FAMINE EARLY WARNING SYSTEMS NETWORK

# *Mali*

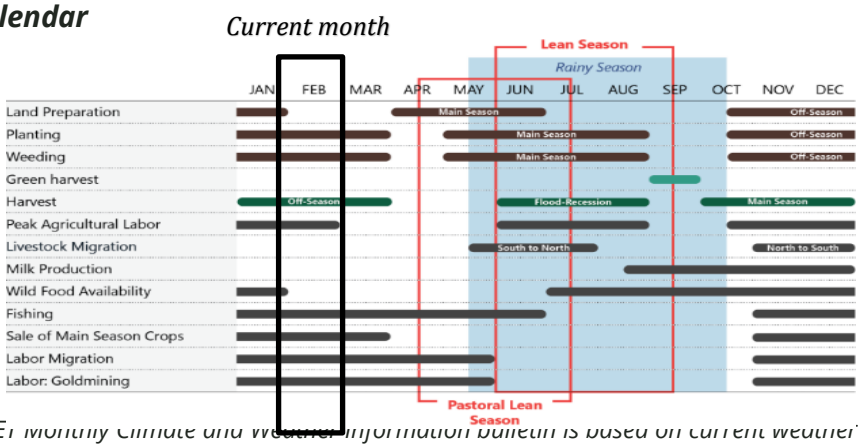
# Monthly Climate and Weather

**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%).
- The rainy season in Mali typically begins in May and extends through October.
- During January, scattered light rain less than 5mm was observed across Mali.
- Minimum temperatures varied between 5°C and 25°C across Mali during January. The cooler temperatures, less than 10°C, were observed across northern areas. Negative anomalies of 1°C to 4°C were registered across northern and eastern portions of Mali. In southern and central Mali minimum temperatures were near to slightly above average. The country observed maximum temperatures between 25°C and 35°C with the warmer temperatures to the south.
- The NMME models predict no clear signal for above or below average rainfall across Mali during February 2025. This is because very little rainfall is climatologically expected during the upcoming month. The SPI forecast for the next 4 weeks suggests shows dry-mask across the region due to the climatologically dry season.

***Mali Seasonal Calendar***




*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.*

**Figure 1:** Seasonal calendar for Mali. **Source: FEWS NET**

## 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.

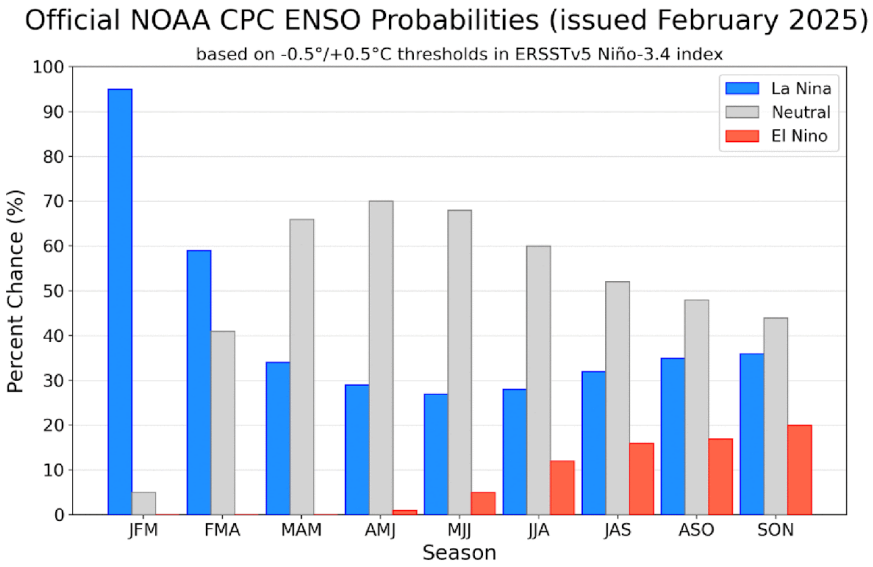



**Figure 2.** Official ENSO probabilities for the Niño 3.4 SST index (5°N-5°S, 120°W-170°W). Figure updated 13 February 2025. **Source: NOAA/CPC**

- Implications of ENSO conditions: As March – May (MAM) is the dry season for Mali, La Niña has little implication for rainfall during the season. Based on historical records, La Niña conditions are generally associated with above-average mean temperatures for much of Mali during the season. The ENSO-precipitation teleconnection pattern can be found here, and the pattern for temperature can be found here (**Fig. A1b** and **A1c**).

## Extreme Events

- As Mali is experiencing its dry season and is at peak risk for wild fires there have been widespread reports of fire activity, but at a normal level across Mali during January and February. Activity is most concentrated in the western parts of Mali.

## Rainfall/Precipitation

- In January, climatological rainfall is light with monthly totals less than 10mm.

### Past 3 months (November 2024 to January 2025):

- **Totals:** During the last 3 months, rainfall accumulations exceeding 10 mm were registered in northern Tombouctou. Conditions were drier in the South and East, totaling less than 5mm in most cases.

- **Anomalies:** CMORPH satellite-based rainfall estimates indicate near to or slightly below average rainfall was observed across Mali. Patches of negative anomalies (10 - 25 mm) were scattered throughout the country.

### Past 1 Month (January 2025):

- **Totals:** During January, scattered light rain less than 5mm was observed across Mali (**Fig. 3a**).

- **Anomalies:** CMORPH satellite-based rainfall estimates indicate that rainfall was near average across Mali (**Fig. 3b**).

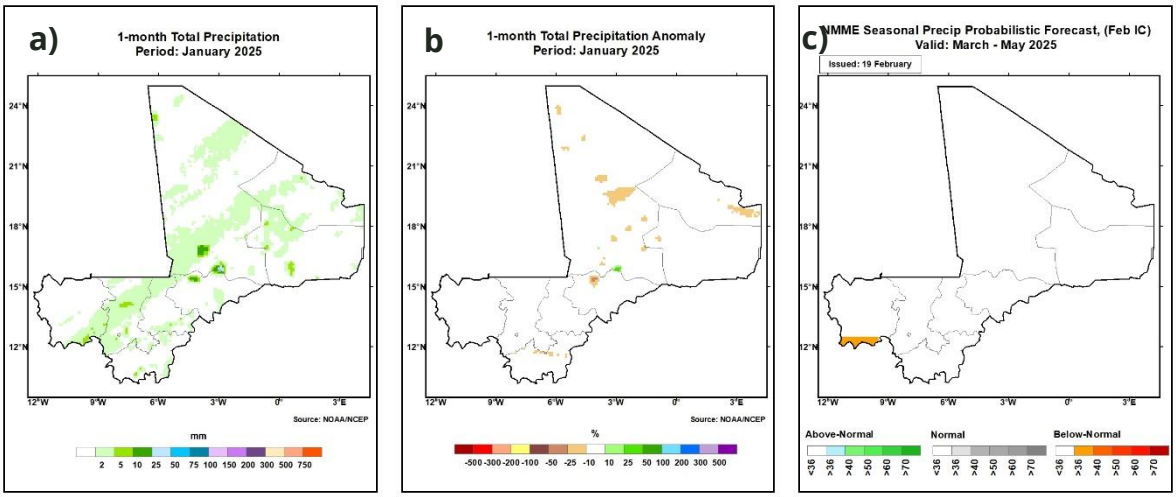



**Figure 3.** Satellite estimates of precipitation (CMORPH) for January 2025. **(a)** 1-month total accumulation and **(b)** 1-month anomaly. **(c)** NMME seasonal rainfall probabilistic forecast for March – May 2025. **Source: NOAA/NCEP**

**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 no dominant signal for above or below average rainfall across Mali during March 2025. This is because very little rainfall is climatologically expected during the upcoming month.

- **Seasonal:** The NMME seasonal forecast for March – May 2025 suggests no dominant signal for above or below average rainfall across most of Mali. This is because very little rainfall is climatologically expected during the upcoming season. However, a small part of southern Kayes region slightly favors below average rainfall (**Fig. 3c**).

## Temperature

**Past 3 months (November 2024– January 2025):**

- **Maximums:** The country observed maximum temperatures between 25°C and 40°C with cooler temperatures in the North. Regarding anomalies, near to slightly above average conditions prevailed across most of southern and central Mali. Meanwhile, warmer than average conditions were recorded in parts of northern Mali, with temperature anomalies between 1°C and 3°C above average.

- **Minimums:** Minimum temperatures varied between 10°C and 25°C across Mali. Cooler temperatures, less than 15°C, were observed across northern areas. Mean minimum temperatures were near to slightly above average across most southern and central regions of Mali. However, 1 to 4°C negative anomalies were observed in central and eastern Tombouctou, Gao, and Kidal regions.

**Past 1 Month (January 2025):**

- **Maximums:** The country observed maximum temperatures between 25°C and 35°C with the warmer temperatures to the south. Positive temperature anomalies, ranging from 1°C to 3°C above average, were noted in Tombouctou, Gao, Kidal, and eastern Mopti regions. Southern Mali observed near-normal conditions (**Fig. 4a**).

- **Minimums:** Minimum temperatures varied between 5°C and 25°C across Mali. Cooler temperatures, less than 10°C, were observed across northern areas. Negative anomalies of 1°C to 4°C were registered across northern and eastern portions of Mali. In southern and central Mali minimum temperatures were near to slightly above average (**Fig. 4b**).

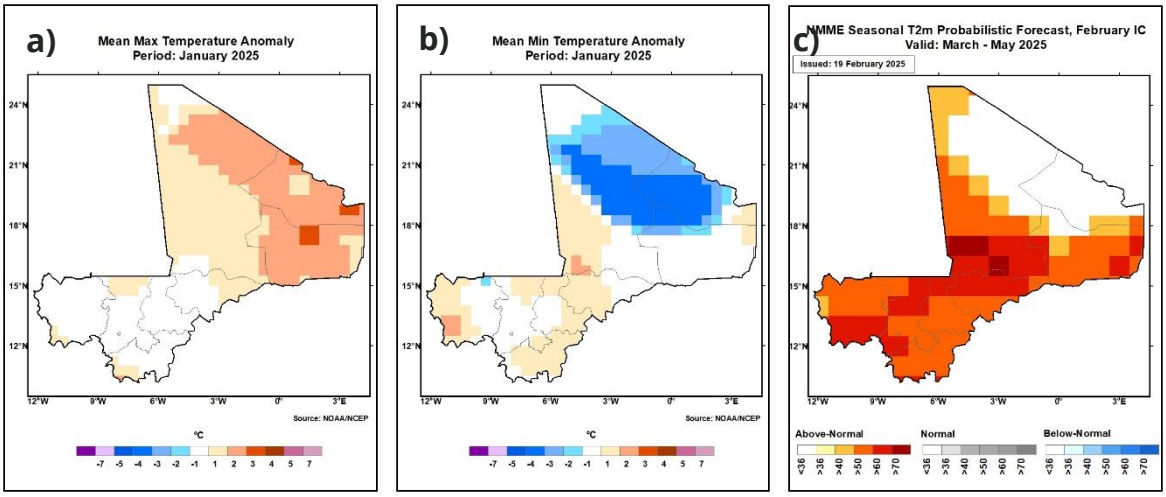



**Figure 4.** Spatial structure of temperature for January 2025. **(a)** maximum temperature anomaly and **(b)** minimum temperature anomaly. **(c)** NMME probabilistic forecast of seasonal 2-m temperature anomaly for March – May 2025. **Source: NOAA/NCEP**

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

- **Monthly:** The NMME forecast indicates that there is no clear signal for above or below average temperatures across Mali during March.

- **Seasonal:** For the March – May 2025 season, there is a 40% to 60% chance of above-average temperatures over the majority of Mali. However, there is no clear signal for above or below-average temperatures for a portion of northern Mali, including Kidal and parts of Tombouctou regions (**Fig. 4c**).

## 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):

- 3-month SPI is dry masked over Mali during November - January due to the season's dry climatology (**Fig. 5a**).

**Past 1 Month (January 2024):**

- 1-month SPI is dry masked over Mali during January due to the month's dry climatology.

**Current/Forecast (5 December 2025 to 5 March 2025):**

- The SPI forecast for the next 4 weeks shows dry-mask across the region due to the climatologically dry season (**Fig. 5b**).

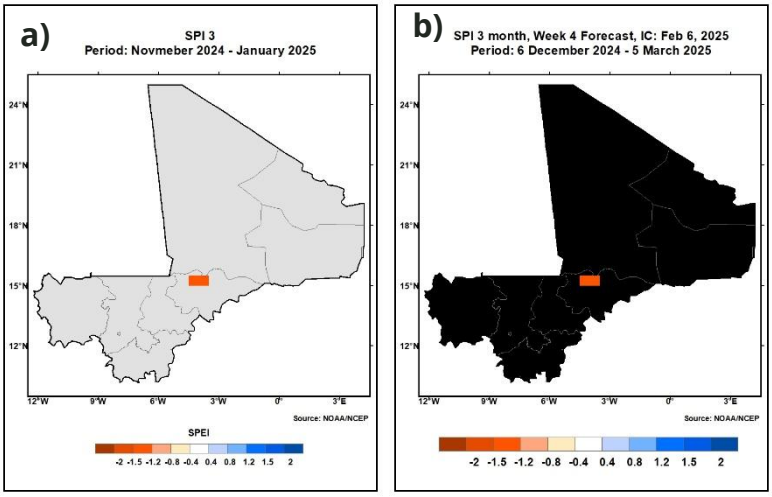



**Figure 5.** Spatial structure of (a) November - January 2025 Standardized Precipitation Index (SPI) and (b) SPI constructed from observations for 6 December 2024 to 5 February 2025 and 4 weeks forecast ending on 5 March 2025.**Source: NOAA/NCEP**

## Water Requirement Satisfaction Index (WRSI)

- USGS/EROS crop WRSI the final updated conditions of the previous growing season during the 3rd Dekad of November 2024 depicted mostly '*Good*' to '*very Good*' crop conditions across southern portions of the country. Areas of Mopti region depicted '*Mediocre*' to *'average'* conditions.

## GEOGLAM Crop Monitor

- The most recently updated GEOGLAM Crop Monitor synthesis conditions during January 2025 were marked by '*Favorable*' conditions across southern Mali, and '*poor*' conditions through central Mali.

## Additional Resources

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

# Annex

- La Niña precipitation impacts graphic.

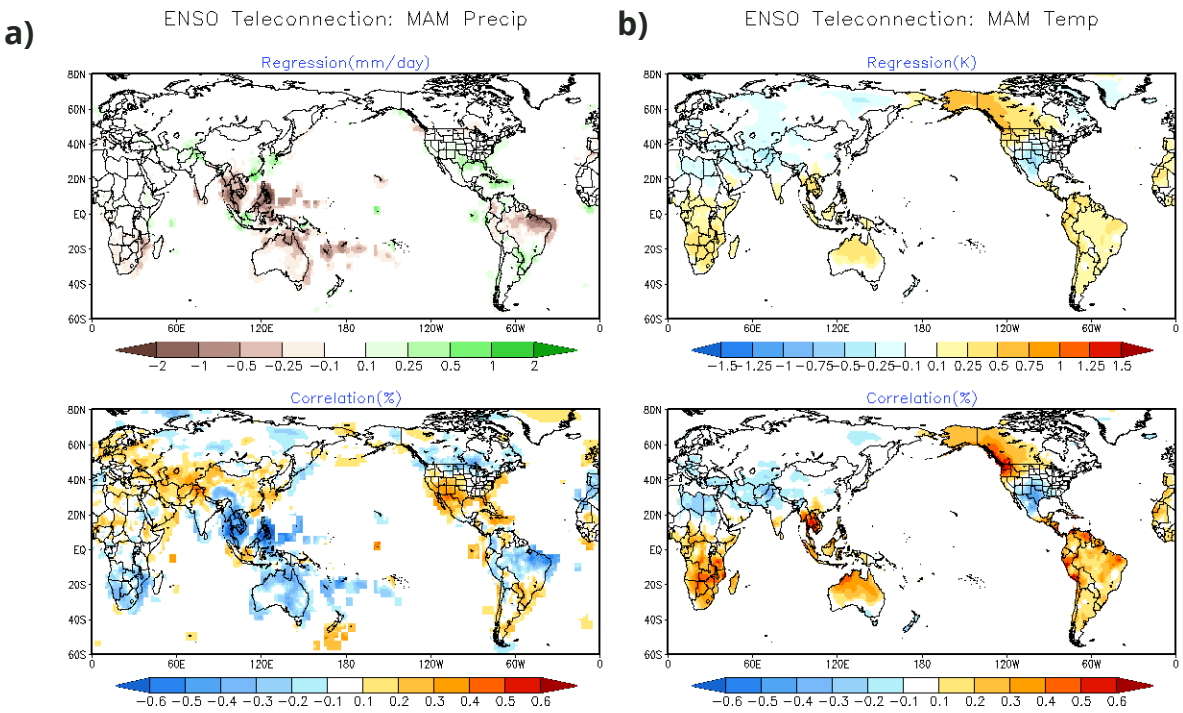



**Figure A1.** For three month season (March – May 2025; MAM), precipitation and temperature anomalies are regressed onto the standardized Niño-3.4 index (upper panel). In the bottom panel, the correlation is calculated between Nino-3.4 and the anomalies.