FAMINE EARLY WARNING SYSTEMS NETWORK

Mali

Monthly Climate and Weather

19 June 2025

Highlights

- During May 2025, ENSO-neutral conditions continued, with near-average sea surface temperatures (SSTs) covering most of the central equatorial Pacific Ocean, and cooler than average SST in parts of the East Pacific. According to the NOAA ENSO outlook, as of early June 2025, ENSO-neutral is favored through the Northern Hemisphere summer 2025 (82% chance during June-August). The chances for ENSO-neutral to continue into the winter 2025-26 are slightly lower at 48%, with La Nina being the second most likely mode.
- In May, the rainy season has begun in Mali, especially in southern portions of the country. Long-term mean precipitation across Mali ranges from 2 – 5 mm in the North to as much as 150 mm in the far South.
- In May, relatively large rainfall amounts (more than 10 mm) were observed in southern Mali, including southern Sikasso and southern Kayes. Rainfall totals of at least 25 mm were observed across much of the rest of southern Mali and a small part of southeastern Tombouctou. In far-northern Tombouctou 2 – 25 mm was observed, but little to no rainfall was observed across many other northern portions of the country
- During May, Mali experienced maximum temperatures ranging from 30°C to 45°C, with the hottest temperatures, greater than 40°C, across central and northern parts of the country. Positive temperature anomalies of 1 – 4°C were observed in much of Tombouctou, Kidal and Gao. In parts of Sikasso, below average temperatures (1 – 4°C anomalies) were recorded
- The NMME models predicts slightly favorable odds for above average rainfall (36 - 40% chance) across parts of central and southeastern Mali and no clear signal for above or below average rainfall across northern and southwestern Mali in July 2025.

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.

Mali Seasonal Calendar

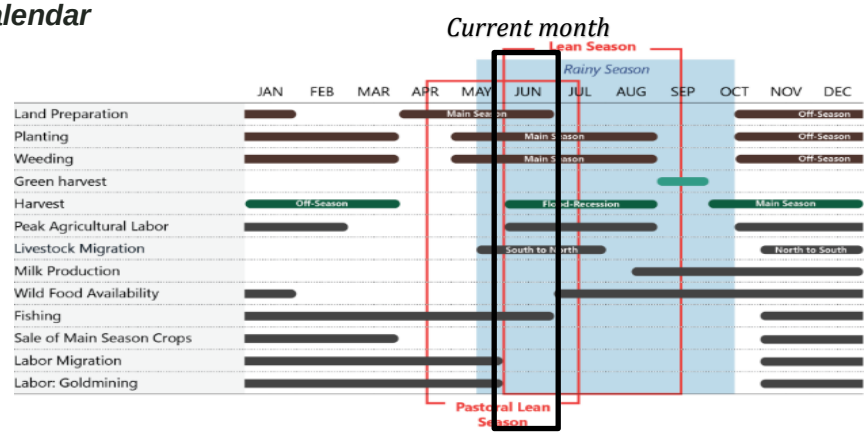

Figure 1: Seasonal calendar for Mali. **Source: FEWS NET**

Current Climate Modes and Teleconnections

- During May 2025, ENSO-neutral conditions continued, with near average sea surface temperatures (SSTs) covering most of the central equatorial Pacific Ocean, and cooler than average SST in parts of the East Pacific. According to the NOAA ENSO Diagnostic Discussion, as of early June 2025, ENSO-neutral is favored through the Northern Hemisphere summer 2025 (82% chance during June-August). The chances for ENSO-neutral to continue into the winter 2025-26 are slightly lower at 48%, with La Niña being the second most likely mode. For the latest update from the NOAA Climate Prediction Center (CPC) on ENSO, check here.

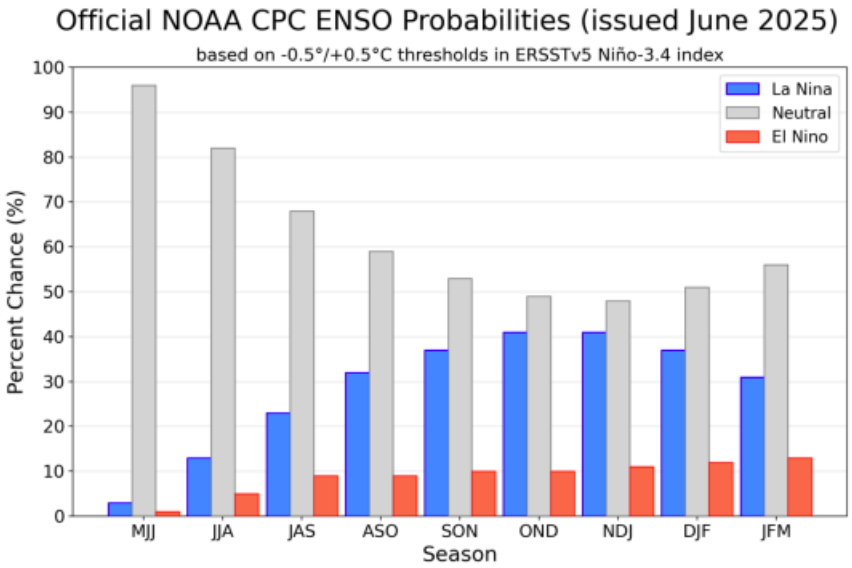

Figure 2. Official ENSO probabilities for the Niño 3.4 SST index (5ºN-5ºS, 120ºW-170ºW). Figure updated 12 June 2025. **Source: NOAA/CPC**

- Implications of ENSO-neutral conditions: ENSO-neutral has limited influence on West Africa's climate and is generally linked to near average rainfall in Mali. Rainfall during June

and June–August is mainly driven by regional factors like Atlantic SSTs and monsoon dynamics. Temperatures are not strongly affected by ENSO-neutral, but above average heat may still occur due to regional heating and long-term warming trends, especially in central and southern Mali. The ENSO-precipitation pattern can be found here (**Fig. A1, left panels**), and the pattern for temperature can be found here (**Fig. A1, right panels**).

Extreme Events

- As Mali has reached the end of the dry season and rains are increasing, the fire season is rapidly winding down. There have been some reports of fire activity over the past month or so, but at a normal level across Mali. Activity is most concentrated in the Kayes and Mopti regions.

Rainfall/Precipitation

- In May, the rainy season has begun, especially in southern portions of the country. Rainfall diminishes with increasing latitude. Long-term mean precipitation across Mali ranges from 2 – 5 mm in the North to as much as 150 mm in the far South.

Past 3 months (March to May 2025):

- **Totals:** Over the past three months, rainfall accumulations in Mali ranged from dry conditions to 300 – 500 mm. Portions of Tombouctou, Kidal, and Gao did not receive any rain. Northern Tombouctou received 10 – 50 mm of rainfall according to satellite estimates. The heaviest rainfall was recorded in the South in portions of southern Kayes, Sikasso, and southern Koulikoro, where rainfall exceeded 100 mm.

- **Anomalies:** RFE satellite-based rainfall estimates indicate near average to slightly below average rainfall across the central Mali. The rainfall in northern Tombouctou was 10 – 25 mm higher than average. Southern Mali, including Sikasso, Kayes, southern Koulikoro, and southern Segou, registered positive anomalies of 10 mm to more than 100 mm.

Past 1 Month (May 2025):

- **Totals:** In May, relatively large rainfall amounts (more than 10 mm) were observed in southern Mali, including southern Sikasso and southern Kayes. Rainfall totals of at least 25 mm were observed across much of the rest of southern Mali and a small part of southeastern Tombouctou. In far-northern Tombouctou 2 – 25 mm were observed, but little to no rainfall was observed across many other northern portions of the country (**Fig. 3a**).

- **Anomalies:** RFE satellite-based rainfall estimates indicate above average rainfall across Kayes region with positive anomalies of 10 – 100 mm. Substantial negative anomalies of 25 – 100 mm were registered in Sikasso and southern Koulikoro. Small negative anomalies (10 – 25 mm) were also scattered across many other central and southern portions of Mali (**Fig. 3b**).

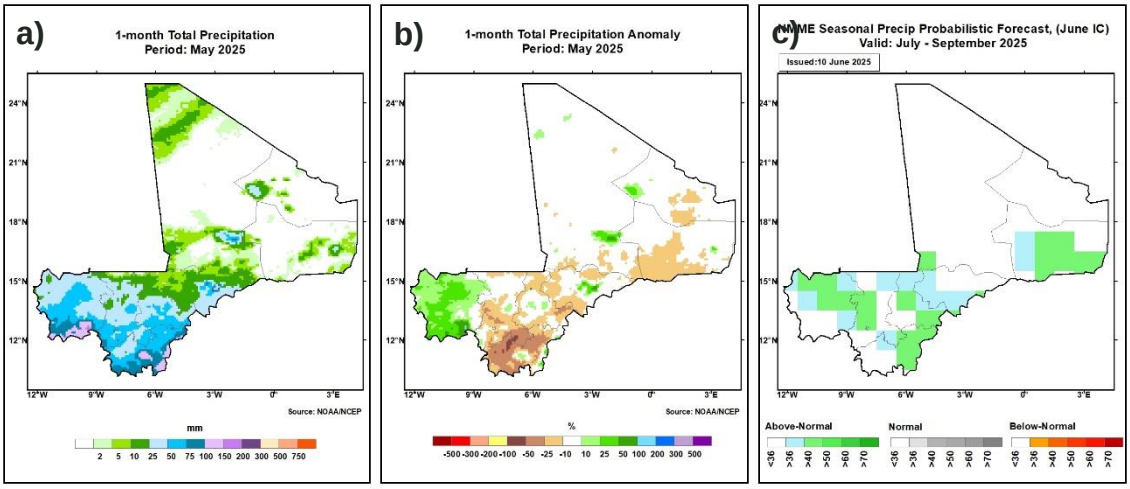

Figure 3. Satellite estimates of precipitation (CMORPH) for May 2025. **(a)** 1-month total accumulation and **(b)** 1-month anomaly. **(c)** NMME seasonal rainfall probabilistic forecast for July – September 2025. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (July 2025 and July – September 2025):

- **Monthly:** Based on the North American Multi-Model Ensemble (NMME) models, using June 2025 observations for model initialization, the forecast has slightly favorable odds for above average rainfall (36 - 40% chance) across parts of central and southeastern Mali and no clear signal for above or below average rainfall across northern and southwestern Mali in July 2025.

- **Seasonal:** The NMME seasonal forecast for July – September 2025 suggests favorable odds for above average rainfall (36 – 50% chance) across many parts of central and southern Mali. However, northern Mali shows no signal for above or below average rainfall (**Fig. 3c**).

Temperature

Past 3 months (March to May 2025):

- **Maximums:** The country experienced maximum temperatures ranging from 35°C to 45°C, with the hottest temperatures across central portions of the country. Regarding anomalies, near average conditions prevailed across much of southern and far-northern Mali, with values typically ranging from -1°C to 1°C. Warmer than average conditions were observed in central and northern Mali, with temperature anomalies ranging widely from at least 1°C above average to as much as 3 – 5°C above average in northern Tombouctou, eastern Kidal, and northern Gao regions.

- **Minimums:** Minimum temperatures ranged from 15°C to 35°C across Mali. The coolest temperatures, below 20°C, were observed in northern Tombouctou and the hottest temperatures, above 30°C, were observed in Kayes, northern Koulikoro and Segou, as well as southwestern Tombouctou. Mean minimum temperatures were near average

across many eastern and northern portions of Mali. However, positive anomalies of 1°C to 5°C were observed in southern and central Mali.

Past 1 Month (May 2025):

- **Maximums**: The country experienced maximum temperatures ranging from 30°C to 45°C, with the hottest temperatures, greater than 40°C, across central and northern parts of the country. Positive temperature anomalies of 1 – 4°C were observed in much of Tombouctou, Kidal, and Gao (**Fig. 4a**). In parts of Sikasso, below average temperatures (1 – 4°C anomalies) were recorded (**Fig. 4a**).

- **Minimums:** Minimum temperatures ranged from 20°C to 35°C across Mali. The coolest temperatures, below 25°C, were observed in northern Tombouctou. Meanwhile, the warmest temperatures were found in southwest Tombouctou, western Mopti, northern Segou, Koulikoro, and Kayes. Positive anomalies of 2°C to 4°C were recorded in these same regions. In many other portions of southern Mali, as well as small parts of eastern Kidal and northern Tombouctou, minimum temperatures were slightly above average, with anomalies ranging from -1°C to -2°C (**Fig. 4b**).

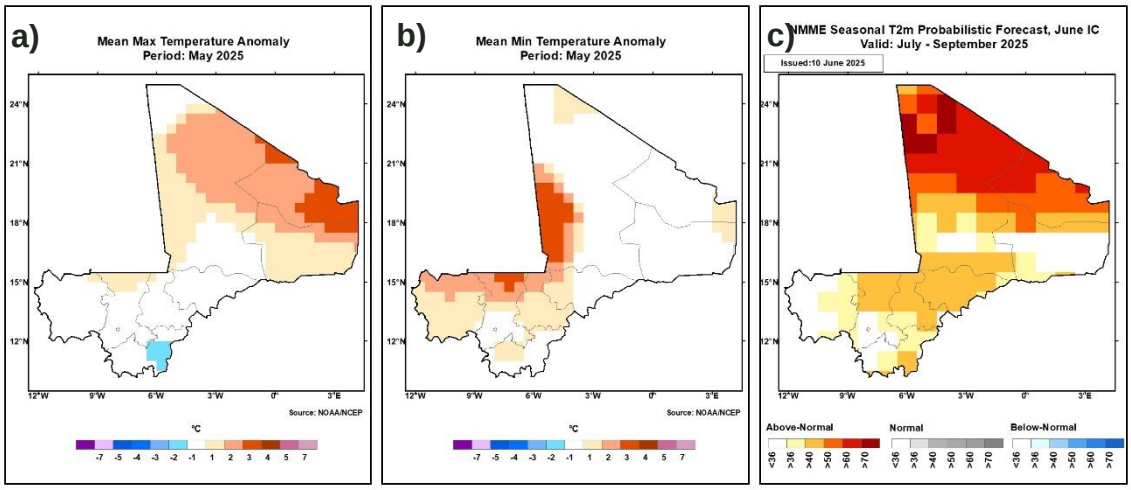

Figure 4. Spatial structure of temperature for May 2025. **(a)** Maximum temperature anomaly and **(b)** minimum temperature anomaly. **(c)** NMME probabilistic forecast of seasonal 2-m temperature anomaly for July – September 2025. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (July 2025 and July – September 2025):

- **Monthly:** The NMME forecast indicates a 40% to 70% chance of above normal temperatures across the northern two thirds of Mali in July 2025. The highest probabilities for above normal temperatures (60%–70%) are in northern Tombouctou. In contrast, the forecast indicates a 36 – 50% chance for below normal temperatures in southern Koulikoro.

- **Seasonal:** For the July – September 2025 season, above normal temperatures are favored across most of the country. The greatest probabilities (more than 60% chance) for above normal temperatures are found across northern Tombouctou and northern Kidal (**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 (March - May 2025):

- Three-month SPI is dry-masked over central and northern Mali during March – May due to the season's dry climatology (**Fig. 5a**). However, negative SPI values ranging from 0.4 to 2.0 standard deviations above the mean are registered in southern Koulikoro, southern Segou, and southern Sikasso indicating unfavorable rainfall conditions. Conversely, small areas of positive SPI values are registered in southern Kayes, eastern Sikasso, and southern Mopti.

Past 1 Month (May 2024):

- One-month SPI is dry-masked over northern Mali in May due to the month's typically dry climatology there. Negative SPI values ranging from -0.8 to -2.0 standard deviations below the mean were prevalent in southern Mali, indicating poor rainfall conditions. However, areas of Kayes and eastern Mopti registered positive SPI values of 0.4 to 1.5 standard deviations above the mean indicting conditions that are more favorable.

Current/Forecast (31 March to 28 June 2025):

- The SPI forecast for the next four weeks shows a dry mask across northern Mali due to the climatologically dry season. In the South, positive SPI values are forecasted to range from 0.4 to 2.0 standard deviations above the mean indicating favorable rainfall conditions (**Fig. 5b**).

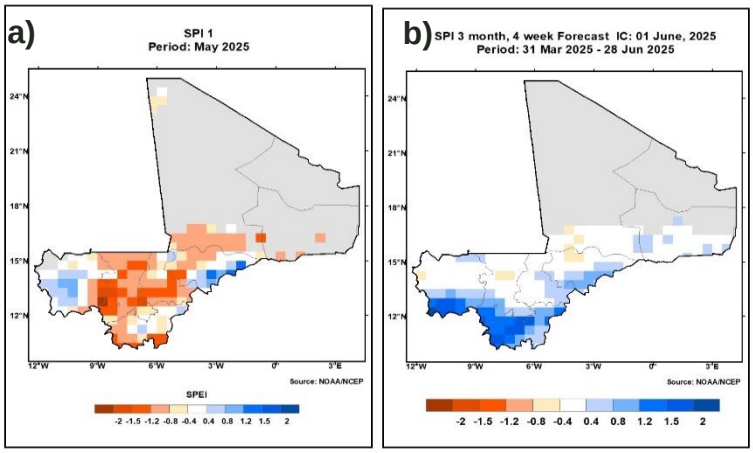

Figure 5. Spatial structure of (a) May 2025 Standardized Precipitation Index (SPI) and (b) SPI constructed from observations for 31 March to 31 May 2025 and 4 weeks forecast ending on 28 June 2025. **Source: NOAA/NCEP**

Water Requirement Satisfaction Index (WRSI)

- USGS/EROS crop WRSI the most recently updated conditions and the first of the growing season during the 3rd Dekad of May 2025 depicted crop conditions ranging from '*Good'* to '*very Good*' across southern portions of the country. Areas of Kayes, Koulikoro, Segou, and Mopti regions depicted 'Yet to start' conditions.

GEOGLAM Crop Monitor

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

Annex

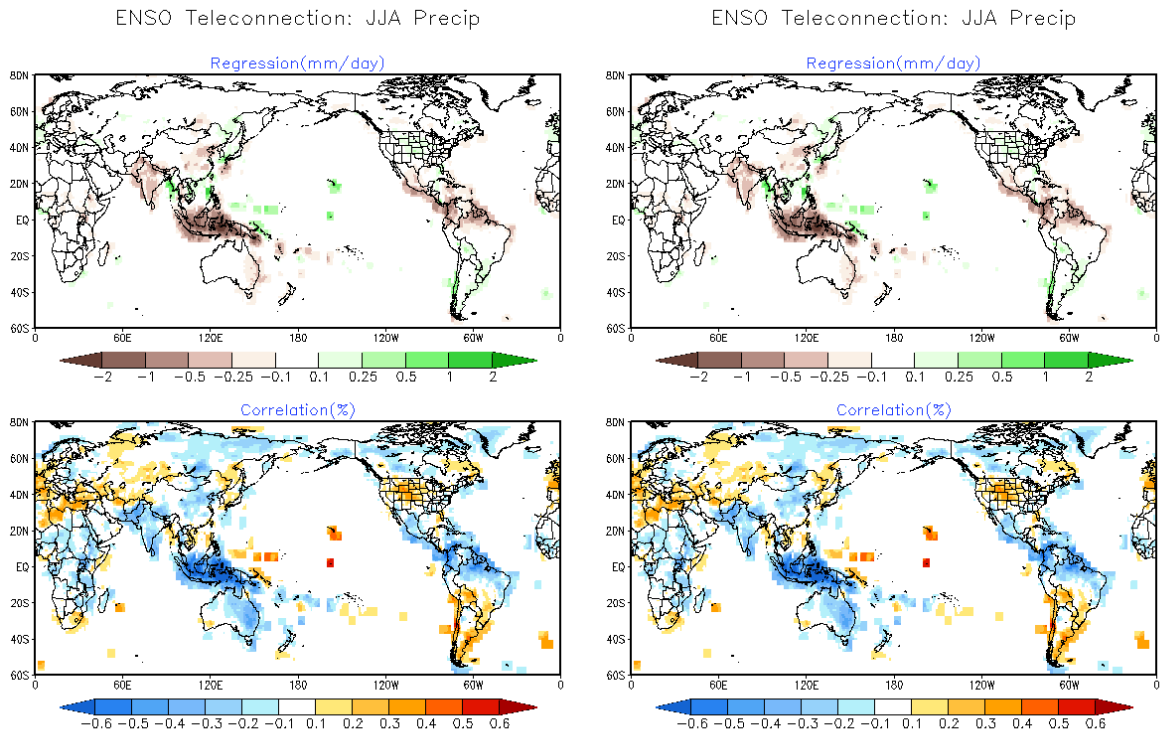

Figure A1. For three month season (June – August; JJA), precipitation and temperature anomalies are regressed onto the standardized Niño-3.4 index (upper panel). In the bottom panel, the correlation is calculated between Nino-3.4 and the anomalies. Source: https://www.cpc.ncep.noaa.gov/products/precip/CWlink/ENSO/regressions/