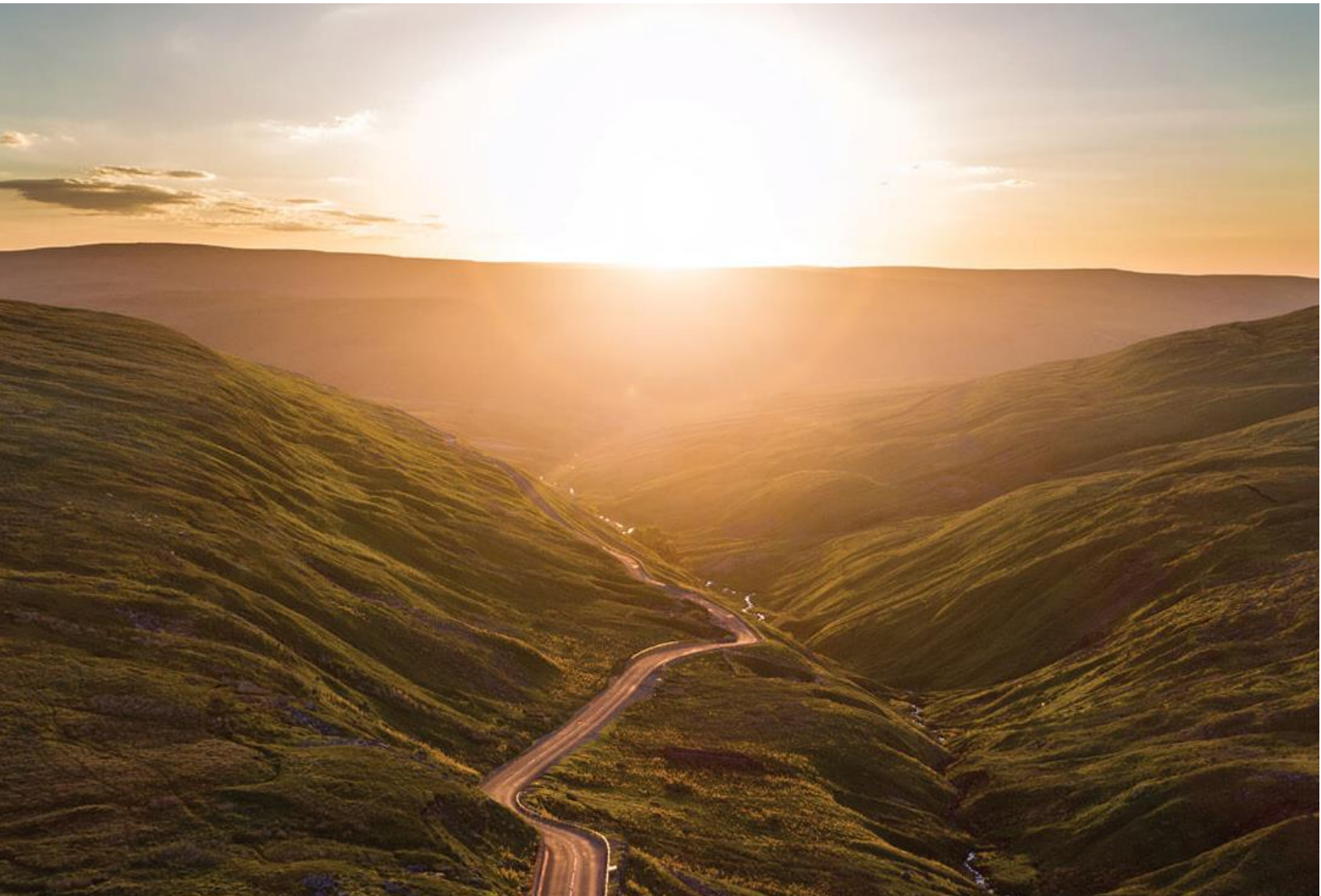
Weekly Cat Report

January 27, 2023



Executive Summary

Event	Affected Region(s)	Fatalities	Economic Loss ($)	Page
Cyclone Cheneso	Madagascar	7+	10s of millions	3
Winter Weather	Afghanistan	78+	Negligible	5
Winter Weather	China, Japan, South Korea	33+	10s of millions	5
Severe Convective Storm	United States	0	Millions	5
Flooding	Southeastern Europe	2+	Millions	5
Flooding	Indonesia, Malaysia	2+	Millions	5
Flooding	Brazil	4+	Negligible	6
Winter Weather	United States	0	Unknown	6

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.

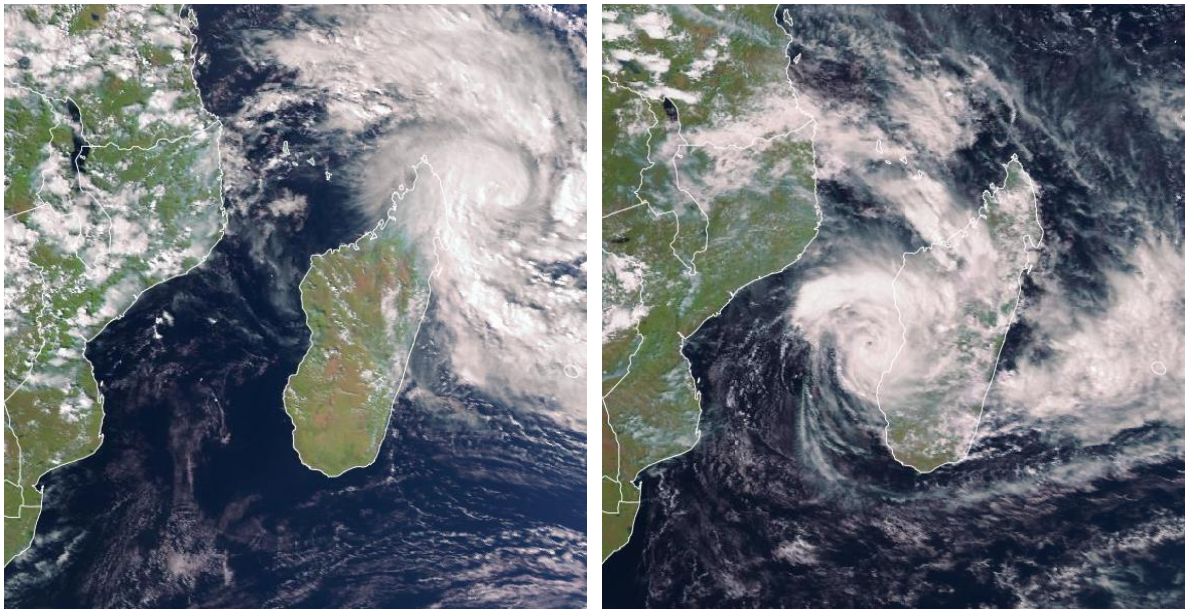
Along with this report, we continue to welcome users to access current and historical natural catastrophe data and event analysis on Impact Forecasting's Catastrophe Insight website: http://catastropheinsight.aon.com

Madagascar: Cyclone Cheneso (Update)

Overview

Madagascar faced its first tropical cyclone of the season. Tropical Storm Cheneso, which later intensified into a Tropical Cyclone, affected about 1.5 million people in the region by heavy rain, severe flooding, and strong winds, claiming at least seven fatalities and causing notable material damage. Total economic losses are anticipated to be at least in the millions (USD).

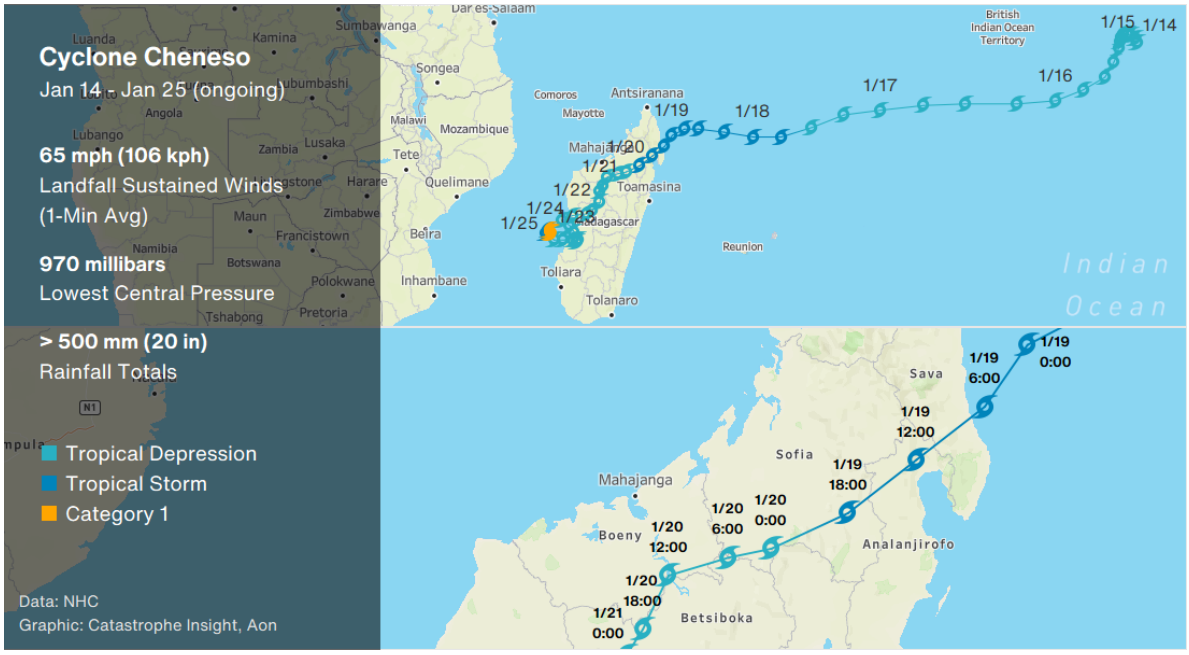
Meteorological Recap



Satellite images of Cheneso on January 19 (left) and on January 24 (right)
Source: MSG, EUMETSAT

On January 13, Joint Typhoon Warning Centre (JTWC) began to monitor an area of convection with the potential for tropical cyclone development, which originated south of Diego Garcia Island. By that time, system continued to move westward as a Tropical Depression in an environment favorable for intensification. On January 18, the system strengthened into a Tropical Storm and was named **Cheneso** by the Meteorological institute of Madagascar. Cheneso made landfall over northern Madagascar on January 19, with sustained winds of 105 kph (65 mph). A day after, the storm weakened to Tropical Depression with wind speeds of up to 60 kph (35 mph), moving south-westward over northern and west-central parts of Madagascar between January 20-23. On January 24, its centre was located about 180 km (112 mi) west of coast of Madagascar over Mozambique Channel where the system started to re-intensified. On January 25, Cheneso gained the Cyclone status with maximum sustained wind exceeding 120 kph (75 mph) and further intensifying.

As the storm passed over the land, widespread area in northern Madagascar gained total rainfall accumulation of 250-500 mm (up to 19.7 in) between January 18-25.



Event Details

As of January 25, the National Bureau of Risk and Disaster Management (BNGRC) reported at least seven fatalities, thirteen missing people and more than 35,000 affected people across nine regions, particularly in **Sava**, **Diana** and **Analanjirofo** Regions. No fewer than 14,000 individuals have been displaced. Material damage has been reported to 10,570 flooded homes, including about hundred schools. According to European Emergency Response Coordination Centre (ERCC), potential exposed population to rainfall of 250-550 mm was estimated to be nearly 3.5 million people.

Flooding in Ambinanitelo, Analanjirofo Region
Source: BNGRC

Financial Loss

Losses assessments across the affected area remained ongoing. Based on the extent of damage initially reported from the affected area, total losses related to event can potentially reach into the tens of millions (USD).

Natural Catastrophes: In Brief

Winter Weather (Afghanistan)

Many provinces in Afghanistan have suffered from extreme cold since last week. Temperatures exceeded -30°C (-22°F) in some localities, resulting in at least 78 cold-related deaths, according to authorities. More than hundred people were hospitalized for carbon monoxide poisoning in Herat Province as they were forced to use gas for heating. Cold spell is expected to continue for another week or more.

Winter Weather (China, Japan, South Korea)

Deadly avalanche occurred near Nyingchi City in south-western China, on January 17. According to media reports, avalanche claimed no fewer than 28 lives and five injured people, 53 people have been rescued. Meanwhile, record-breaking extreme cold hit northernmost parts of the country. The minimum temperature in Mohe city, Heilongjiang Province, dropped to -53°C (-63.4°F) on January 22, marking the lowest temperature ever recorded in China, according to the Chinese meteorological institute. Heavy snowfall also affected Japan (where five fatalities were reported) and parts of South Korea.

Flooding (South-eastern Europe)

Heavy rains caused rivers to overflow their banks in many parts of south-eastern Europe since January 18. Among the worst affected was Serbia where two people were killed in floodwaters, dozens have been displaced, and damage on several houses was incurred due to flooding, about 70 houses were inundated in the municipality of Sjenica and Brodarevo. Additional infrastructural and agricultural losses were reported also in Kosovo, Bosnia and Montenegro, Albania, and Hungary. Many regions across the affected area experienced with power outages.

Severe Convective Storm (United States)

Severe weather accompanied with storms and damaging winds affected southern parts of the United States, on January 24. A damaging tornado, preliminarily rated EF3, hit the town of Pasadena east of Houston, downing power lines, overturning vehicles and causing structural damage on multiple buildings. Electricity services to more than 120,000 customers across Texas, Louisiana, and Arkansas were lost as the storms passed. While damage assessments remain ongoing, economic and insured losses from the outbreak were initially anticipated to reach into the tens millions (USD).

Flooding (Indonesia, Malaysia)

Torrential rainfall accompanied with flooding and landslides has affected almost 100,000 people on the island of Sumatra in west Indonesia since January 20. As of this writing, at least two fatalities and five injured people were reported in Aceh and West Sumatra Provinces. At least 15,000 homes and no fewer than 30 schools were affected, according to local disaster authorities (BNPB, ADINet). Widespread flooding also hit parts of Peninsular Malaysia and parts of Borneo, particularly Johor, Pahang, and Sabah States. More than 11,000 people were evacuated.

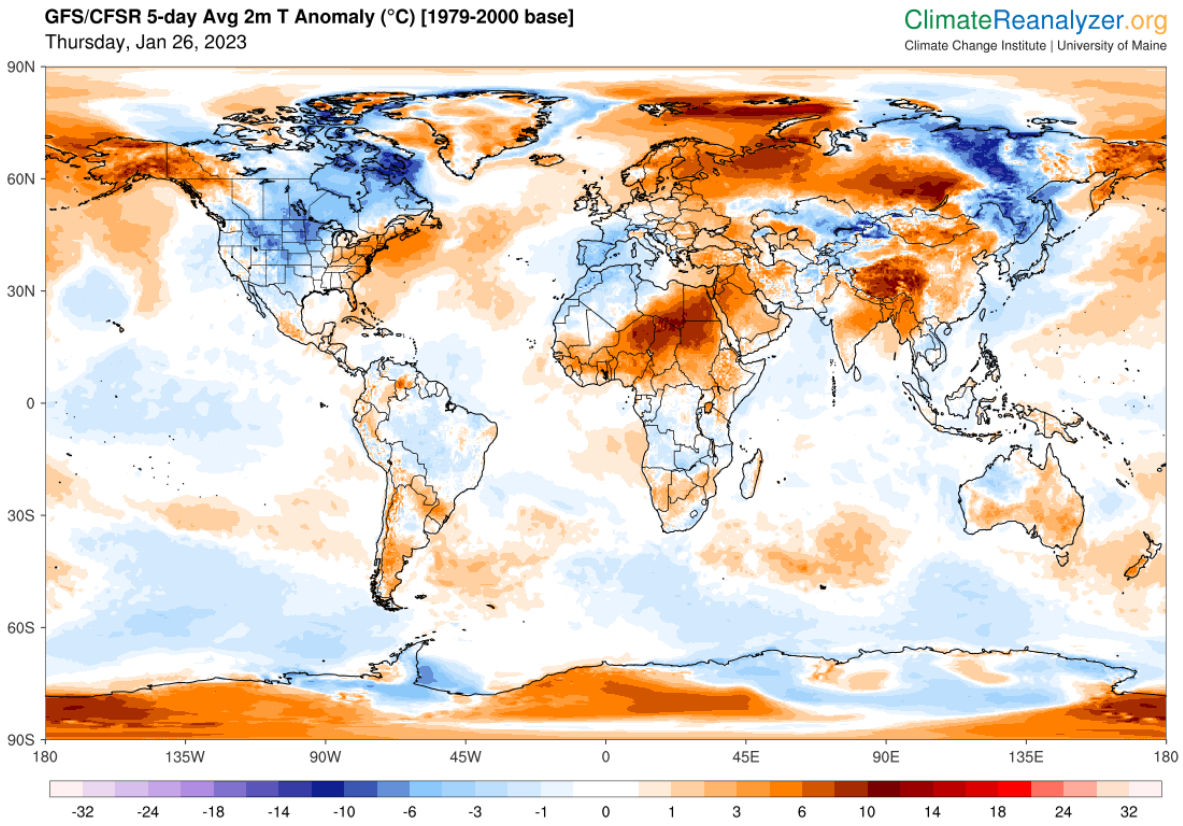
Flooding (Brazil)

Intense rainfall triggered flash flooding and several landslides in the State of Santa Catarina, southern Brazil, on January 17-18, resulting in fatalities and material damage. Some localities saw more than 150 mm (5.9 in) of rain in 12 hours. According to authorities, at least four people died, one person remained missing. More than 60 buildings and structures were damaged, thousands of people were left without power due to heavy rainfall and storms.

Winter Weather (United States)

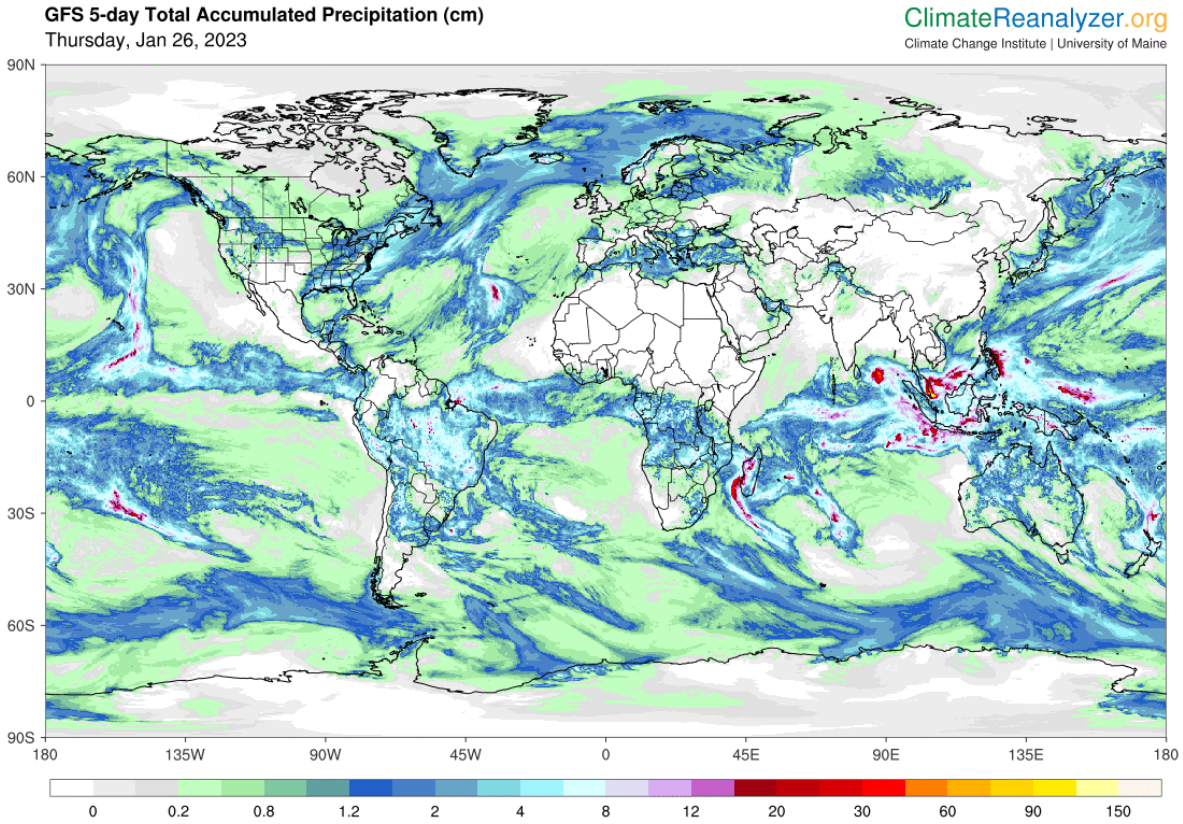
Tens of thousands of customers across Massachusetts (45,000), New Hampshire (36,000), and Maine (24,500) were left without power as a winter storm brought strong intense winds and heavy snowfall on January 23. Storm disrupted traffic across the region, many schools and offices remained closed. No casualties were reported.

Global Temperature Anomaly Forecast



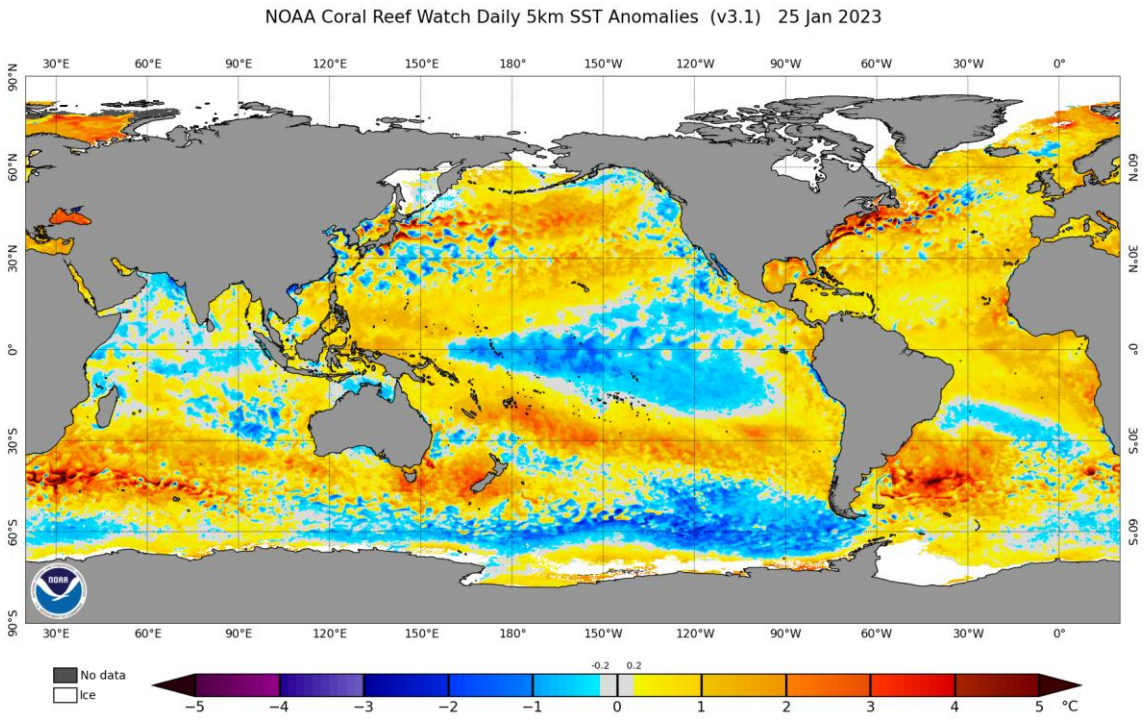
Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

Global Precipitation Forecast

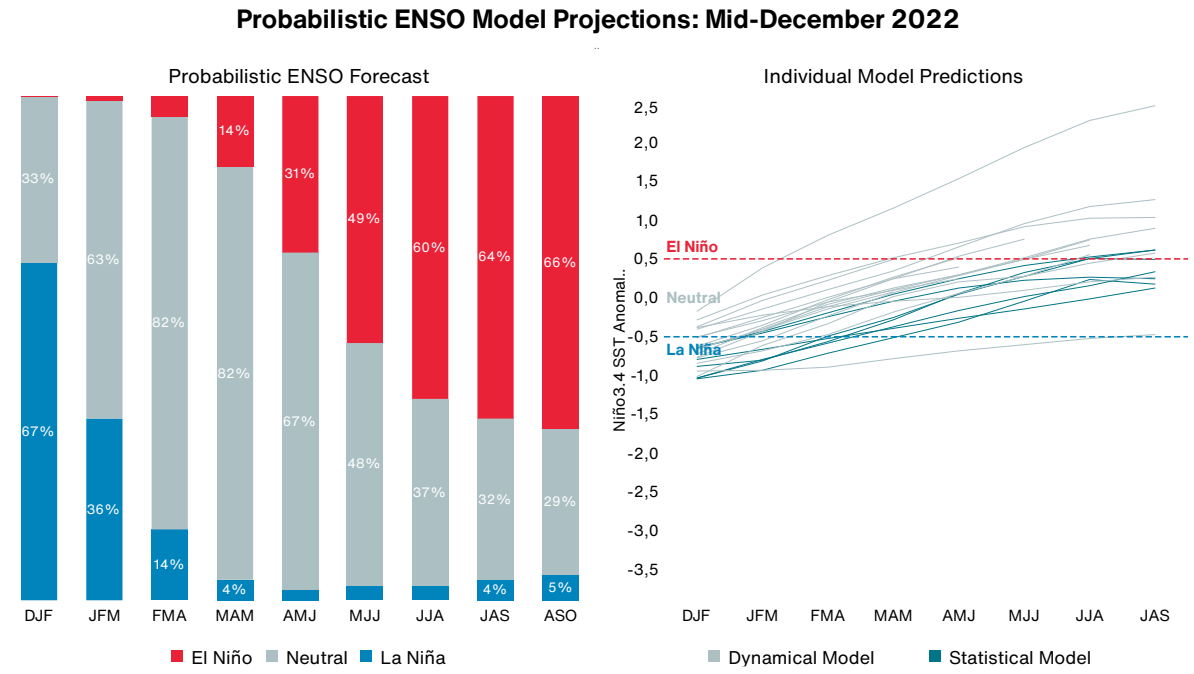


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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



El Niño-Southern Oscillation (ENSO)



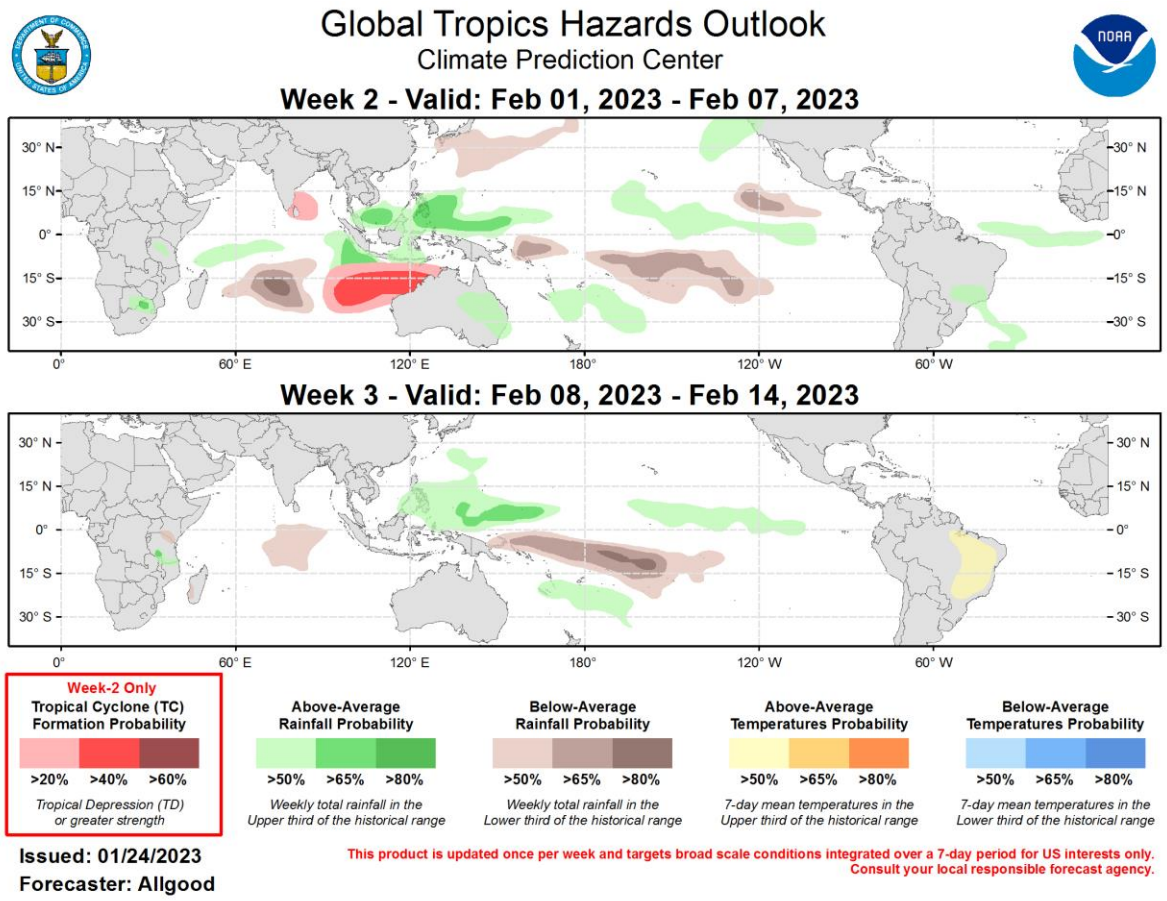
El Niño: *Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.*

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.*

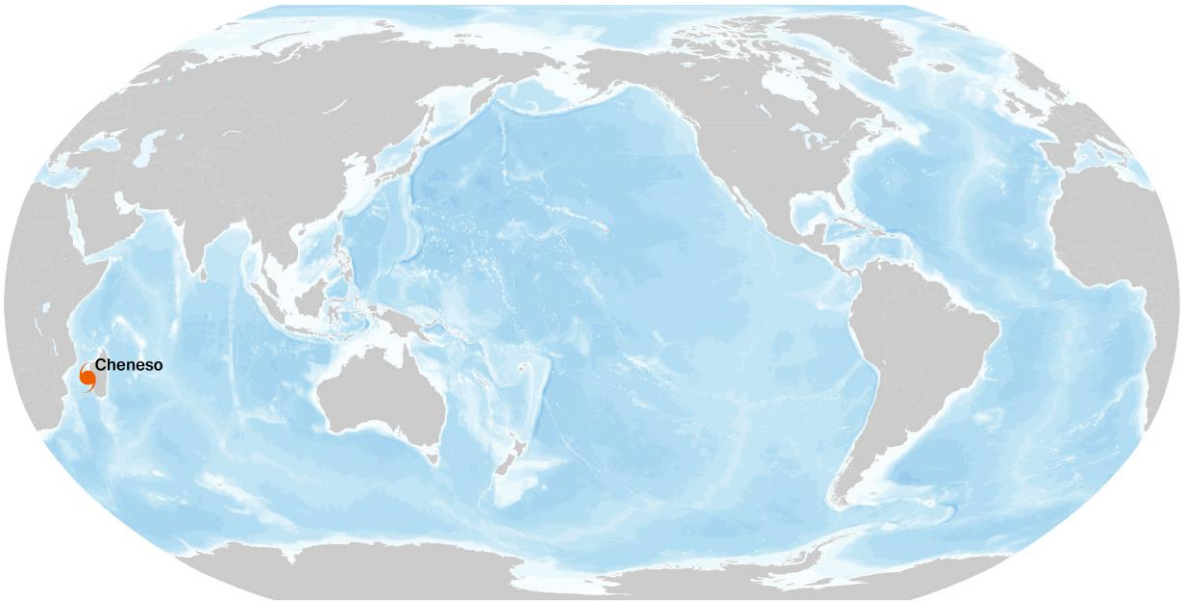
El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5°C (-0.5°C). This is known as the Oceanic Niño Index (ONI).

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity



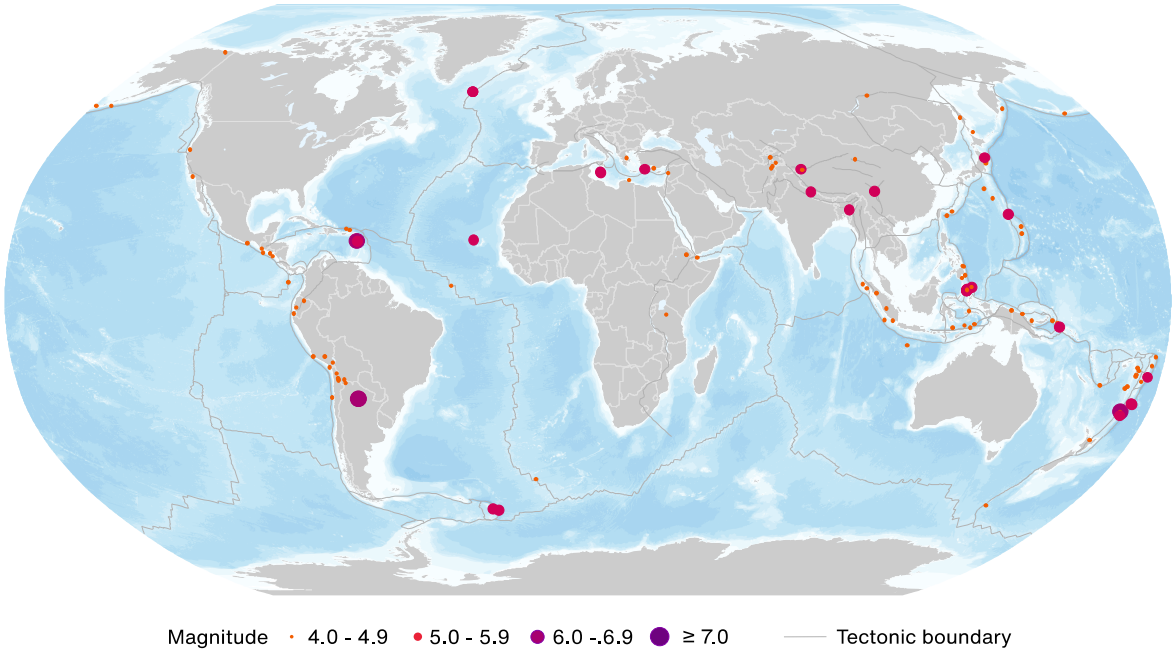
Tropical Depression Tropical Storm Category 1 Category 2 Category 3 Category 4 Category 5

Storm Name	Location	Winds	Location from Nearest Land Area
CY Cheneso	20.1°S 42.8°E	75	157 km (98 mi) from Morondava, Madagascar

* 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)

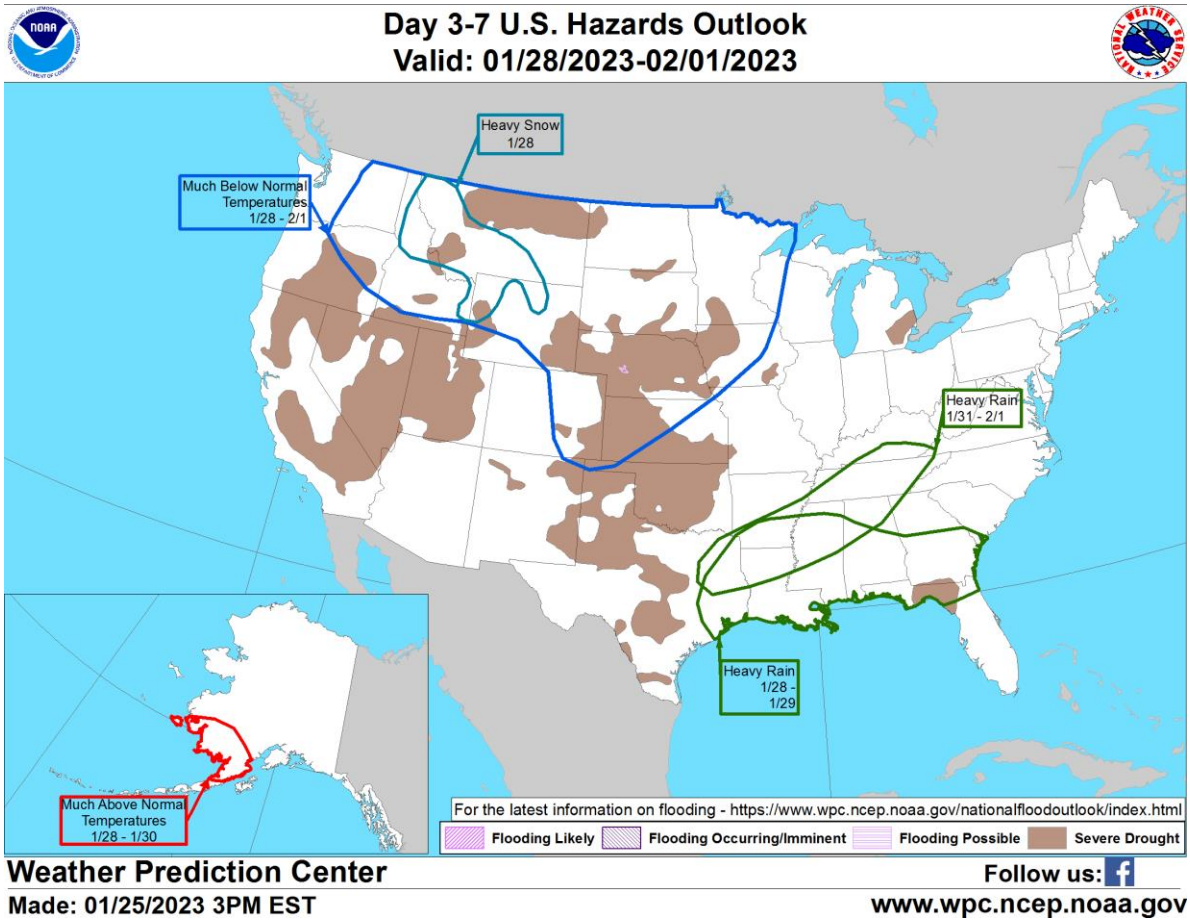
Global Earthquake Activity (≥M4.0): Jan 20-26



Date (UTC)	Location	Magnitude	Epicenter
1/20/2023	16.13N, 62.16W	6.2	40 km (25 mi) WSW of Pointe-Noire, Guadeloupe
1/20/2023	26.72S, 63.04W	6.8	24 km (15 mi) WSW of Campo Gallo, Argentina
1/24/2023	26.69S, 63.16W	6.4	33 km (21 mi) WSW of Campo Gallo, Argentina
1/26/2023	30.25S, 178.67W	6.0.	Kermadec Islands, New Zealand

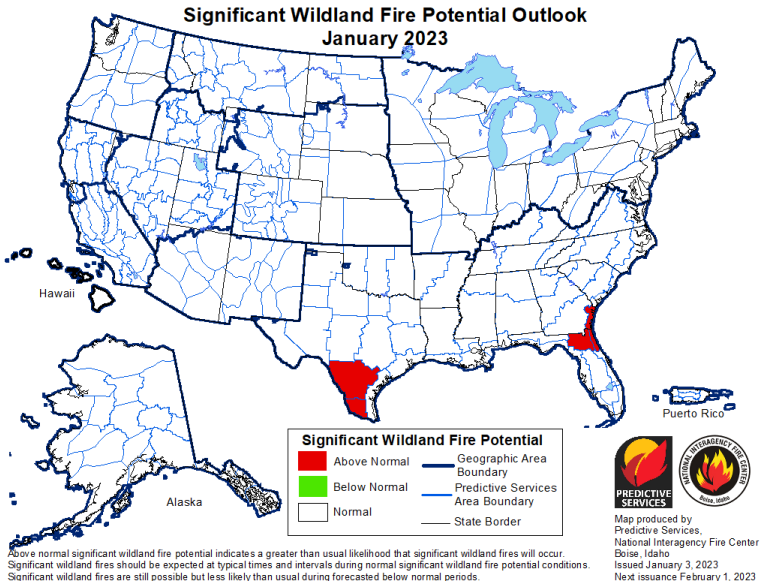
Source: United States Geological Survey

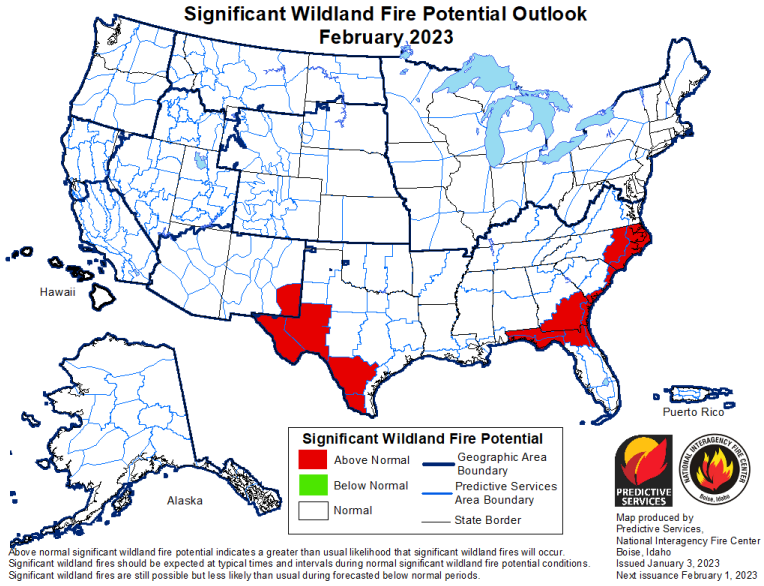
U.S. Hazard Outlook



Source: Climate Prediction Center (NOAA)

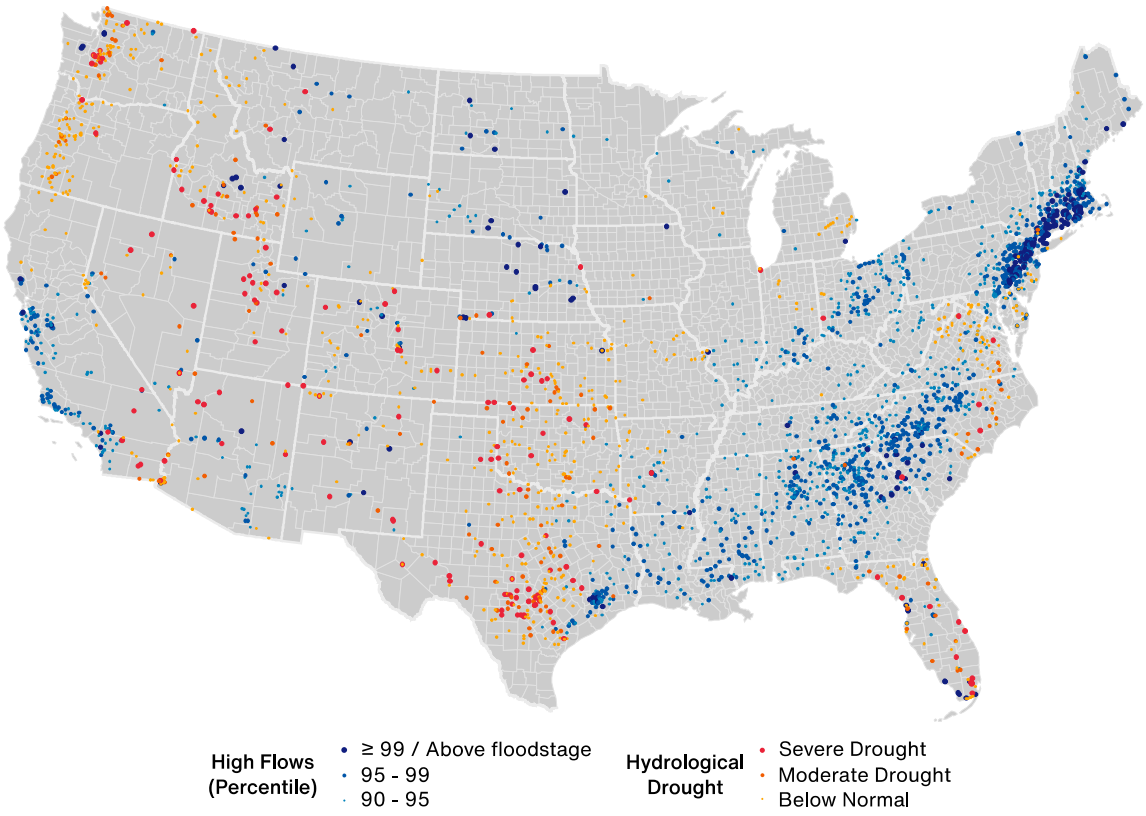
U.S. Wildfire: Significant Fire Risk Outlook & Activity





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

Madagascar: Cyclone Cheneso

Meteo Madagascar
Joint Typhoon Warning Centre (JTWC)
National Bureau of Risk and Disaster Management (BNGRC)
European Emergency Response Coordination Centre (ERCC)
Weather tracker: Storm Cheneso brings flooding risk to Madagascar, *The Guardian*

Natural Catastrophes: In Brief

European Severe Weather Database (ESWD)
Indonesian National Board for Disaster Management (BNPB)
ASEAN Disaster Information Network (ADINet)
U.S. National Weather Service (NWS)
Floodlist
Freezing temperatures kill 78 people in Afghanistan, *Reuters*
Tibet avalanche kills 28 as search called off, *BBC News*
Lowest temperature recorded in China's northernmost city, *China Daily*
Hungary, Serbia, Bosnia and Herzegovina: Eastern European rivers flood after 'extraordinary' weather, *Euronews*
Tornado causes damage east of Houston; no injuries reported, *New York Post*

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