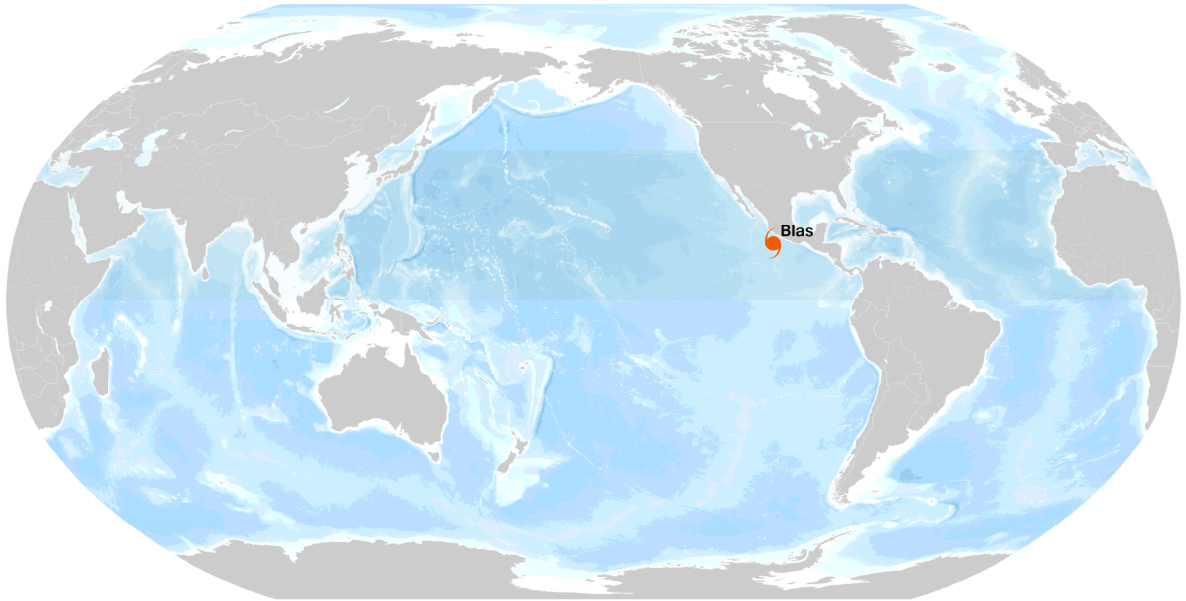
El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5°C (-0.5°C). This is known as the Oceanic Niño Index (ONI).

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity



● Tropical Depression
 ● Tropical Storm
 ● Category 1
 ● Category 2
 ● Category 3
 ● Category 4
 ● Category 5

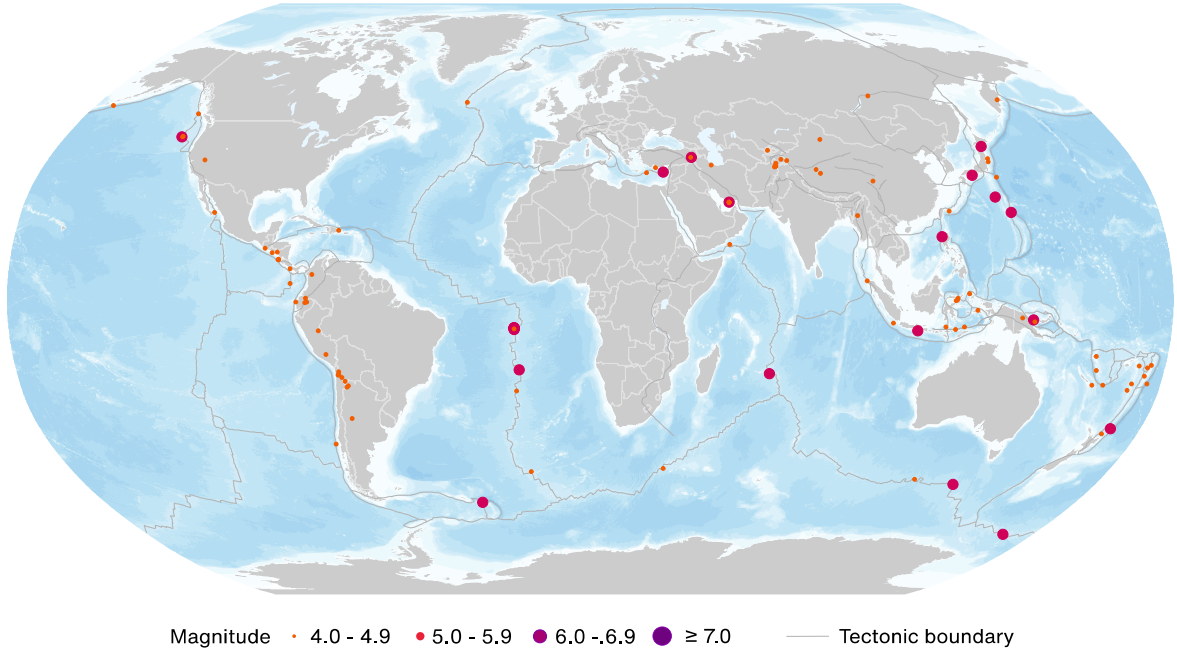
Storm Name	Location	Winds	Location from Nearest Land Area
HU Blas	16.2N, 105.6W	85 mph	240 mi (385 km) S from Colima, Mexico

* 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)

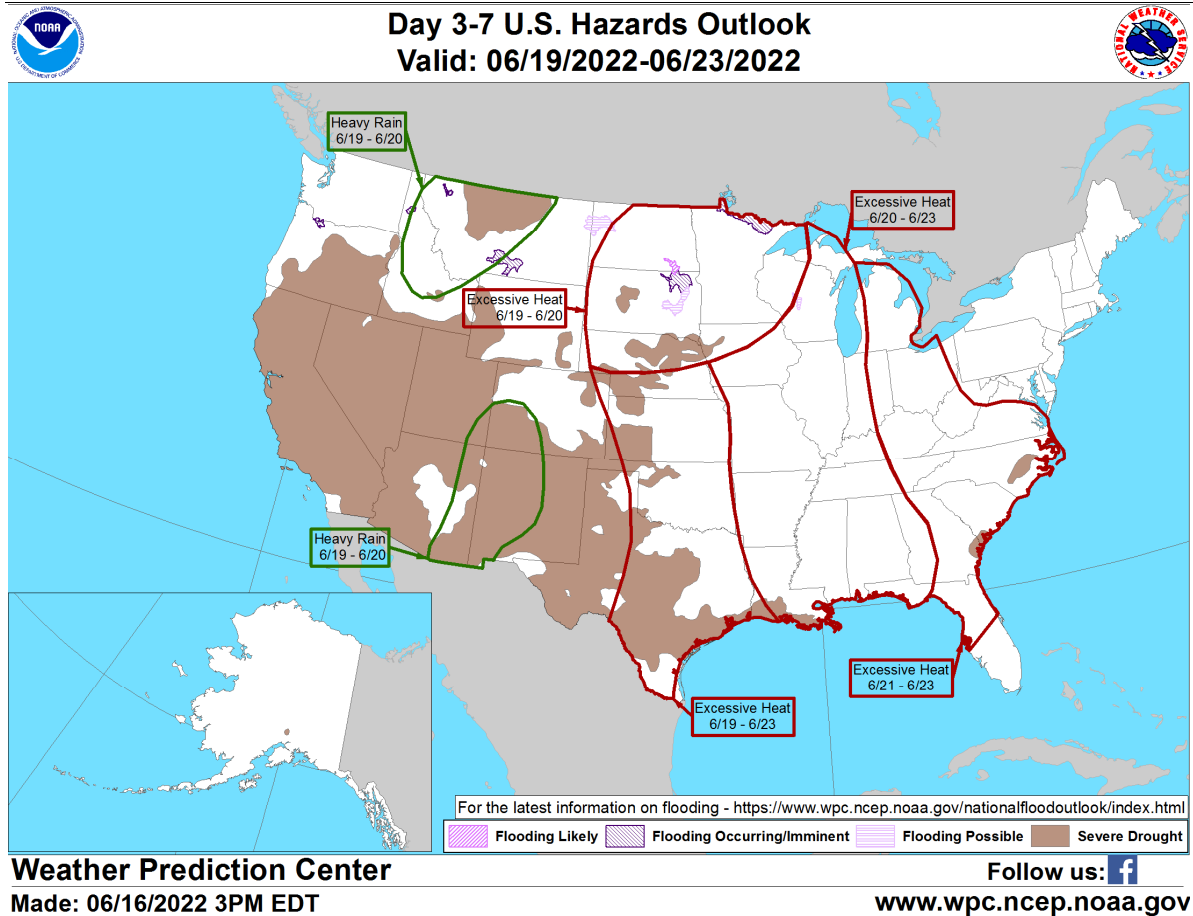
Global Earthquake Activity ($\geq M4.0$): June 10-17



Date (UTC)	Location	Magnitude	Epicenter

Source: United States Geological Survey

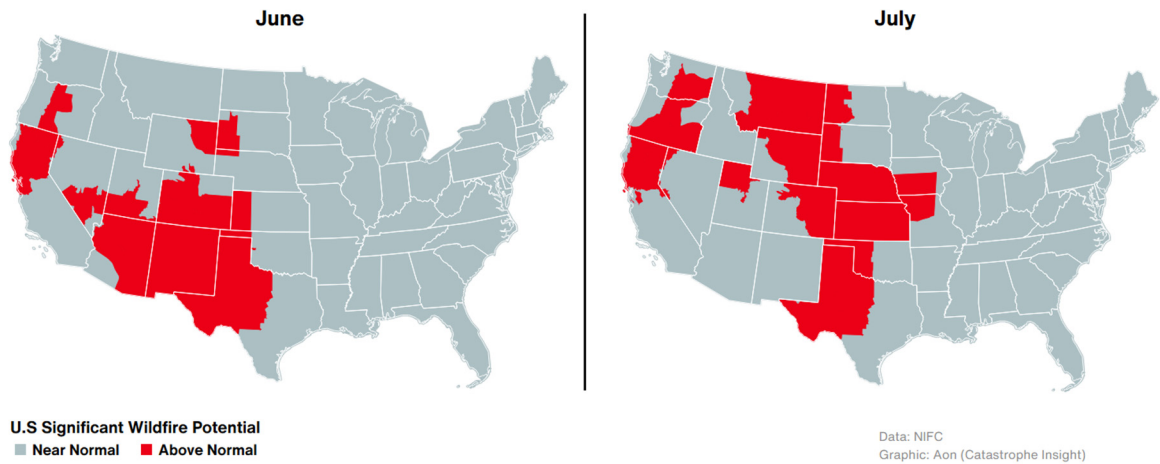
U.S. Hazard Outlook



- An anomalous ridge across the central United States will bring renewed excessive heat to the Plains, Midwest, Mississippi Valley, and Gulf Coast before flattening eastward into the Tennessee and Ohio Valleys and Southeast between June 19-23.
- A Western upper-level low will promote heavy rainfall across already saturated regions of the Northern Rockies between June 19-20.
- Monsoonal moisture surging northward ahead of an upper-level trough is expected to bring localized heavy rainfall to drought-stricken regions of the Southwest by June 19-20.

Source: Weather Prediction Center (NOAA)

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



Annual YTD Wildfire Comparison: June 16

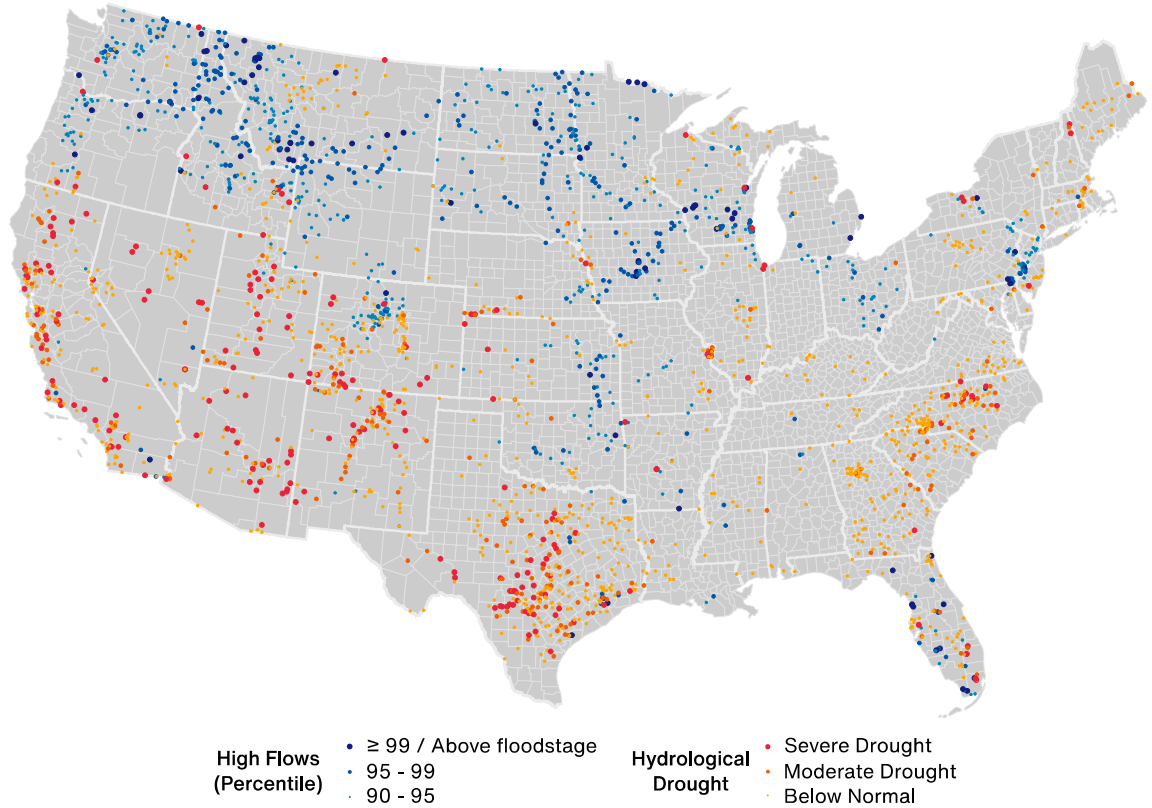
Year	Number of Fires	Acres Burned	Acres Burned Per Fire
2018	26,277	2,101,828	79.99
2019	17,021	428,259	25.16
2020	21,459	766,195	35.71
2021	27,732	981,356	35.39
2022	30,344	2,957,484	97.47
10-Year Average (2012-2021)	23,212	1,125,002	48.47

Top 5 Most Acres Burned by State: June 16

State	Number of Fires	Acres Burned	Acres Burned Per Fire
Alaska	250	856,944	3,427.78
New Mexico	424	844,431	1,991.58
Texas	4,877	528,451	108.36
Oklahoma	1,243	250,596	201.61
Nebraska	542	74,938	138.26

Source: National Interagency Fire Center

U.S. Current Riverine Flood Risk



A $\geq 99^{\text{th}}$ 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 stream 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
Willamette River at Albany, Oregon	13.61	99.22
Umatilla River near Umatilla, Oregon	5.27	99.15
Umpqua River near Elkton, Oregon	7.95	99.14
Willamette River at Salem, Oregon	15.31	99.06
North Fork John Day River at Monument, Oregon	7.60	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

Friday's flash flooding damages cars across New Orleans, *WWL CBS*

3 missing, swept away in drainage ditch after severe storms, *ABC News*

Extreme weather is tormenting every U.S. region, and it's far from over, *The Washington Post*

Watertown got nearly 6 inches of rain from Wednesday storms, *Milwaukee Journal Sentinel*

China: Flooding

China Meteorological Administration

Longyan City People's Government

Jiangxi Emergency Management Department

Landslides in Guangxi Beiliu caused 7 deaths and 1 missing, *Xinhua News*

548,000 people affected by heavy rain in China's Jiangxi, *Xinhua News*

China: Severe Convective Storm

China Meteorological Administration

Hail in many districts in Beijing, largest at 5cm diameter, *Sina News*

Many places in Hebei hit by hail, crops damaged in nine counties, *The Beijing News*

Severe Convective Storm! Hail in 8 cities in Shandong, *Jiefang Daily*

165,000 acres of crops in Qingyuan, Hebei affected, economic loss of CNY 590 million, *Hebei News*

Tornado appeared in Taiping town, Conghua, Guangzhou, no casualties found, *China News Service*

Natural Catastrophes: In Brief

United States Geological Survey (USGS)

U.S. National Weather Service

Historic hailstorm painted CDMX white, *Infobae*

Second round of flooding hits Sunamganj, *Dhaka Tribune*

Snow hits South Island, roads closed, more on the way, *New Zealand Herald*

Roads flooded in many places, heavy rain in Okinawa, *Asahi Shimbun*

Governmental Security Center, Poland

Břeclavskem se v pondělí prohnalo tornádo zřejmě o rychlosti 150 km/h, *České noviny*

Ankara's deadliest flood in recent memory, *The Watchers*

Turkish capital Ankara struggles to recover after deadly floods, *Daily Sabah*

After Yellowstone, floodwaters near Montana's largest city, *AP News*

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.