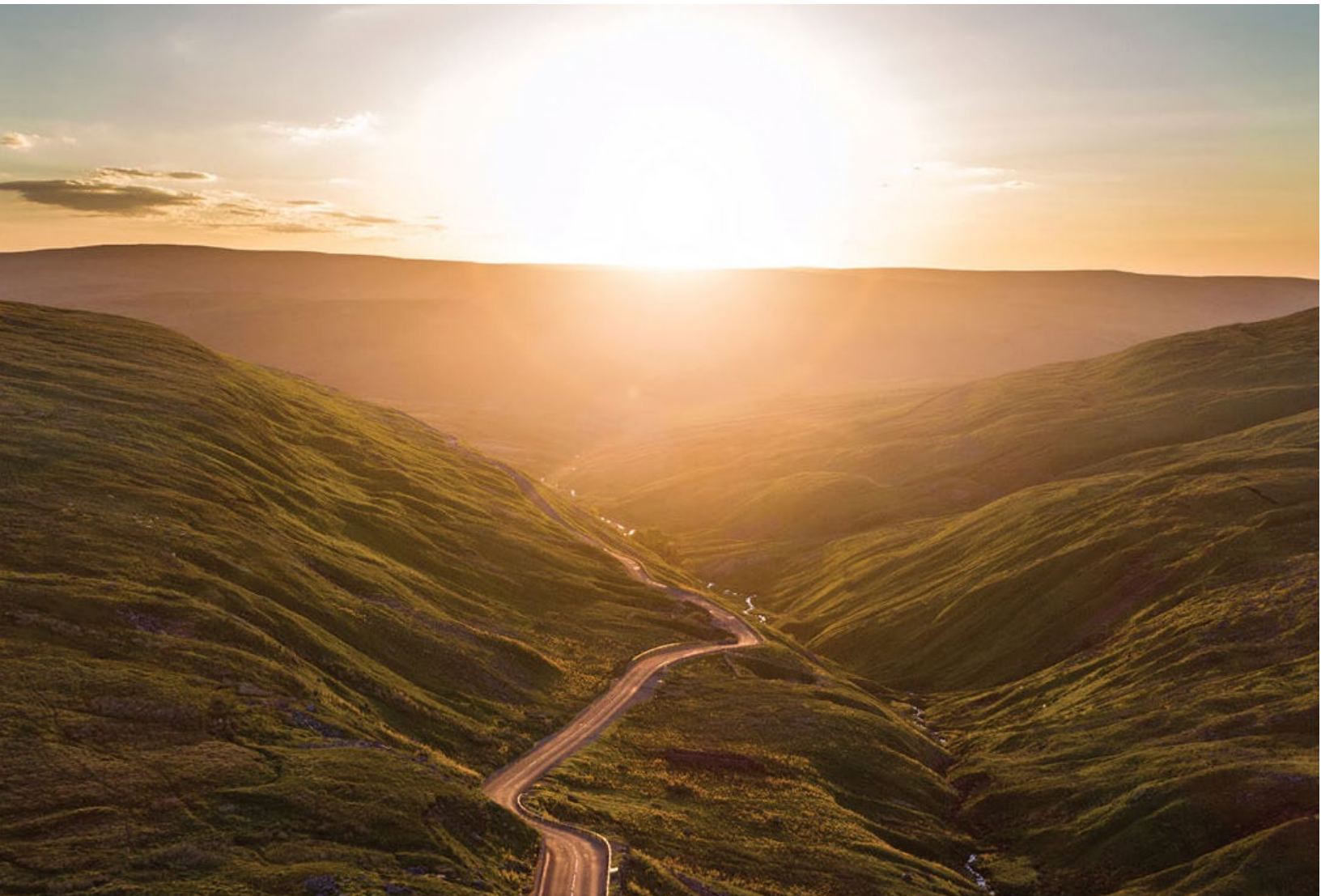
Weekly Cat Report

April 28, 2023



Executive Summary

Event	Affected Region(s)	Fatalities	Economic Loss ($)	Page
Heatwave / Wildfire / Drought	Spain	N/A	100s of millions	3
Severe Convective Storm	United States	0	10s of millions	5
Severe Convective Storm	Southeastern Asia	19+	Millions	7
Flooding	Angola	54+	Millions	8
Severe Convective Storm	Türkiye	1	Negligible	8
Flooding	Brazil	0	Unknown	8

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**

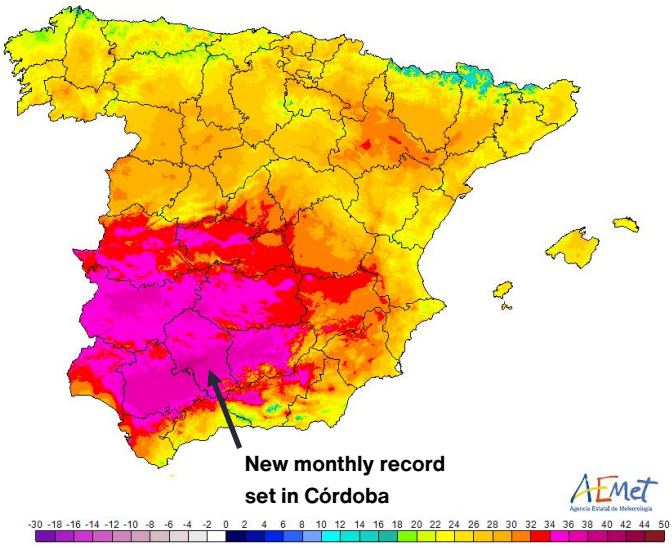
Spain: Heatwave / Wildfire / Drought

Overview

Record-setting temperatures engulfed Iberian Peninsula, particularly Spain, in late April. Warm weather further enhanced wildfire conditions. To date, burned area and number of fires both stand on its highest numbers since 2006, including wildfire in Asturias Province that burned more than 32,000 hectares (79,000 acres), putting estimated economic losses at hundreds of millions EUR. Severe drought conditions cause additional agricultural losses in the country.

Meteorological Recap

Weather over the Iberian Peninsula in late April was dominated by early heatwave, which occurred in a continuation to a relatively dry and warm February and March. Southerly winds between two dominating systems, low-pressure area over the Atlantic and high-pressure area over northern Africa, advected dry and warm air mass into the region. As a result of this African plume setting, Iberian Peninsula experienced high temperatures during this period, often greater than 10 – 15˚C (up to 27˚F) above normal. Temperatures culminated on April 27-28 as the region saw maximums reaching 38˚C (100˚F), according to the Spanish Meteorological Institute (AEMET).



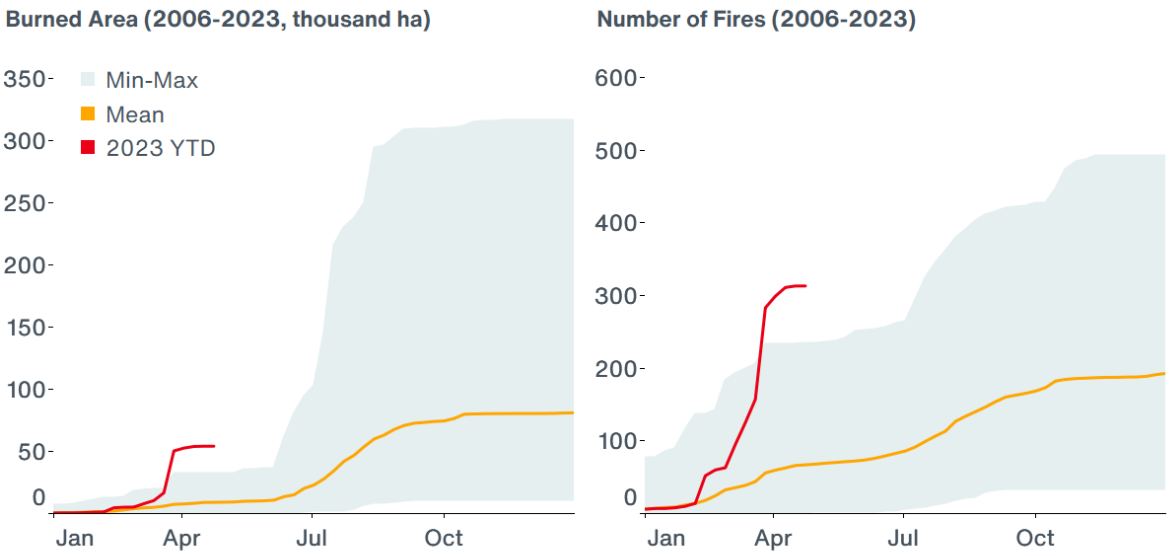
Maximum daily temperature on April 27
Source: AEMET

Overall, numerous monthly temperature records were broken throughout the affected area (see Table with selected temperature records in Spain below), including **national April records** in Spain; 38.8˚C (101.8˚F), Portugal; 36.9˚C (98.4˚F), and Morroco; 41.3˚C (106.3˚F). Maximum temperature set in Córdoba, Spain, on April 27 also marked the highest temperature ever recorded in April in Europe.

Location, Province	Maximum Temperature (˚C)
Córdoba, Córdoba	**38.8 (101.8˚F) – New European and national monthly record**
Fuente Palmera, Córdoba	38.5 (101.3˚F) – Station monthly record
Andújar, Jaén	37.7 (99.9˚F) – Station monthly record
El Granado, Huelva	37.4 (99.3˚F) – Station monthly record
Sevilla, Sevilla	37.1˚C (98.8˚F) – Station monthly record
Granada	36.9˚C (98.4˚F) – Station monthly record

Event Details

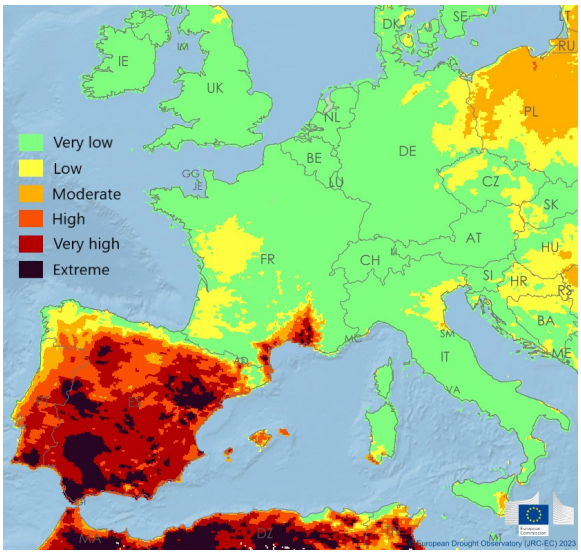
In a response to dry and hot weather, Spain has seen a significant increase in the number of total wildfires and the spatial extent burned thus far in 2023. Tens of thousands of hectares have been burned since the beginning of the year, highest extent since 2006. No fewer than 32,000 hectares (79,000 acres) was burned in **Asturias Province**, north-western Spain, in late March. This event includes more than 100 new ignited wildfires. To date, Spain recorded the highest number of fires across the country, almost five times higher than the national average of years 2006-2022, according to the data from EFFIS (see Graphics below).



Data: Copernicus EFFIS. Graphic: Catastrophe Insight, Aon

According to fire danger forecast for upcoming days, wildfire risk is expected to be very high, or even extreme for widespread area across Spain.

Heat and ongoing precipitation deficit also amplified drought risk across the country.



Fire Danger Forecast on April 26 – May 2
Source: EFFIS, GWIS

Financial Loss

Continuing drought and severe wildfires, which were aided by early heat, will likely result in complex economic consequences and a notable financial impact, including secondary and tertiary effects. Full scale of the damage on forestry and agricultural production due to wildfires and drought has yet to be determined. However, potential losses are expected to be into the hundreds of millions EUR.

United States: Severe Convective Storm

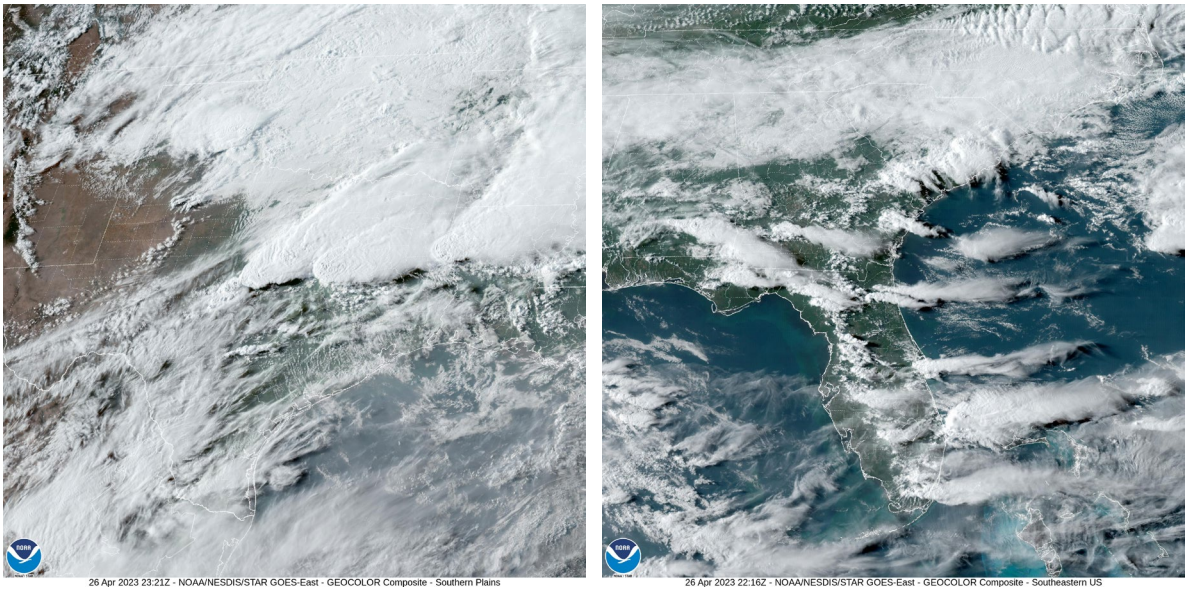
Overview

Another multi-day convective storm outbreak affected multiple states in the Southeast of the United States on April 23-27. Storms generated large hail and damaging winds, resulting in notable structural and vehicular damage across the region. Total economic losses from the event are anticipated to reach into the tens of millions USD, as well as another costly event for the insurance industry is expected.

Meteorological Recap

Storm outbreak was associated with a cold frontal boundary passage. On April 23, front was moving through southern and south-eastern parts of Texas, bringing damaging hail up to 2 in (5 cm) and strong winds particularly in DeWitt County. Front began to slow down and became nearly stationary while stretching through the South and the eastern U.S. on April 24. Near the stationary front, thunderstorms began to develop, generating isolated large hail and strong wind gusts along the Florida Peninsula.

On April 25-27, severe storms continued to affect particularly Texas, Florida and Georgia, as low-pressure systems brought further cold fronts and enhanced severe storm risk. Supercell thunderstorms produced very large hail up to **4.5 inches (11 cm)** in diameter, particularly in Texas, and wind gusts up to 85 mph (135 kph), according to the U.S. Storm Prediction Centre. Several tornado outbreaks were reported on April 27.



Thunderstorm activity in Texas (left), Georgia and Florida (right) on April 26
Source: NOAA, GOES-East

Event Details

Storm impacts were reported in Texas, Florida, and Georgia during this recent storm period. Primary hazards were large hailstones and damaging wind gusts, which generated notable structural and vehicular damage along with downed trees and power lines across the region. As of this writing, no casualties were reported due to severe weather.

In **Texas**, localized very large hail up to 4.5 inches (11 cm) occurred in several counties, including Dickens, Comanche, McLennan, Nolan, Swisher, Taylor, and Floyd. In **Florida**, high winds of up to 85 mph (135 kph) and hail up to 3 inches (7.6 cm) in diameter were reported in several areas of the state, including the counties of St. Lucie, Nassau, Brevard, Hillsborough, Sumter, Broward, and Indian River. In **Georgia**, the counties of Effingham, Bryan, Wayne, Terrell, and Chatham were the most affected by severe weather. Additional notable agricultural damage caused by large hail was incurred in several locations across Florida and Georgia.

Crop damage in Hastings, Florida
Source: Hastings Agricultural Extension Center

Financial Loss

Due to a widespread nature of the outbreak and severe structural and vehicular damage as a result of large hailstones and strong winds, aggregated economic and insured losses from the event were initially anticipated to reach into the tens of millions USD.

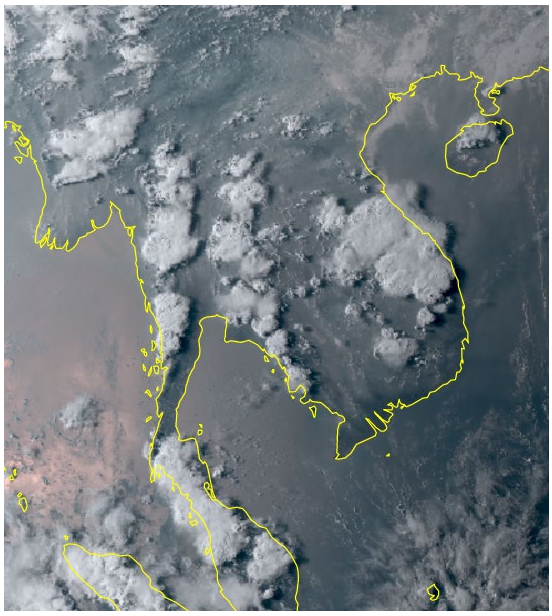
Southeastern Asia: Severe Convective Storm

Overview

Multiple severe convective storm outbreaks resulted in casualties and material damages in several countries in south-eastern Asia on April 21-24. At least 19 people lost their lives, and more than 100 were injured in Myanmar, Bangladesh, and Thailand. Total economic losses are expected to be in the millions USD as hundreds of structures were damaged across the region.

Meteorological Recap

An enhanced conditions for storm development dominated in multiple locations across South-eastern Asia, including Myanmar, Bangladesh, Thailand, and Sri Lanka. Region has experienced prolonged period with above-average temperatures, setting numerous national and monthly record in recent days (see previous Weekly Cat Report). Storms, which occurred this week generated damaging wind gusts and tornadic winds, localized heavy rainfall, and numerous lightnings.



Thunderstorm activity on April 23
Source: HIMAWARI

Event Details

On April 21, a tornado struck Aung Myin Kone and Tadau villages in central **Myanmar**. According to authorities, tornado left eight people dead and no fewer than 128 injured people. Storm caused notable material damage on 232 structures, including hospital and monasteries.

Ten people were killed by lightnings in multiple accidents that occurred in north-eastern **Bangladesh** on April 23. Victims of severe weather were reported in districts of Netrokona, Sylhet, Sunamganj and Maulbi Bazar.

On April 23-24, severe thunderstorms accompanied by strong wind gusts affected more than 1,200 people across 11 provinces in **Thailand**. Severe weather-related material damage on more than 400 houses was incurred in provinces of Chiang Mai, Kamphaeng Phet, Lampang, Lamphun, Nakhon Nayok, Nakhon Si Thammarat, Phayao, Phetchabun, Tak, Ubon Ratchathani, and Nong Khai, where one person was killed, according to the ASEAN Disaster Information Network (ADINet).

Economic losses related to thunderstorms and localized heavy rains were reported also westward, in **Sri Lanka**, where more than 250 houses were damaged, according to local disaster management centre.

Natural Catastrophes: In Brief

Flooding (Angola)

Ongoing rainy season has triggered widespread flooding in several provinces across Angola, resulting in casualties and material damage. Since the beginning of April, flooding has claimed at least 54 fatalities, more than 450 injured people, and almost 4,400 damaged houses. The worst damage was reported by authorities in provinces of Luanda, including country's capital, in Lunda Norte, Lunda Sul, Namibe, Malanje, Cuanza Norte and Moxico.

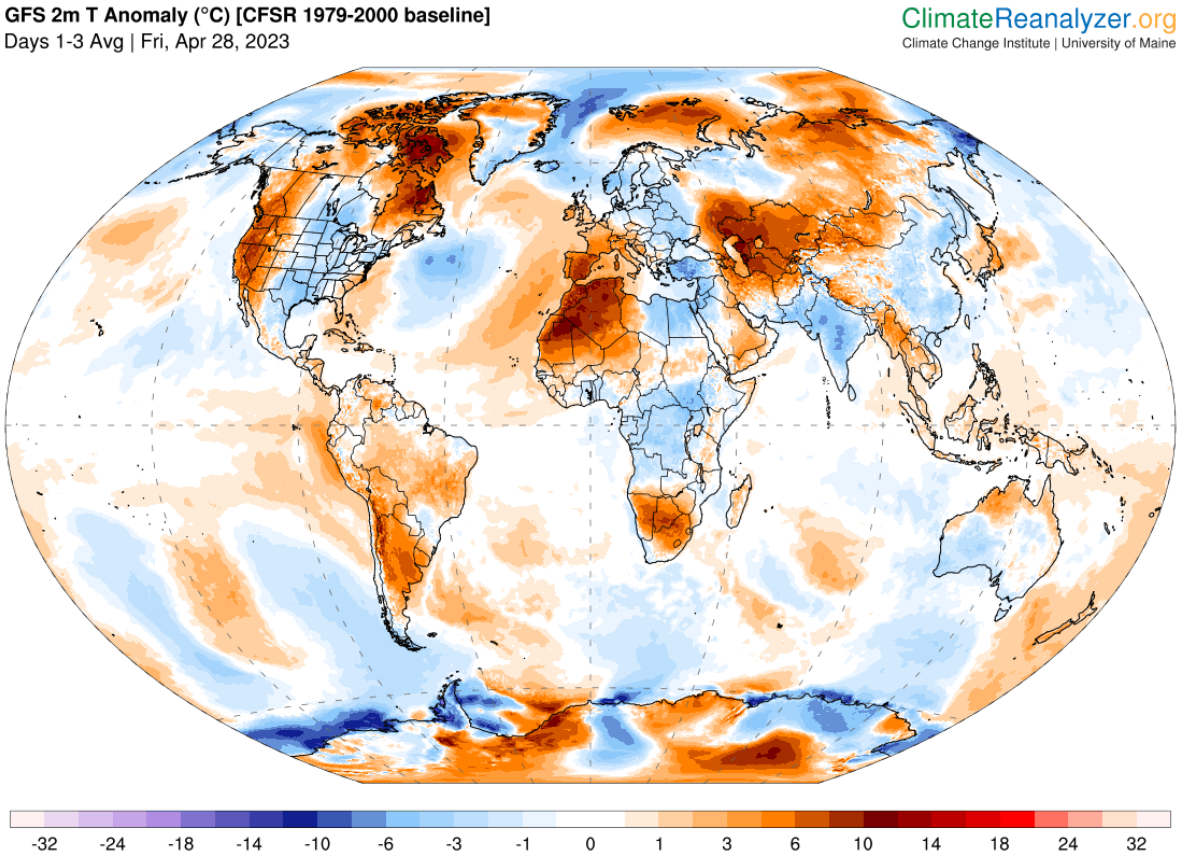
Severe Convective Storm (Türkiye)

Storm accompanied by tornadic winds struck Pazarcık town in Kahramanmaraş province, south-eastern Turkey, on April 20. Tornado directly hit a tent camp, where residents stayed after devastating earthquake that impacted this region in February. One person died, and 50 others were injured due to strong winds, almost 170 temporary shelters were damaged.

Flooding (Brazil)

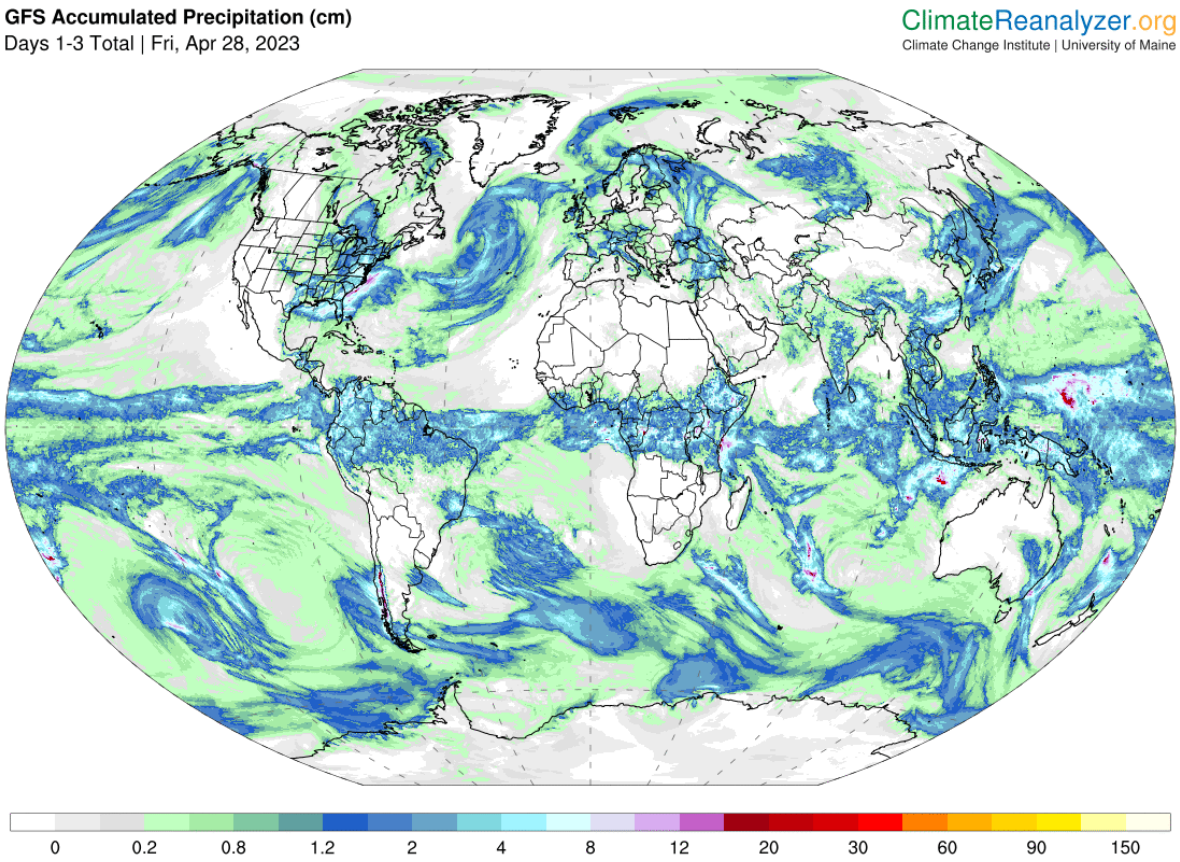
Heavy rainfall in recent days resulted in flooding and landslide events in Brazil, forcing almost 10,000 people to leave their homes. Several municipalities across the worst affected Bahia State, including Santa Cruz Cabrália, Ilhéus, Belmonte, Porto Seguro and Itapebi, have declared a state of emergency. Several houses were reported destroyed; dozens of homes were inundated by floodwaters.

Global Temperature Anomaly Forecast



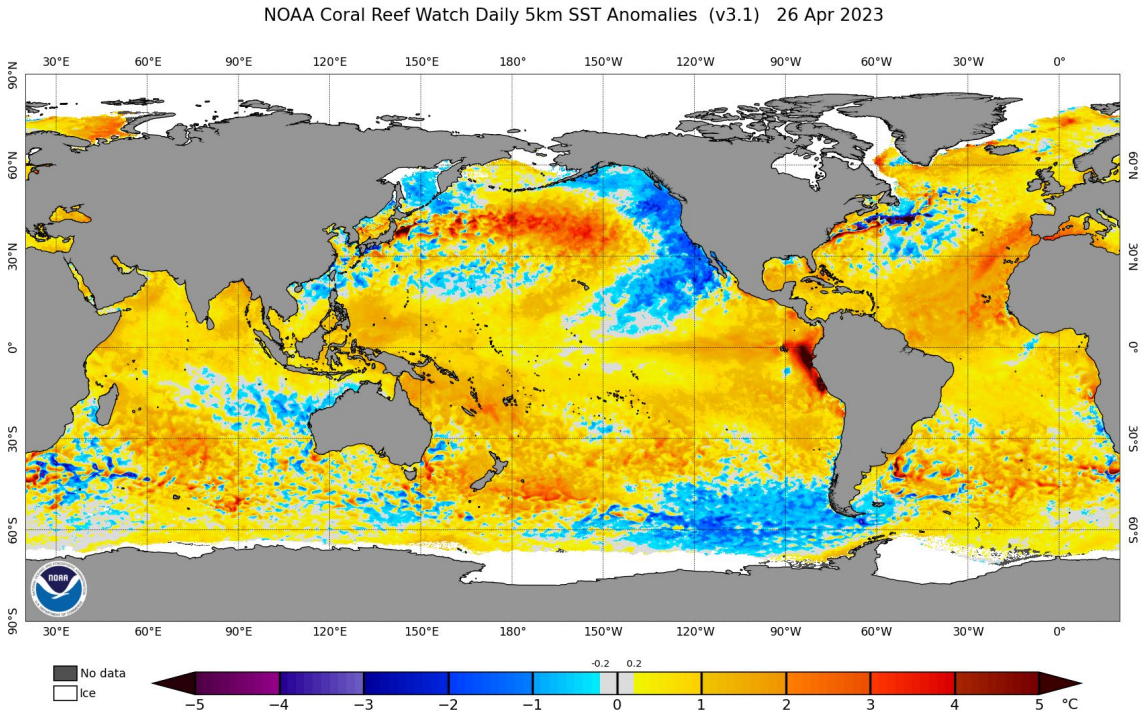
Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

Global Precipitation Forecast

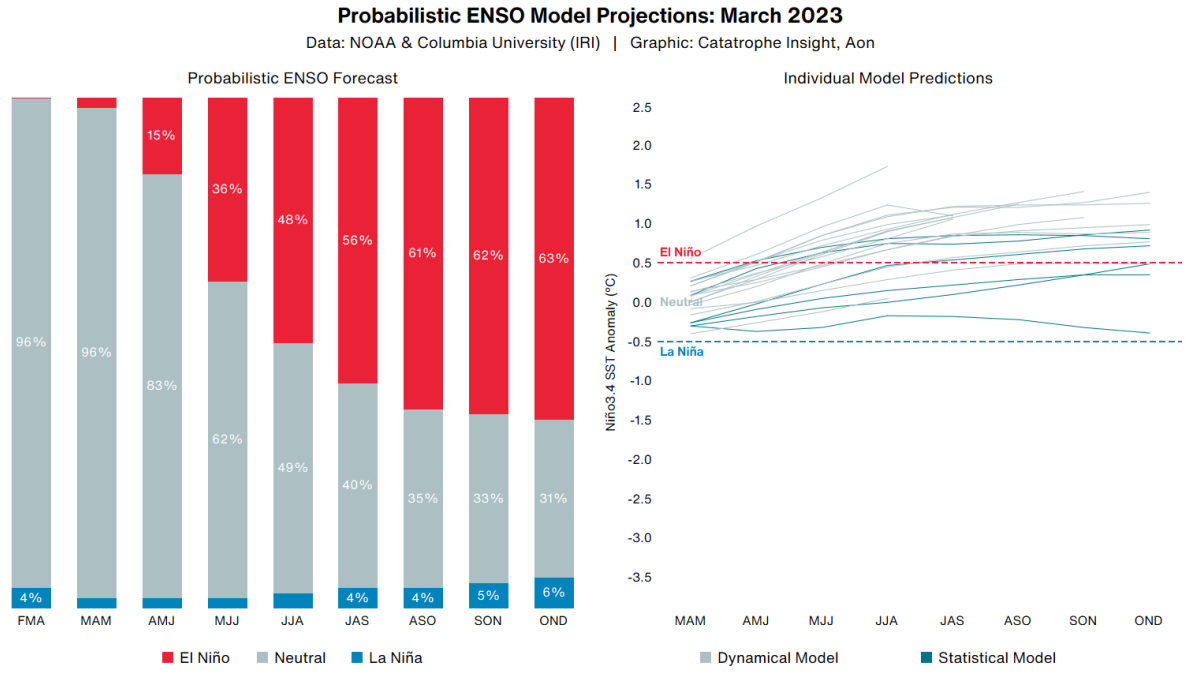


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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



El Niño-Southern Oscillation (ENSO)



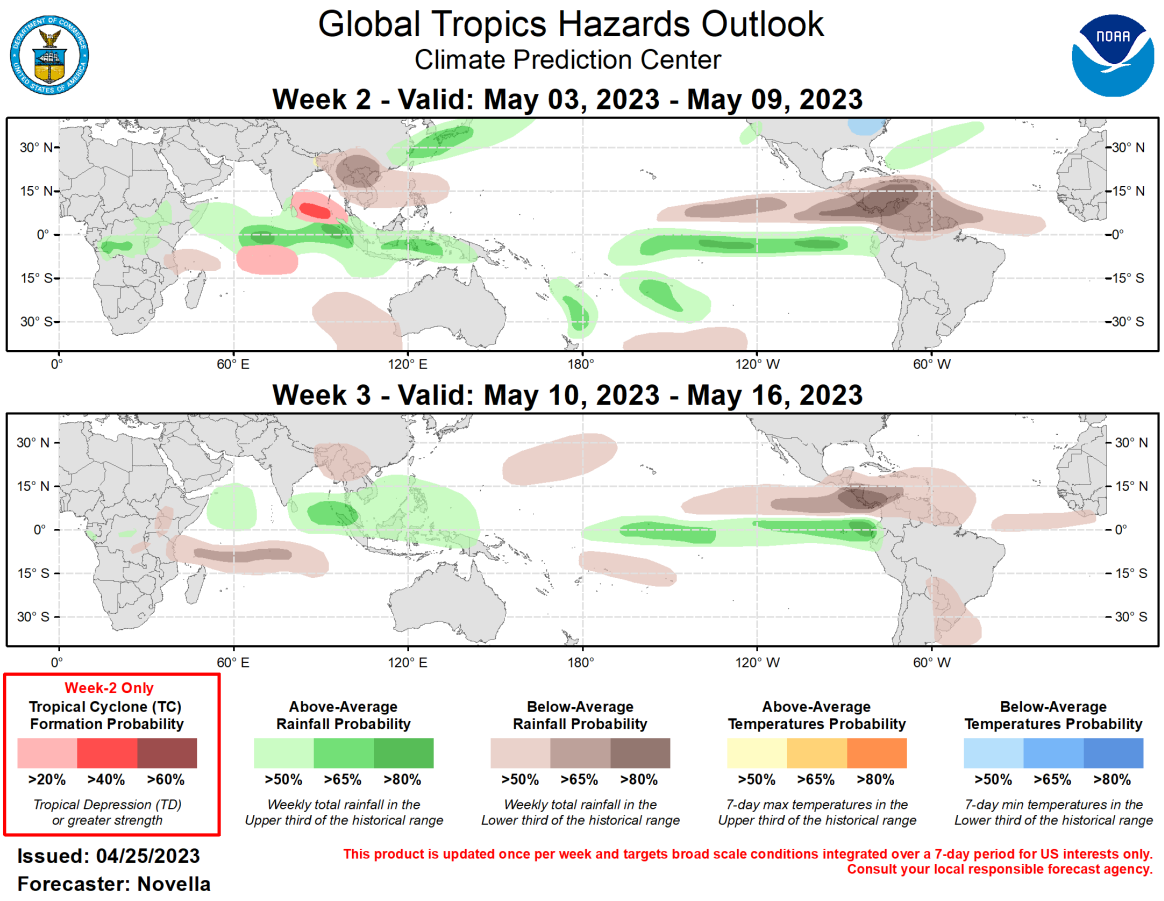
El Niño: *Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.*

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.*

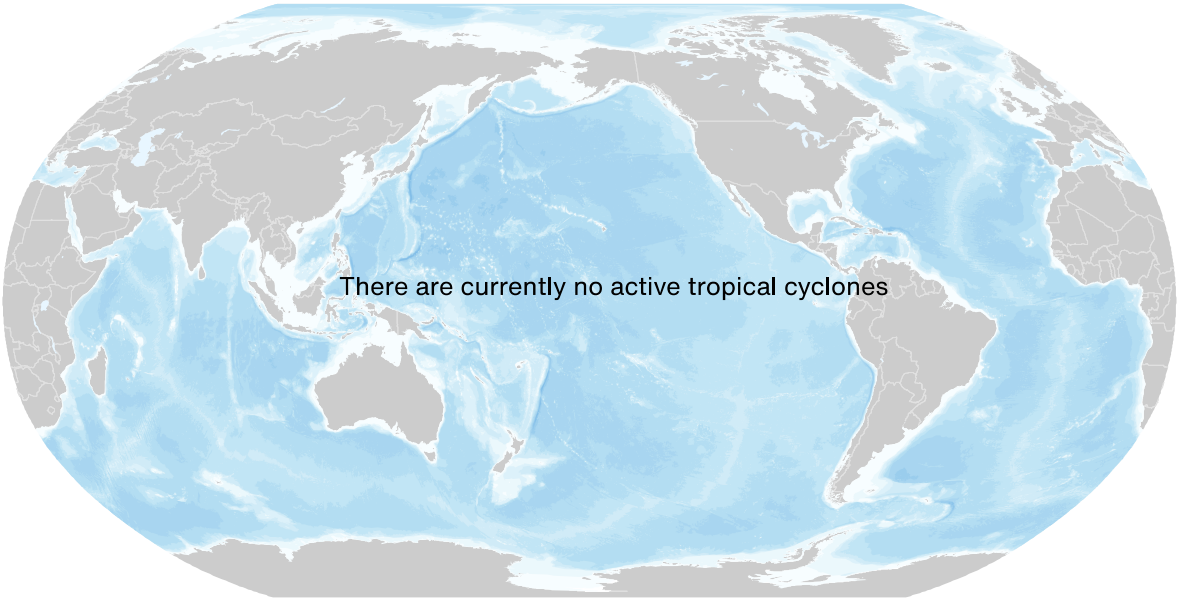
El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5°C (-0.5°C). This is known as the Oceanic Niño Index (ONI).

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity



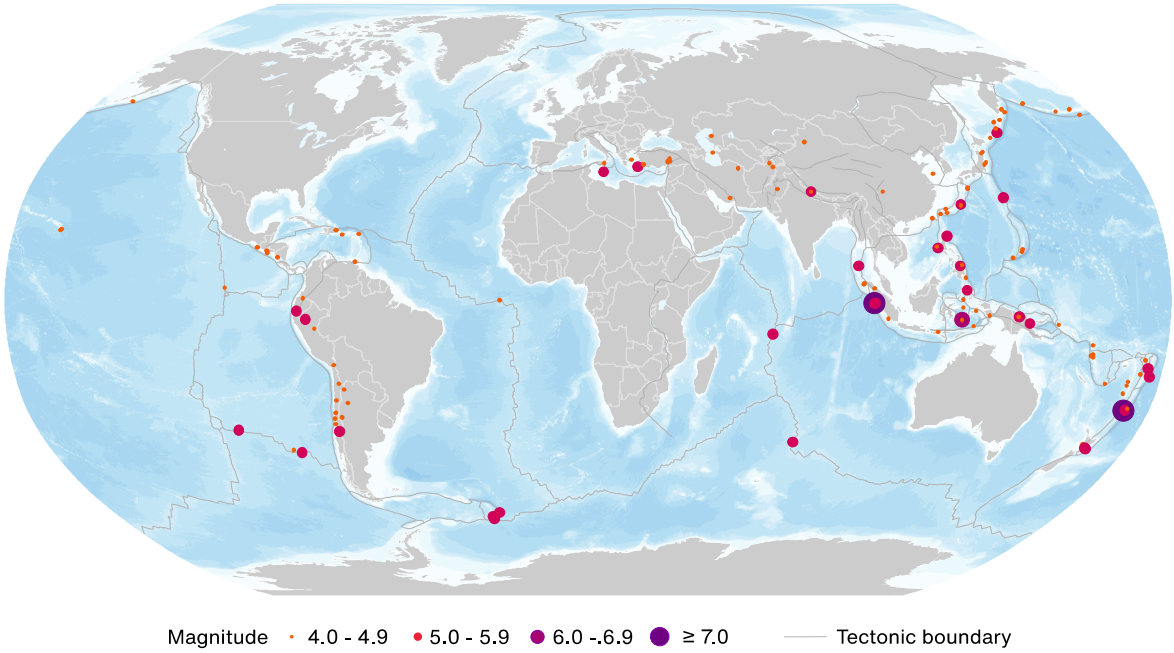
Tropical Depression Tropical Storm Category 1 Category 2 Category 3 Category 4 Category 5

Storm Name	Location	Winds	Location from Nearest Land Area

* 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)

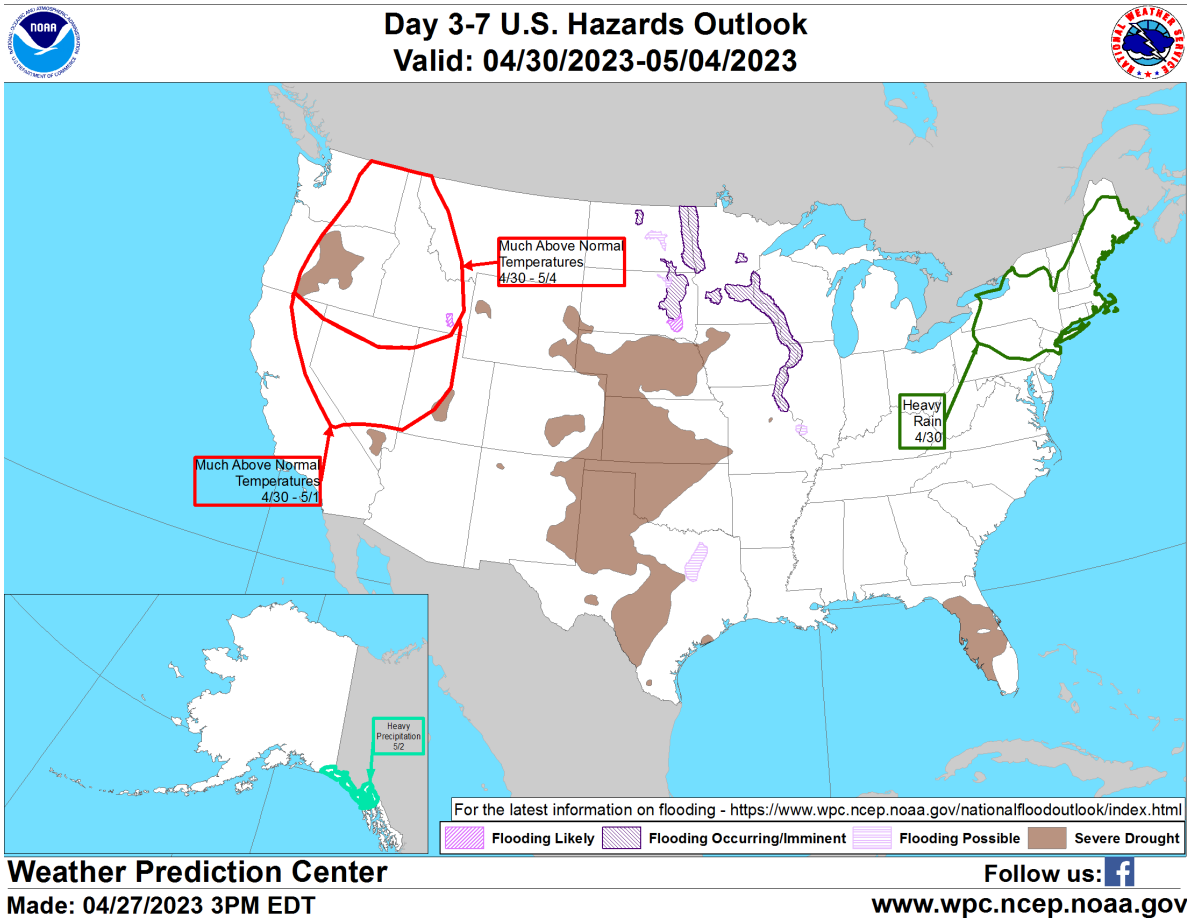
Global Earthquake Activity (≥M4.0): April 21-28



Date (UTC)	Location	Magnitude	Epicenter
4/22/2023	5.27S, 125.59E	6.0	Banda Sea
4/24/2023	29.97S, 177.83W	7.1	Kermadec Islands, New Zealand
4/24/2023	0.78S, 98.53E	7.1	17 km (11 mil) SSE of Teluk Dalam, Indonesia

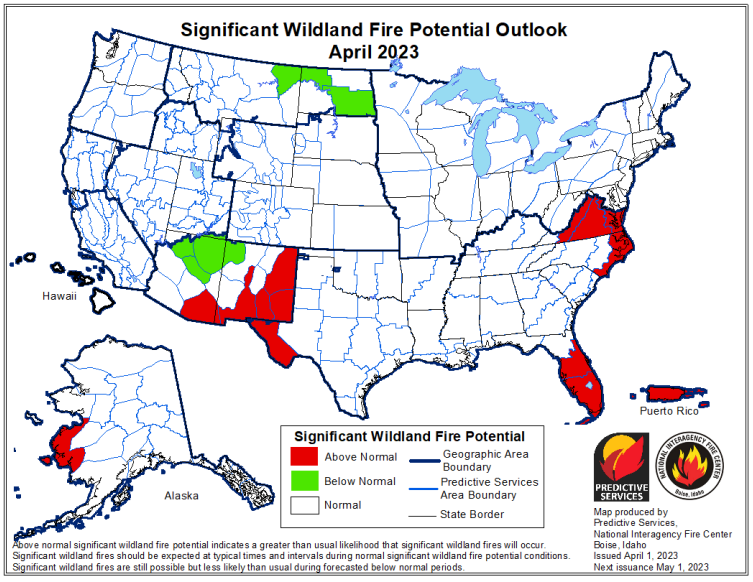
Source: United States Geological Survey

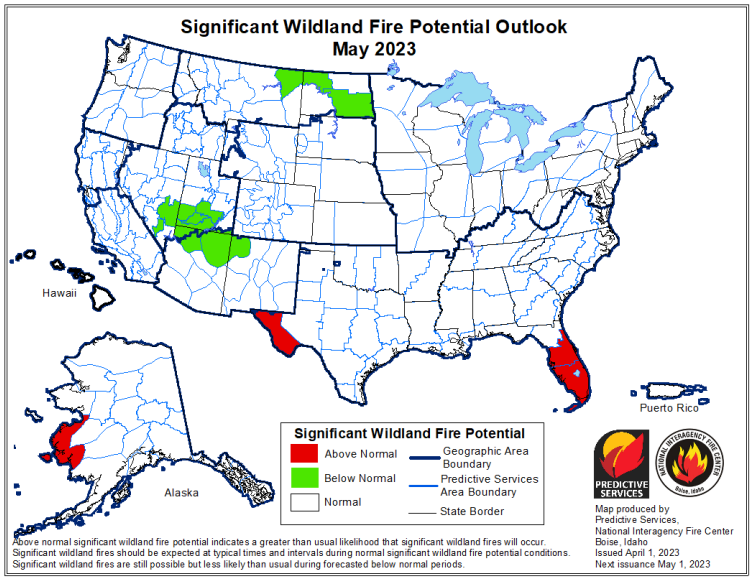
U.S. Hazard Outlook



Source: Climate Prediction Center (NOAA)

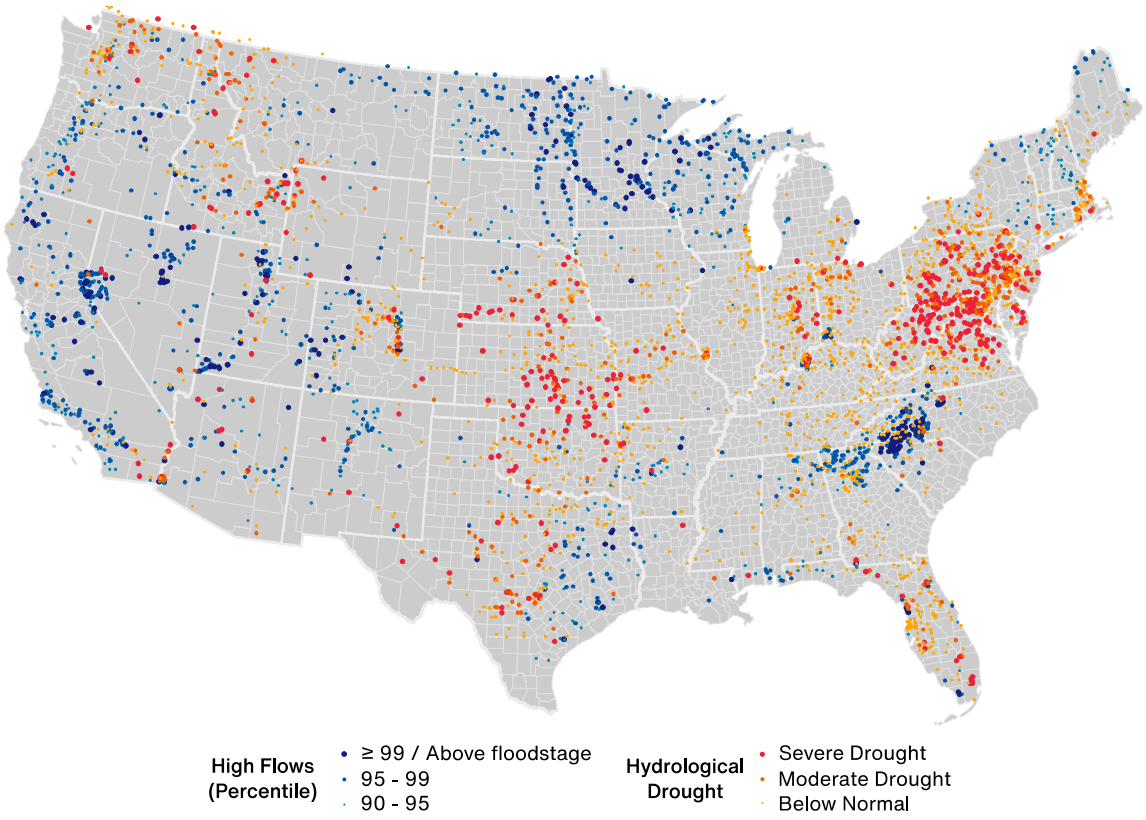
U.S. Wildfire: Significant Fire Risk Outlook & Activity





Source: NIFC

U.S. Current Riverine Flood Risk



A ≥99th 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.

Source: United States Geological Survey

Source Information

Spain: Drought & Wildfire

The European Forest Fire Information System (EFFIS)
Copernicus Emergency Management System (EMS)
The European Drought Observatory (EDO)
The Global Wildfire Information System (GWIS)
The National Meteorological Institute (AEMET)
Severe Weather Europe
Asturias will request the declaration as a catastrophic area after the fires that devastated 32,000 hectares, *El Pais*

United States: Severe Convective Storm

The National Weather Service (NWS)
The Storm Prediction Centre (SPC)
Grapefruit-sized hail bombards Texas as icy baseballs pelt Florida, *The Washington Post*

Southeastern Asia: Severe Convective Storm

8 killed, 109 injured after deadly tornado hits central Myanmar, *Independent*
Shocking consequences of lightning, death of 10 people across Bangladesh, *Hindustan Times*
ASEAN Disaster Information Network (ADINet)

Natural Catastrophes: In Brief

Floodlist
Rains make 54 dead in recent days across the country, *Journal de Angola*

Contacts

Michal Lörinc
Head of Catastrophe Insight
michal.lorinc@aon.com

Ondřej Hotový
Catastrophe Analyst
ondrej.hotovy@aon.com

About Aon

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