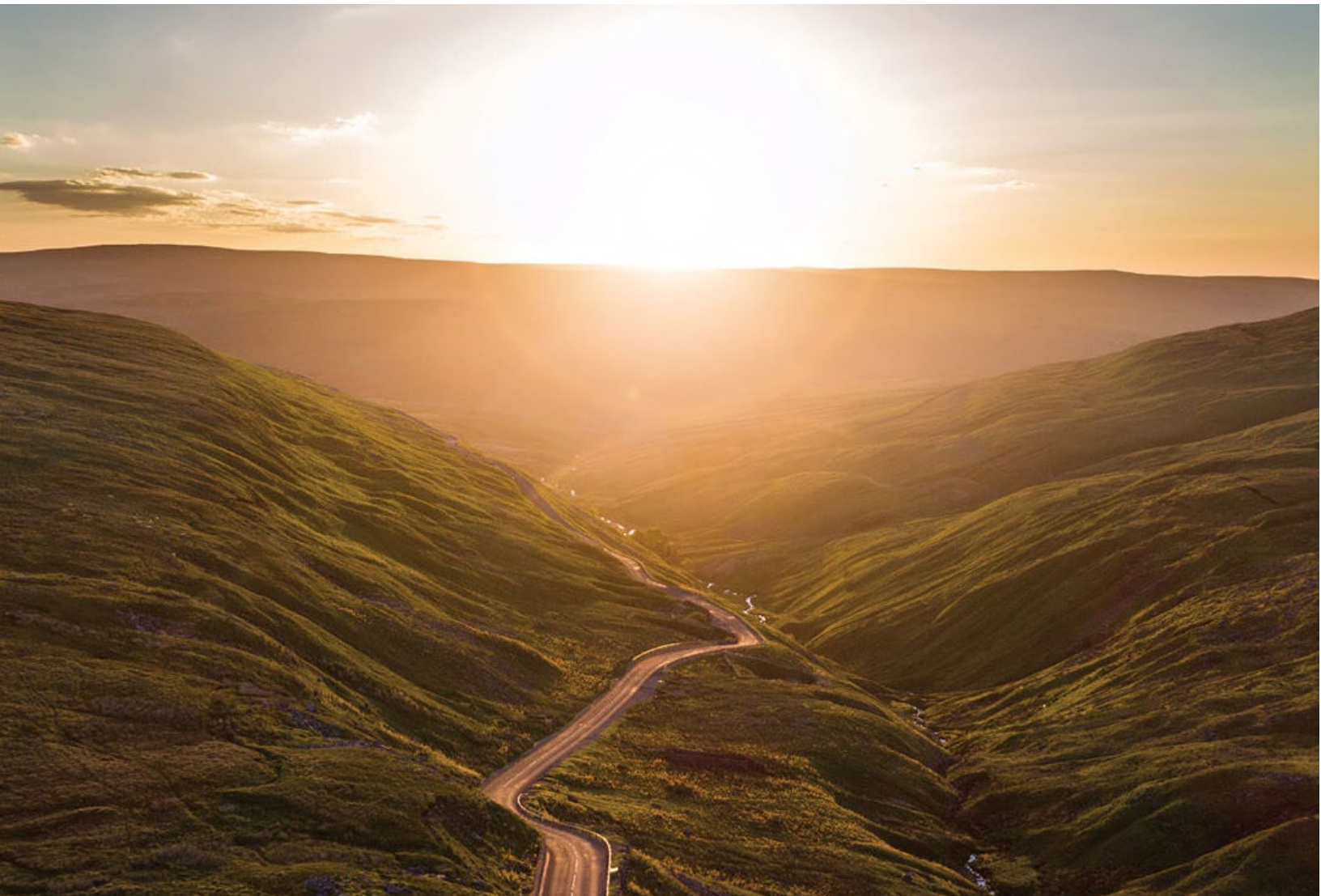
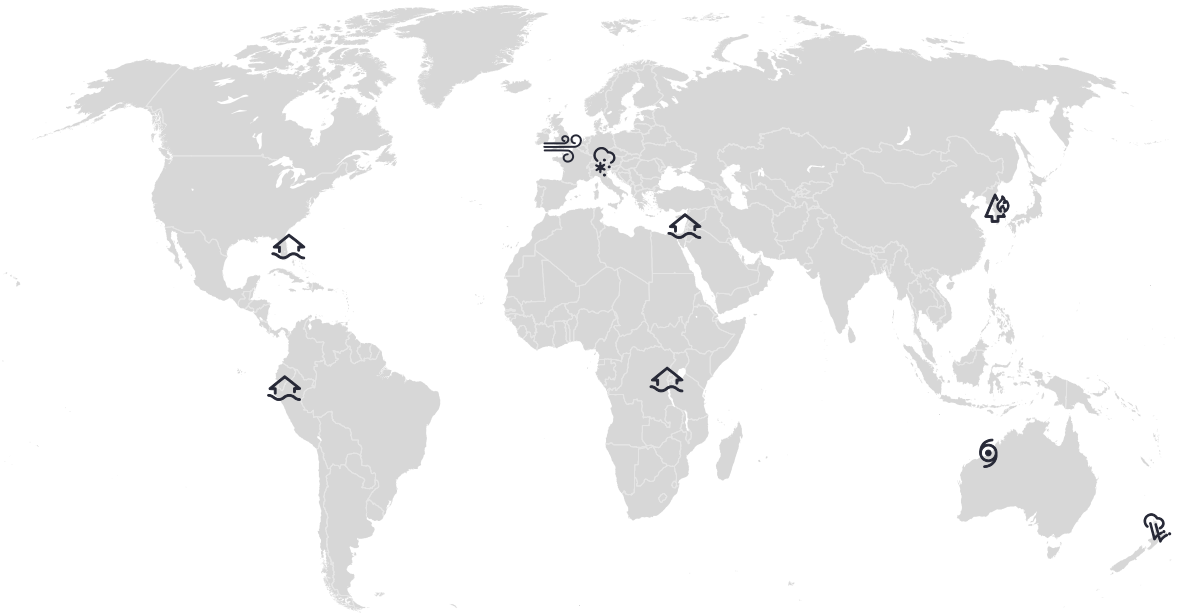
AON

Weekly Cat Report

April 14, 2023



Executive Summary



Event	Affected Region(s)	Fatalities	Economic Loss ($)	Page
Flooding	United States	0	10s of millions	3
Flooding & Landslides	Peru, Ecuador	83+	10s of millions	4
Cyclone Ilsa	Australia	0	Millions	5
Flooding & Landslides	Burundi, Rwanda, DRC	14+	Unknown	6
Severe Convective Storm	New Zealand	0	Millions	6
Wildfire	South Korea	1	Millions	6
Winter Weather	France, Switzerland	6	Negligible	6
Flooding	Israel	2+	Negligible	6
Windstorm Noa	United Kingdom, France	0	Millions	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

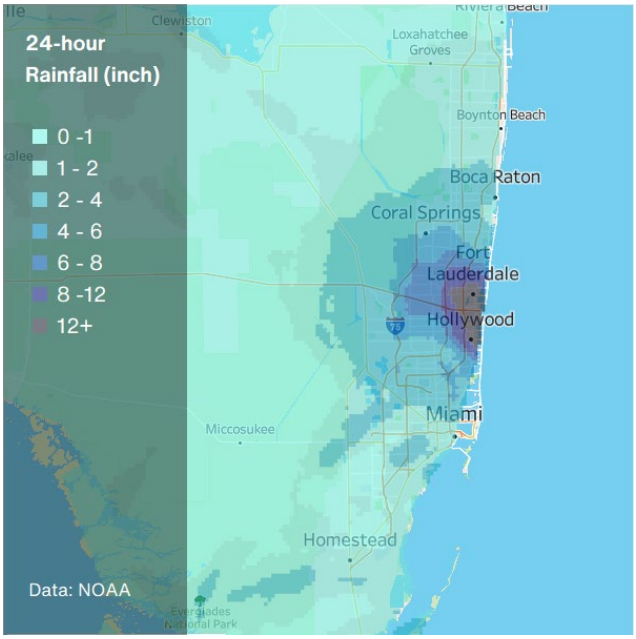
United States: Flooding

Overview

A historic rainfall event prompted major flash flooding in southern Florida, particularly in the city of Fort Lauderdale, on April 12. Severe flooding affected thousands of people and caused notable traffic disruptions. Total economic losses are estimated to be at least in the tens of millions USD.

Meteorological Recap

A combination of low-pressure area in the Gulf of Mexico and a front moving across south Florida enhanced the favourable conditions for storm and rainy environment. A stationary supercell thunderstorm centred near Fort Lauderdale City persisted in the moist conditions and produced prolonged periods of heavy rainfall, with more than 3 inches (76 mm) of rain per hour. According to the local National Weather Service (NWS), Fort Lauderdale received **25.91 inches** (658 mm) of rain in 24-hour period, an equivalent to a 1-in-1,000-year rainfall event (0.1 percent likelihood of happening in any given year). This event beat the previous city's daily record of 14.59 (371 mm) set in 1979.



Event Details

The NWS issued a rare flash flood emergency for southern Broward County, including Hollywood, Pembroke Pines, Dania Beach and **Fort Lauderdale**, which was the worst hit by abundant rainfall. Dozens of people were trapped in their vehicles and homes. Hundreds of vehicles were inundated. Flooding caused notable traffic disruptions, including closure of local international airport, and left thousands of customers without power. According to authorities, local fire brigades received more than 900 calls for service due to flooding overnight. About 600 people have been brought to the emergency shelter locations. There were no immediate reports of injuries or deaths. On April 13-14, dozens of streets and roads remained impassable due to slow flood drainage.

Financial Loss

Material damage caused by severe flash flooding is expected to be at least inthe tens of millions USD, including announced damages of at least $2 million that were incurred on school building across the Broward County.

Peru, Ecuador: Flooding & Landslides

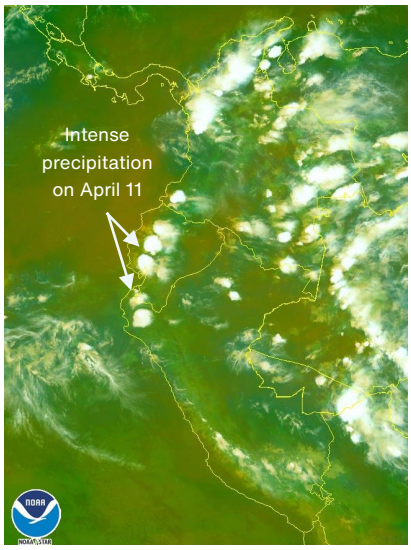
Overview

A seasonal flooding triggered by heavy rainfall has been affecting more than 180,000 people across Peru and Ecuador, resulting in an increasing number of fatalities and structures damaged due to flooding and landslides. Flooding over the past few days claimed at least 25 lives in Peru, while total number of fatalities related to entire rainy season stands at 83 in both countries, according to authorities. Total economic losses are expected to reach into the tens of millions USD.

Meteorological Recap

The rainy season usually runs between December and March in the region. The current season shows signs of longer duration, partially due to a rapid ocean warming that was detected offshore Peru and Ecuador during March and April. This warming of the marine surface can result in an increase of rainfall on the western slope of the Peruvian Andes.

Over the past few days, new rounds of heavy rainfall affected several provinces across the region. The most intense rainfall occurred locally between April 11-12. San Pedro meteorological station, La Libertad Province, saw a daily precipitation of 144.8 mm (5.7 in), exceeding the accumulated monthly rainfall for April three times. In response to the extreme rainfall, the Tumbes River peaked well above extreme flooding level (red alert) on April 12-13, several other rivers reached orange alert level.



Source: NOAA, GOES-East

Event Details

The National Institute of Civil Defense of **Peru** (INDECI) reported more than 120,000 people affected across several northern provinces, a majority of affected in Piura Department. As of April 13, no fewer than 25 people died in departments of Piura (15), Lambayeque (5), Huancavelica (2), Lima (2) and La Libertad (1).

Death toll and material losses related to rainy season grew also in neighbouring **Ecuador**. According to UN OCHA, almost 60,000 people have been affected across provinces of Guayas, Manabí, Los Ríos, Santa Elena, Cotopaxi, El Oro, Santo Domingo de Los Tsáchilas, Imbabura and Chimborazo. Since the beginning of this year, seasonal flooding has left at least 25 dead and destroyed or damaged more than 12,000 homes. The massive landslide that occurred in Chimborazo province, central Ecuador on March 26 was the deadliest event triggered by heavy rainfall, claiming at least 33 additional fatalities, according to the latest reports.

Financial Loss

It is still early to assess total economic damages from this year rainy season as seasonal flooding is still ongoing. As of this stage, losses are anticipated to be in the tens of millions USD.

Australia: Cyclone Ilsa

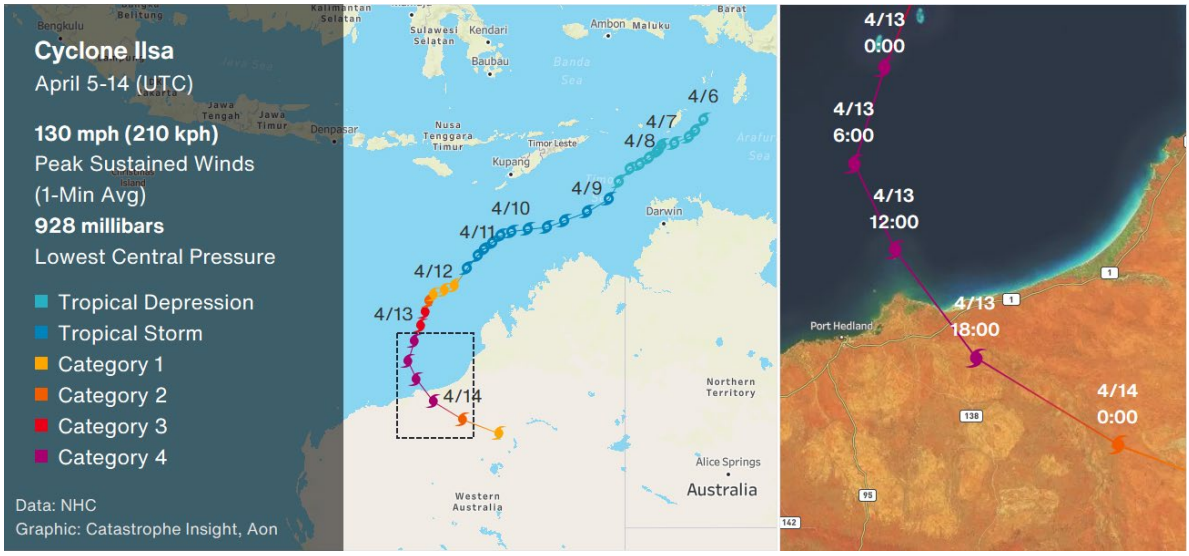
Overview

Tropical Cyclone Ilsa, an equivalent to Category 4-storm, made landfall over Australia's western coast on April 13, setting a new wind record. Despite its strength, storm did not generate notable material damage as it passed over a sparsely populated area.

Meteorological Recap

Storm formed from a tropical low off the coast of Indonesia on April 5 and became the sixth named storm of current tropical cyclone season. Storm gradually intensified on its way over Timor Sea to become Category 1-equivalent tropical cyclone on the Saffir-Simpson hurricane wind scale on April 11. Ilsa made landfall on April 13, about 120 km (75 mi) northeast of Port Hedland in Western Australia as a Category 4-storm on Saffir-Simpson scale with sustained winds of 215 kph (130 mph), and as Category 5-storm according to the Australian tropical cyclone intensity scale, which accounts 10-minute sustained wind speeds higher than 198 kph (123 mph) to be classified as Category 5.

At Bedout Island, cyclone reached ten-minute sustained **wind speed of 218 kph** (135 mph), breaking the previous record of Cyclone George set in 2007, which peaked at wind speed of 205 kph (125 mph).



Event Details

On April 12, the Department of Fire and Emergency Services issued a cyclone yellow alert. Hundreds of residents were evacuated to shelters prior to the storm. Major towns and communities, like Port Hedland, were fortunately spared the worst of the cyclone. Pardoo Roadhouse, located northeast of Port Hedland and near the landfall point, sustained damage estimated at A$4 million.

Natural Catastrophes: In Brief

Flooding & Landslides (Burundi, Rwanda, Democratic Republic of the Congo)

Heavy rainfall, flooding and landslides continue to affect thousands of people across several countries in central Africa. Since late March, at least 14 dead and 13 injured have been reported in Burundi, particularly in Bujumbura Mairie, Cibitoke, Muyinga Provinces, along with widespread agricultural damage. Casualties and material damages due to flooding and landslide events have also been incurred in the neighbouring countries of Rwanda and Democratic Republic of the Congo (see previous Weekly Cat Report).

Severe Convective Storm (New Zealand)

Thunderstorm activity accompanied by tornadoes developed over both of New Zealand's islands on April 9-11. Notably, a tornado damaged several homes in East Auckland on April 9. Day after, another tornado hit the area in Tasman District, damaging no fewer than 50 houses, several vehicles, downed trees and power lines. Local fire and emergency services intervened more than 50 times. One person was injured in Wellington after tornado occurred on April 11.

Wildfire (South Korea)

A wildfire burned approximately 380 hectares (940 acres) of land in the coastal resort city of Gangneung in Gangwon-do Province, north-eastern South Korea. The wildfire forced hundreds of people to leave their homes, one person died and several others were injured, at least 44 houses were destroyed due to fire and about 1,000 people were evacuate din total. A few dozen other buildings, including several hotels, were damaged in the event.

Winter Weather (France, Switzerland)

Several avalanche incidents were reported in the Alps during the past week. Despite a low avalanche risk, at least six people were buried at the Armancette glacier near Mont Blanc, south-eastern France, on April 10. Nine skiers were injured by another avalanche, which occurred in the Swiss Alps on April 8.

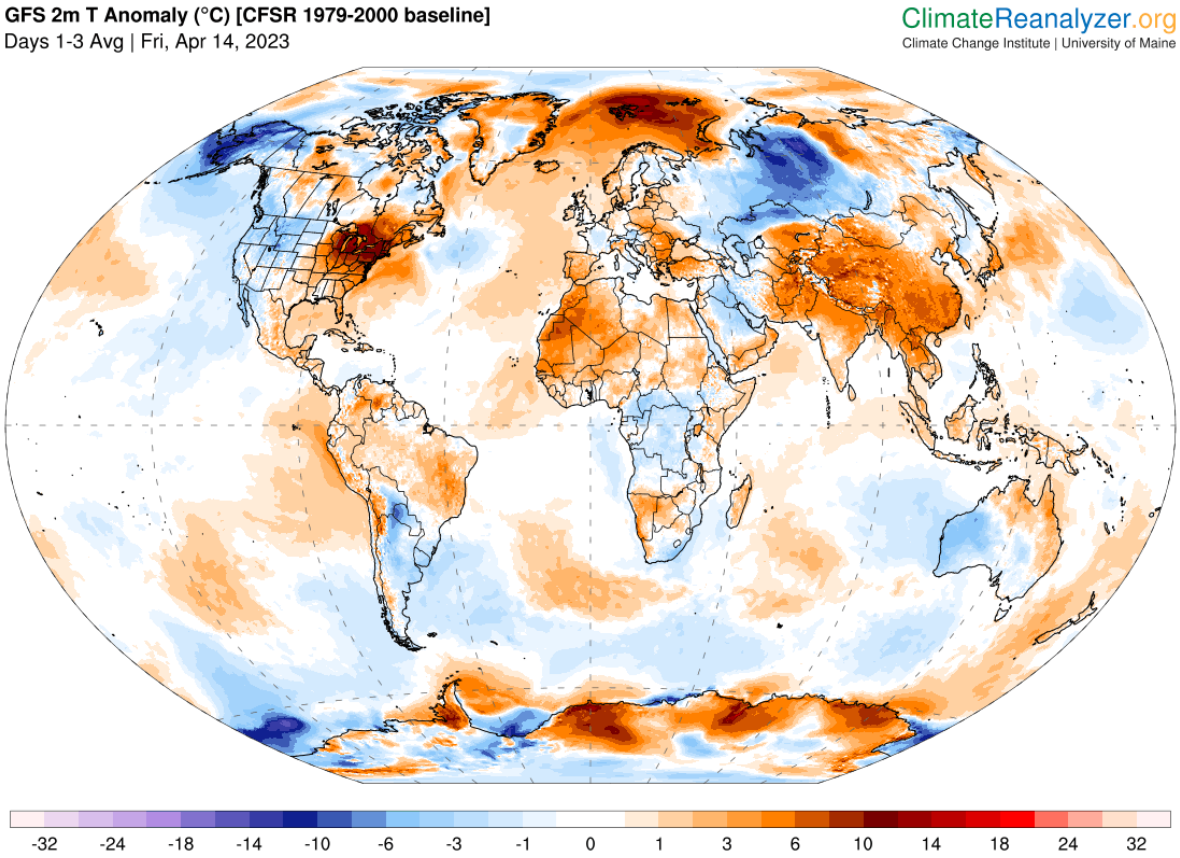
Flooding (Israel)

Heavy rainfall triggered flash flooding in Southern Negev and Arava regions in southern Israel on April 11. Tens of people have been rescued, at least two people died and one person was injured. Flooding caused minor material damage and traffic disruptions in the towns of Eilat and Paran.

Windstorm Noa (United Kingdom, France)

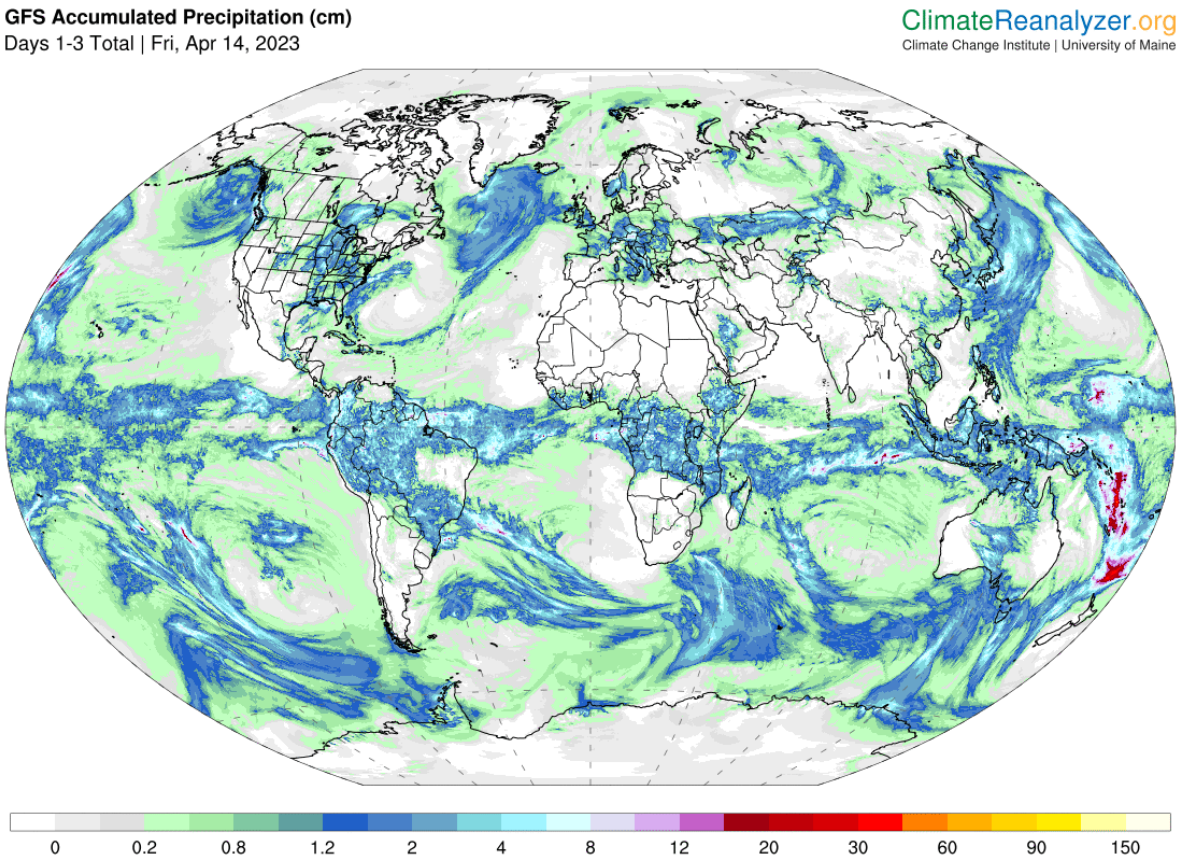
A low-pressure system named Noa resulted in some minor wind-related damage In the United Kingdom and France on April 12. Particularly strong winds up to 120 kph (75 mph) were observed in north-western France and northern U.K. Thousands of power outages, along with some vehicle damage due to fallen trees were reported from both countries as the storm passed.

Global Temperature Anomaly Forecast



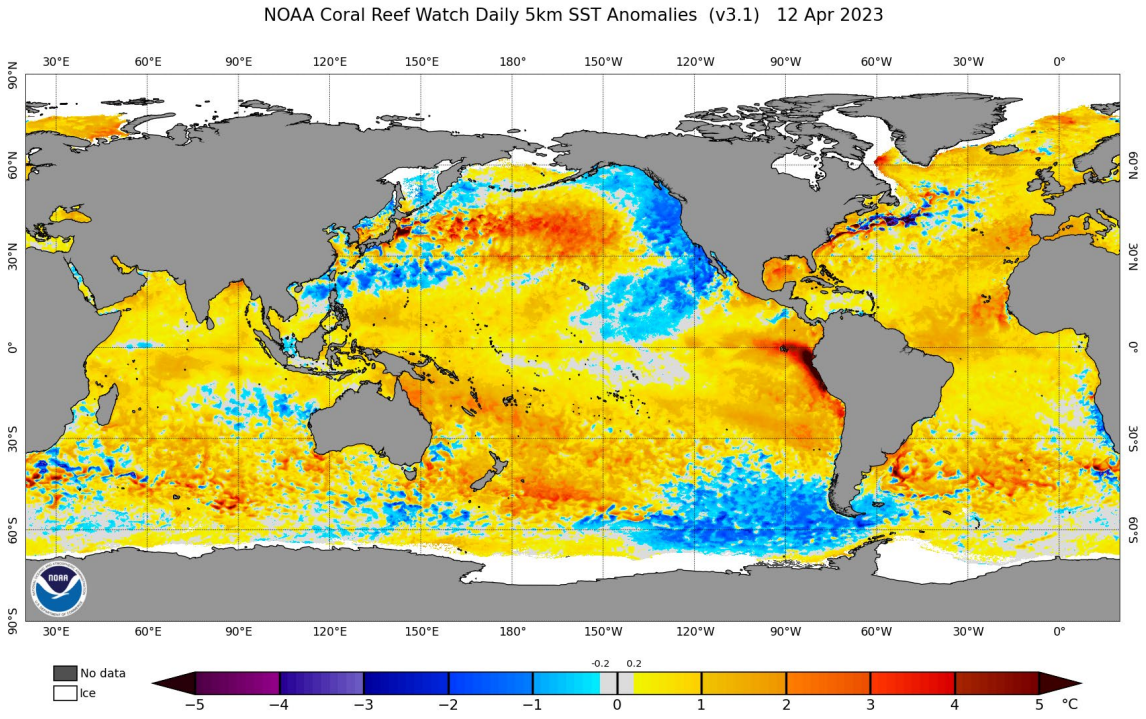
Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

Global Precipitation Forecast

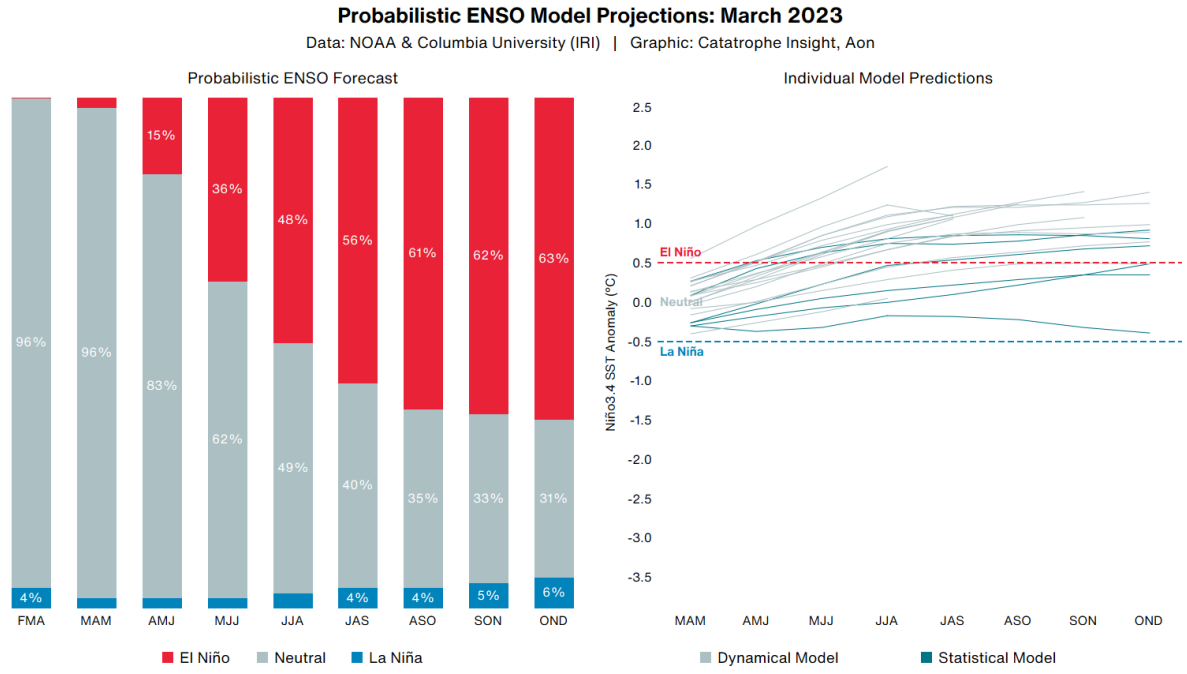


Source: Climate Reanalyzer, Climate Change Institute, University of Maine, USA

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



El Niño-Southern Oscillation (ENSO)



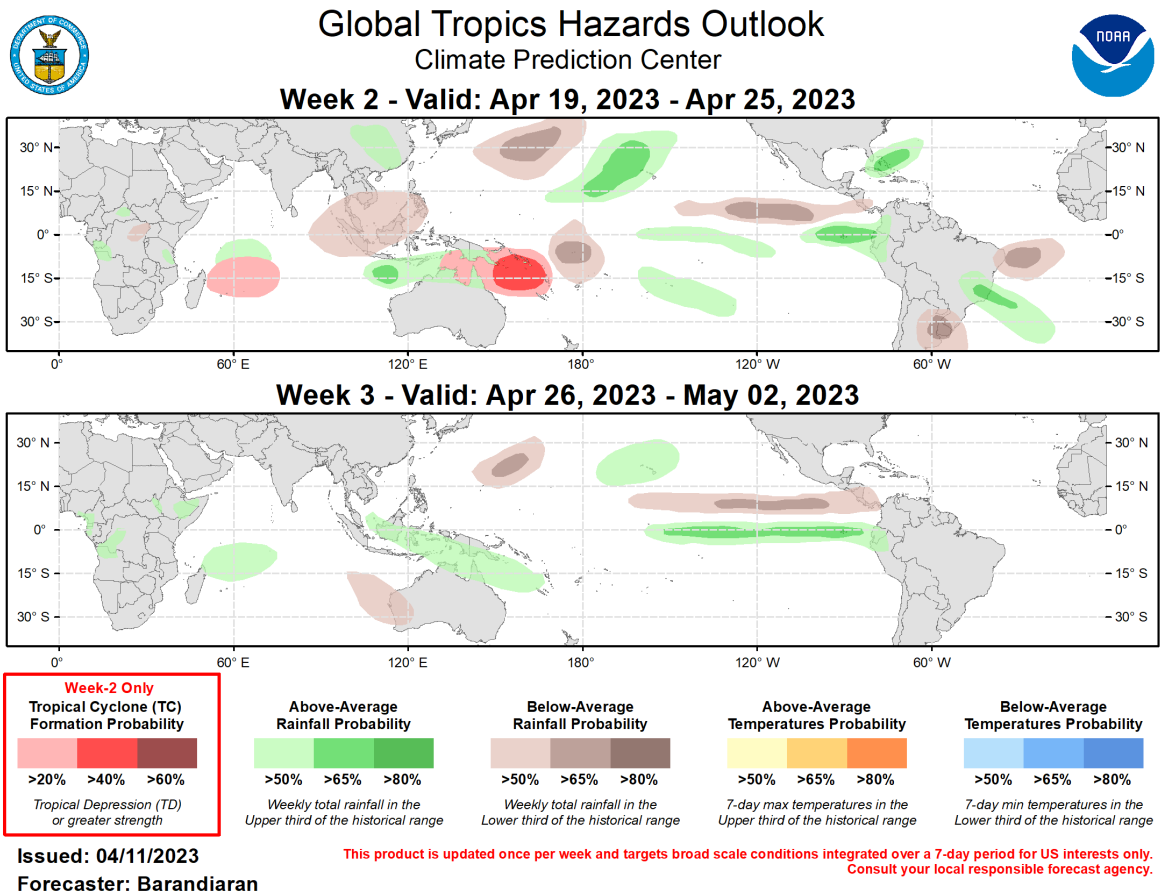
El Niño: *Warm phase of an ENSO cycle. Sea surface temperatures of +0.5°C occur across the east-central equatorial Pacific.*

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.*

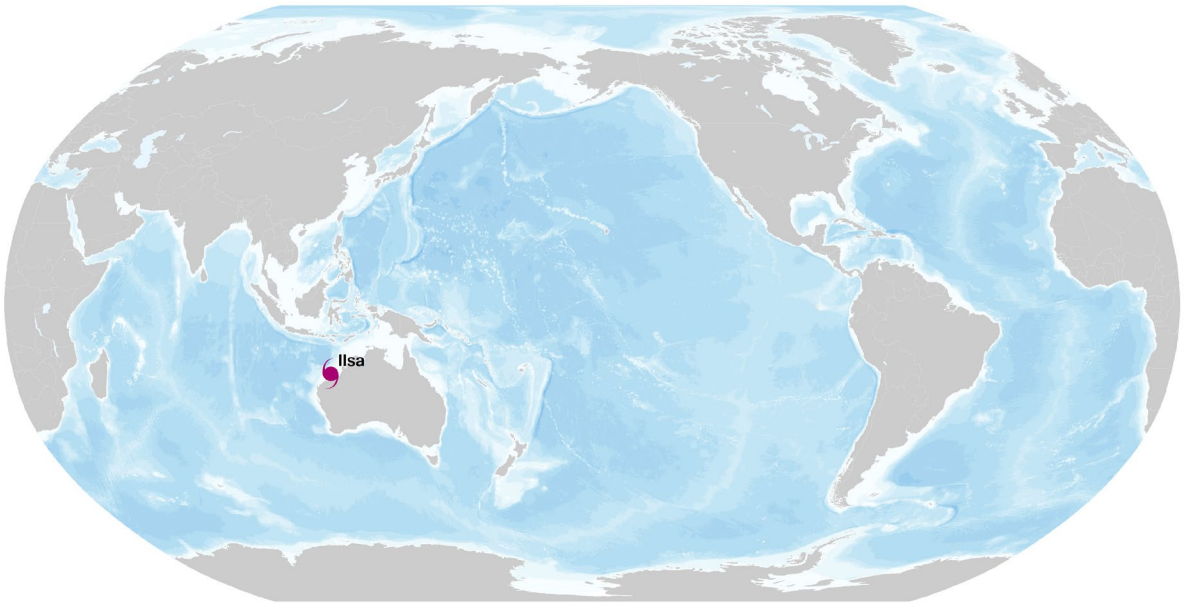
El Niño (La Niña) is a phenomenon in the equatorial Pacific Ocean characterized by a five consecutive 3-month running mean of sea surface temperature (SST) anomalies in the Niño 3.4 region that is above the threshold of +0.5°C (-0.5°C). This is known as the Oceanic Niño Index (ONI).

Global Tropics Outlook



Source: Climate Prediction Center (NOAA)

Current Tropical Cyclone Activity



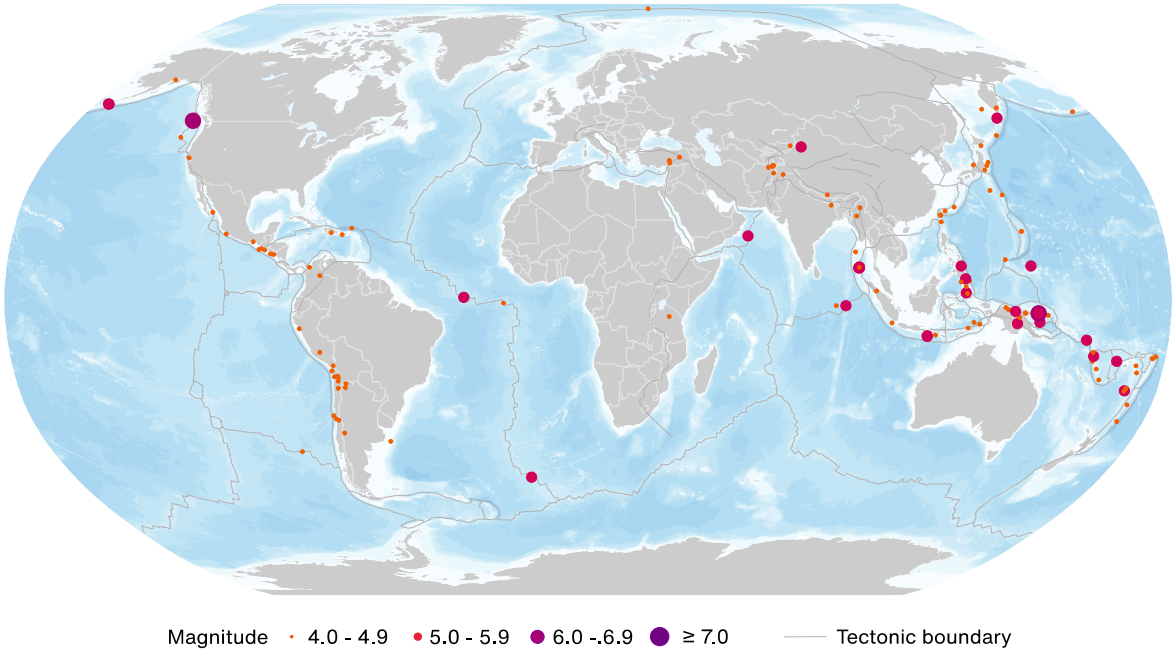
Tropical Depression Tropical Storm Category 1 Category 2 Category 3 Category 4 Category 5

Storm Name	Location	Winds	Location from Nearest Land Area
CY Ilsa	18.7S, 118.7E	150	670 mi (1,080 km) SW from Kupang, Indonesia

* 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)

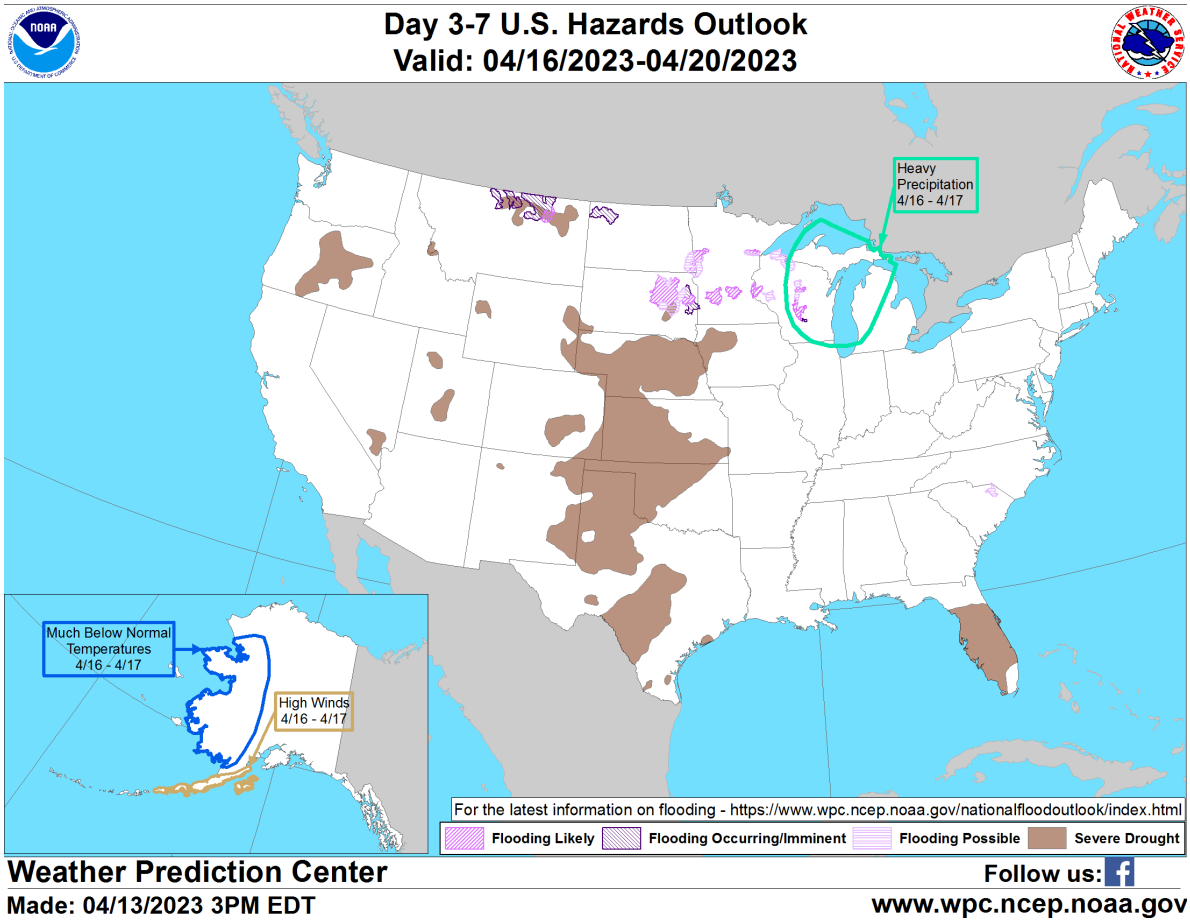
Global Earthquake Activity (≥M4.0): April 7-13



Date (UTC)	Location	Magnitude	Epicenter
4/10/2023	3.51S, 149.00E	6.0	22 km (14 mi) WSW of Kavieng, Papua New Guinea
4/13/2023	49.21N, 129.62W	6.0	23 km (14 mi) SW of Port McNeill, Canada

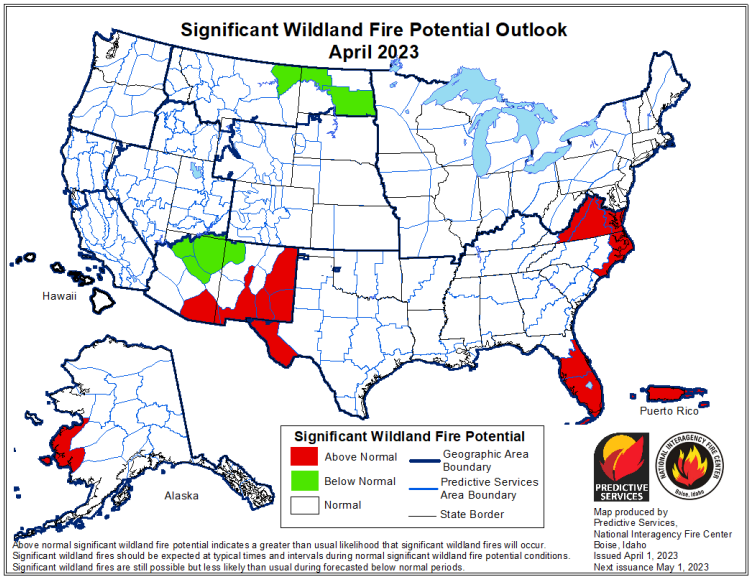
Source: United States Geological Survey

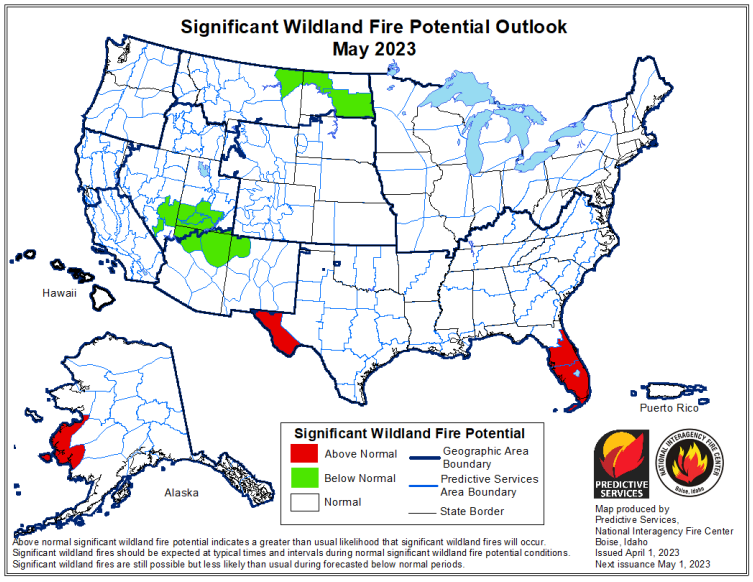
U.S. Hazard Outlook



Source: Climate Prediction Center (NOAA)

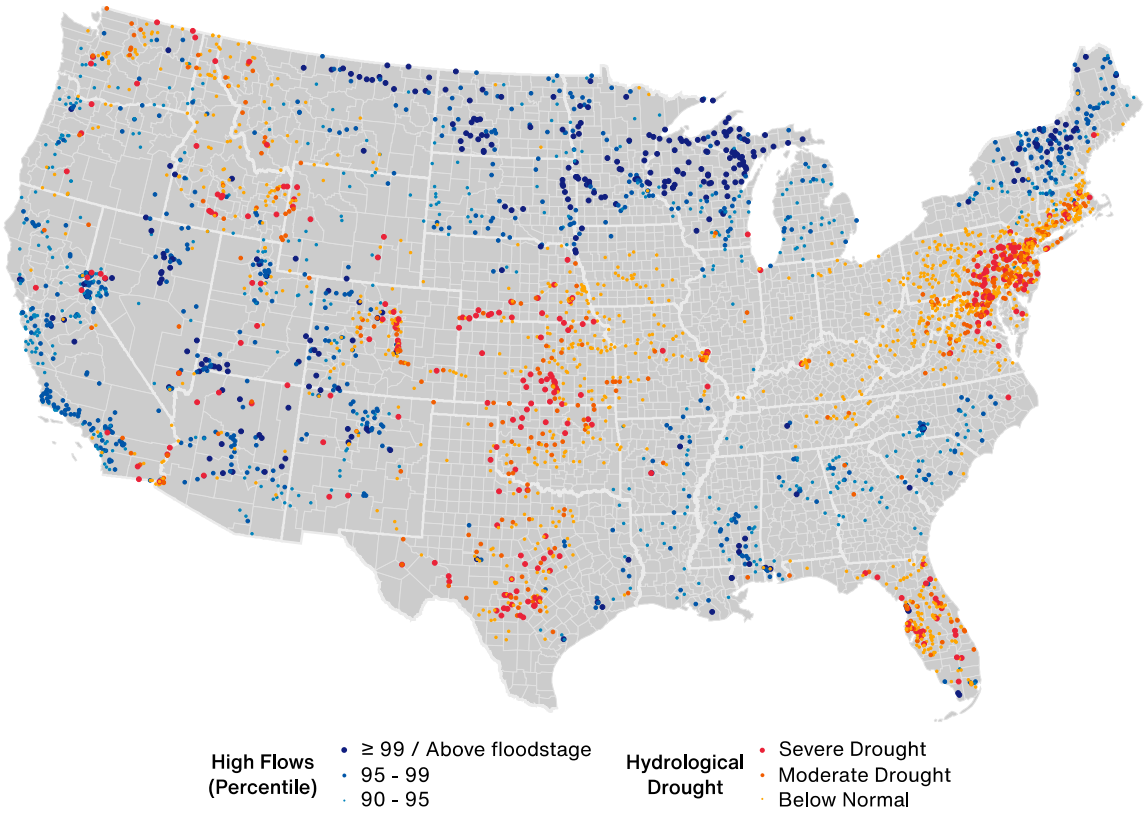
U.S. Wildfire: Significant Fire Risk Outlook & Activity





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: Flooding

The National Weather Service (NWS)
Historic rain in South Florida causes severe flooding, closing schools and Fort Lauderdale's airport, *CNN*

Peru, Ecuador: Flooding & Landslides

The National Institute of Civil Defense (INDECI)
The National Meteorological Institute (SENAMHI)
The United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA)

Australia: Cyclone Ilsa

Bureau of Meteorology (BoM)
Cyclone Ilsa sets a new wind record as it smashes into Australia's western coast, *CNN*
'A big sigh of relief': How Ilsa wobbled but got back on track, *The Age*

Natural Catastrophes: In Brief

European Severe Weather Database (ESWD)
Floodlist
New Zealand's lower North Island hit by tornadoes, *Reuters*
South Korea wildfire forces 500 residents to evacuate, rain helps fight flames, *Reuters*
Six killed as avalanche sweeps French Alps mountainside, *CNN*
Rescue services search for 3 missing in suspected flash flood north of Eilat, *The Times of Israel*

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About Aon

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