FAMINE EARLY WARNING SYSTEMS NETWORK

Haiti

Monthly Climate and Weather

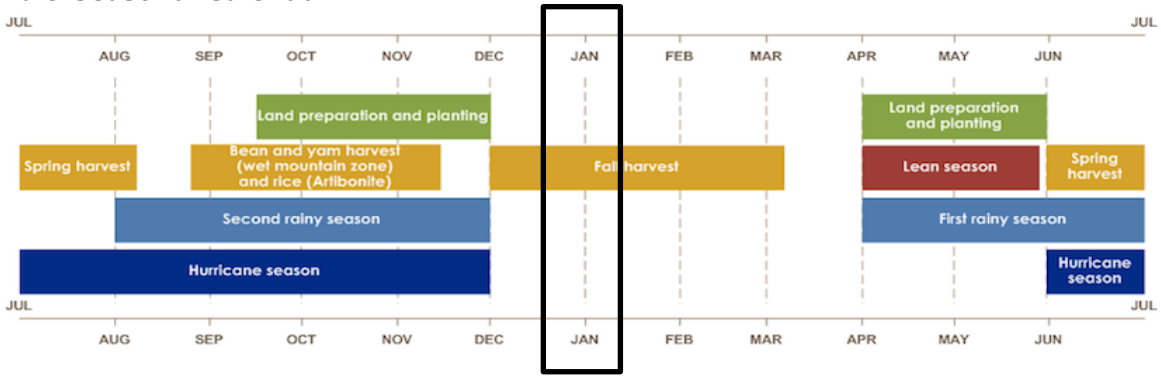
20 February 2025

Highlights

- La Niña conditions emerged in December 2024 and are expected to persist in the near term, with a transition to ENSO-Neutral during March-May 2025 (66%). Historically, El Niño is associated with drier-than-average conditions, while La Niña typically brings wetter-than-average conditions to Haiti.
- December marks the beginning of Haiti's dry season, with rainfall significantly lower compared to the rest of the year.
- In January 2025, rainfall reached up to 25 mm over Haiti. Only portions of Nord-Ouest, Grande-Anse, Sud, Ouest, and Sud-Est departments received light rainfall, ranging from 5 mm to 25 mm. Meanwhile, the rest of the country observed little to no rain . Rainfall anomalies were below-average (-10 mm to -200 mm) across Haiti, with anomalies ranging from 50 mm to 200 mm in western Ouest and Gonâve Island. Furthermore, near-average (-10 mm to 10 mm) conditions were observed in west Nord-Ouest, central Artibonite departments, and a few areas in southwestern Haiti.
- The NMME models indicate a 36% to 40% chance for above-average rainfall in central-eastern Haiti, and suggest equal chances for above-, near-, or below-average rainfall for the rest of the country during March 2025. The seasonal forecast for March – May 2025 indicates a 36% to 50% chance for above-average rainfall to occur in western Nippes, western Sud, southern Ouest, and Sud-Est departments, while the rest of the country expects equal chances for above-, near-, or below-average rainfall conditions. SPI forecast suggests wet conditions in northern, central, southwestern, and southeastern Haiti, and drier-than-average conditions are expected in western Artibonite, most of Ouest, western Sud-Est, and southwestern Centre.

The FEWS NET Monthly Climate and Weather information bulletin is based on current weather and climate information and monthly and seasonal outlooks from the NOAA CPC. Information on crops, soil moisture, flooding, and evapotranspiration data were produced by FEWS NET, USGS, NASA and USDA. Various sources were used to assess impacts of extreme conditions. Questions or comments about this product may be directed to Dr. Wassila Thiaw, Head, International Desks/NOAA, wassila.thiaw@noaa.gov. Questions about the USAID FEWS NET activity may be directed to Dr. James Verdin, Program Manager, FEWS NET/USAID, jverdin@usaid.gov.

Haiti Seasonal Calendar



Current Climate Modes and Teleconnections

- La Niña conditions are present, with below-average sea surface temperatures (SSTs) across the central and east-central tropical Pacific. According to the NOAA ENSO Diagnostic Discussion, as of early February 2025, La Niña conditions are expected to persist in the near term, with a transition to ENSO-Neutral during March–May 2025 (66% chance; Fig. 1). For the latest update from the NOAA Climate Prediction Center (CPC) on ENSO, check here.
- Much of the Caribbean Sea experienced SSTs from 24°C to 29°C, where positive anomalies of 0.5–1.5°C prevailed in the region.

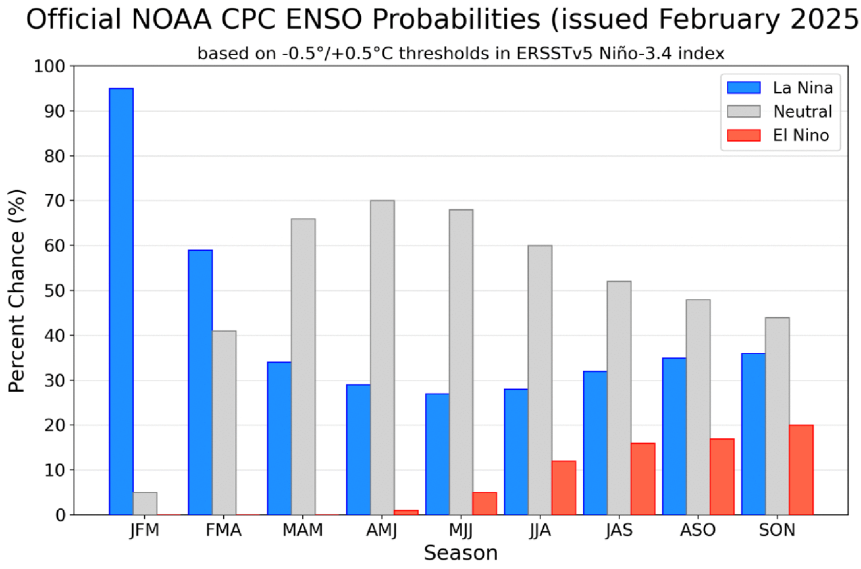


Figure 1. Official ENSO probabilities for the Niño 3.4 SST index (5°N–5°S, 120°W–170°W). Figure updated 13 February 2025. **Source: NOAA/CPC**

- Implications of ENSO conditions: Based on historical records, La Niña conditions are associated with near-average precipitation throughout most of Haiti during February – April. Similarly, La Niña conditions are associated with near-average mean temperatures in Haiti. The ENSO-precipitation teleconnection pattern can be found here, and the pattern for temperature can be found here.

- Highlighting analogous years/events: Composite analysis of March–May (MAM) rainfall for eight La Niña years during the 1990–2019 period indicates that MAM seasonal rainfall totals vary from 100 mm to 600 mm across Haiti, with amounts exceeding 500 mm in southwestern Haiti (Annex **Fig. A1a**). During La Niña years, positive rainfall anomalies dominate Haiti, with positive anomalies larger than 60 mm in the Grande-Anse, Sud, and Nippes departments (**Fig. A1b)**. In addition, the percentage of mean precipitation is higher than 110% in many parts of Haiti during the La Niña years (**Fig. A1c**).

Extreme Events

- There have been no reports of extreme events. However, Port-de-Paix city is still recovering from the torrential rains that occurred in December 2024, which damaged several structures and caused the loss of lives.

- There have been no reports of fire activity in Haiti during January 2025.

Rainfall/Precipitation

- In January, Haiti experiences its dry season, which runs from December to April. During this month, climatological rainfall reaches up to 25 mm. Most of Haiti observes no rain, while coastal and southern regions experience light rain.

Past 3 months (November 2024 to January 2025):

- **Totals:** Over the last three months, rainfall exceeding 300 mm was recorded in Nord-Ouest, Grand-Anse, Sud, and Nippes. The rest of the country received 25 mm to 300 mm.

- **Anomalies:** During the past three months, below-normal rainfall dominated over southern Artibonite, Center, Ouest, and Sud-Est departments, while positive rainfall anomalies were observed elsewhere. Rainfall deficits larger than 100 mm were confined to the center-west in Ouest. Meanwhile, rainfall surpluses larger than 500 mm were recorded over the Grand-Anse and Sud departments.

Past 1 Month (January 2025):

- **Totals:** During January 2025, the total rainfall recorded reached up to 25 mm. Portions of Nord-Ouest, Grande-Anse, Sud, Ouest, and Sud-Est departments received light rainfall, ranging from 5 mm to 25 mm. Meanwhile, the rest of the country observed little to rain, with dry conditions occurring in central Haiti (**Fig. 2a**).

- **Anomalies:** CMORPH satellite-based rainfall estimates indicated large negative anomalies between 50 mm to 200 mm below average across Gonâve Island and along coastal areas of Quest department. Rainfall was 10-50 mm below average in the northern and central portions of Haiti. Rainfall was near average (-10 mm to 10 mm) in the far western Nord-Ouest, central Artibonite, and Grande-Anse departments.

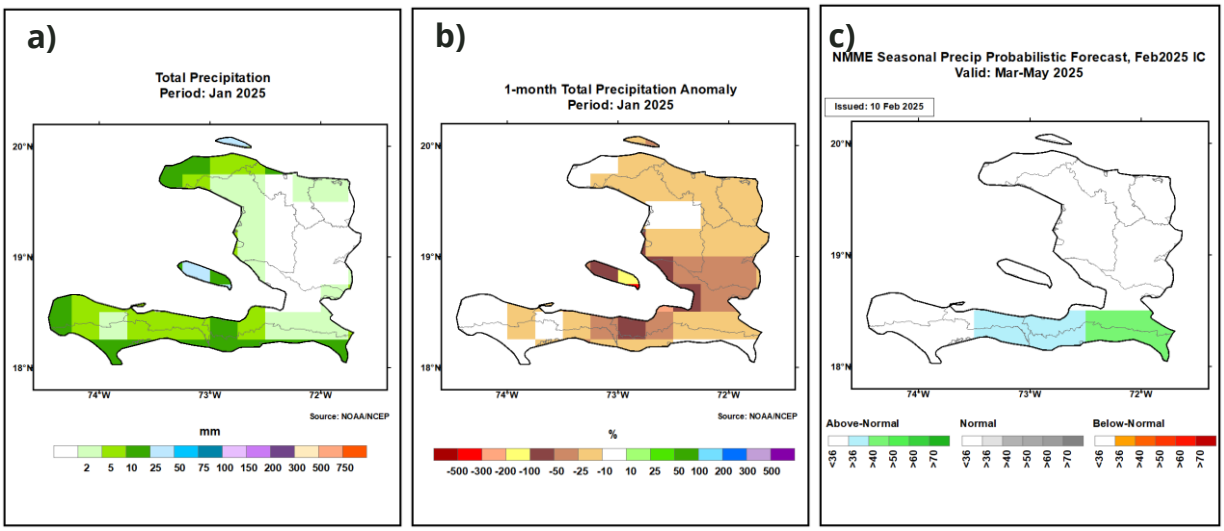


Figure 2. Satellite estimates of precipitation (CMORPH) for January 2025. **(a)** 1-month total accumulation and **(b)** 1-month anomaly. **(c)** NMME seasonal rainfall probabilistic forecast for March–May 2025. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (March 2025 and March – May 2025):

- **Monthly:** Based on the North American Multi-Model Ensemble (NMME) models, utilizing observations from February 2025 for model initialization, the forecast indicates a 36% to 40% chance for above-average rainfall in central-eastern Haiti, and suggests equal chances for above-, near-, or below-average rainfall for the rest of the country during March 2025.

- **Seasonal:** The NMME seasonal forecast for March–May 2025 suggests a 36% to 40% chance for above-average rainfall to occur in western Nippes and western Sud, with enhanced chance of 40% to 50% of above average rainfall expected in southern Ouest, and Sud-Est departments. The rest of the country expects equal chances for above-, near-, or below-average rainfall conditions (**Fig. 2c**).

Temperature

Past 3 months (November 2024 to January 2025):

- **Maximums:** Most of Haiti experienced maximum temperatures ranging from 25°C to 35°C. Temperature anomalies were near normal between -1°C and 1°C across the country, with slightly above-normal anomalies between 1°C and 2°C in the southwest.

- **Minimums:** Minimum temperatures across Haiti ranged from 15°C to 25°C. Northern and southern portions of the country recorded temperatures between 20°C and 25°C, while the central-east and south-east observed temperatures between 15°C and 20°C. Near-average temperatures were observed in Haiti, with minimum temperature anomalies ranging from -1°C to 1°C.

Past 1 Month (January 2025):

- **Maximums:** Maximum temperatures ranged from 25°C to 35°C across Haiti, with near-normal temperature anomalies of -1°C to 1°C in most of Haiti and slightly above-normal anomalies between 1°C and 2°C in the northwestern and southern Haiti (**Fig. 3a**).
- **Minimums:** Minimum temperatures ranged from 15°C to 25°C across Haiti. Western Nord-Ouest, central-west Artibonite, northeastern Nord-Est, eastern Nippes, and eastern Sud recorded lower minimums between 15°C and 20°C, while the rest of the country experienced higher temperatures ranging from 20°C to 25°C. Overall, Haiti registered near-average minimum temperature anomalies of -1°C to 1°C (**Fig. 3b**).

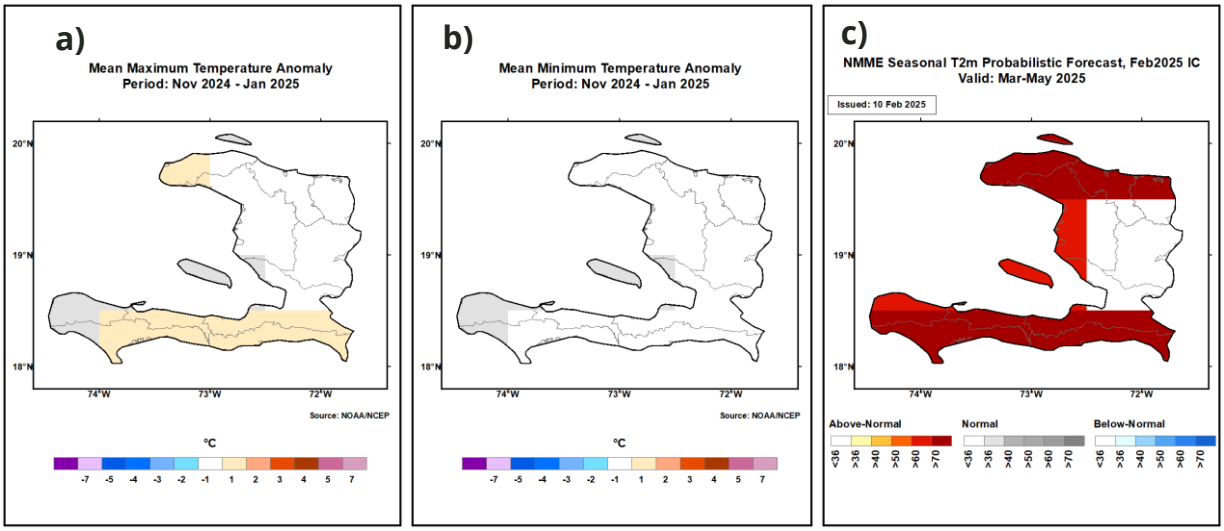


Figure 3. Spatial structure of temperature for January 2024. **(a)** Maximum temperature anomaly and **(b)** minimum temperature anomaly. **(c)** NMME probabilistic forecast of seasonal 2-m temperature anomaly for February–April 2025. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (March 2025 and March – May 2025):

- **Monthly:** The NMME forecast indicates a 36% to 40% chance for above-average temperatures in Central Haiti during March 2024. There is no clear dominant signal for either below- or above-average temperatures across the rest of the country.

- **Seasonal:** For the March–May 2025 season, there is an increased likelihood (over 70%) of above-average temperatures in the northern and southern regions of Haiti, and 60% to 70% chances of above-average temperatures in the western and southwestern regions, as well as Gonave Island. In contrast, there is no clear signal for near-, above- or below-average temperatures in the central part of the country (**Fig. 3c**).

Drought and Dryness

The Standardized Precipitation Index (SPI) is used to characterize meteorological drought. SPI compares the precipitation over a specific period of time with the climatology from that same period. Therefore, the SPI values can be thought of as the number of standard deviations the observed anomaly deviates from the climatology. The 1-month SPI values are a good representation of the monthly precipitation anomaly as well as the soil moisture and vegetation health. The 3-month SPI values are a good representation of seasonal precipitation anomalies. The Standardized Precipitation Evapotranspiration Index (SPEI) is similar to the SPI, but it also takes evapotranspiration into account (and therefore the impact of temperatures on water demand).

Past 3 Months (November 2024 – January 2025):

- During the past three months, drier-than-average conditions (SPI values of -0.4 to -2 standard deviations) dominated Haiti, except for local areas in the northern and southern Haiti that showed near-average conditions (SPI values of -0.4 to 0.4 standard deviations), and the southwestern Haiti that experienced wetter-than-average conditions.

Past 1 Month (January 2025):

- During the past six pentads (30 days), most of Haiti experienced wetter-than-average conditions (SPI values of 0.5 to 2.0 standard deviations above the mean), except for the southwestern Haiti, central Sud-Est, Ouest and Centre departments where near-average conditions (SPI values of -0.5 to 0.5 standard deviations) were observed. Dry conditions (SPI values of -0.5 to -2 standard deviations) were recorded in central south, northwest Ouest and Gonave Island.

Current/Forecast (03 December 2024 – 02 March 2025):

- SPI forecast suggests that wetter-than-average conditions may prevail in northern, central, southwestern, and southeastern Haiti, with SPI values ranging from 0.4 to 2.0 standard deviations above the mean. Average conditions (SPI values of -0.4 to 0.4 standard deviations) are indicated in areas of the Centre, Ouest, and Sud-Est departments. Meanwhile, drier-than-average conditions (SPI values of 4.0 to 2 standard deviations below the mean) are expected in western Artibonite, most of Ouest, western Sud-Est, and southwestern Centre.

Water Requirement Satisfaction Index (WRSI)

- USGS/EROS crop WRSI Current conditions during the 3rd Dekad of September 2024 depicted '*Average'* to '*Good*' crop conditions across much of the country. Local areas of Centre and southern Ouest departments depicted '*Very good*' conditions, while areas in Nord-Ouest, northwestern Artibonite, and northern Ouest departments depicted '*Mediocre*' conditions.

GEOGLAM Crop Monitor

- GEOGLAM Crop Monitor synthesis indicated 'Watch' conditions across Haiti during January 2025.

Additional Resources

- https://protectioncivile.gouv.ht/
- https://www.meteo-haiti.gouv.ht/

Annex

- La Niña precipitation composites.

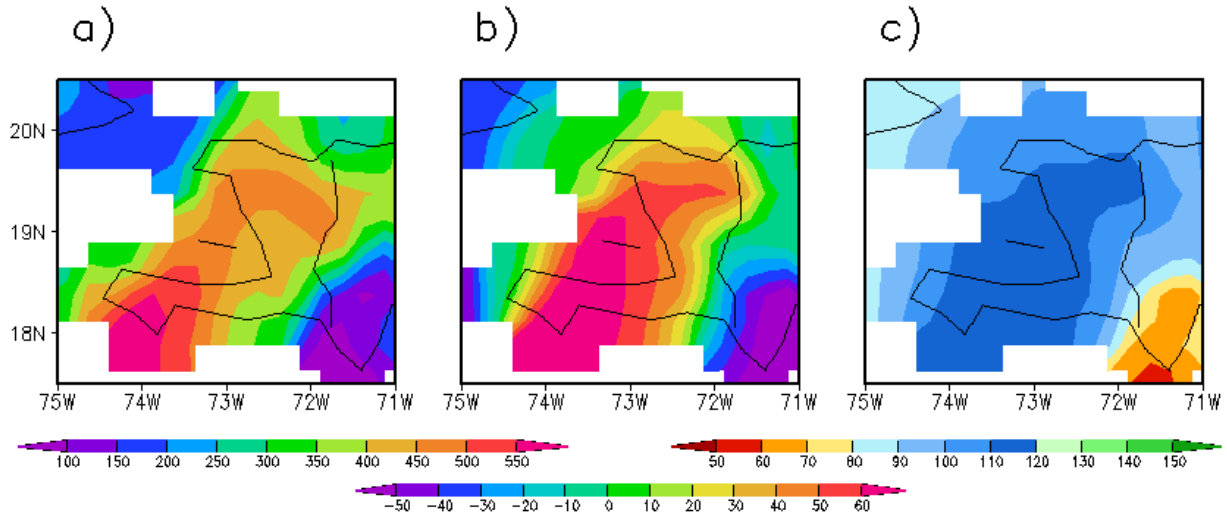


Figure A1. Composite maps of March–May (MAM) precipitation based on eight La Niña years during 1990 – 2019 using the Global Precipitation Climatology Centre (GPCC) dataset (0.25° resolution). (a) MAM total rainfall (mm), (b) MAM rainfall anomalies (mm), and (c) MAM total rainfall expressed as a percentage (%) of mean precipitation.