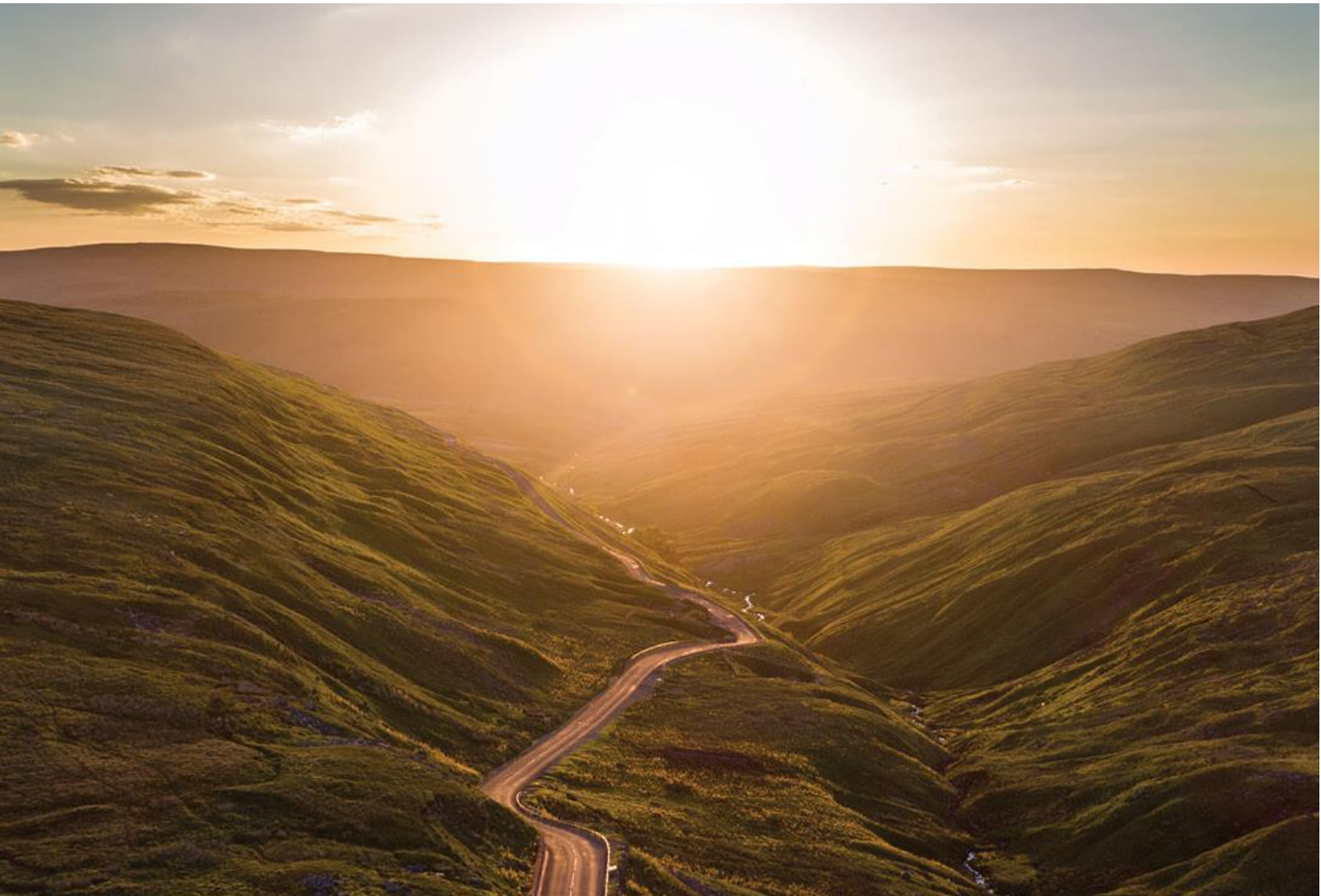
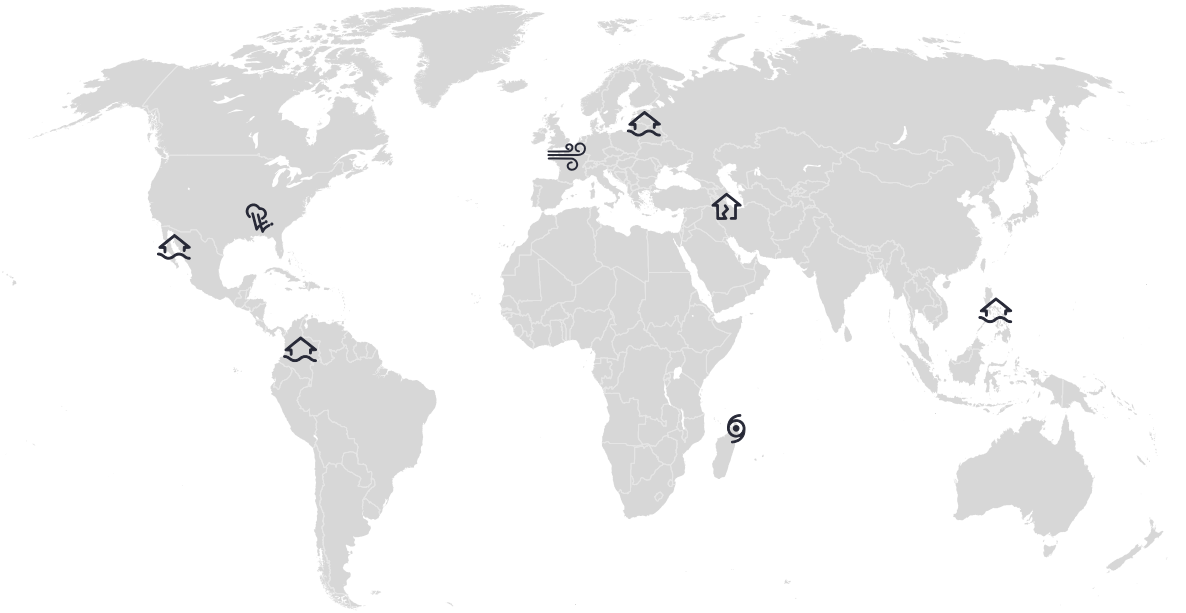
Weekly Cat Report

January 20, 2023



Executive Summary



Event	Affected Region(s)	Fatalities	Economic Loss ($)	Page
WS Frederic, Gérard & Fien	Western & Central Europe	1	10s of millions	3
Flooding	Philippines	30+	10s of millions	5
Severe Convective Storm	United States	11	10s of millions	6
Earthquake	Iran	0	Millions	6
Flooding	Latvia	0	Millions	6
Flooding	Colombia	2+	Unknown	6
Flooding	Mexico	4+	Unknown	6
Tropical Storm Cheneso	Madagascar	0	Negligible	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

Europe: Windstorms Frederic, Gérard & Fien

Overview

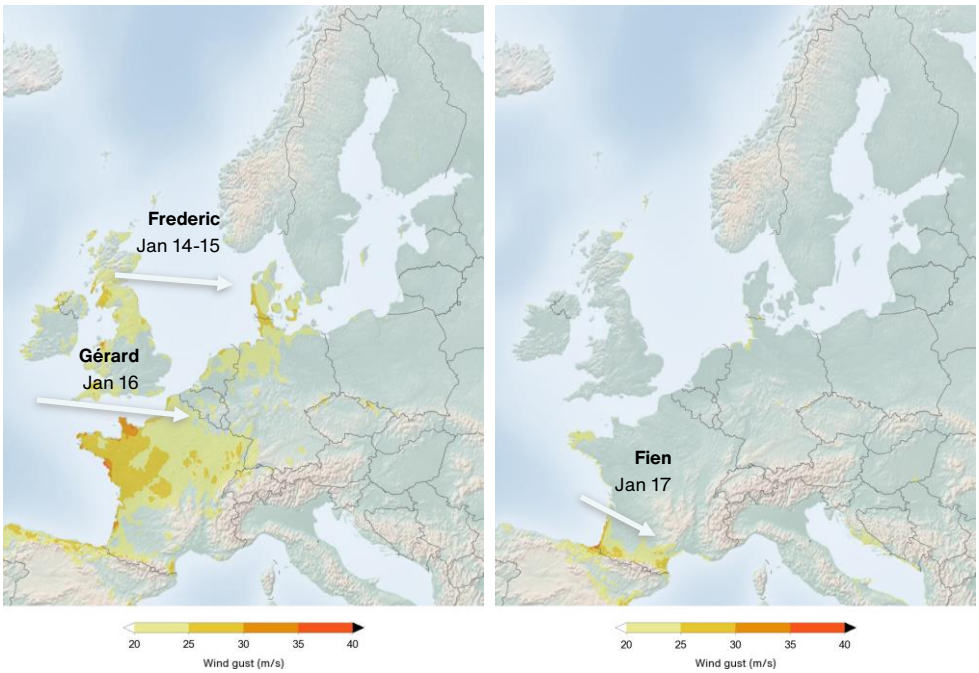
Parts of Western and Central Europe, particularly France, were affected by several successive, yet relatively weak windstorms during past week. Strong winds and heavy precipitation related to lows Frederic, Gérard and Fien between January 15-17 generated total economic losses in the tens of millions (EUR) and left nearly 100,000 customers without power.

Meteorological Recap

Western and Central Europe were affected by several successive windstorms on January 14-17, as an active cyclonic pattern established in early to mid-January over the continent. On January 14-15, low-pressure system **Frederic** (named by FU Berlin) brought relatively strong winds to parts of the United Kingdom, and particularly to Benelux, northwestern Germany and the western coast of Denmark.

The most damaging of the three events was a storm with an international name **Gérard** (named Gero by FU Berlin) that swept through the region on January 16 after deepening to about 980 mbar. It brought damaging winds to much of northern half of France, localized heavy rainfall, and heavy snowfall at higher elevations of the Massive Central. Nearly one third of all departments in France were under orange alert due to strong wind or heavy precipitation.

On January 17, another low named **Fien** (named Harto by FU Berlin) brought another round of strong winds, mainly in the southern parts of France and in Spain.



Wind gust footprints of mid-January windstorms
Source: Impact Forecasting

Table below highlights selected wind gusts observations recorded in France during the windy period.

Location, department	Low-pressure system	Wind gust (kph)	Wind gust (mph)
Carteret, Manche	Gérard	163	101.3
Pointe du Raz, Finistère		157	98.2
Groix Island, Morbihan		154	95.7
Ciboure, Pyrénées-Atlantiques	Fien	137	85.1
Messanges, Landes		129	80.1

Event Details

North-western **France** was the worst hit by windstorm series. Electricity services to no fewer than 90,000 customers across the country were cut, particularly in departments of Normandy, Brittany, and Pays de la Loire. Windstorm caused traffic disruptions due to fallen trees. Hundreds of interventions related to windy weather were carried out by the firefighters, about 138 interventions in La Manche Department alone. Tens of homes were flooded in the Pas-de-Calais Department.

Heavy rainfall and intense winds associated with low-pressure systems caused additional damage in north-western **Spain**, where several road and houses were inundated. Total of 242 incidents related to severe weather were reported in the Galicia community. One person died in Bormeo Town, Basque community, one person was injured in Malaga, Andalusia community.

Financial Loss

Based on the initial damage assessment, total economic losses related to the windstorms series are estimated to reach into tens of millions (EUR) or higher.

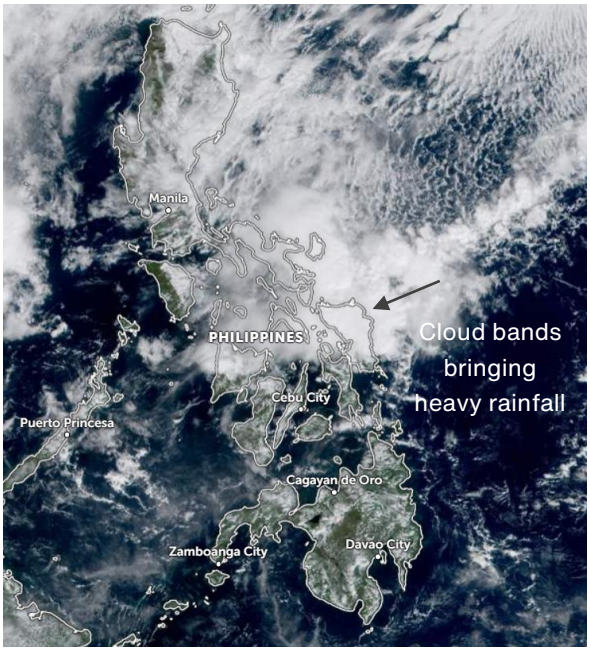
Philippines: Flooding

Overview

Philippines has been affected by abundant rainfall since the beginning of January, triggering severe flooding. As of this writing, flooding has affected more than 1.5 million people across the country, claimed at least 30 fatalities and 13 injured people. Total damage on buildings, infrastructure and crops will probably exceed $10 million.

Meteorological Recap

Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) started to monitor the situation on January 1. According to PAGASA, heavy and abundant rainfall was prompted by a combined effect of low-pressure areas, north-eastern monsoon, and shear line (defined as "*a line of maximum horizontal wind shear*"). A combination of these triggers has resulted in cloud bands formation, impacting different part of the country from north-east and bringing a significant amount of rain on daily basis.



Satellite image on January 18
Source: Zoom Earth, GOES, Himawari

Event Details

As of January 20, National Disaster Risk Reduction and Management Council of Philippines (NDRRMC) reported flood-related casualties and damage in 14 regions and 48 provinces across the country, particularly in the regions of Central Luzon, Mimaropa and Davao.

The agency noted damage to nearly 1,700 homes, 194 other structures and 24,000 hectares (59,000 acres) of crops. More than 1,000 flood related incidents were reported, resulting in no fewer than 33 fatalities, thirteen injured and seven missing people. In total, more than 1.5 million people have been affected by floods since the beginning of the year.

Financial Loss

Although the event is still ongoing and the eventual toll is expected to increase, preliminary estimates of economic losses noted damage on infrastructure and agriculture of at least PHP647 million ($12 million).

Natural Catastrophes: In Brief

Severe Convective Storm (United States)

A severe convective storm outbreak on January 12 hit parts of Alabama and Georgia with at least 37 tornadoes of various intensity and caused notable material damage, about 115,000 power outages, and claimed at least eleven lives and 49 injured. Another unusual mid-winter outbreak produced at least two tornadoes in eastern Iowa on January 16. National Weather Service (NWS) confirmed one EF-1 tornado (rated on the Enhanced Fujita scale) with gusts up to 90 mph (145 kph) and one weaker tornado that both caused rather minor material damage. No deaths and injuries were reported. The last time a tornado touched down in Iowa in the month of January was on January 24, 1967.

Earthquake (Iran)

A magnitude-5.8 earthquake jolted northern Iran on January 18, affecting about 30,000 people by very strong shaking, and about 293,000 by strong shaking. The national news agency (IRNA) reported around 500 damaged home and 194 injuries. The USGS also noted a high probability of economic losses running into the millions, based on the PAGER methodology.

Flooding (Latvia)

Central Latvia has been affected by widespread flooding since past week. A combination of heavy rains, rapid snowmelt and ice jam caused Daugava river to overflow its bank. On January 13, water levels reached the highest level in 40 years. Jekabpils city was one of the worst affected by flooding with dozens of flooded houses, closed roads, and dozens of evacuated people.

Flooding (Colombia)

Heavy rain triggered flooding in Antioquia Department, north-western Colombia on January 14, resulting in casualties and material damage on several houses. According to authorities, at least two people died, and 25 others were injured. Emergency services received more than 180 calls.

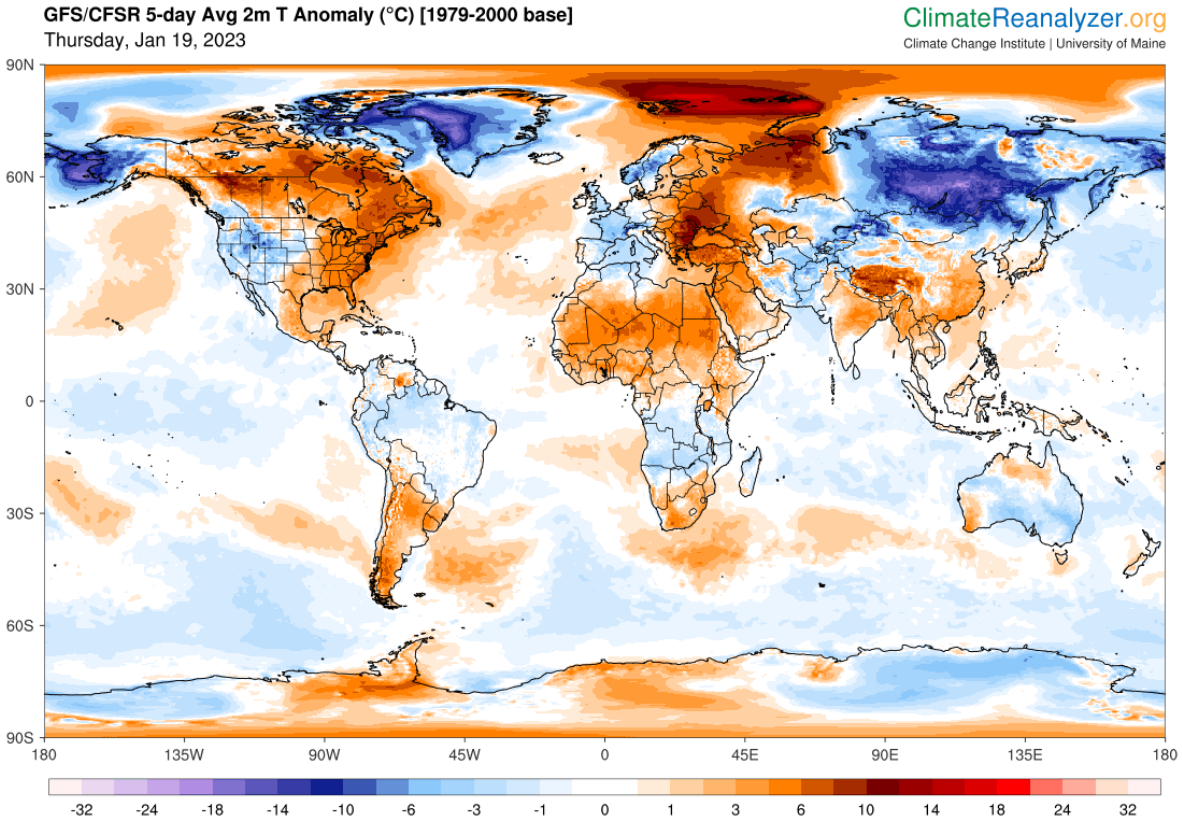
Flooding (Mexico)

Torrential rainfall caused flooding and landslide events across Baja California State in north-western Mexico on January 16-17. According to authorities, at least two persons died in landslide, two others lost their lives in flooded waters. Power services to more than 87,000 customers were lost due to damage on electrical poles.

Tropical Storm Cheneso (Madagascar)

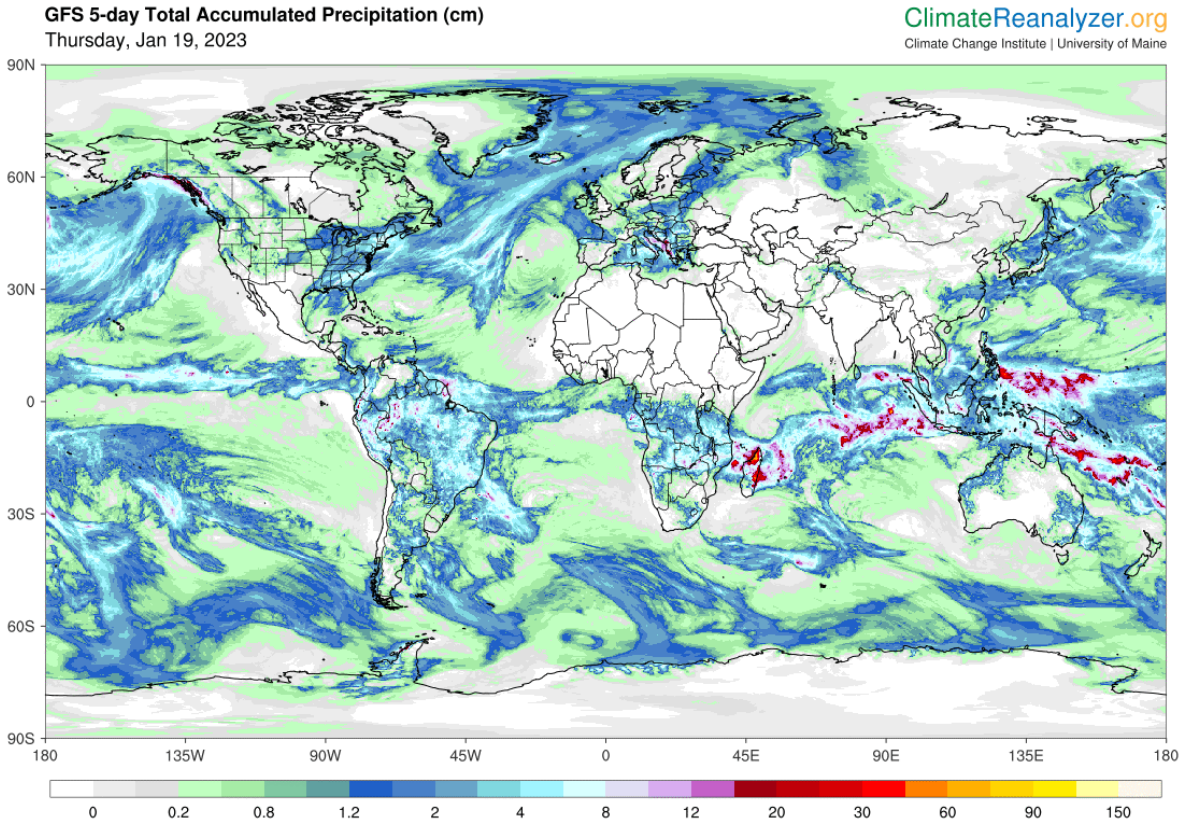
Cheneso developed from a tropical disturbance in the southwest Indian Ocean and reached a tropical storm status on January 18, tracking west and eventually impacting north-eastern part of Madagascar on January 19. The storm exhibited sustained winds of 65 mph (105 kph) at peak intensity and resulted in some material damage. Madagascar's BNGRC noted at least 730 inundated homes in the Analanjirofo region.

Global Temperature Anomaly Forecast



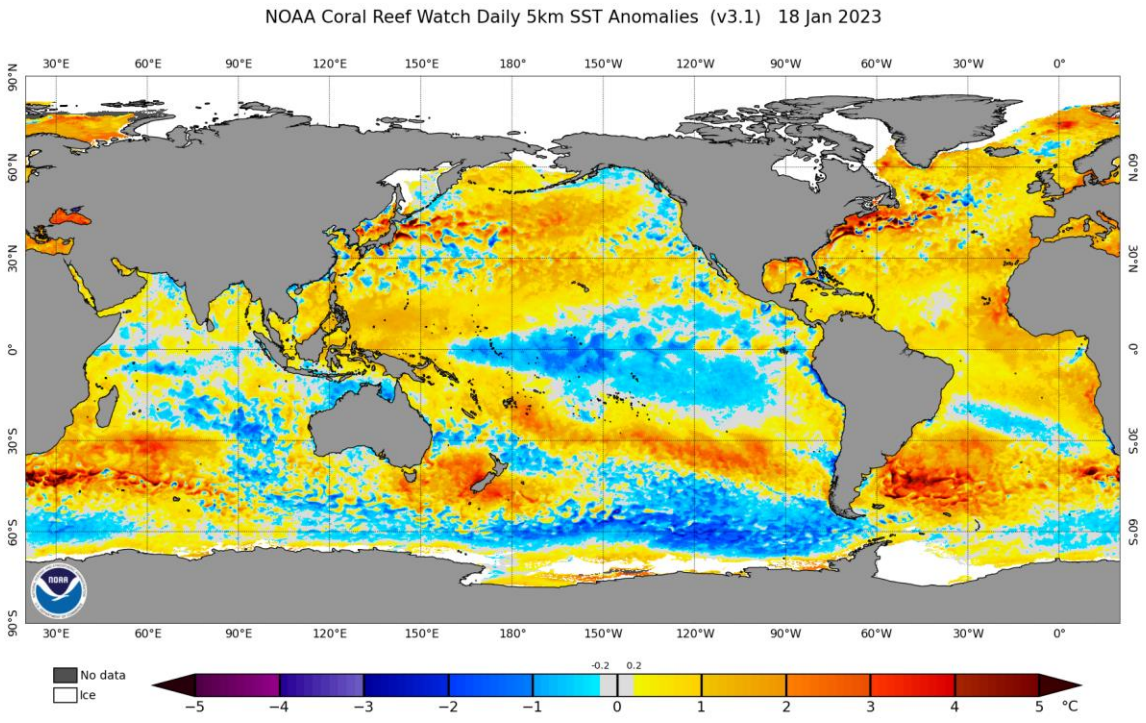
Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

Global Precipitation Forecast

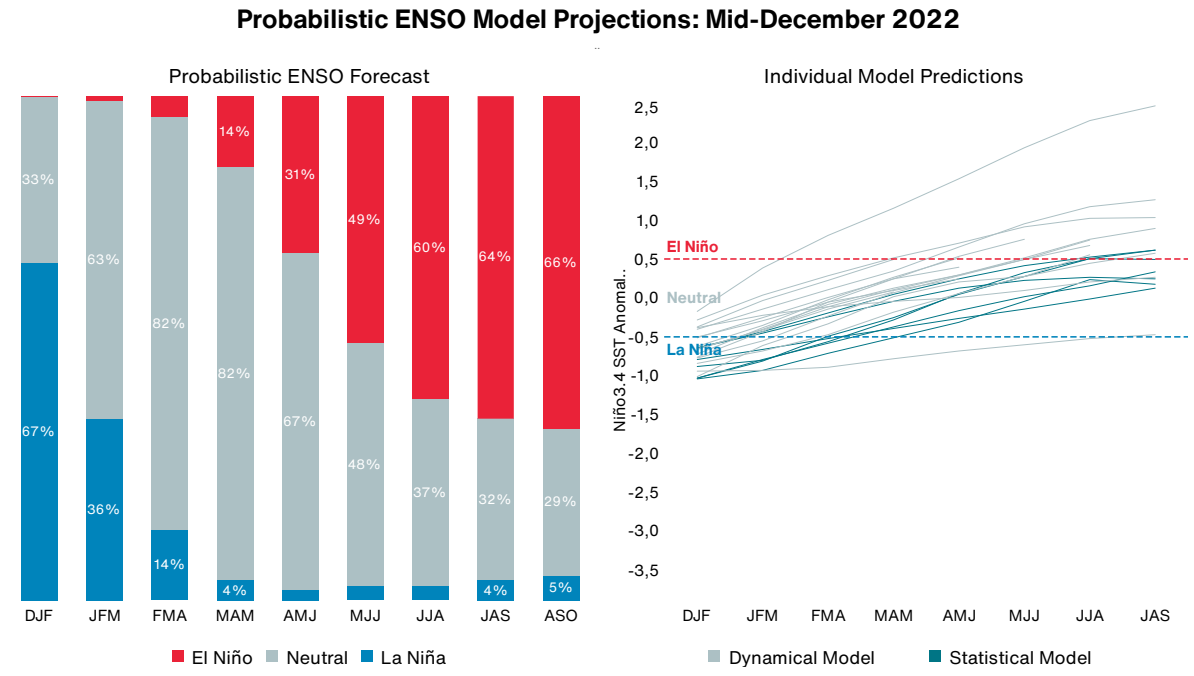


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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



El Niño-Southern Oscillation (ENSO)



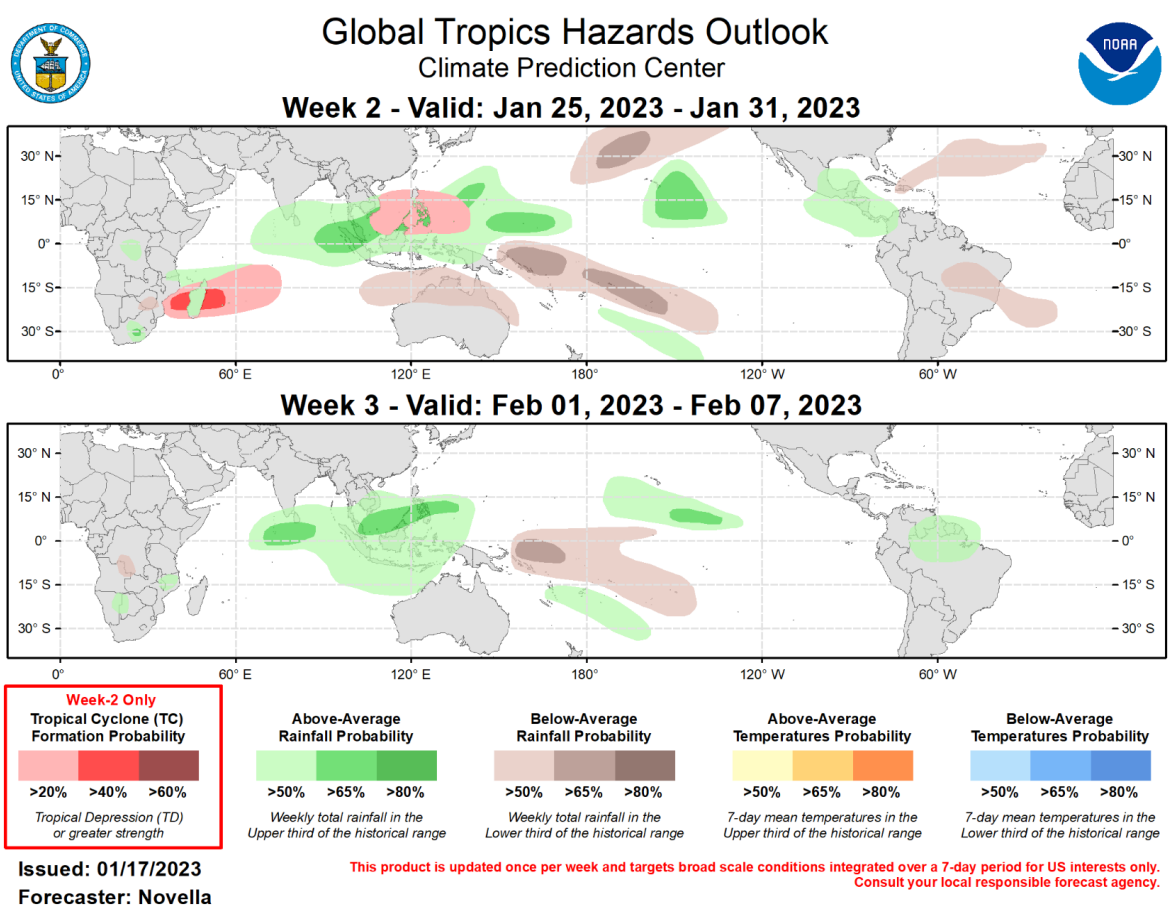
El Niño: *Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.*

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.*

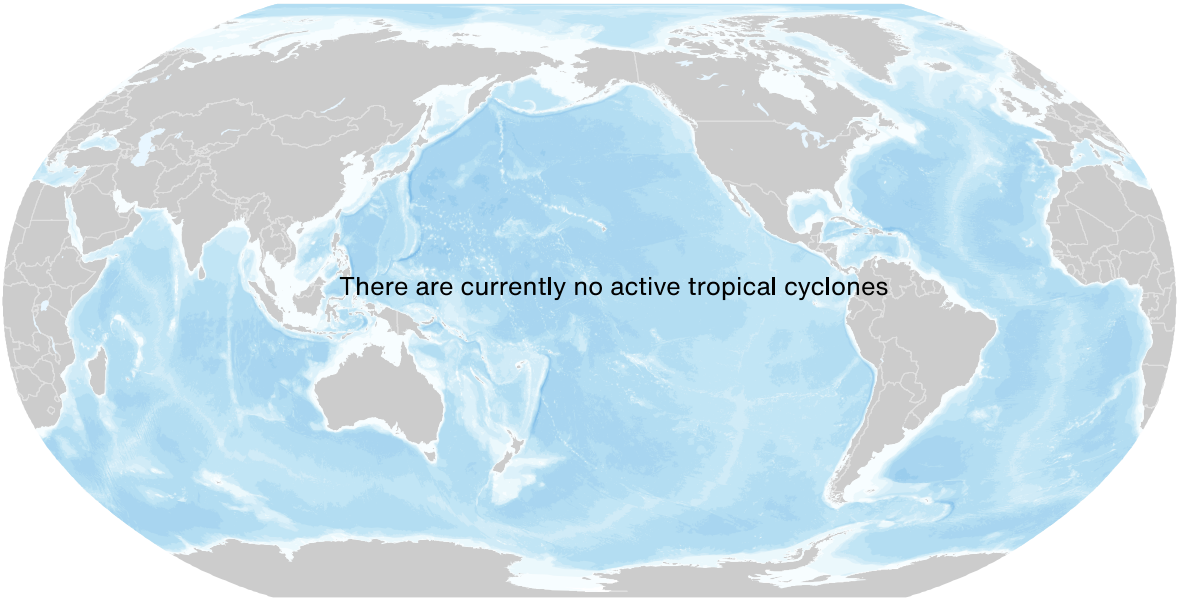
El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5°C (-0.5°C). This is known as the Oceanic Niño Index (ONI).

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity



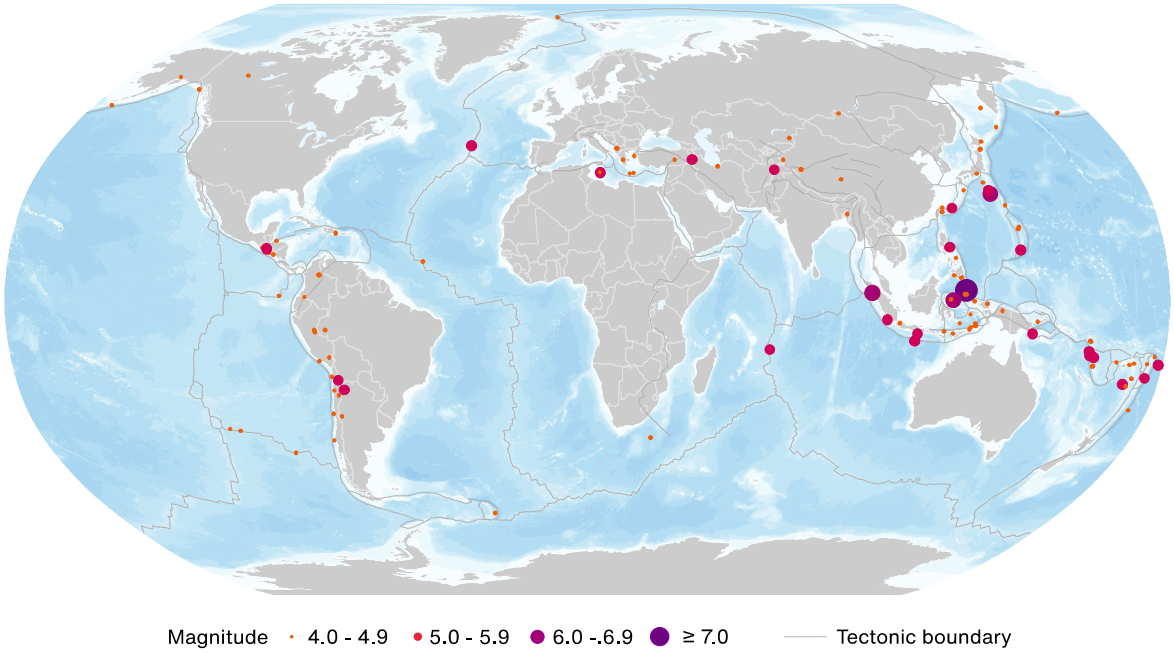
Tropical Depression Tropical Storm Category 1 Category 2 Category 3 Category 4 Category 5

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)

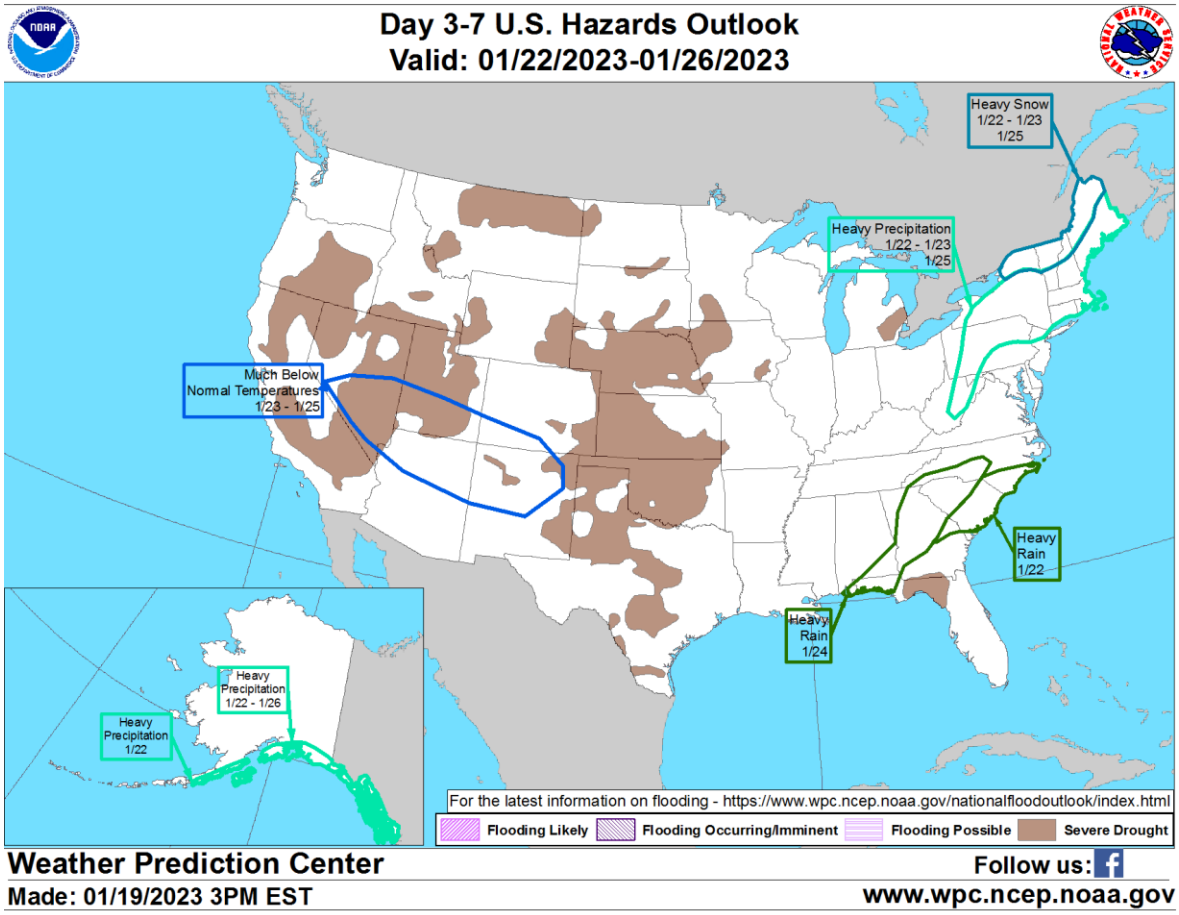
Global Earthquake Activity (≥M4.0): Jan 13-19



Date (UTC)	Location	Magnitude	Epicenter
1/15/2023	2.00N, 98.01E	6.2	40 km (25 miles) SE of Singkil, Indonesia
1/16/2023	28.99N, 139.36E	6.3	740 km (460 miles) S of Tokyo, Japan
1/18/2023	0.00S, 123.18E	6	61 km (38 miles) SSE of Gorontalo, Indonesia

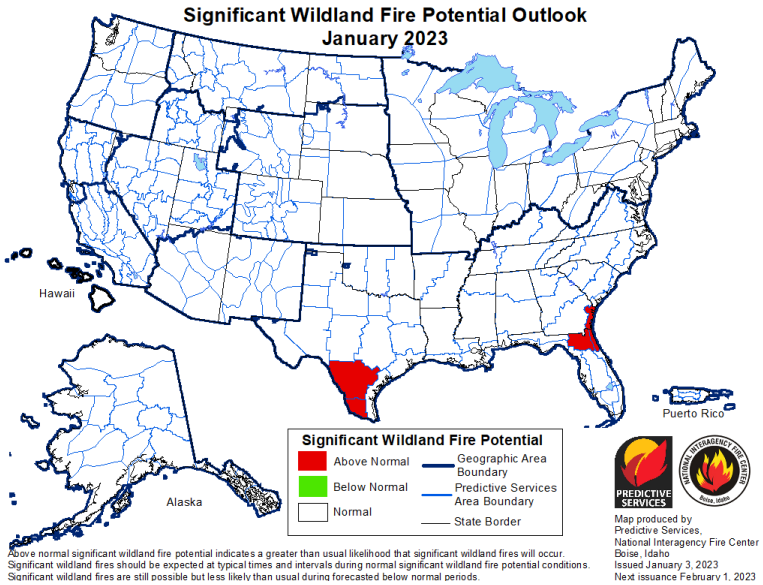
Source: United States Geological Survey

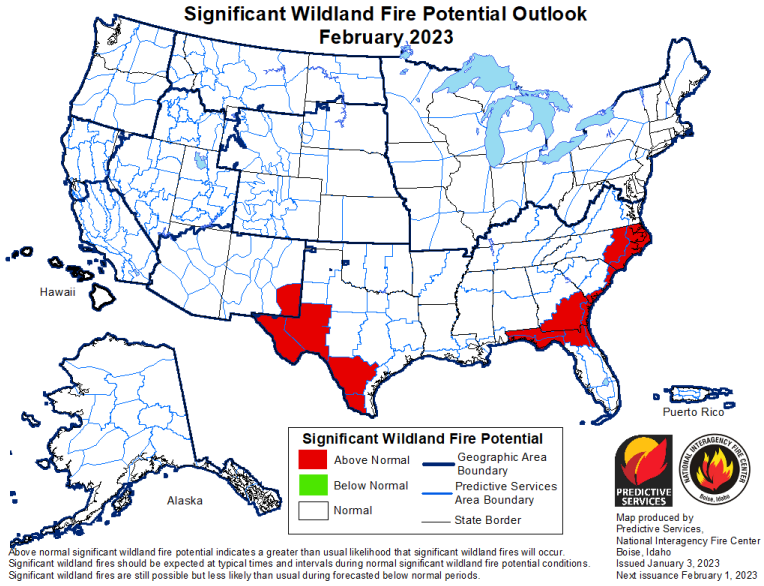
U.S. Hazard Outlook



Source: Climate Prediction Center (NOAA)

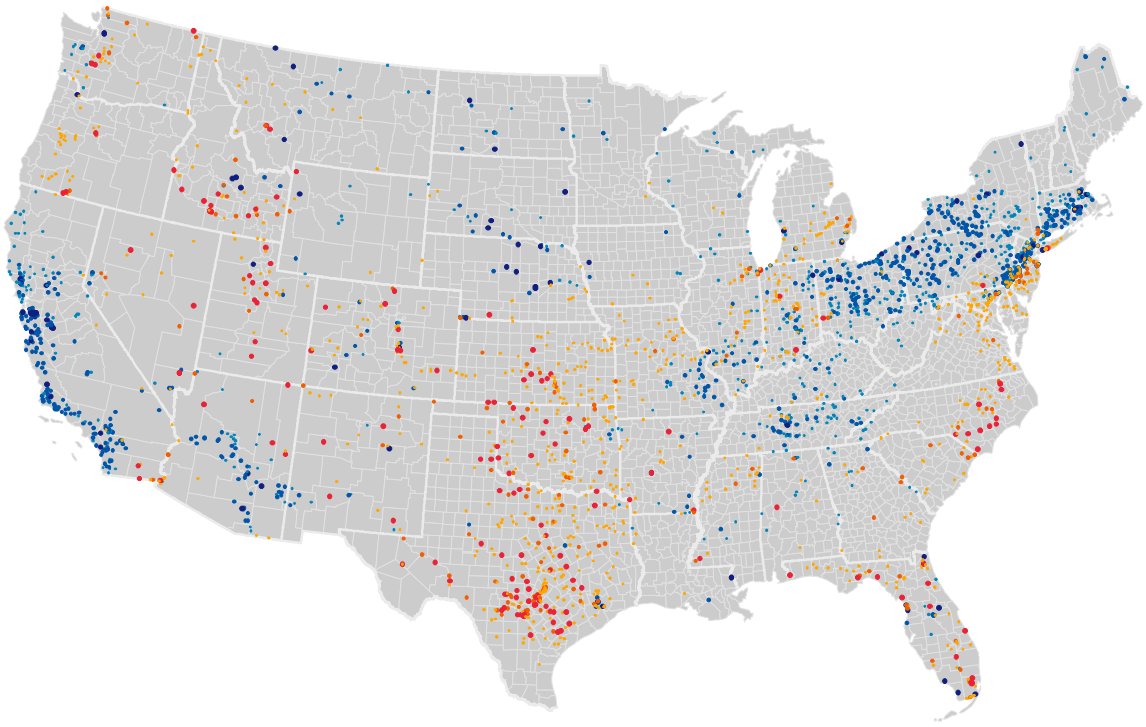
U.S. Wildfire: Significant Fire Risk Outlook & Activity





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

Western Europe: Windstorm Frederic, Gérard & Fien

European Severe Weather Database (ESWD)
Météo France
Gérard storm: strong winds disrupted the north-west quarter of France, *Meta Jaun News*
Storm Gerard slams France with hurricane-force winds, disrupts travel, *AccuWeather*
From overflowing rivers to fallen trees and two isolated villages: almost 250 incidences of 'Gérard', *Europe Press Galicia*

Philippines: Flooding

Disaster Risk Reduction and Management Council (NDRRMC)
Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)

Natural Catastrophes: In Brief

U.S. National Weather Service (NWS)
Reliefweb
Deadly Flash Floods in Medellín, Antioquia, *Floodlist*
Tornadoes in Eastern Iowa, *Catnat.net*
Jēkabpils dam struggles to hold back waters; city evacuates some residents due to flood, *Public broadcasting of Latvia*
BNGRC, Madagascar

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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