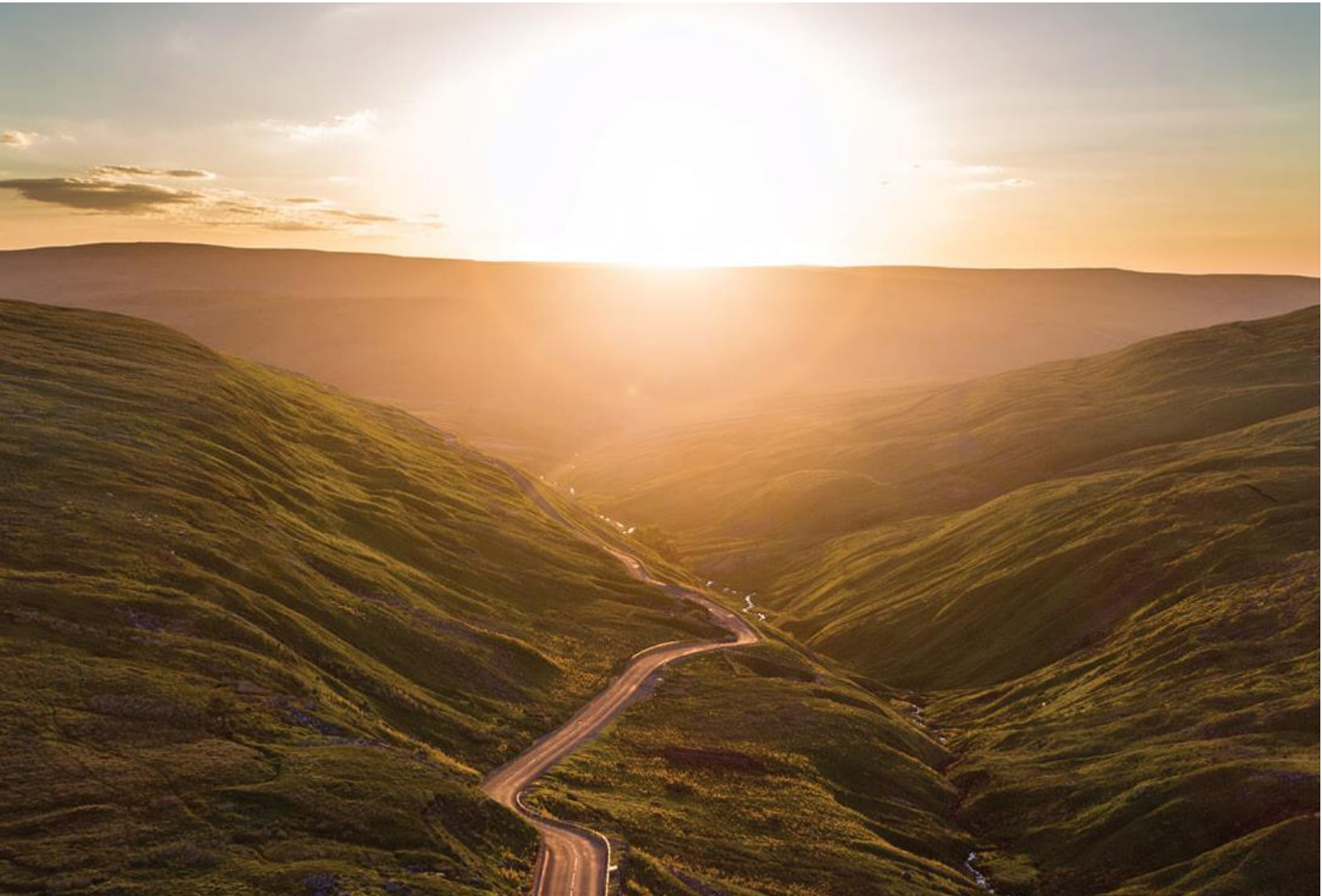


Weekly Cat Report

May 26, 2023



Executive Summary



| Event | Affected Region(s) | Fatalities | Economic Loss (\$) | Page |
|--------------------------------|--------------------------|------------|--------------------|------|
| Severe Convective Storm | United States | 2 | 10s of millions | 3 |
| Typhoon Mawar | Guam | 0 | Millions | 4 |
| Flooding | Western & Central Europe | 0 | 10s of millions | 5 |
| Wildfire & Drought | Spain | N/A | 300+ million | 6 |
| Severe Convective Storm | Thailand | 6 | Negligible | 7 |

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

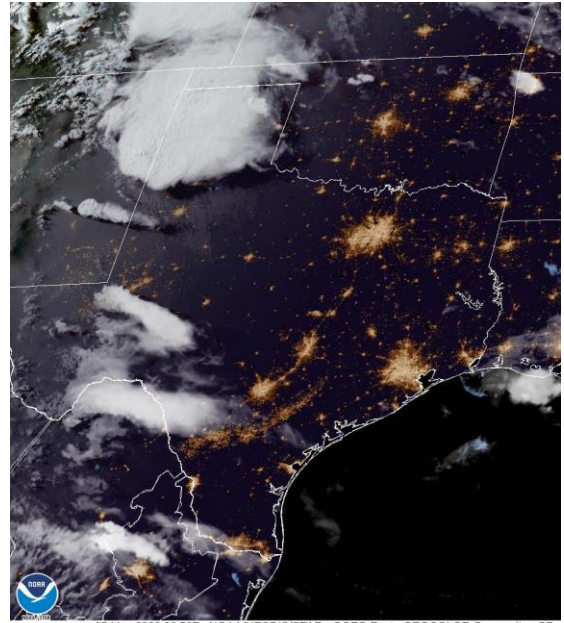
Severe storm activity affected parts of northern and central Texas, as well as eastern New Mexico in the United States on May 22-24. Primary hazards associated with the outbreak were large hail and strong, straight-line winds. Total economic and insured losses were initially anticipated to reach into the tens of millions USD.

Meteorological Recap

An outbreak of locally severe thunderstorms affected parts of Texas and New Mexico in the United States on May 22-24, in an environment characterized by a presence of a developing surface low-pressure system and abundant moisture.

On May 22, parts of northern Texas were hit by locally severe storms, with primary impacts associated with large hail. Notably, hailstones with 2.5 inches (6.4 cm) in diameter were observed in West Odessa in Ector County. On the following day, the storm activity extended further into Central Texas. Hailstones with maximum diameter of up to 2.75 inches (7 cm) were reported, namely in the Hockley County.

Additional severe storms occurred on May 24 in the border region of Texas and New Mexico, and notable effects were largely associated again with large hail, but additional impacts were also reported due to strong winds, which peaked with a gust of 92 mph (148 kph) in Curry County.



Storms affecting TX/NM border region on May 24

Source: NOAA

Event Details

Two people were killed and 8 were injured in Conroe of Montgomery County, north of Houston in Texas on May 23 as a result of strong, straight-line winds. Material damage was reported from across the affected area, most notably from northern and central Texas, as well as from the extreme east of New Mexico, as a result of the storms on May 24.

Financial Loss

Material damage from the outbreak of May 22-23 was largely limited to Texas and eastern New Mexico. Considering early reports from the affected areas, total economic and insured losses were anticipated to be in the region of tens of millions USD.

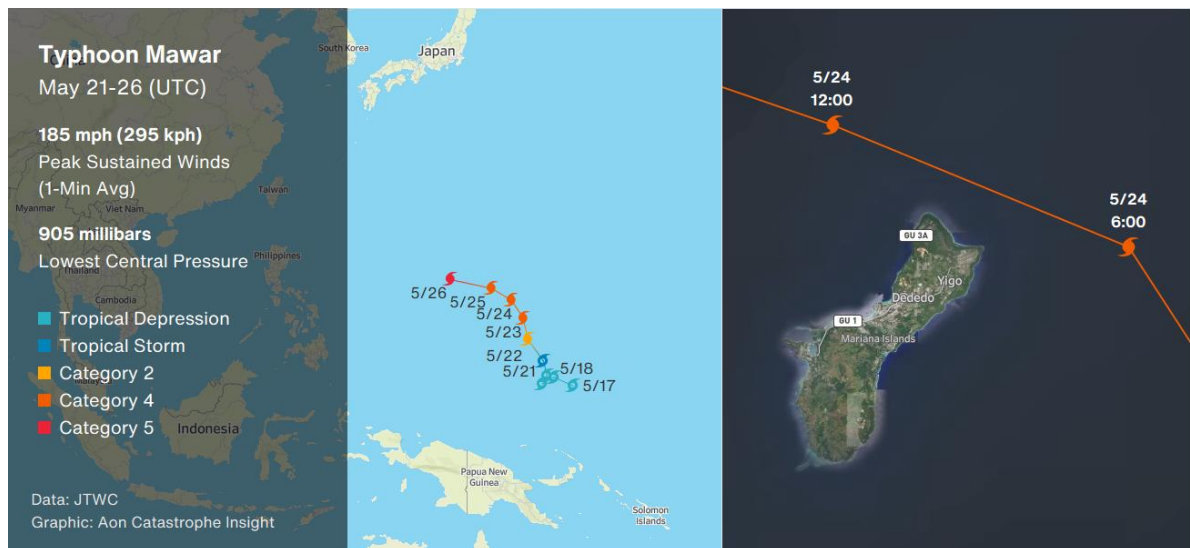
Guam: Typhoon Mawar

Overview

The U.S. territory of Guam was struck by Typhoon Mawar, which passed just to the north of the island's northern tip as a Category 4-equivalent storm. Even though it was one of the strongest storms to pass close to Guam, initial reports did not suggest major structural damage on the island. At the same time, strong winds and heavy rainfall resulted in power cuts to most of the territory and hundreds of residents were forced to evacuate to shelters. The storm later intensified to 1-minute sustained winds of 185 mph (295 kph).

Meteorological Recap

A low-pressure area south of Chuuk Islands developed into a tropical depression on May 19 and later on May 20, the Japan Meteorological Agency (JMA) named the storm **Mawar**. The storm rapidly intensified into a super typhoon, an equivalent to Category 4 on the Saffir-Simpson hurricane wind scale, reaching 1-minute maximum sustained winds of 155 mph (250 kph) on May 23. On May 24, the center of the storm passed the northern tip of Guam as a Category 4-equivalent storm. After completing an eyewall-replacement cycle, Mawar further intensified on May 25 to a 1-minute peak sustained wind intensity of 185 mph (295 kph), a Category 5 equivalent.



Event Details

In addition to strong winds, which resulted in some property damage and disruption across the island, heavy rainfall with peak measurement of 28.42 inches (722 mm) resulted in further hazards. Hundreds of residents were forced to evacuate to shelters, while the Guam Power Authority noted that nearly all of the island's 52,000 homes and businesses were without power.

Western & Central Europe: Flooding

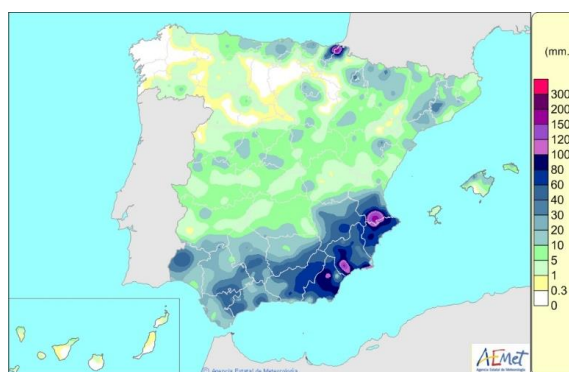
Overview

Locally severe thunderstorms generated heavy rainfall across several parts of Europe on May 22-23, notably southeastern Spain. Further activity associated with a low-pressure system David affected parts of Central Europe. Aggregated losses were expected to be in the tens of millions EUR.

Meteorological Recap

Heavy rainfall affected southeastern, hilly parts of the Iberian Peninsula on May 22-23, as a presence of a cut-off low and abundance of moisture from the Mediterranean Sea enabled deep convection in the area. The highest rainfall accumulations were in excess of 300 mm (11.8 inches).

Widespread storm activity also ensued across parts of Western and Central Europe on May 22 and continued into May 23. This activity was associated with a low-pressure area, which was named David by the Free University of Berlin. Conditions favorable for storm development allowed for locally severe storms, with primary hazards associated with heavy rainfall. Some additional, largely minor effects were felt due to large hail.



Accumulated precipitation in Spain between May 17-23

Source: AEMET

Event Details

Regions of Murcia, Andalusia and Valencia in south-eastern **Spain** were the worst affected by heavy rainfall and flooding. In Murcia, 117 interventions were carried out due to flooded, according to local emergency services. Dozens of houses and roads were inundated, resulting in roads closures. Several people were injured in car accidents due to flash flooding.

Fire brigades intervened dozen times also in eastern **France**, particularly in the regions of Auvergne-Rhône-Alpes and Alsace. Flash flooding and mudslides submerged dozens of cellars and caused notable traffic disruptions in Lower Saxony Region in **Germany**. Thunderstorms accompanied by heavy rainfall and large hail resulted in hundreds of claims. Thunderstorms that occurred on May 23 resulted in hundreds of claims in eastern **Czech Republic**, accounting total insured losses of more than CZK12 million (\$500,000). Elevated water levels threatened to overflow in multiple countries of Central Europe, yet overall damage remained relatively low.

Financial Loss

Total economic losses are likely to reach into the tens of millions EUR, notably in Spain. Some initial estimates suggested notable loss on agriculture – for example, the Federation of Agricultural Cooperatives of the Region of Murcia (Fecoam) initially estimated up to €20 million (\$21 million) of damage on apricot production alone.

Spain: Wildfire & Drought

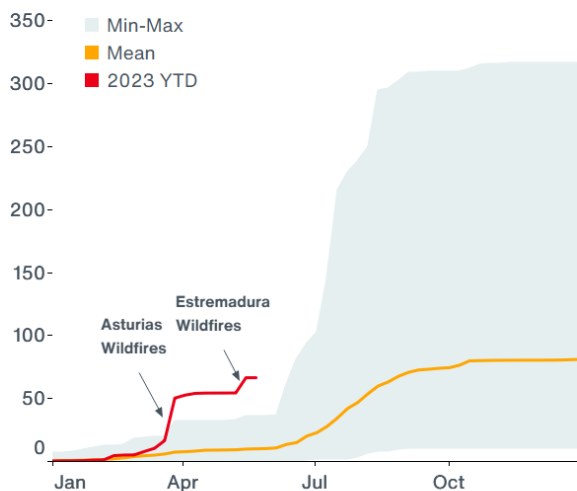
Overview

Anomalously warm weather along with precipitation deficit have exacerbated wildfire and drought conditions in parts of Spain. Recent wildfires in Estremadura Province further escalated the number of wildfires and total burned area, both standing on their highest cumulative values since 2006 for late May. Severe drought causes additional agricultural losses, putting total estimated losses at hundreds of million EUR, potentially higher.

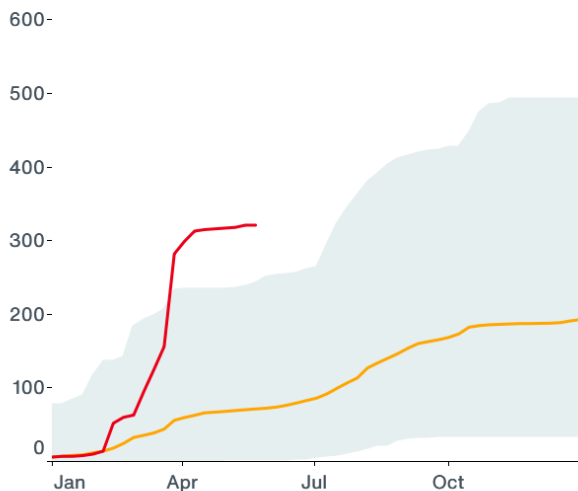
Event Details

In a response to hot and dry weather, wildfire and drought conditions have been worsened in Spain. A relatively warm and dry May follows the hottest and driest April on record. To date, Spain recorded the highest number of fires and the highest extent of burned area since 2006 across the country, according to the data from EFFIS. New wildfires ignited particularly in **Estremadura Province**, where more than 12,000 hectares (29,700 acres) have been burned since last week. Hundreds of people were forced to leave their homes due to approaching fires.

Burned Area 2006-2023 (thousand ha)



Number of Fires 2006-2023



Data: Copernicus EFFIS. Graphic: Catastrophe Insight, Aon

Financial Loss

Agroseguro estimated compensations of more than €300 million (\$325 million) for the damage caused by the drought this year, including 1.5 million hectares (3.7 million acres) of arable crops. This would be the largest claim ever paid by the Spanish agricultural insurance. The Spanish government has approved a €2.2 billion (\$2.4 billion) plan to help farmers and consumers cope with the extended drought.

Natural Catastrophes: In Brief

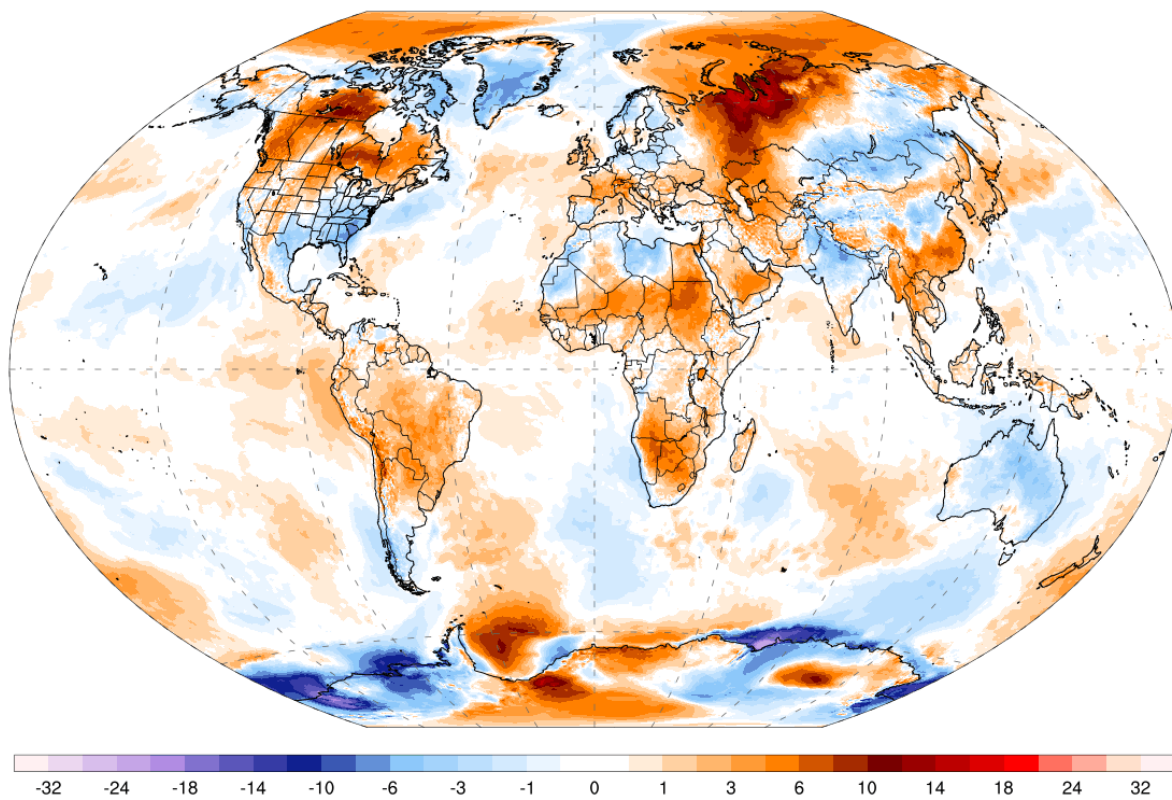
Severe Convective Storm (Thailand)

Storms brought heavy rainfall and strong winds in Phichit Province, central Thailand, on May 22. Severe weather damaged school, claiming six fatalities and at least 18 injuries, according to local authorities.

Global Temperature Anomaly Forecast

GFS 2m T Anomaly (°C) [CFSR 1979-2000 baseline]
Days 1-3 Avg | Fri, May 26, 2023

ClimateReanalyzer.org
Climate Change Institute | University of Maine

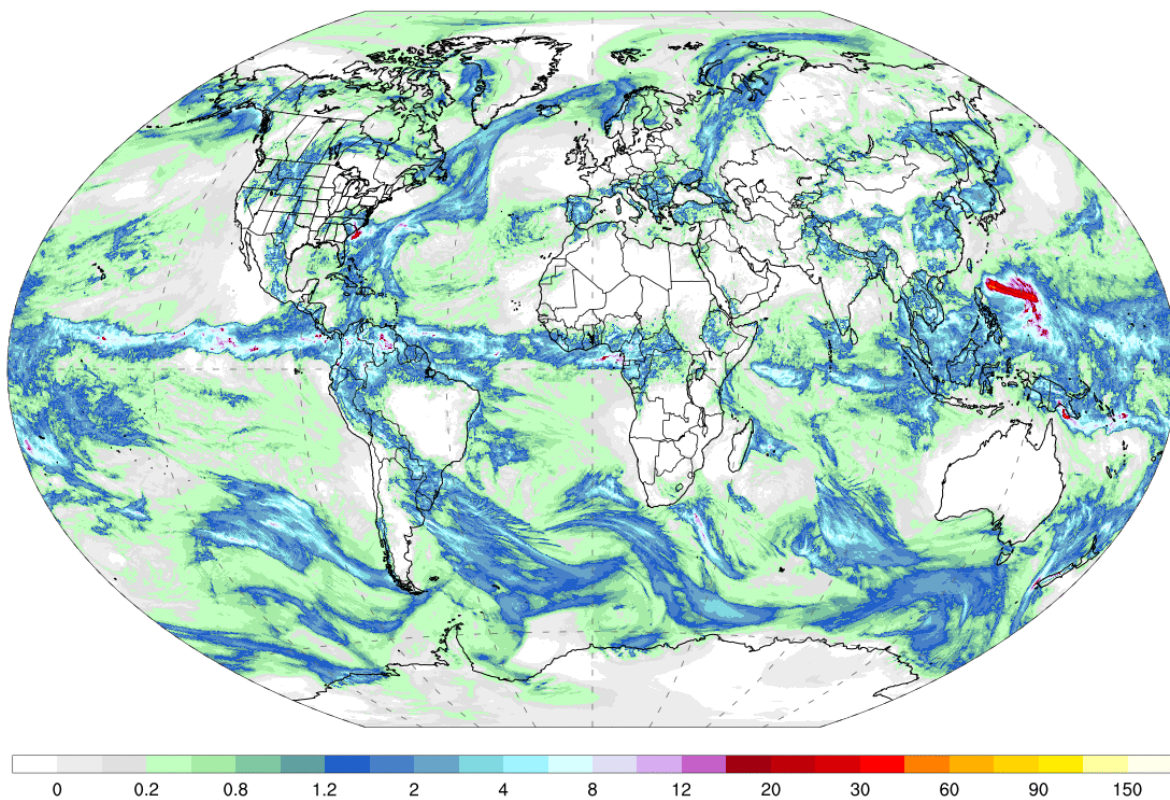


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

Global Precipitation Forecast

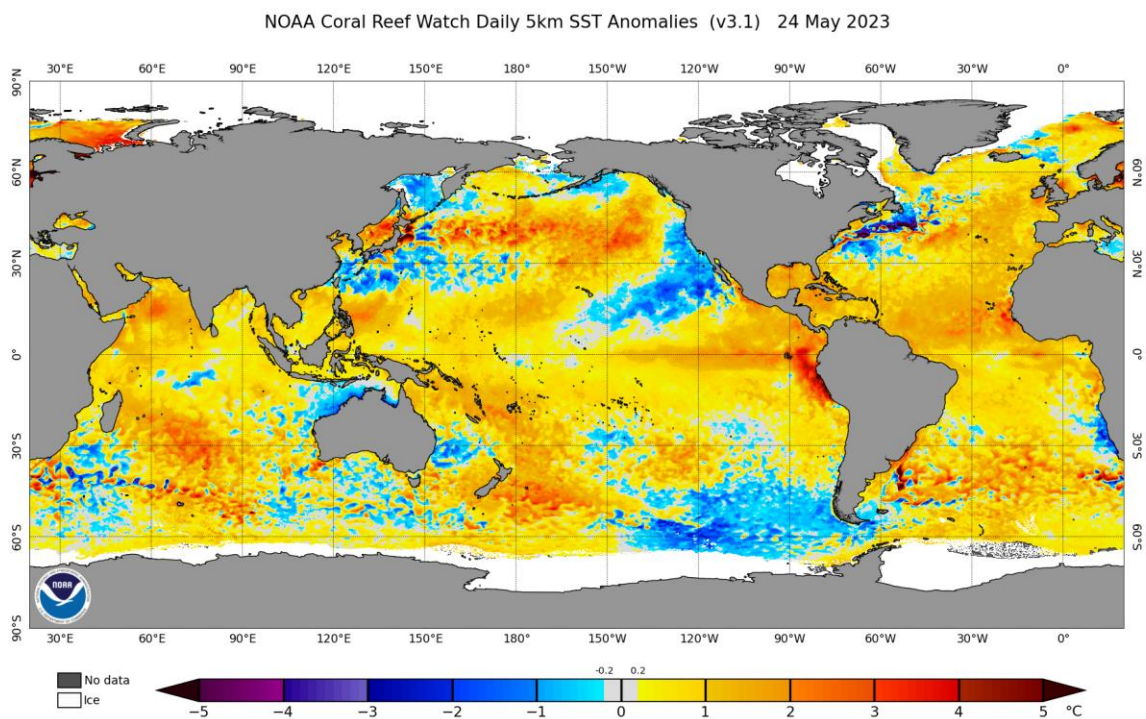
GFS Accumulated Precipitation (cm)
Days 1-3 Total | Fri, May 26, 2023

ClimateReanalyzer.org
Climate Change Institute | University of Maine

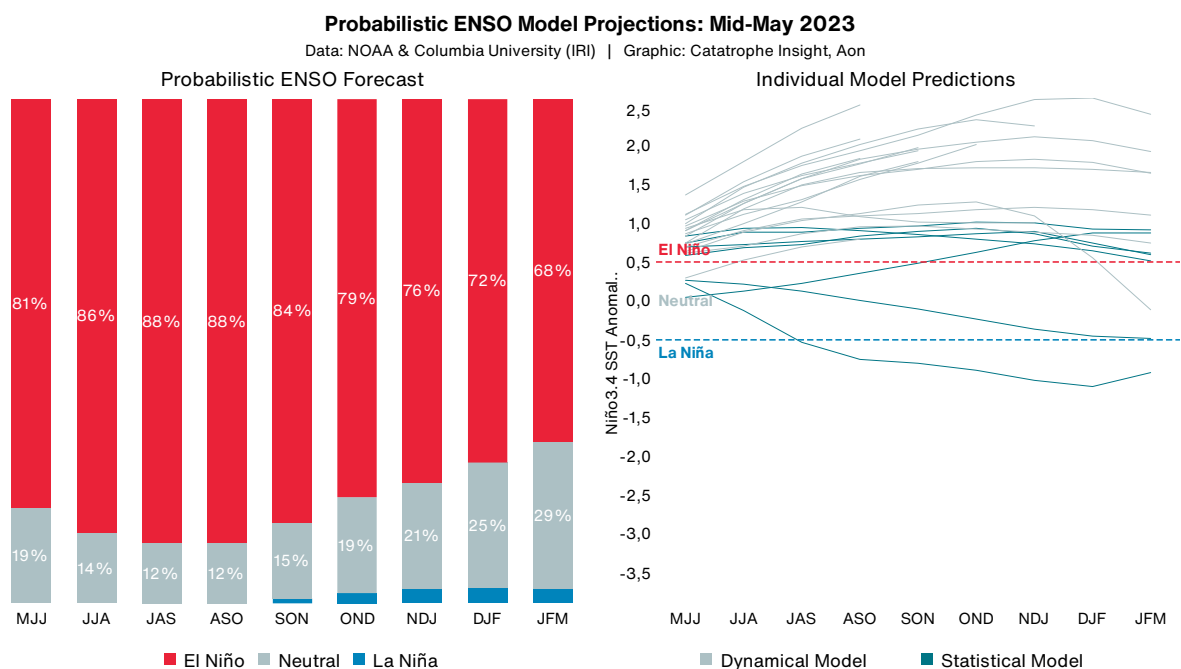


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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



El Niño-Southern Oscillation (ENSO)



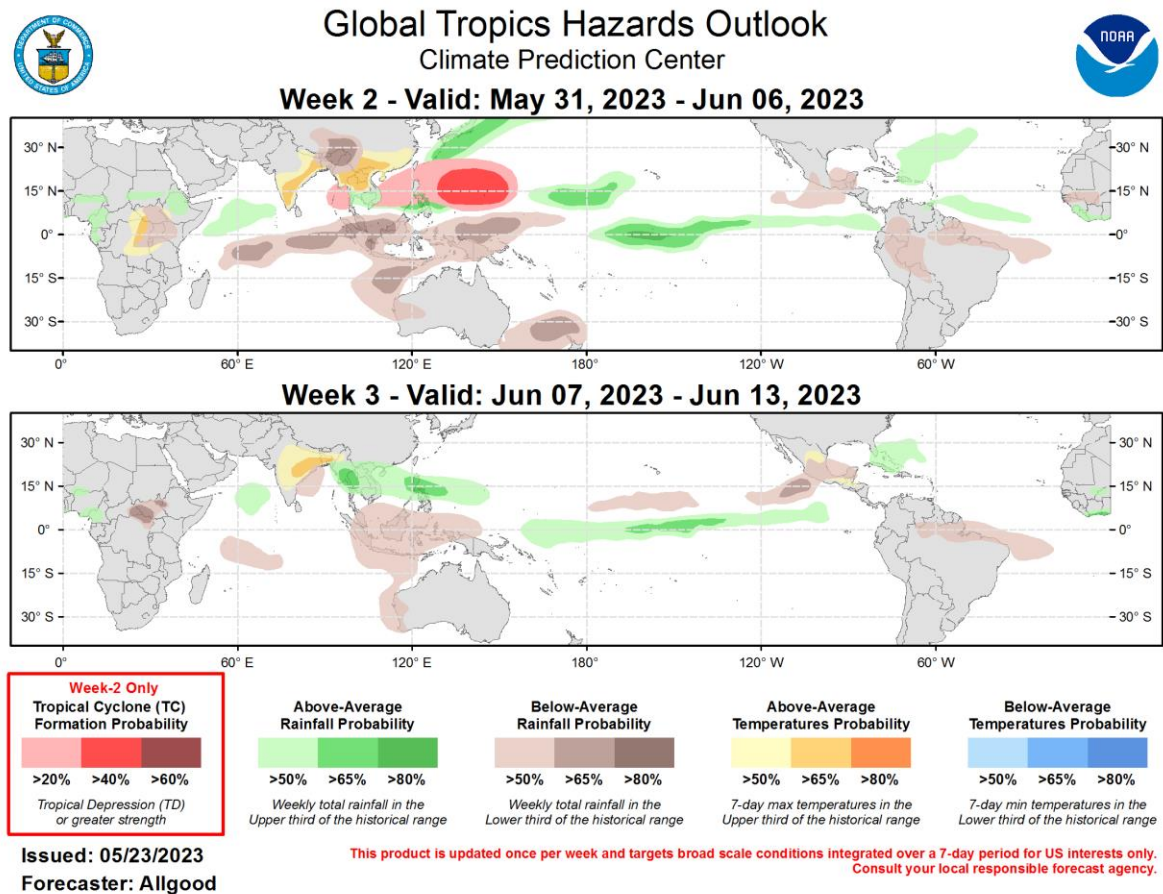
El Niño: Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.

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.

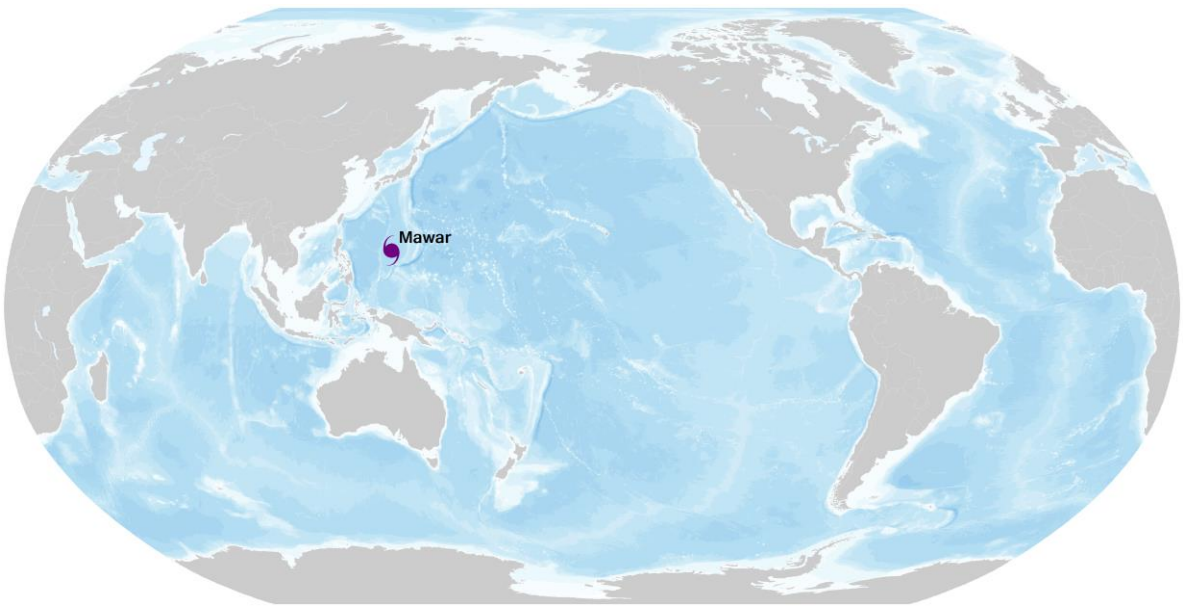
El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5°C (-0.5°C). This is known as the Oceanic Niño Index (ONI).

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity



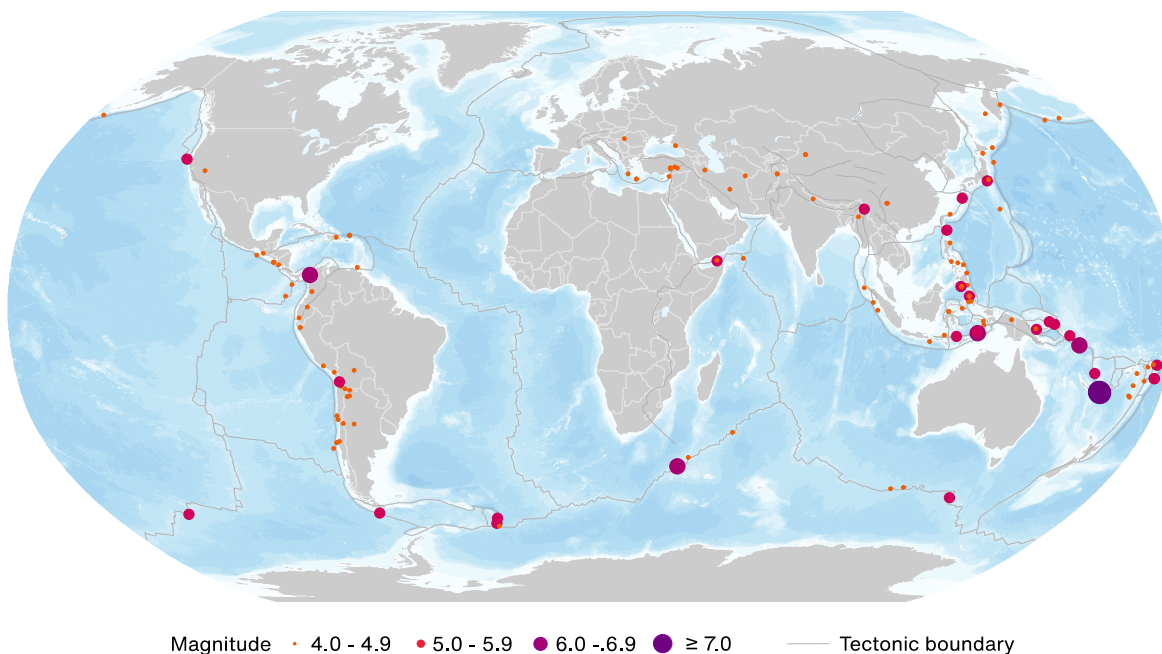
🌀 Tropical Depression 🌀 Tropical Storm 🌀 Category 1 🌀 Category 2 🌀 Category 3 🌀 Category 4 🌀 Category 5

| Storm Name | Location | Winds | Location from Nearest Land Area |
|------------|---------------|-------|---|
| TY Mawar | 15.3N, 138.0E | 175 | 470 mi (755 km) W from Agana, United States |

* 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)

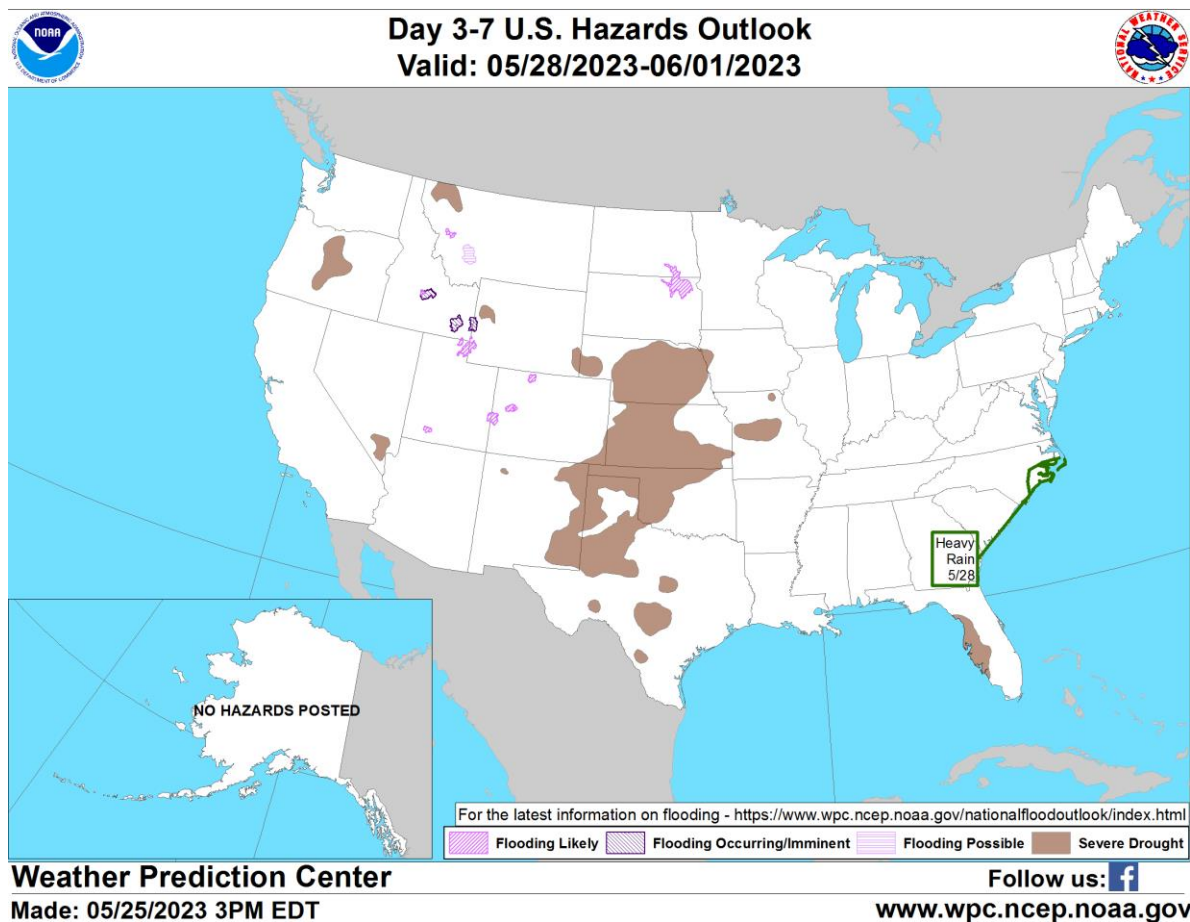
Global Earthquake Activity ($\geq M4.0$): May 19-25



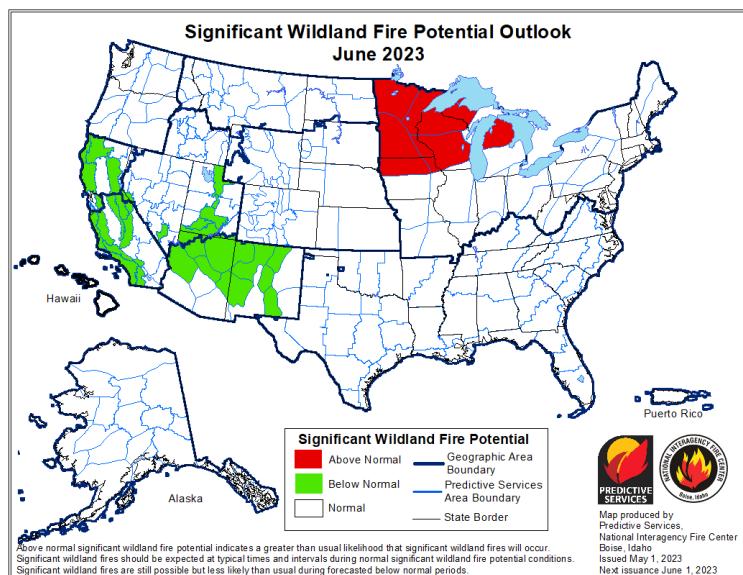
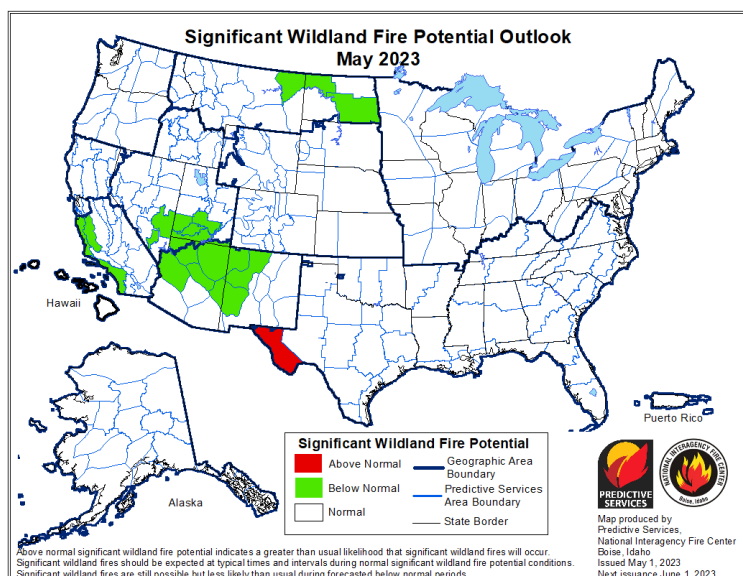
| Date (UTC) | Location | Magnitude | Epicenter |
|------------|-----------------|-----------|--|
| 5/19/2023 | 23.19S, 170.76E | 7.7 | southeast of the Loyalty Islands |
| 5/20/2023 | 23.06S, 170.46E | 7.1 | southeast of the Loyalty Islands |
| 5/20/2023 | 22.95S, 170.48E | 6.5 | southeast of the Loyalty Islands |
| 5/21/2023 | 43.44S, 39.37E | 6.8 | Indian Ocean |
| 5/21/2023 | 10.27S, 161.44E | 6.1 | 55 km (34 mi) WNW of Kirakira, Solomon Islands |
| 5/23/2023 | 23.00S, 170.29E | 6.1 | 28 km (17 mi) E of Vao, New Caledonia |
| 5/24/2023 | 6.98S, 129.53E | 6.2 | Banda Sea |
| 5/25/2023 | 8.93N, 77.09W | 6.5 | 46 km (29 mi) NE of Puerto Obaldí-a, Panama |

Source: United States Geological Survey

U.S. Hazard Outlook

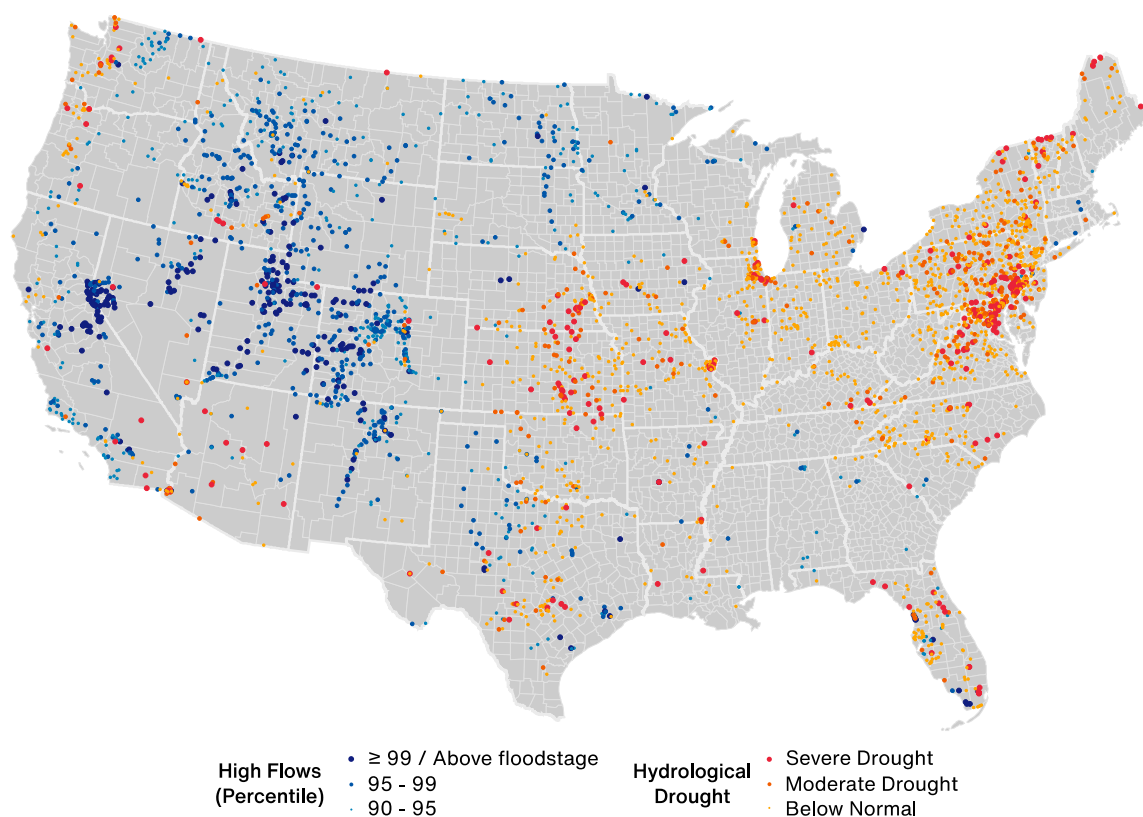


U.S. Wildfire: Significant Fire Risk Outlook & Activity



Source: NIFC

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.

Source: United States Geological Survey

Source Information

United States: Severe Convective Storm

2 dead, 7 injured in Texas tornado-warned storm , Accuweather

Storm Prediction Center

NOAA

NWS

Guam: Typhoon Mawar

The Japan Meteorological Agency (JMA)

Western and Central Europe: Flooding

The European Severe Weather Database (ESWD)

Tuesday's storms caused hundreds of damages to clients of insurance companies worth tens of millions of crowns, *Ceske Noviny*

Deutscher Wetterdienst

FECOAM

Spain: Wildfire & Drought

The European Forest Fire Information System (EFFIS)

Spanish Association of Insurance Entities of Combined Agricultural Insurance (Agroseguro)

Unprecedented €2.2bn drought response plan approved in Spain, *The Guardian*

Natural Catastrophes: In Brief

ECHO OCHA

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