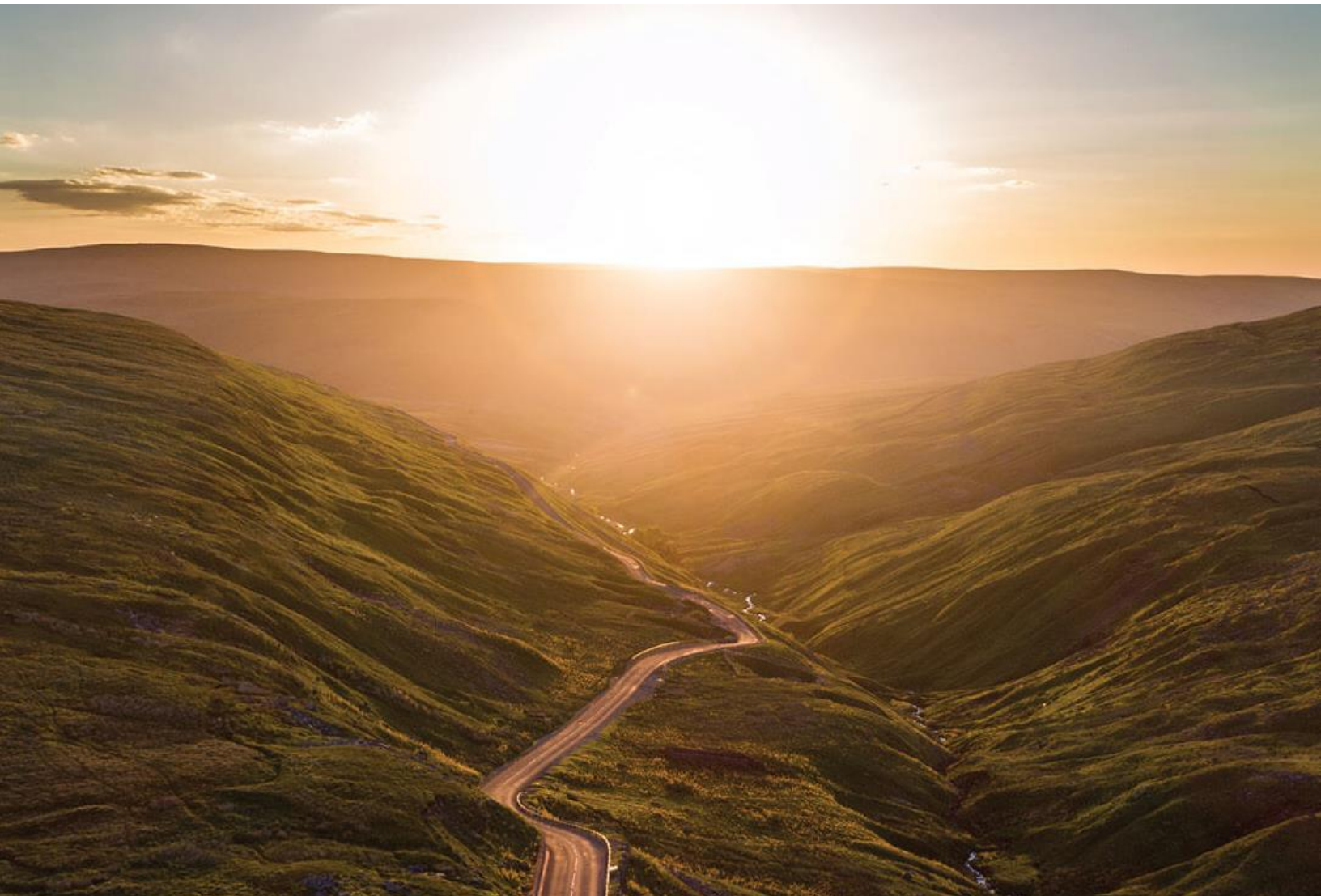
Weekly Cat Report

November 22, 2024



Executive Summary

Event	Affected Region(s)	Fatalities	Economic Loss ($)	Page
SCS, WW, and Flooding	United States, Canada	2	10s of millions	3
Typhoon Man-yi	Philippines	12+	10s of millions	5
Tropical Storm Sara	Caribbean, Central America	7	Millions	7
Winter Weather, Windstorm	Europe	0	Millions	7
Flooding	Israel	0	Unknown	7
Windstorm Caetano	France	0	10s of millions	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

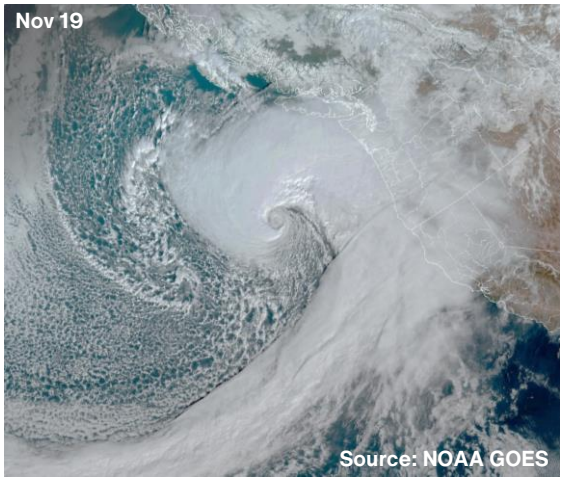
United States, Canada: SCS, Winter Weather, and Flooding

Overview

Since November 19, a strong atmospheric river event has unfolded across the Pacific Northwest and Southwest Canada due to a rapidly deepening low-pressure system, referred to as a 'bomb cyclone'. Prolonged powerful wind gusts and heavy precipitation have caused widespread power outages and damage from northern California to southern British Columbia. At least two people have been killed, and total economic and insured losses may reach into the tens of millions USD.

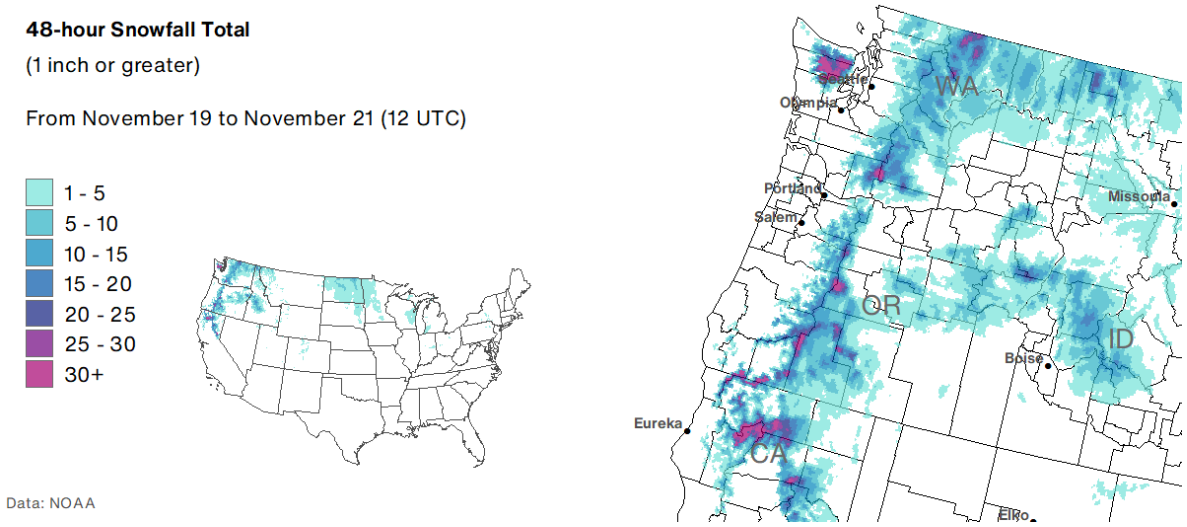
Meteorological Recap

Over the northeast Pacific Ocean, a large low-pressure system and associated frontal boundaries began to impact a large swath of the northwest United States and southwest Canada on November 19. By November 20, the system began undergoing rapid intensification and stalling just offshore from British Columbia. The system's central pressure dropped from roughly 1000 mb to 942 mb in one day, far exceeding the threshold required for a 'bomb cyclone', or a low-pressure system that experiences a 24 mb drop in 24 hours. As a result, powerful wind gusts spread across much of the affected area. Locations within higher elevations in California, Oregon, and Washington experienced hurricane-force wind gusts. According to Environment Canada, gusts up to 170 kph (105 mph) were also seen just offshore from Vancouver Island.



Location	County, State	Highest Gust (mph / kph)
Mattole Road, CA	Humboldt County	98 / 158
Acorn Woman Peak, OR	Jackson County	89 / 143
Van Bremmer, CA	Siskiyou County	82 / 132
Long Prairie, OR	Coos County	82 / 132
Flynn Prairie, OR	Curry County	80 / 129
Indian Well, CA	Siskiyou County	80 / 129
Mount Rainier, WA	Pierce County	77 / 124

Additionally, a large pool of moisture pulled from the Pacific Ocean by the slow-moving storm system has led to persistent precipitation over much of the aforementioned areas. This setup, commonly referred to as an atmospheric river event, has produced widespread rainfall totals exceeding 3 inches (76 mm) over areas at lower elevations across primarily northern California and southern Oregon. At higher elevations, heavy snowfall created hazardous conditions for much of the Pacific Coast mountain range. Some locations across California, Oregon, and Washington have received nearly 3 feet (0.9 meters) of snow thus far, as shown in the map below.



Event Details

Most impacts across the Pacific Northwest and Southwest British Columbia thus far were a result of powerful wind gusts. Around 700,000 people across California, Oregon, and Washington lost power while 300,000 more lost power in British Columbia, especially on Vancouver Island. Widespread downed trees snapped power lines, damaged numerous homes, and forced many road and highway closures. Hundreds of calls for help were made across the affected areas, including over 200 alone in Bellevue, Washington. Countless schools and businesses were temporarily closed, while multiple ferry service routes around Vancouver Island were canceled, primarily on November 20. At least two people have been killed and another two have been injured in Washington due to fallen trees. More impacts are possible as the aforementioned low-pressure system will continue to stall over the next few days.

Tree damage in King County, Washington
Source: WSDOT (left); Puget Sound Fire (right)

Financial Loss

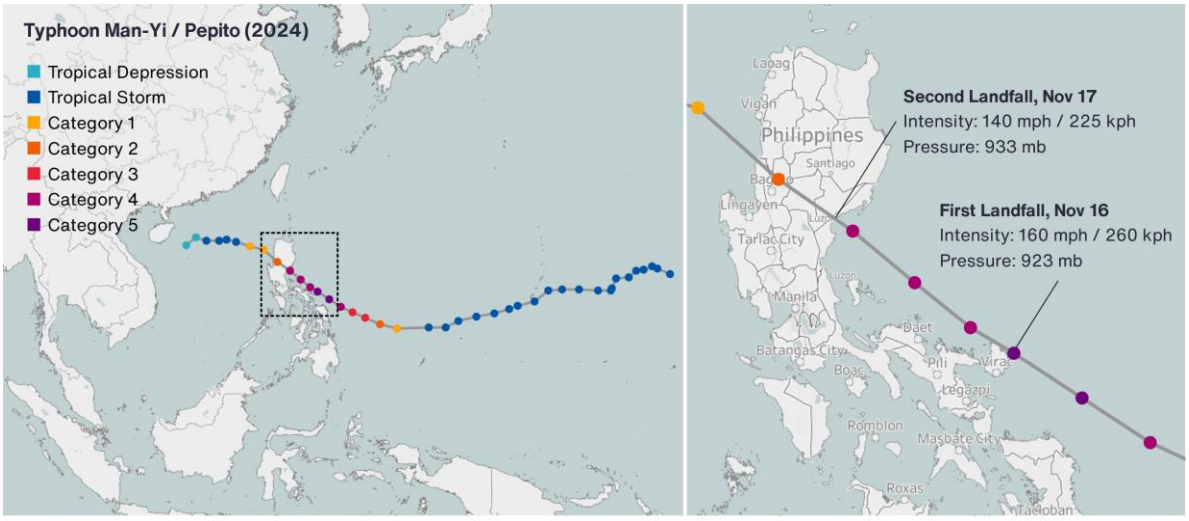
Damage seen thus far in the U.S. and Canada may drive total economic and insured losses into the tens of millions USD, possibly higher pending additional impacts and future damage assessments.

Philippines: Typhoon Man-yi

Overview

Another powerful cyclone impacted the northern Philippines on November 16-17. Typhoon Man-yi, alternatively named Pepito, was the sixth tropical system to cross the country in less than a month and reached the highest Category 5 status equivalent when approaching the island of Luzon. Man-yi caused major damage with more than 44,000 homes affected and killed at least 12 people. Total economic losses are expected to run at least into the tens of millions USD.

Meteorological Recap



Data: JTWC | Graphic: Aon Catastrophe Insight

On November 13, the Japan Meteorological Agency (JMA) recognized the system as a tropical storm and assigned the name **Man-yi** to this storm that tracked west toward the Philippines over the Philippine Sea. It later moved into the Philippine Area of Responsibility, where PAGASA named it **Pepito**. On November 15, JMA upgraded the storm to typhoon status and the next day, Man-yi peaked as a Category 5-equivalent super typhoon on the Saffir-Simpson scale, with one-minute sustained winds of **260 kph (160 mph)** and the lowest pressure near 920 hPa, approaching the coast of northern Philippines with this highest intensity.

Man-yi became the sixth, and the strongest tropical system to hit the northern Philippines in less than a month, and the fourth in November, following typhoons Yinxing (Marce), Toraji (Nika), and Usagi (Ofel).

TY Man-yi over the northern Philippines
Source: NASA WorldView

Event Details

Typhoon Man-yi impacted the regions within the **Luzon Islands** that have already been severely affected by the previous cyclonic storms (see the table below and the previous Weekly Cat Reports). Man-yi generated the highest wind gusts compared to the other systems, causing severe structural, infrastructural, and agricultural damage across the region. According to the National Disaster Risk Reduction and Management Council (NDRRMC) as of November 20, almost 2.7 million people have been affected, including about 1.8 million individuals in the Bicol Region, and over a million others in the regions of Ilocos and Cagayan. At least 12 people have died and 12 others have been injured. Several persons remain missing.

NDRRMC also reported that over 44,000 houses have been damaged or destroyed, along with additional infrastructural losses to dozens of bridges and roads.

The impacts of tropical cyclones that hit the Philippines during November (figures as of November 21):

Typhoon Name (Philippine's Name)	Date	Regions Affected	Fatalities	People Affected	Damaged Structures
Yinxing (Marce)	Nov 7-8	Cagayan, Ilocos	1	390,000	28,900
Toraji (Nika)	Nov 11-12	Cagayan, Ilocos, Central Luzon, Calabarzon	2	310,000	2,500
Usagi (Ofel)	Nov 14-15	Cagayan, Ilocos, Central Luzon, Calabarzon, Bicol	0	520,000	5,300
Man-yi (Pepito)	**Nov 16-17**	**Cagayan, Ilocos, Central Luzon, Calabarzon, Bicol**	**12**	**2,700,000**	**44,000**

Financial Loss

The loss figures related to typhoon Man-yi (Pepito) are subject to change as a damage assessment is still ongoing across the affected area. Given the intensity of the latest storm, aggregated losses from different sectors are expected to be substantial, likely higher than those resulting from the previous storms. Total economic losses may reach tens of millions USD, possibly higher.

Natural Catastrophes: In Brief

Tropical Storm Sara (Caribbean, Central America)

A low-pressure area brought heavy rainfall and flooding to Hispaniola Island between November 10-12, damaging more than 3,500 houses in Haiti's Sud Department and almost 500 more in the Dominican Republic. On November 14, the system developed into Tropical Storm Sara, the eighteenth named storm of the hurricane season. The storm resulted in additional impacts in parts of Central America on November 17-18, with thousands of damaged or flooded houses and thousands of affected people across Nicaragua, Honduras, Belize, and Mexico. Seven people were reported dead in the Dominican Republic (2), Nicaragua (2), Honduras (2) and Haiti (1).

Winter Weather, Windstorm (Europe)

Moderate disruptions and relatively minor wind-related damages were observed throughout Europe this week as an influx of cold air from the northwest brought wintry conditions. This was associated with a deepening area of low pressure (named Quiteria by the FU Berlin) on November 19-20.

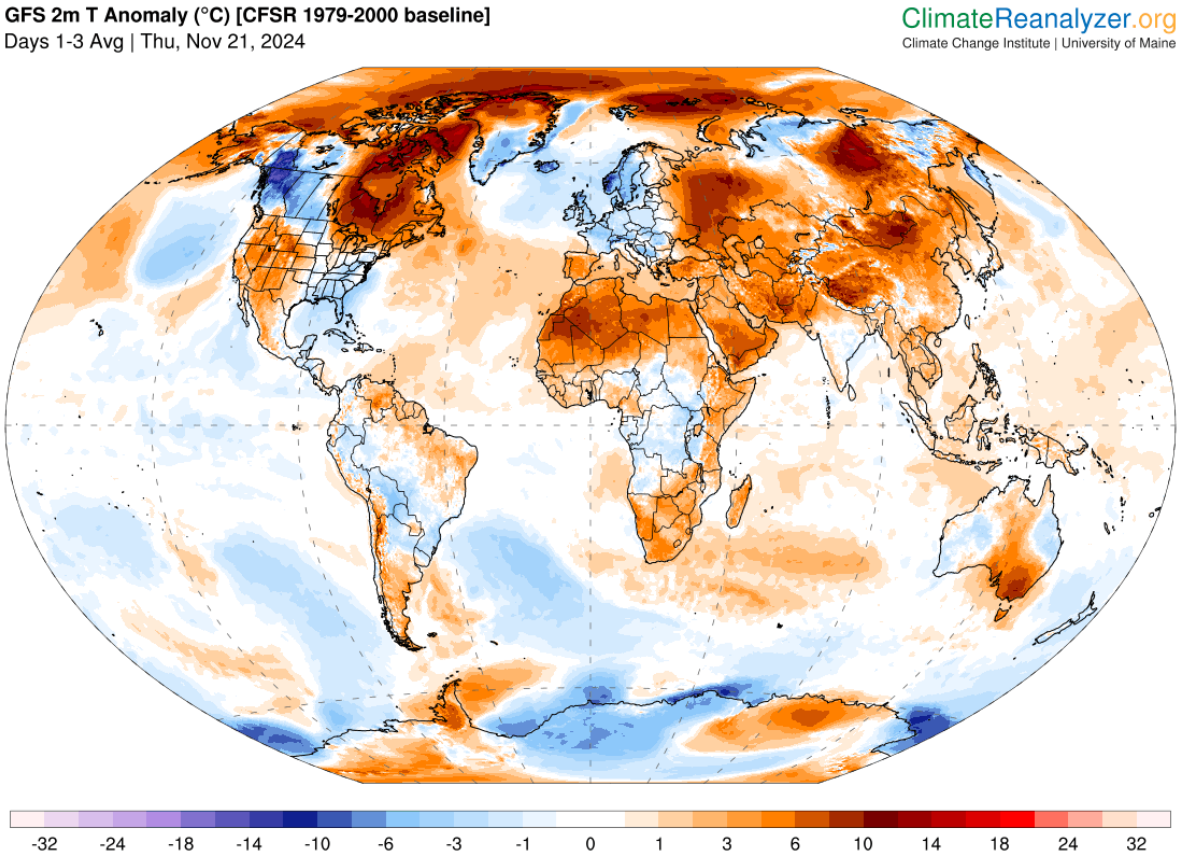
Flooding (Israel)

Heavy thunderstorms triggered torrential rainfall over portions of northern Israel early on November 19. The town of Zikhron Ya'akov recorded a remarkable 196 mm (7.7 inches) of rainfall in just four hours, setting a new, national rainfall record. Other nearby locations, including the Haifa and Hof HaCarmel regions, also experienced heavy rains, leading to flash flooding. Local impacts included inundated roads and highways, stalled vehicles, and evacuated schools.

Windstorm Caetano (France)

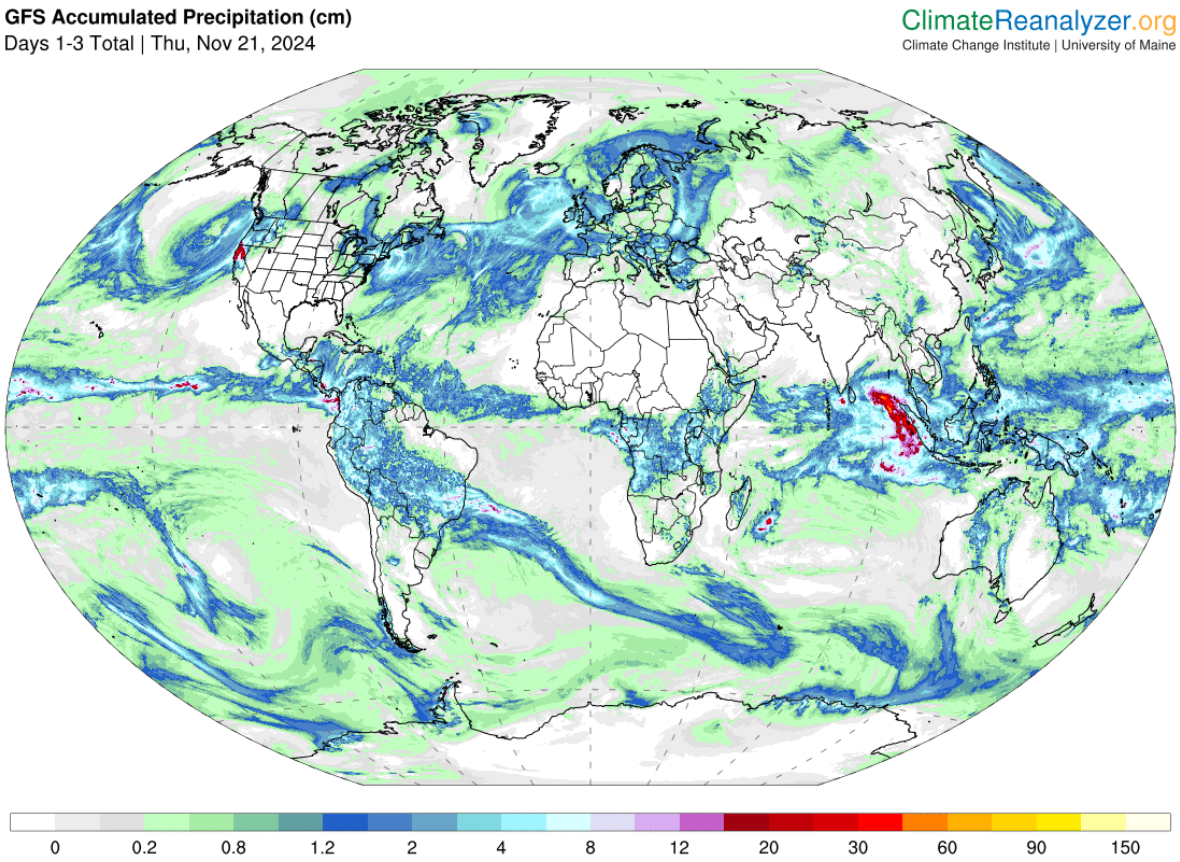
A deepening low-pressure system with an international name Caetano (alternatively Renate) started affecting western France on November 21 as it moved shore in the Bay of Biscay and moved inland. The system triggered warnings for strong winds and wintry conditions across much of France and was expected to result in minor to moderate property damage, potentially in the tens of millions EUR.

Global Temperature Anomaly Forecast



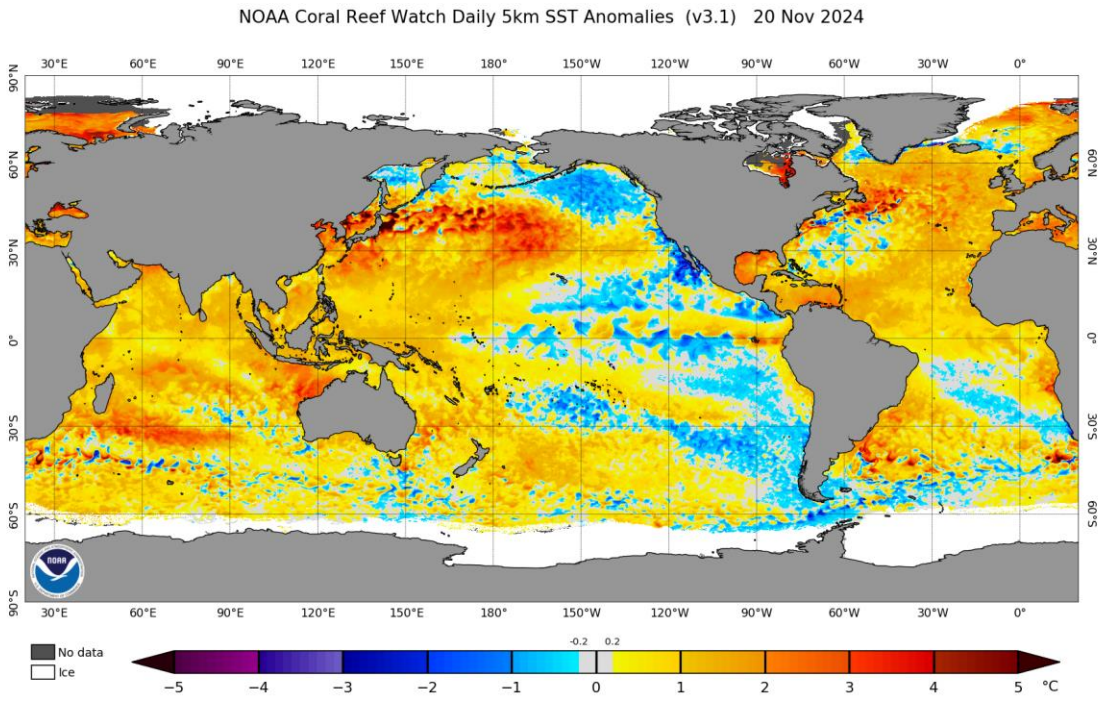
Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

Global Precipitation Forecast

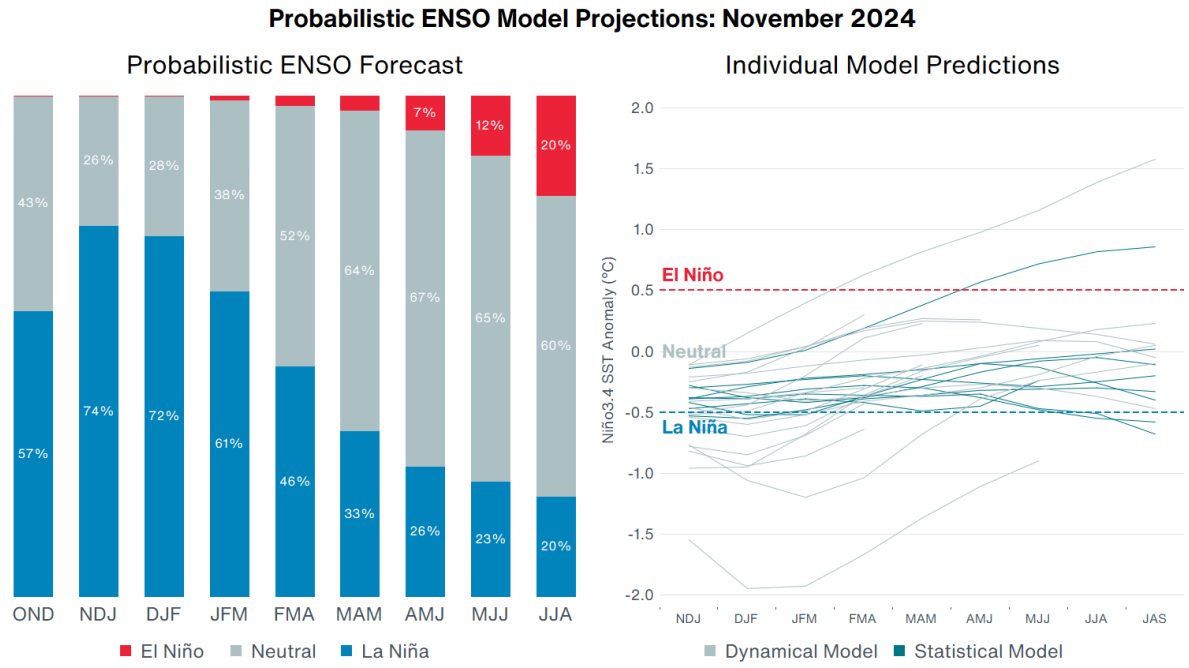


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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.*

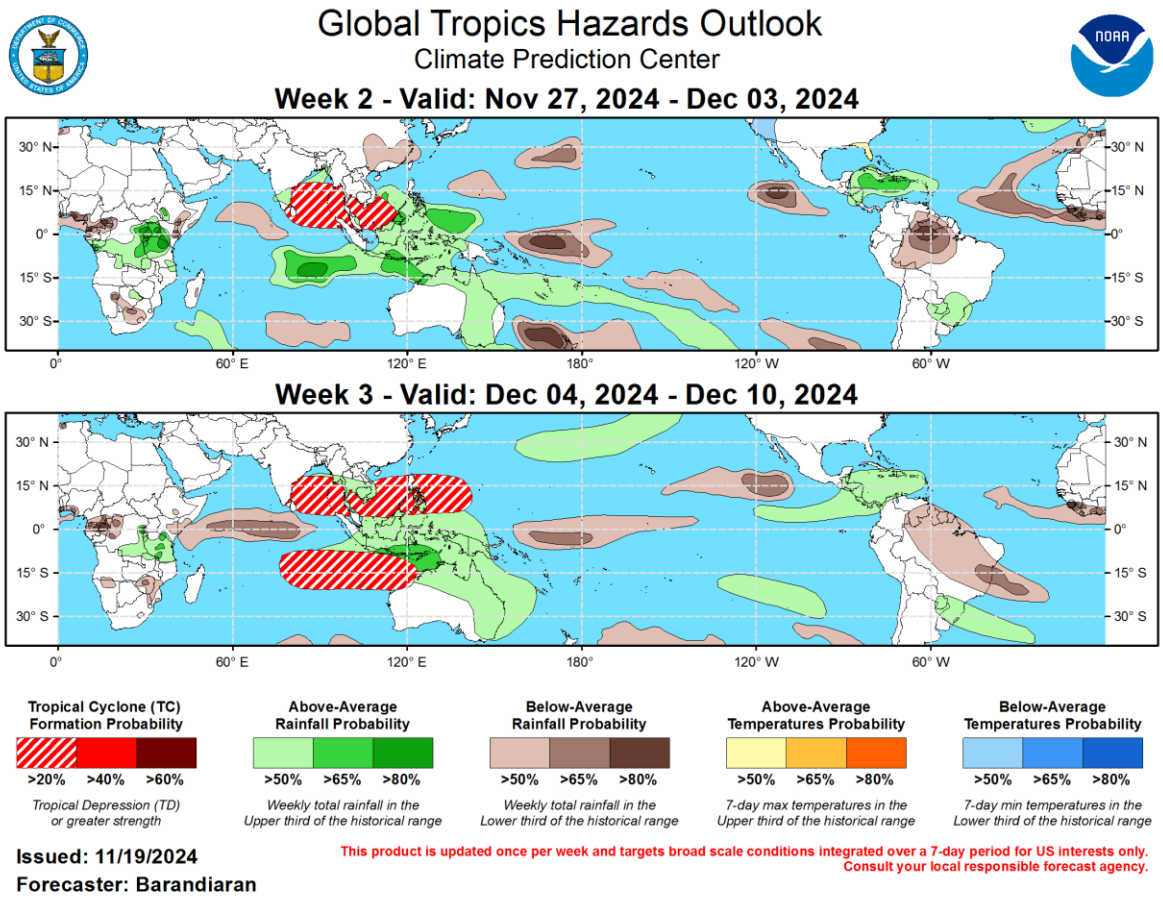
La Niña: *Cool phase of an ENSO cycle. Sea surface temperatures of -0.5°C occur across the east-central equatorial Pacific.*

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).

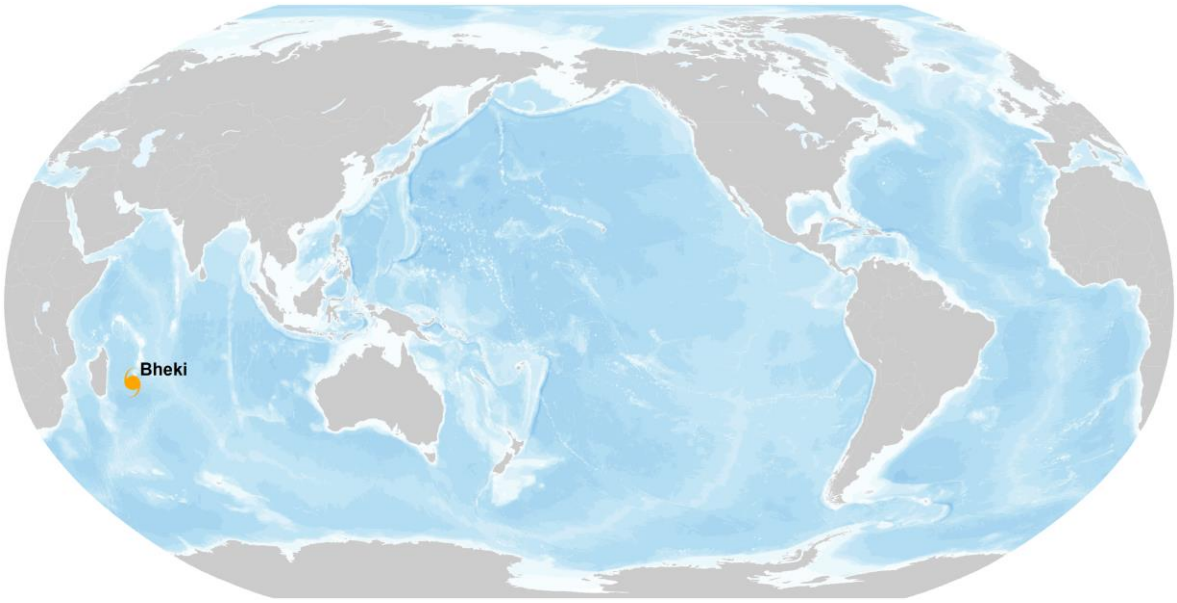
Source: NOAA, Columbia University | Graphic: Aon Catastrophe Insight

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity

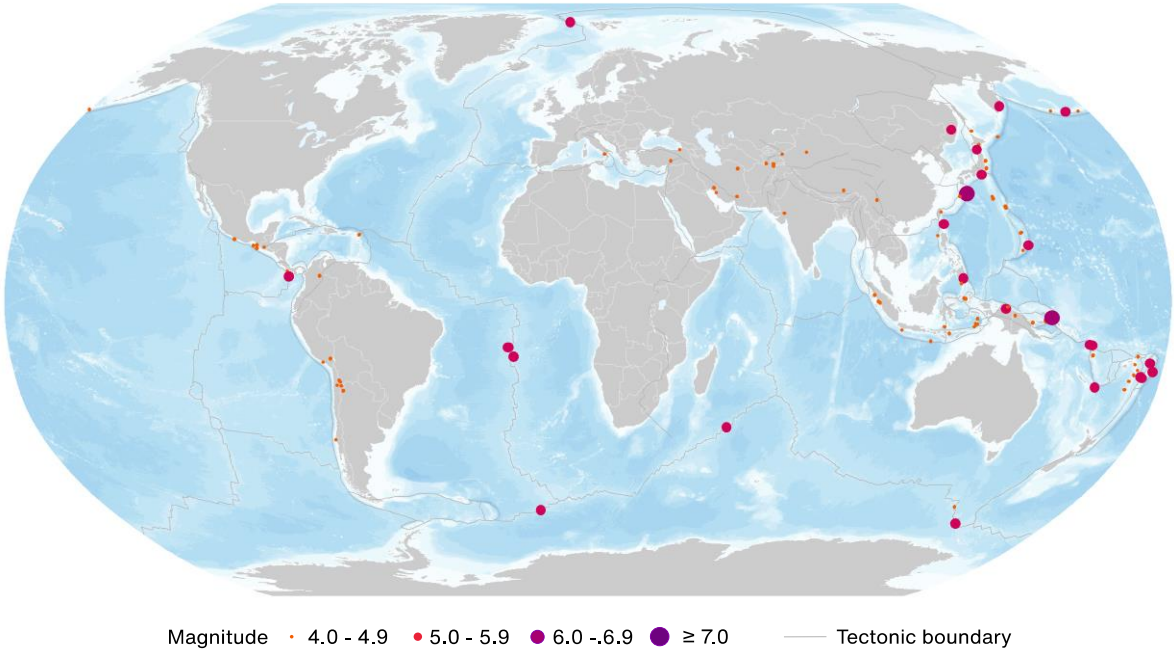


Name	Location	Winds	Center
CY Bheki	21.8S, 56.6E	40	125 mi (205 km) SW from Port Louis, Mauritius

* 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)

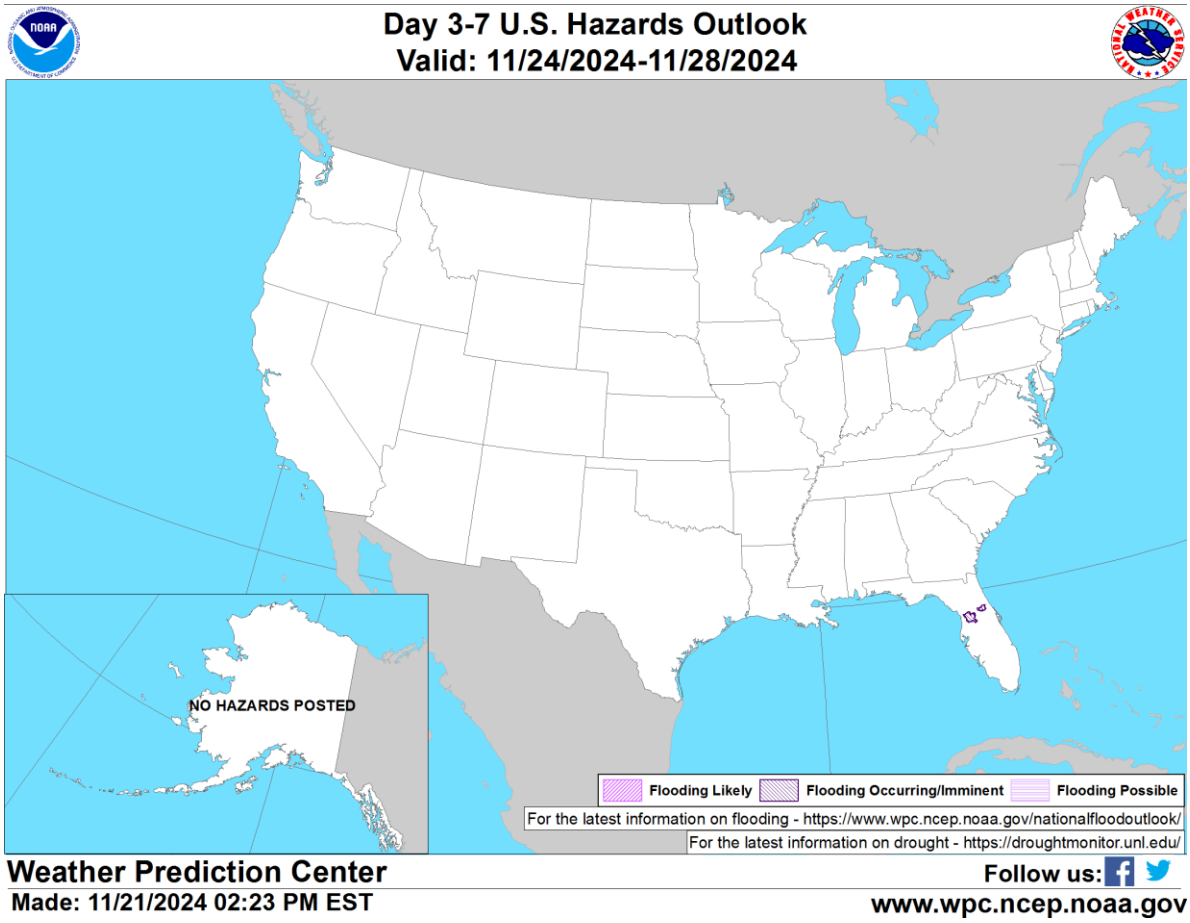
Global Earthquake Activity (≥M4.0): November 15–21



Date (UTC)	Location	Magnitude	Epicenter
11/15/2024	4.70S, 153.32E	6.6	12 km (7 mi) ESE of Kokopo, Papua New Guinea
11/17/2024	29.05N, 131.40E	6.1	15 km (9 mi) SSE of Koshima, Japan

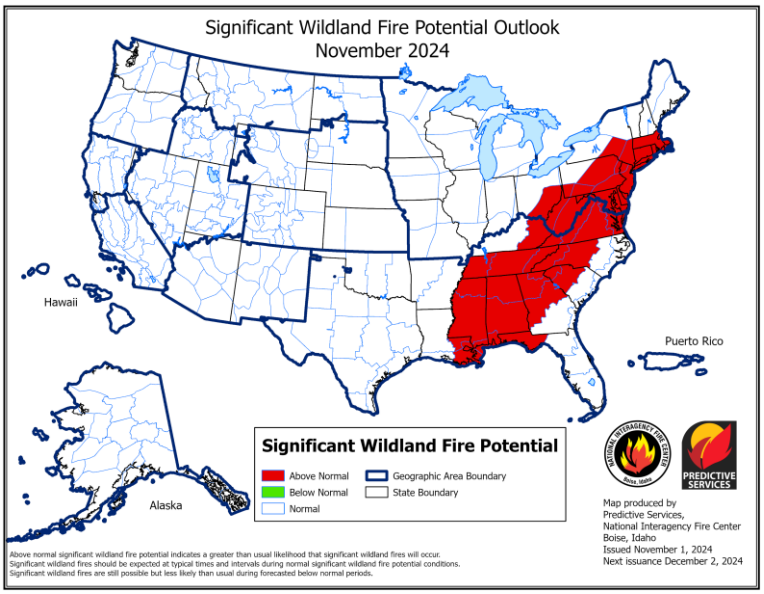
Source: United States Geological Survey

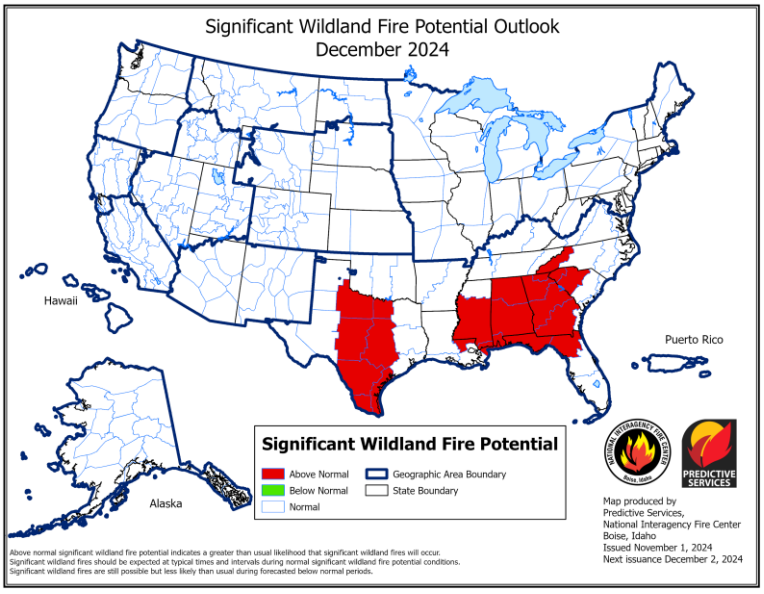
U.S. Hazard Outlook



Source: Climate Prediction Center (NOAA)

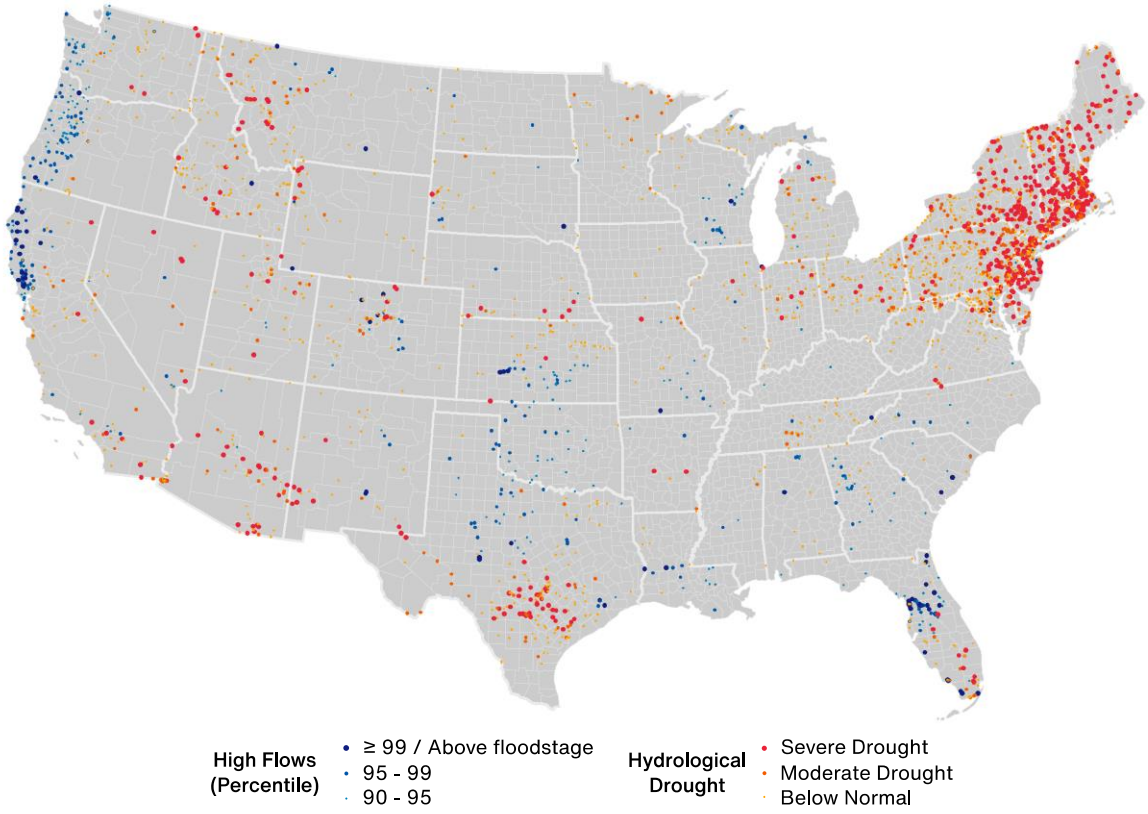
U.S. Wildfire: Significant Fire Risk Outlook & Activity





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

United States, Canada: SCS, Winter Weather, and Flooding

NOAA GOES
National Weather Service (NWS)
Weather Prediction Center (WPC)
Washington State Department of Transportation (WSDOT)
Puget Sound Fire
Environment Canada
Atmospheric river bringing heavy rainfall to Northern California through Friday, *The Washington Post*
Deadly bomb cyclone batters Northwest, causing widespread power outages and downing trees, *CBS*
Tens of thousands without power, ferries cancelled after 'bomb cyclone' batters B.C. coast, *CBC News*

Philippines: Typhoon Man-yi

Joint Typhoon Warning Center (JTWC)
Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)
Philippine's Disaster Risk Reduction and Management Council (NDRRMC)
Japan Meteorological Agency (JMA)

Natural Catastrophes: In Brief

ReliefWeb
National Hurricane Center (NHC)
Record-breaking rains swamp northern coast, with more showers on the way, *The Times of Israel*

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