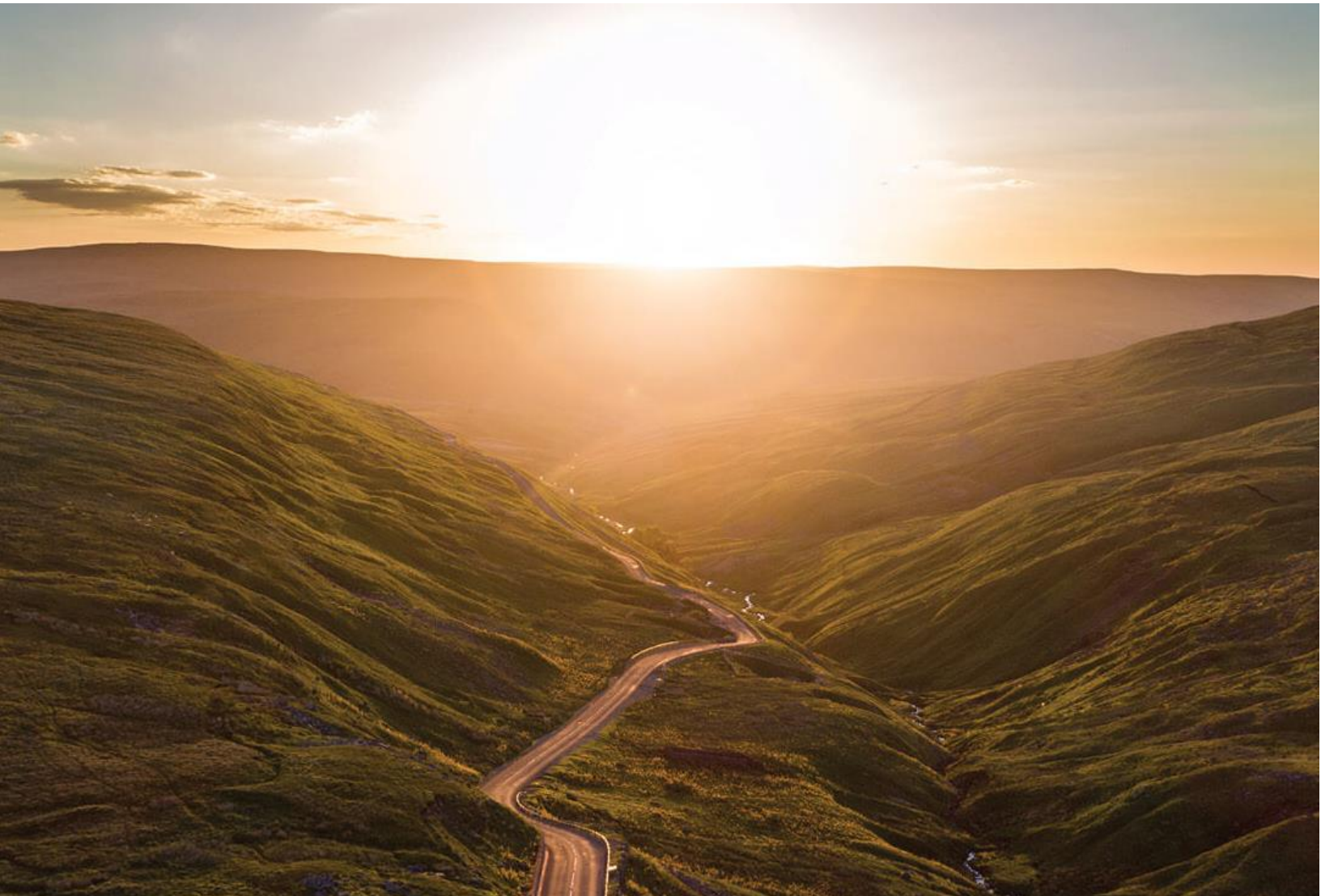
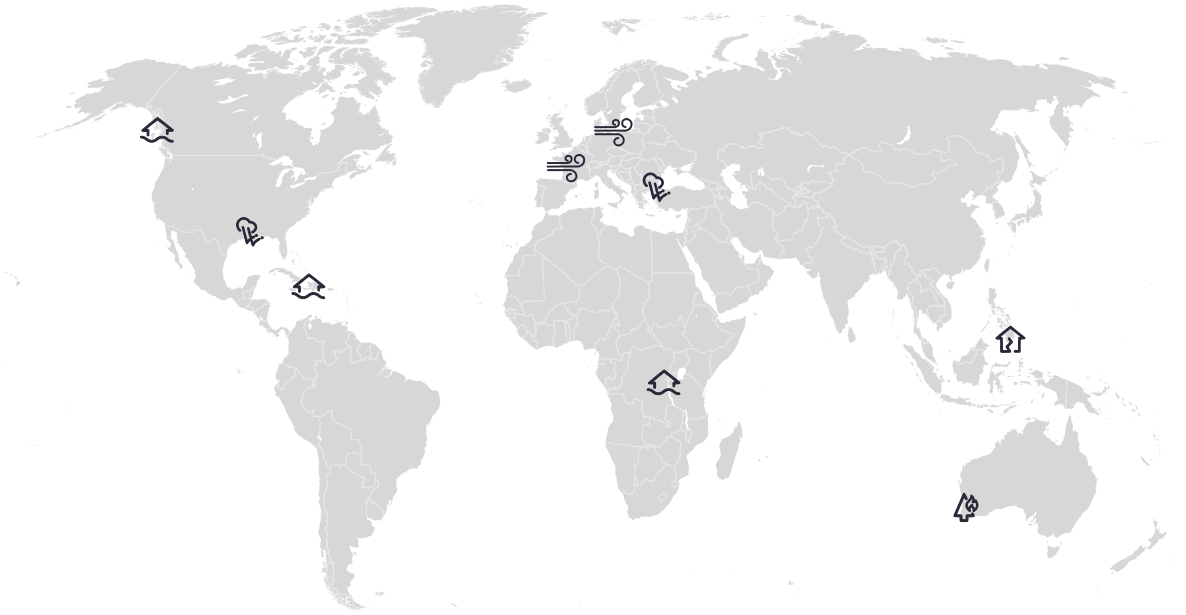
Weekly Cat Report

November 24, 2023



Executive Summary



Event	Affected Region(s)	Fatalities	Economic Loss ($)	Page
Flooding	Caribbean	26	10s of millions	3
Windstorm Frederico & SCS	Western & Eastern Europe	11	10s of millions	5
Earthquake	Philippines	9	10s of millions	7
Severe Convective Storm	United States	0	Millions	7
Wildfire	Australia	0	Millions	7
Landslide	United States	3	Millions	7
Flooding	DRC	4	Unknown	7
Windstorm Niklas	Northern Europe	0	Millions	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

Caribbean: Flooding

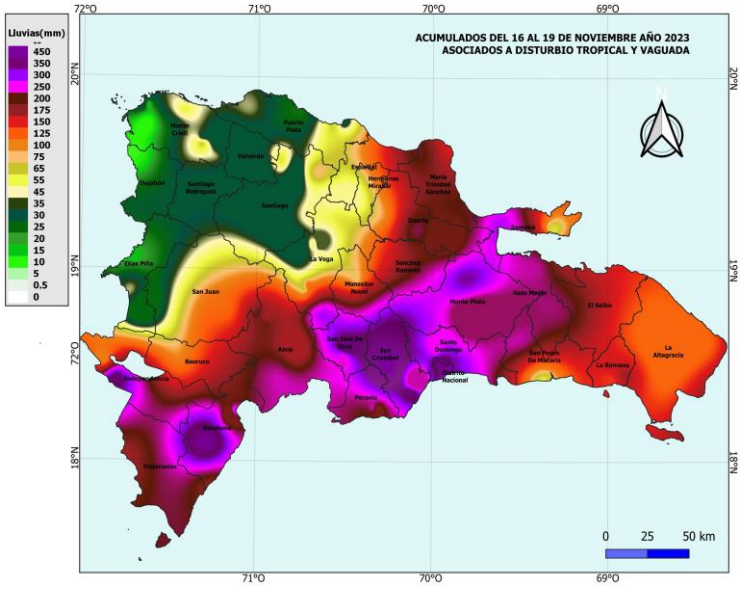
Overview

Extreme rainfall from a tropical disturbance caused intense flooding in several countries of the northern Caribbean on November 17-18. The Dominican Republic, Jamaica, and Haiti were heavily impacted as 26 people were killed. Flooding was especially devastating in the central Dominican Republic, which led to extensive property and infrastructure damage.

Meteorological Recap

Flooding rains from potential tropical cyclone 22 particularly impacted the central Dominican Republic on November 17-18. According to Oficina Nacional de Meteorologia (ONAMET), much of the central Dominican Republic saw widespread rainfall totals of 150-300 mm (6-12 inches) in the two separate 24-hour periods of November 17 and 18.

The highest 24-hour rainfall total came from a weather station at Arroyo Hondo Viejo near Santo Domingo, which recorded an incredible **431 mm (17 inches)** of rain. Several other stations exceeded 400 mm (15.7 inches) of rain in a 4-day period between November 16 and 19.



Rainfall totals in the Dominican Republic between November 16 and 19
Source: ONAMET

The table below highlights the top 5 stations that recorded the highest rainfall event totals, according to ONAMET.

Location	4-day Rainfall Total (mm/inches)
Arroyo Hondo	483 / 19.0
Renacimiento	482 / 19.0
San Cristobal	456 / 18.0
Paraiso	450 / 17.7
Polo	439 / 17.3

Almost all provinces of the Dominican Republic, except the Valverde province, were under various flood and rainfall alert levels. During the peak of that event, the highest red flood warning was issued in 14 southwestern and central provinces.

A tropical disturbance brought a significant amount of rain also to Haiti and Jamaica and Haiti, where as much as 315 mm (12.5 inches) of rainfall was recorded.

Event Details

The **Dominican Republic** was heavily impacted by torrential rainfall that triggered severe flooding. As of November 22, the Emergency Operations Centers (COE, UNCT) reported that more than 7,400 houses have been affected across 45 municipalities, from which no fewer than 2,650 have been damaged or destroyed.

A highway tunnel wall collapse near Santo Domingo crushed several cars, resulting in 9 deaths. The total death toll rose to 24, as of November 21. Nearly 18,000 were evacuated, and almost 2,600 people were rescued across Santo Domingo, San Cristóbal, Azua, and Duarte Provinces in the central Dominican Republic.

Heavy rainfall triggered flooding and landslides over much of **Jamaica**. Around 9 out of the country's 14 parishes saw flooding damage, according to disaster officials. This included Saint Thomas parish, where dozens of people had to be rescued. Additionally, in **Haiti**, the Civil Protection Agency reported 2 deaths due to flooding in the Grand'Anse Department.

Financial Loss

Damage assessments remained ongoing across the affected area but given the considerable property and infrastructural damage caused by flooding, total losses can potentially reach tens of millions USD or higher. The event is also notable for the local insurance sector - according to early estimates from the Dominican Chamber of Insurers and Reinsurers (CADOAR), the event could potentially exceed losses sustained by the country during a flooding event last November and reach more than DOP1.0 billion ($17.5 million), with a potential to further loss development. The association noted 2,000 filed claims already on November 21.

Western & Eastern Europe: Windstorm Frederico & SCS

Overview

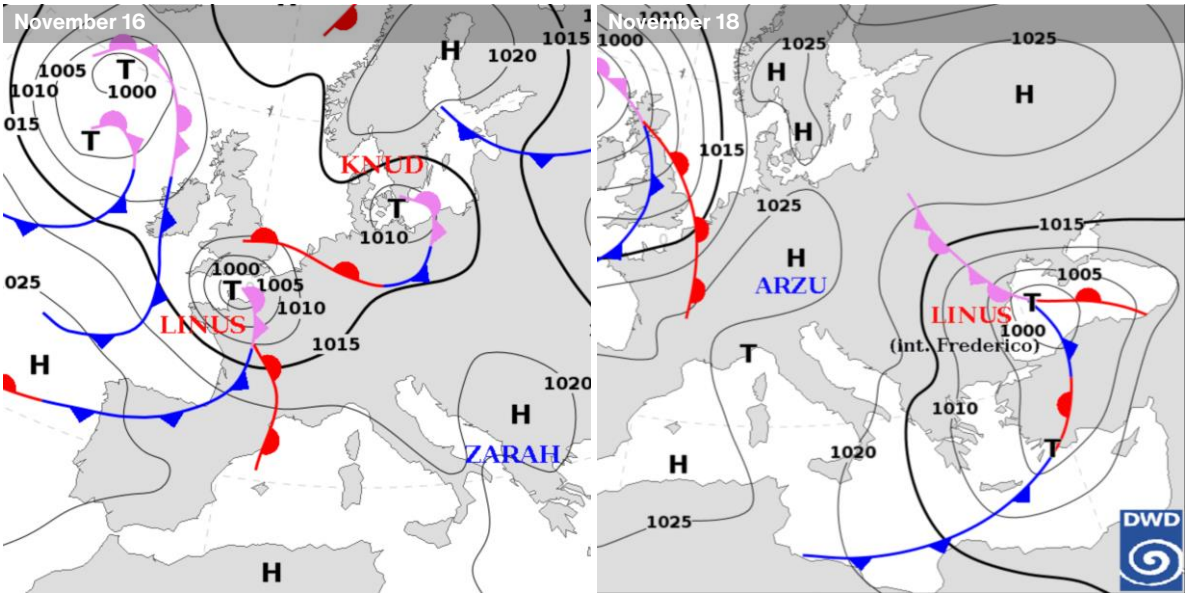
A low-pressure system named Frederico affected parts of Western Europe with strong wind gusts on November 16, and severe storms associated with the system were generated across Southeastern Europe, particularly Bulgaria, and in Turkey between November 18-19. The storm resulted in casualties and some material damage, which is expected to be in the millions of EUR.

Meteorological Recap

November 16

A low-pressure area that would later affect Europe was identified and named by Météo-France on November 15. The storm was alternatively named Linus by FU Berlin. On November 16, Frederico affected parts of France, particularly coastal areas between Brittany and Charente-Maritime departments, generating strong winds of speed up to 100 kph (60 mph). The strongest wind gusts locally exceeded 120 kph (75 mph). Météo-France issued yellow wind warnings for the most of departments, orange flood warnings were in place for the regions that have been affected by heavy rainfall from previous lows.

Location	Wind Gust (kph/mph)
Clermont-Ferrand	126 / 78
Lorient	110 / 68
Tusson	104 / 65
Noirmoutier	104 / 65
Saint-Nazaire	103 / 64
Montlucon	102 / 63
Chassiron	102 / 63
Châteauroux	101 / 63



The Met Office also issued yellow rain warnings associated with the storm for the south coast of England and Wales, where flooding was possible. A gale-force gusts of up to 120 kph (75 mph) were recorded in Switzerland, exposed locations at higher elevations saw gusts of up to 150 kph (93 mph).

November 18-19

The system then tracked through central and southeastern Europe, bringing storms with heavy rain and strong winds to the Balkans. Orange and yellow wind warnings were in effect for parts of Bulgaria, Romania, and Serbia. Higher elevations in the region experienced localized heavy snowfall. Turkey's Black Sea coast was also severely impacted. Severe weather alerts were issued for 72 out of Turkey's 81 provinces by the country's emergency agency (AFAD). Wind gusts reportedly reached up to 100 kph (60 mph) in the country.

Event Details

France

Frederico resulted in some property damage across the French territory. However, due to significantly lower intensity, it did not reach the level of loss experienced as a result of recent windstorms Ciarán and Domingos.

Bulgaria

In Bulgaria, severe weather claimed 2 lives. The city of Varna, located along the Black Sea coast, was particularly impacted. City officials declared a state of emergency as debris littered the streets, and all boroughs of the city experienced significant power disruptions. The local fire department also responded to more than 200 incidents in Verna, mainly for downed trees and branches.

Turkey

The extreme conditions caused two cargo ships in the Black Sea to sink, resulting in 1 death, several rescues, and 11 people being reported missing. Elsewhere in Turkey, an additional 8 people were killed, and 50 others were injured. Local news agencies also reported widespread downed trees and building damage across the Zonguldak and Sakarya provinces. According to Istanbul's governor, 210 homes and businesses were flooded in the town of Sile along the Black Sea.

Financial Loss

The storm resulted in relatively minor wind-related damage, particularly in France. However, the impacts were not as noteworthy as those generated by recent events Ciarán and Domingos. Additional effects were reported due to heavy rain and also due to severe weather associated with Frederico's frontal system in Southeastern Europe and Turkey.

Natural Catastrophes: In Brief

Earthquake (Philippines)

A magnitude 6.7 earthquake jolted Sarangani Island, the Philippine province of Davao Occidental on November 17. The highest intensities were reported in the municipalities of Glan, Kiamba, Polompok, and General Santos City, affecting more than 40,000 people across the regions of Central and Southern Mindanao. As of November 23, 9 people were reported dead, no fewer than 30 others were injured. Earthquake caused notable infrastructural and structural damage, including dozens of roads, and bridges. More than 4,600 houses suffered various stages of damage, as reported by local authorities (NDRRMC). Total economic losses can reach tens of millions USD, according to the initial assessment of the PAGER methodology by USGS.

Severe Convective Storm (United States)

Strong winds, with multiple tornado reports from the Storm Prediction Center, were recorded in the southern United States on November 20 as storms tracked from the eastern border of Texas through central Louisiana and central Mississippi. They developed ahead of a large, upper-level trough, near a surface low and trailing cold front. Daytime heating, abundant moisture, and sufficient vertical wind shear allowed for discrete, supercell storms to develop in the afternoon, eventually merging into a line of strong storms during the evening. Storms resulted in relatively minor damage, with 3 injured in Cottonport, Louisiana.

Wildfire (Australia)

Extremely hot temperatures enhanced wildfire conditions across Western Australia. The fire that started and expanded north of the city of Perth on November 22 has forced evacuations of dozens of people, destroyed at least 10 structures, and already burnt an area of about 1,000 hectares (2,470 acres). Some firefighters have been injured during operations, according to local authorities.

Landslide (United States)

Heavy rainfall triggered a deadly landslide in a remote community of Wrangell Town in south-eastern Alaska, the United States, on November 21. The event destroyed at least 3 homes, resulted in power outages, and forced some residents of the town to leave their homes. Three people lost their lives, and at least three others remained missing at the time of this writing.

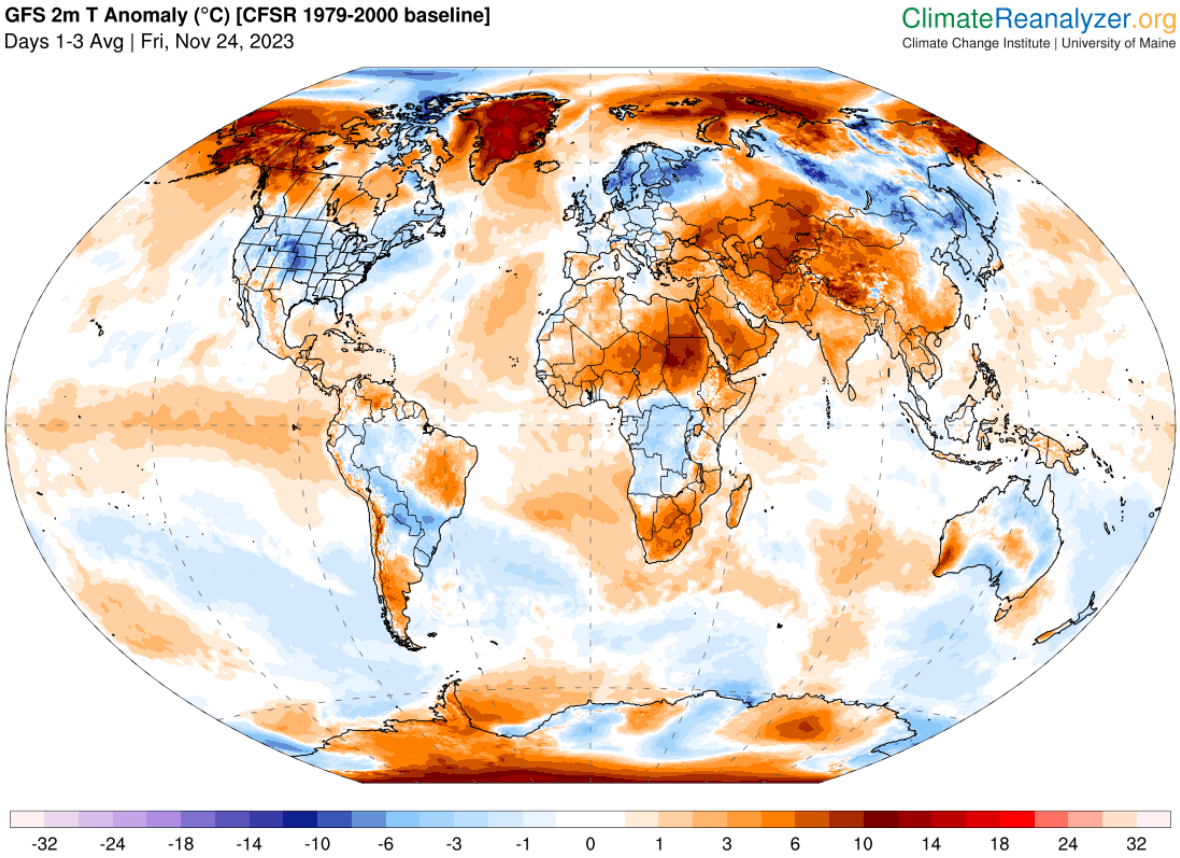
Flooding (Democratic Republic of the Congo)

Heavy rainfall and flooding have been affecting the north-eastern parts of the Democratic Republic of the Congo since November 13. According to UN OCHA, multiple flood events occurred across South Kivu and Haut-Uele Provinces, resulting in four fatalities, 20 injured people, more than 11,300 displaced, and 1,400 damaged houses.

Windstorm Niklas (Northern Europe)

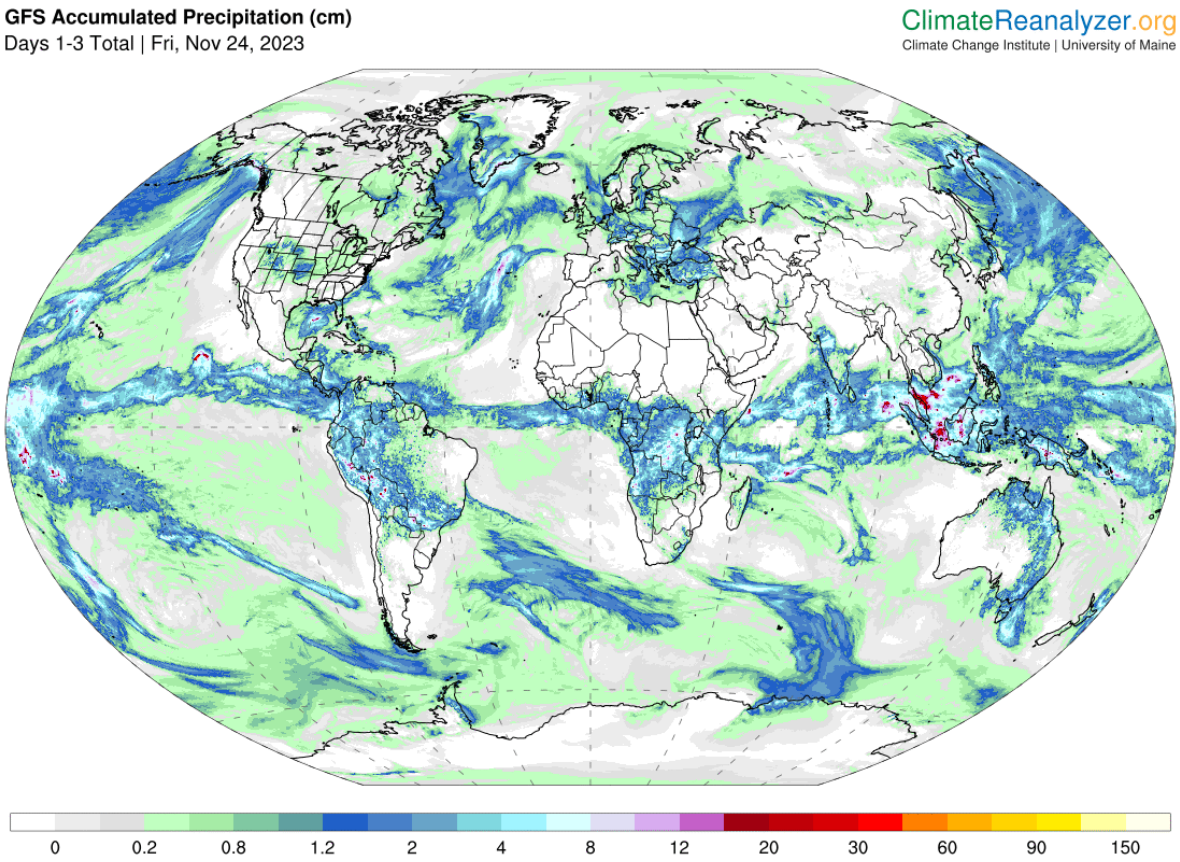
Strong winds associated with a low-pressure system Niklas, which was positioned over northern Europe, resulted in some property damage across the countries along the Baltic coast, including Sweden, Denmark, northern Germany, Poland, and the Baltic states on November 22-23. In Poland alone, emergency services responded to nearly 2,000 calls related to the inclement weather.

Global Temperature Anomaly Forecast



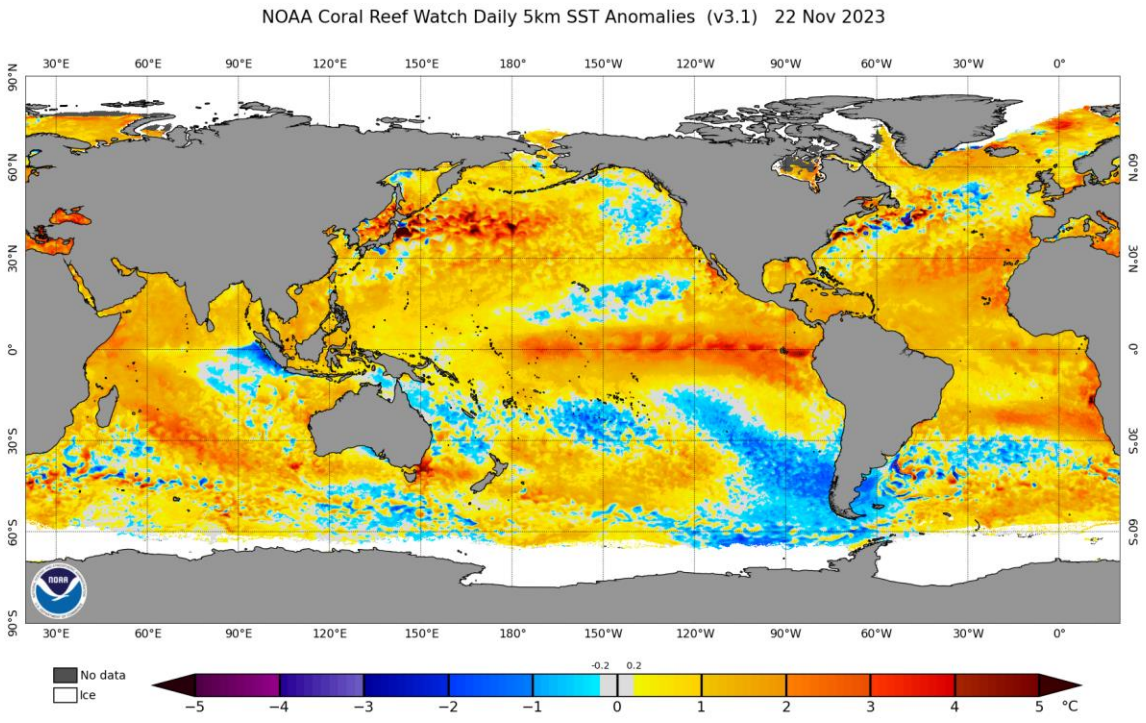
Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

Global Precipitation Forecast

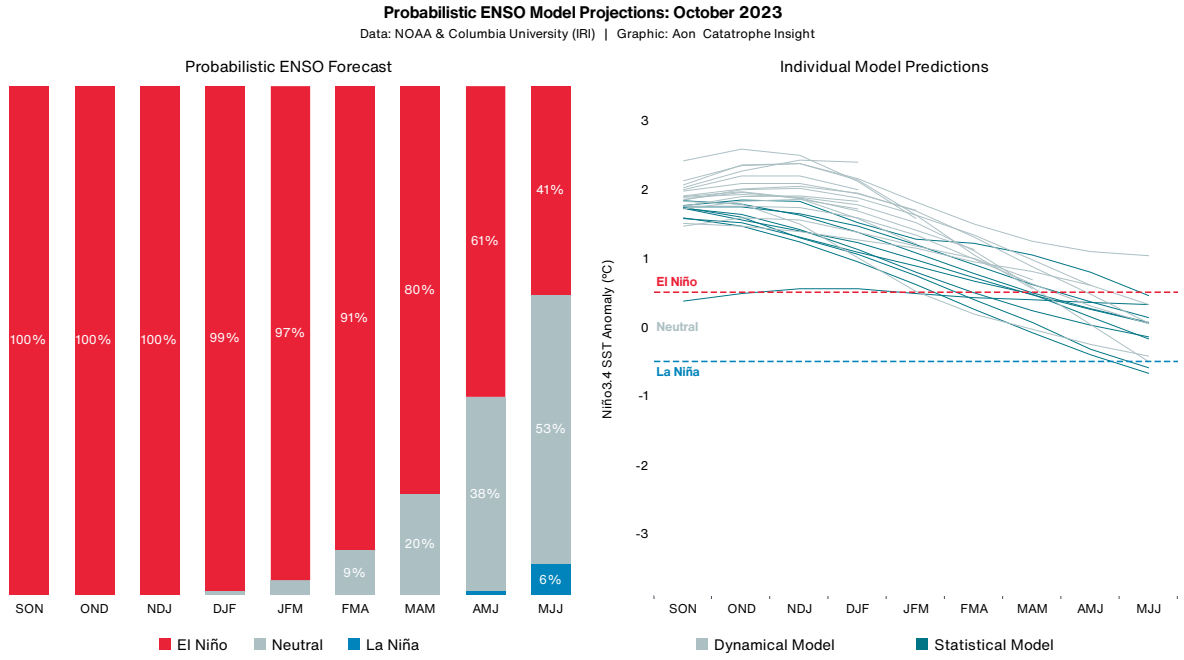


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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



El Niño-Southern Oscillation (ENSO)



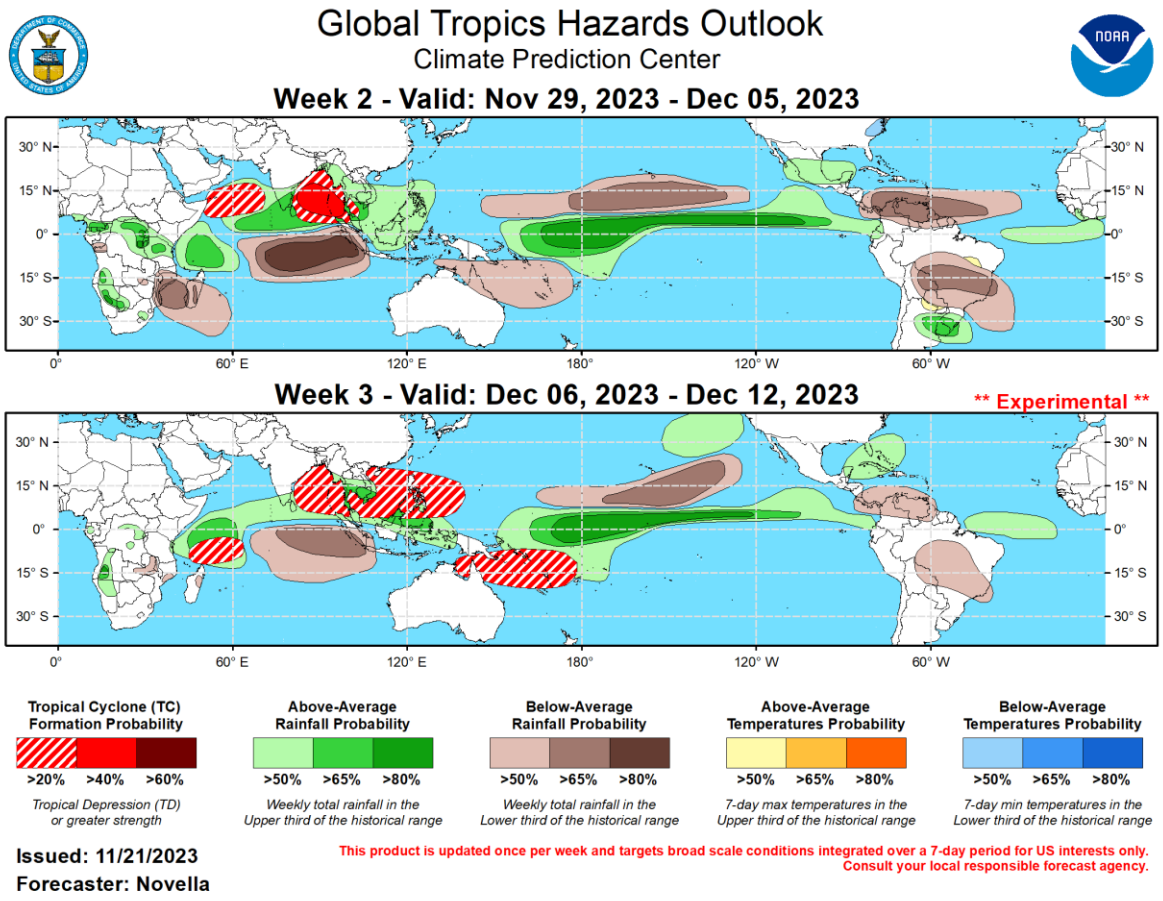
El Niño: *Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.*

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.*

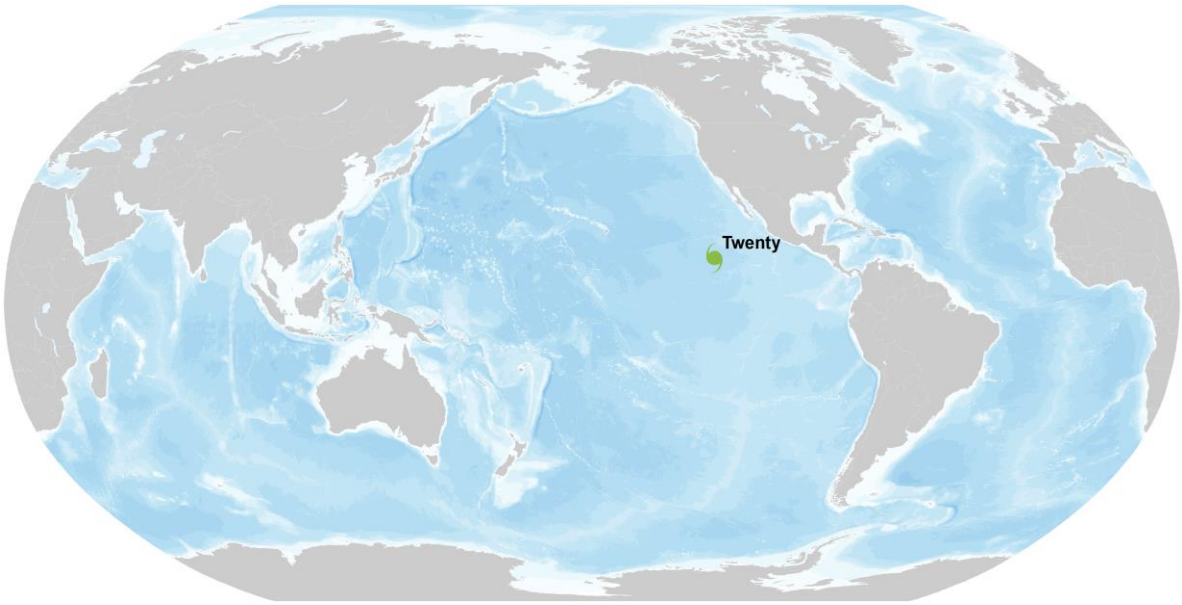
El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5°C (-0.5°C). This is known as the Oceanic Niño Index (ONI).

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity

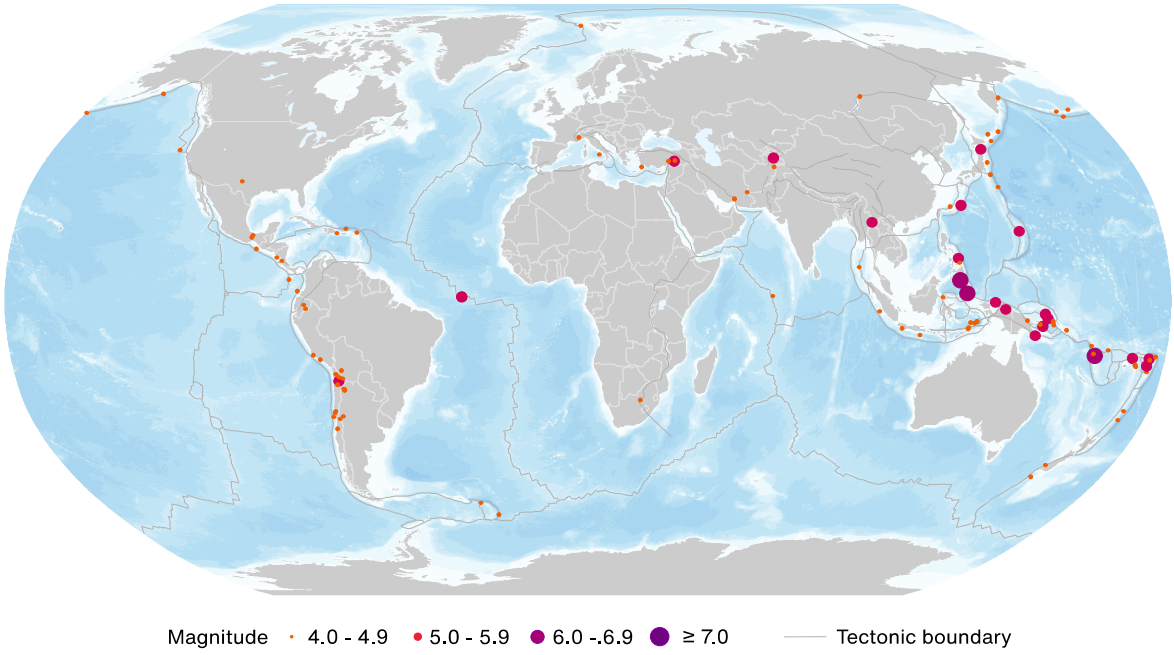


Name	Location	Winds	Center
TD Twenty	12.4N, 122.2W	35	1,120 mi (1,805 km) SW from La Paz, Mexico

* 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)

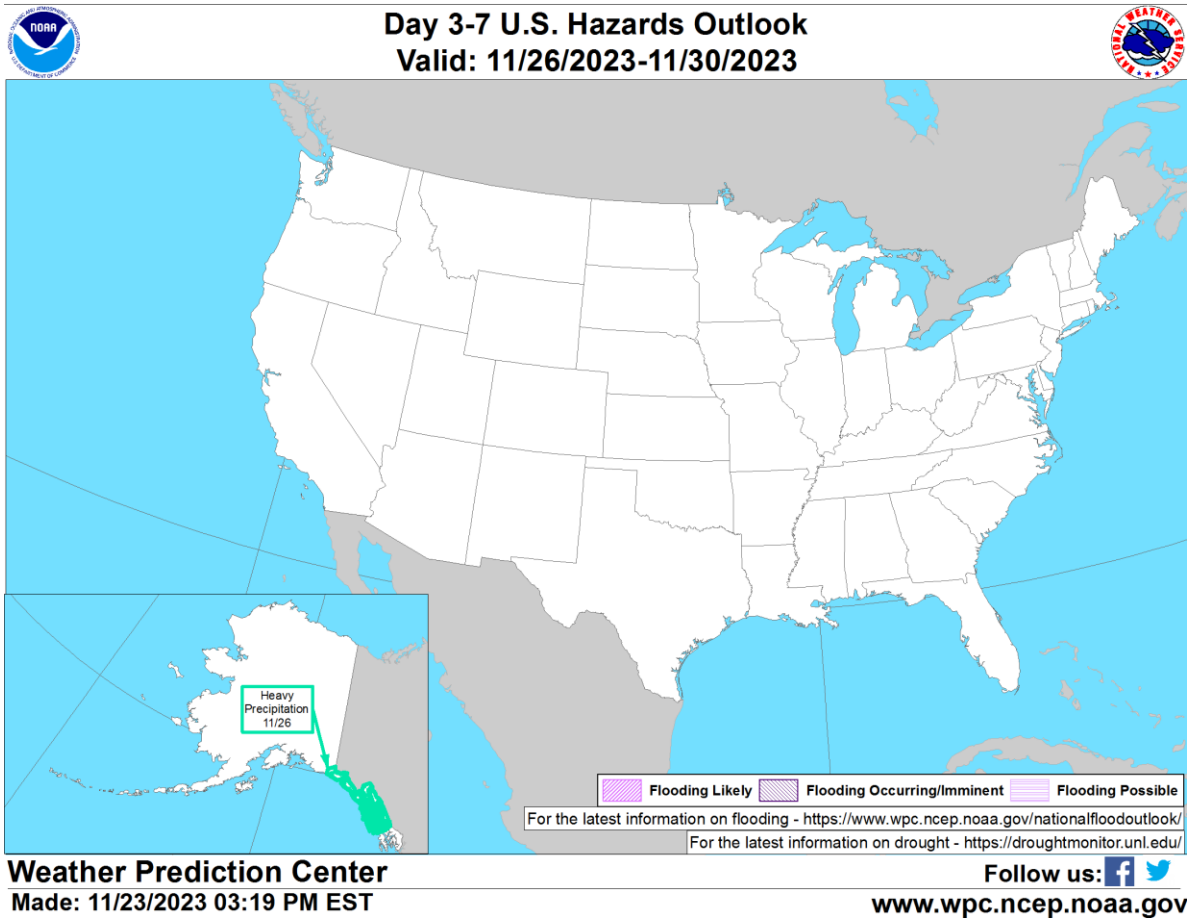
Global Earthquake Activity (≥M4.0): Nov 17-23



Date (UTC)	Location	Mag	Epicenter
11/17/2023	5.59N, 125.05E	6.7	26 km (16 mi) WSW of Burias, Philippines
11/22/2023	1.80N, 127.17E	6.0	94 km (58 mi) W of Tobelo, Indonesia
11/22/2023	14.98S, 167.97E	6.7	96 km (60 mi) E of Port-Olry, Vanuatu

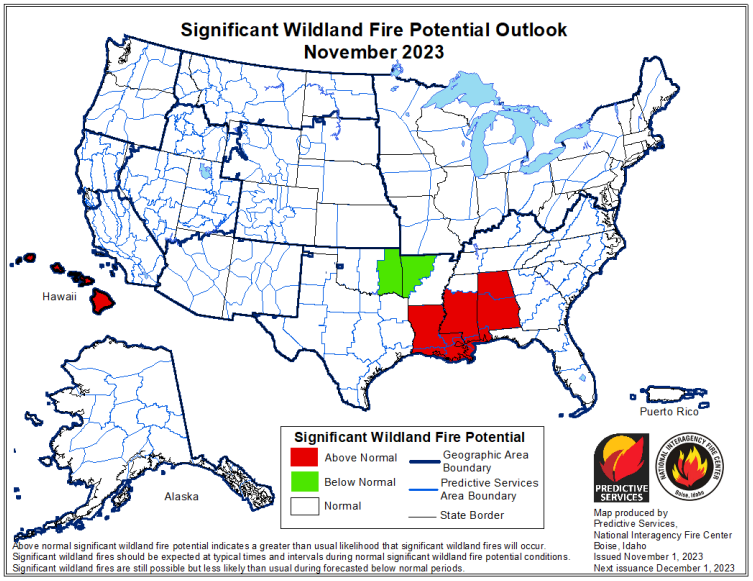
Source: United States Geological Survey

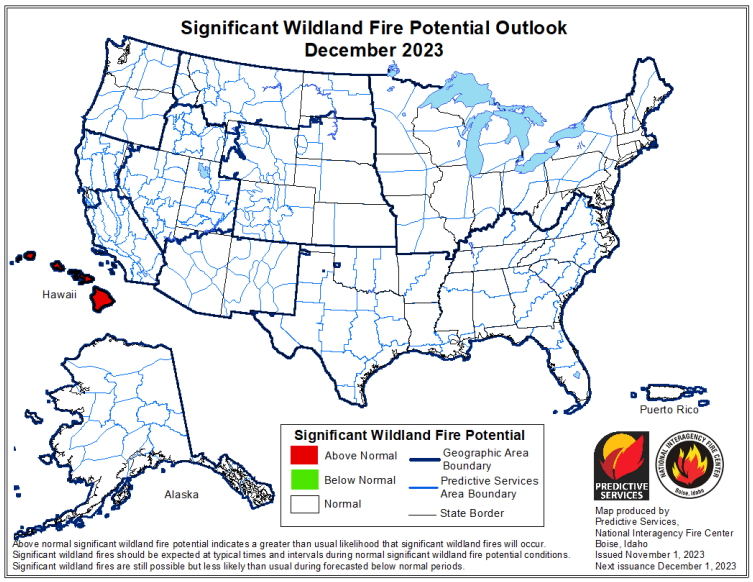
U.S. Hazard Outlook



Source: Climate Prediction Center (NOAA)

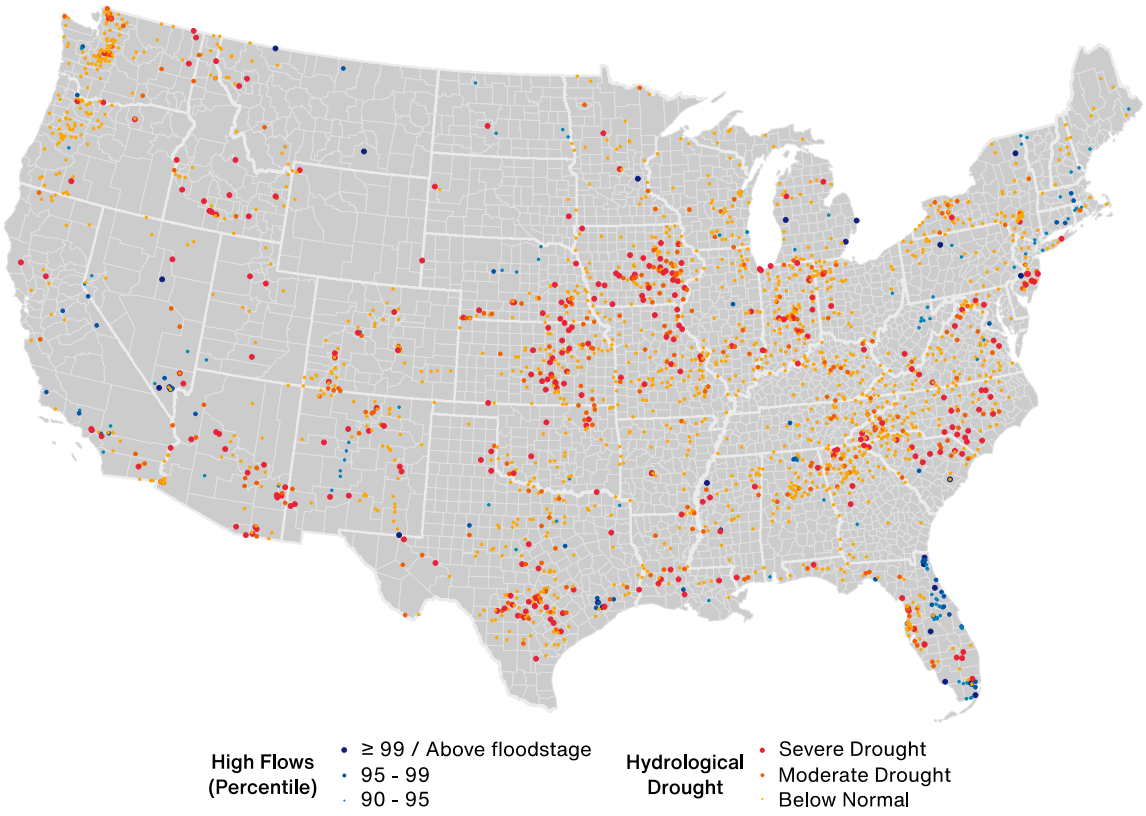
U.S. Wildfire: Significant Fire Risk Outlook & Activity





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

Caribbean: Flooding
Oficina Nacional de Meteorologia (ONAMET)
Floodlist
Emergency Operations Center (COE)
UNCT Dominican Republic

Western & Eastern Europe: Windstorm Frederico & SCS
ESWD
Meteo-France
AFAD
Extreme weather claims 2 lives in Bulgaria and leaves many in the dark, *ABC News*
Devastating storm claims 9 lives in Turkey, leaves 11 missing from sunken ship, *Turkish Minute*

Natural Catastrophes: In Brief
ASEAN Disaster Information Network (ADINet)
NDRRMC
USGS
UN OCHA
Three Killed After Landslide Strikes Alaska Town, *The New York Times*
Dozens Forced to Evacuate, Homes Destroyed as Wildfire Rages on Edge of Perth, *Time*

Contacts

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

Ondřej Hotový
Catastrophe Analyst
ondrej.hotovy@aon.com

Antonio Elizondo
Senior Scientist, Catastrophe Insight
antonio.elizondo@aon.com

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