FAMINE EARLY WARNING SYSTEMS NETWORK

Haiti

Monthly Climate and Weather

14 March 2025

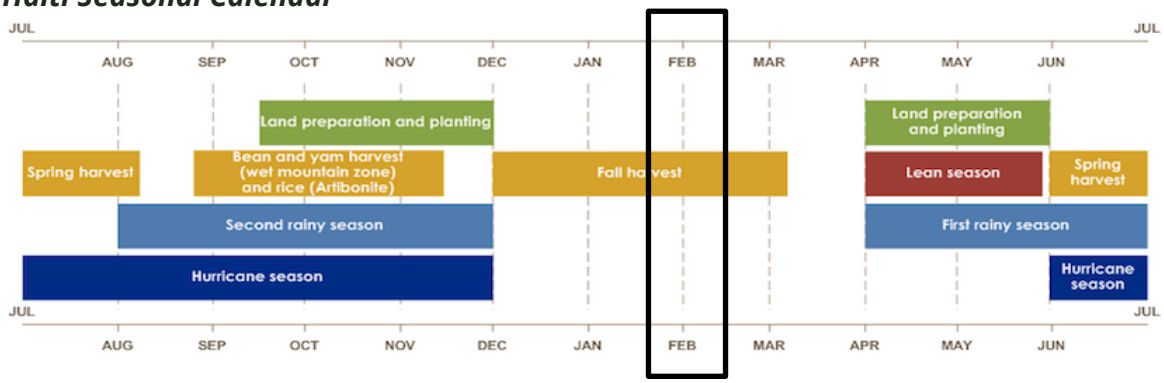
Highlights

- La Niña conditions weakened during February 2025. Below-average sea-surface-temperatures (SSTs) weakened over the central and east-central equatorial Pacific Ocean. El Niño Southern Oscillation (ENSO)-neutral conditions are expected to develop during April and persist with a 62% chance through June – August 2025. Historically, El Niño is associated with drier-than-average conditions, while La Niña typically brings wetter-than-average conditions to Haiti.
- As February is part of Haiti's dry season, rainfall is low during this month.
- During February, the total rainfall recorded reached up to 75 mm. Western Nord-Ouest, western Grande-Anse and southern Sud received moderate rainfall, ranging from 25 mm to 75 mm. Meanwhile, portions of northern, central and southern Haiti received light rainfall between 5 mm and 25 mm. Rainfall anomalies were below-average over central and southern Haiti. However, southwestern Haiti observed above-average conditions between 10 mm and 100 mm. Meanwhile, near-average (-10 mm to 10 mm) conditions were observed in Artibonite and northern departments.
- The NMME models indicate a 40% to 50% chance for above-average rainfall in portions of Artibonite, Centre, Nord, Nord-Est and Ouest. Meanwhile, the forecast suggests equal chances for above-, near-, or below-average rainfall for the rest of the country during April 2025. The seasonal forecast for April-June 2025 suggests a 40% to 50% chance for above-average rainfall to occur in parts of Grande-Anse, Nippes, Sud, Ouest and Sud-Est. The rest of the country expects equal chances for above-, near-, or below-average rainfall conditions.

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.

- The seasonal SPI forecast suggests that wetter-than-average conditions may prevail in northeastern, southwestern and southeastern Haiti, with SPI values ranging from 0.4 to 1.5 standard deviations above the mean. On the contrary, 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 departments

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 March 2025, La Niña conditions are expected to persist in the near term, with a transition to ENSO-Neutral in the next month and persist through the Northern Hemisphere summer (62% chance in June-August 2025; 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 25°C to 28°C, where positive anomalies of 0.5–1.5°C across the region.

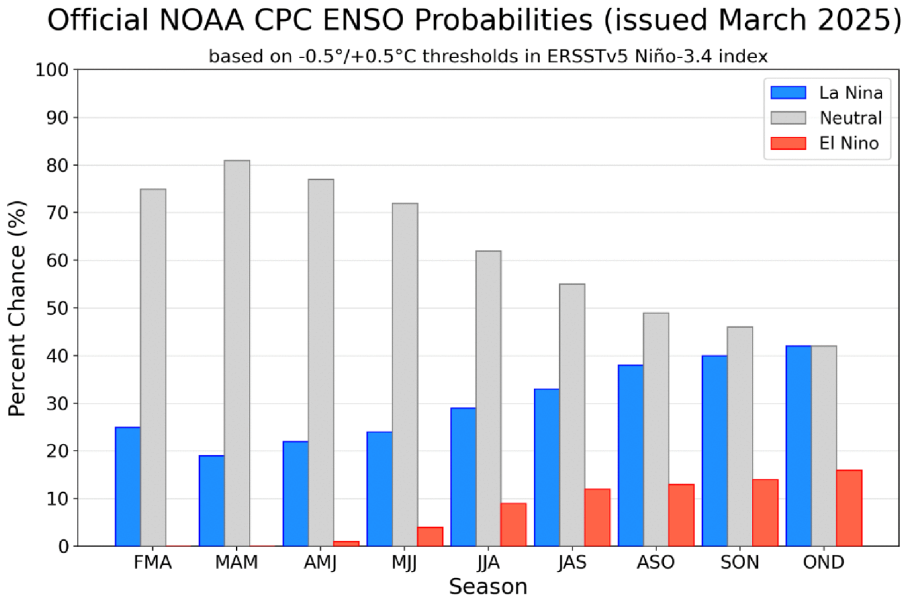


Figure 1. Official ENSO probabilities for the Niño 3.4 SST index (5°N–5°S, 120°W–170°W). Figure updated 13 March 2025. **Source: NOAA/CPC**

- Implications of ENSO conditions: Based on historical records, La Niña conditions are associated with below-average precipitation throughout most of Haiti during March – May. Meanwhile, La Niña conditions are associated with above-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 April–June (AMJ) rainfall for eight La Niña years during the 1990–2019 period indicates that AMJ seasonal rainfall totals vary from 100 mm to 600 mm across Haiti, with amounts exceeding 600 mm in southwestern Haiti (Annex **Fig. A1a**). During La Niña years, positive rainfall

anomalies dominate Haiti, with positive anomalies larger than 80 mm across western Haiti (**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.
- There have been no reports of fire activity in Haiti during February 2025.

Rainfall/Precipitation

- From December to April, Haiti experiences its dry season. During February, climatological rainfall ranging from 5 mm to 25 mm are observed in most part of Haiti. However, areas in the Ouest, Nippes, Sud and Sud-Est departments observed rainfall up to 75 mm.

Past 3 months (December 2024 – February 2025):

- **Totals:** Over the last three months, rainfall exceeding 100 mm was recorded in Nord-Ouest, Nord, Nord-Est, Grand-Anse and Sud departments. The rest of the country received 10 mm to 75 mm.

- **Anomalies:** During the past three months, rainfall deficits ranged from 25 mm to 200 mm in most parts of central and southern departments. On the contrary, above-average conditions between 50 mm and 300 mm were registered in Nord-Ouest, Nord, Nord-Est, Grand-Anse and Sud departments.

Past 1 Month (February 2025):

- **Totals:** During February, the total rainfall recorded reached up to 75 mm. Western Nord-Ouest, western Grande-Anse, and southern Sud received moderate rainfall, ranging from 25 mm to 75 mm. Meanwhile, portions of northern, central and southern Haiti received light rainfall between 5 mm and 25 mm. The rest of the country observed little to no rain (**Fig. 2a**).

- **Anomalies:** During the past month, below-normal rainfall dominated over central and southern Haiti. In these areas, rainfall deficits ranged from 25 mm to 100 mm. However, southwestern Haiti observed above-average conditions between 10 mm and 100 mm. Meanwhile, near-average (-10 mm to 10 mm) conditions were observed in Artibonite, and northern departments.

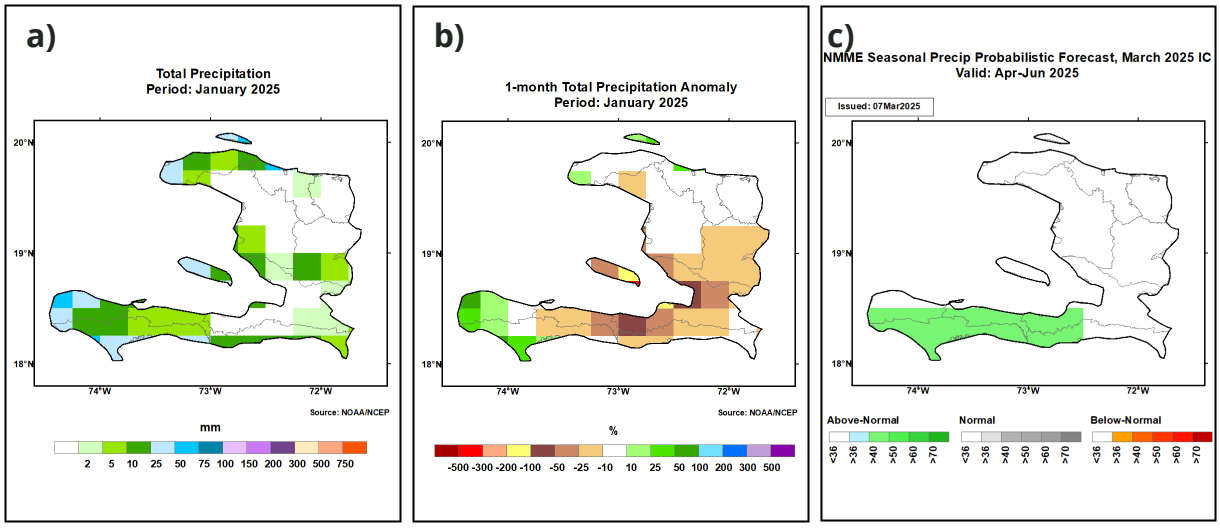


Figure 2. Satellite estimates of precipitation (CMORPH) for February 2025. **(a)** 1-month total accumulation and **(b)** 1-month anomaly. **(c)** NMME seasonal rainfall probabilistic forecast for April–June 2025. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (April 2025 and April – Jun 2025):

- **Monthly:** Based on the North American Multi-Model Ensemble (NMME) models, utilizing observations from March 2025 for model initialization, the forecast for April 2025 indicates a 40% to 50% chance for above-average rainfall in portions of Artibonite, Centre, Nord, Nord-Est and Ouest. Equal chances for above-, near-, or below-average rainfall are indicated for the rest of the country.

- **Seasonal:** The NMME seasonal forecast for April–June 2025 suggests a 40% to 50% chance for above-average rainfall to occur in parts of Grande-Anse, Nippes, Sud, Ouest and Sud-Est. The rest of the country expects equal chances for above-, near-, or below-average rainfall conditions (**Fig. 2c**).

Temperature

Past 3 months (December 2024 – February 2025):

- **Maximums:** Most of Haiti experienced maximum temperatures ranging from 25°C to 35°C. Most of the country experienced near normal temperature anomalies conditions between -1°C and 1°C. Slightly above-normal anomalies between 1°C and 2°C were registered mainly in western and southern Haiti.

- **Minimums:** Northern and southern portions of the country recorded temperatures between 20°C and 25°C. Additionally, the central-east and south-east registered

temperatures between 15°C and 20°C. Near-average minimum temperatures were observed across Haiti, with anomalies ranging from -1°C to 1°C.

Past 1 Month (February 2025):

- **Maximums:** Maximum temperatures ranged from 25°C to 35°C across Haiti. Near-normal temperature anomalies of -1°C to 1°C were observed mostly in 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 10°C to 25°C across Haiti. Western Nord-Ouest, central-west Artibonite and northeastern Nord-Est recorded highest minimums between 20°C and 25°C, while southeastern Haiti experienced the lowest temperatures ranging from 10°C to 15°C. The rest of the country observed temperatures between 15°C to 20°C. Haiti registered near-average minimum temperature anomalies of -1°C to 1°C (**Fig. 3b**).

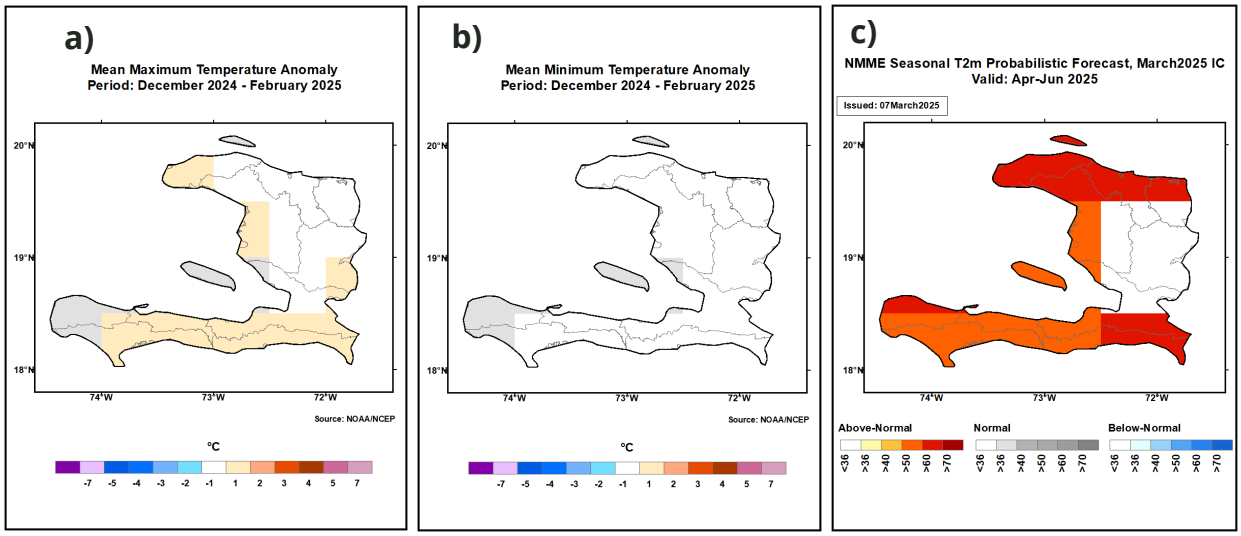


Figure 3. Spatial structure of temperature for February 2025. **(a)** Maximum temperature anomaly and **(b)** minimum temperature anomaly. **(c)** NMME probabilistic forecast of seasonal 2-m temperature anomaly for April–June 2025. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (April 2025 and April – Jun 2025):

- **Monthly:** The NMME forecast indicates a 36% to 40% chance for above-average temperatures in Central Haiti during April 2025. For the rest of the country, there is no clear dominant signal for either below- or above-average temperatures.

- **Seasonal:** For the April–June 2025 season, there is an increased likelihood (over 70%) of above-average temperatures in the northern and southeastern regions of Haiti as well as in northern part of Grande-Anse department. Meanwhile, there is a 50% to

60% chances of above-average temperatures in portions of the western and southern regions. In contrast, there is no clear signal for near-, above- or below-average temperatures in the central parts 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 (December 2024 – February 2025):

- The SPI analysis for the past 3 months indicated drier-than-average conditions (SPI values of 0.4 to 2 standard deviations below the mean) in central-western, central, and southern portions of Haiti. Meanwhile, northern, most of central, and southwestern Haiti experienced wetter-than-average conditions (SPI values of 0.4 to 1.5 standard deviations above the mean).

Past 1 Month (February 2025):

- The SPI analysis for January 2025 indicated that most of Haiti experienced drier-than-average conditions (SPI values of 0.4 to 2 standard deviations below the mean). In addition, slightly wetter-than-average conditions (SPI values of 0.4 to 0.8 standard deviations above the mean) were confined to southwestern Haiti. Few areas in northern and southern Haiti, observed near-average conditions (SPI values of -0.5 to 0.5 standard deviations).

Current/Forecast (02 March 2025 – 28 March 2025):

- SPI forecast suggests that wetter-than-average conditions may prevail in northeastern, southwestern and southeastern Haiti, with SPI values ranging from 0.4 to 1.5 standard deviations above the mean. On the contrary, 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 departments. Further, average conditions (SPI values of -0.4 to 0.4 standard deviations) are expected in the rest of the country.

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 'Favorable' conditions across Haiti during February 2025.

Additional Resources

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

Annex

- La Niña precipitation composites.

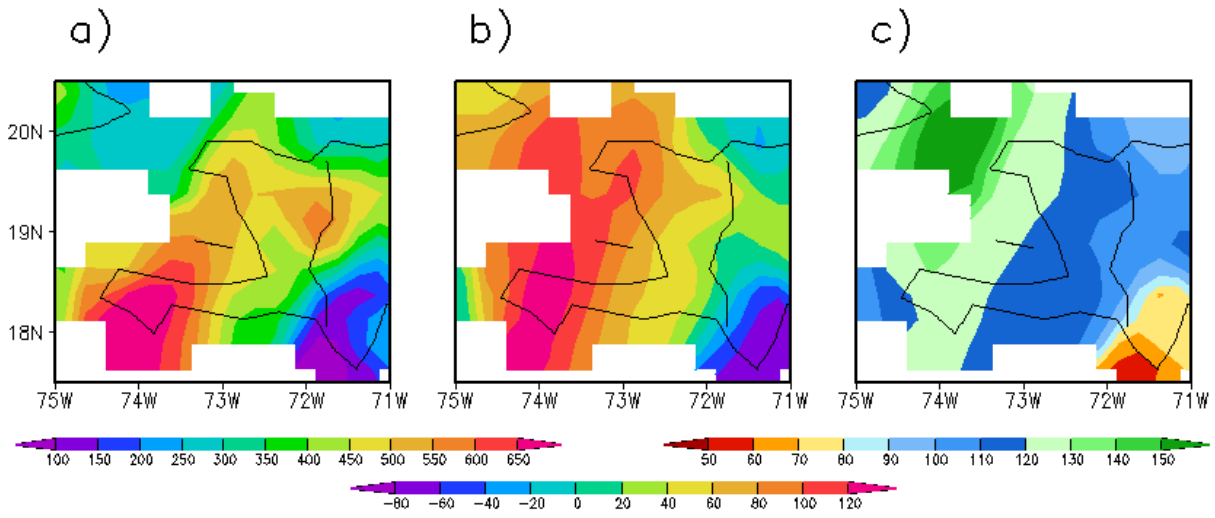


Figure A1. Composite maps of April–Jun (AMJ) precipitation based on eight La Niña years during 1990 – 2019 using the Global Precipitation Climatology Centre (GPCC) dataset (0.25° resolution). (a) AMJ total rainfall (mm), (b) AMJ rainfall anomalies (mm), and (c) AMJ total rainfall expressed as a percentage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