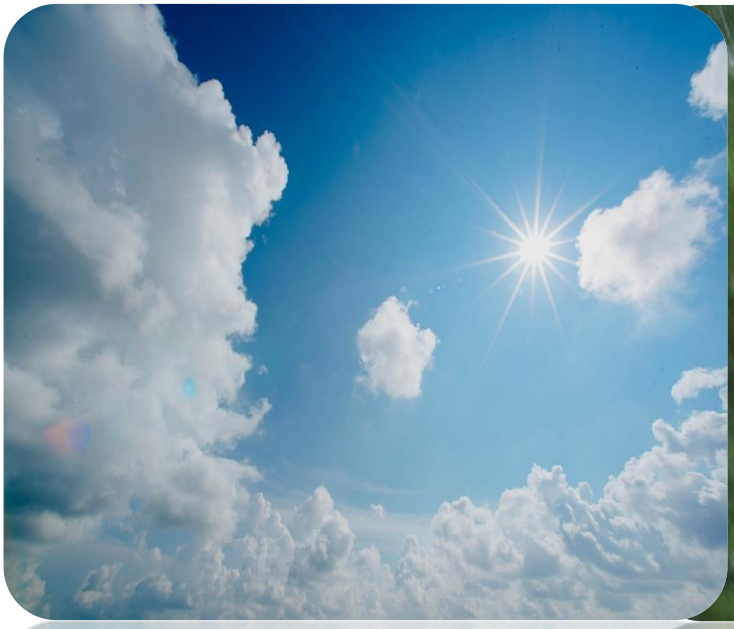
FEBRUARY2025

CLIMATE BULLETIN



DEKAD 3, FEBRUARY (21-28)

GMET/CLIMATE/030225 FORM337

2/21/2025

Website: www.meteo.gov.gh : @GhanaMet : Gha
Tel: 0307010019 Email: info@meteo.gov.gh

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SUMMARY

- **Rainfall:**
    - Most areas received minimal rainfall (< 20.0 mm).
    - Asamankese received the highest rainfall of 118.8 mm.
    - Forest zone: Highest rainy days (3 days).
    - Transition area to northern parts: Least or no rainy days.
- **Rainfall Anomalies:**
    - Deficit rainfall in most areas.
    - Salaga, Accra, Abetifi, and Kumasi experienced surplus rainfall.
- **Relative Humidity:**
    - Maximum value of 77% was recorded over Axim and Saltpond.
    - Minimum value of 17% was recorded over Navrongo.
- **Temperatures:**
    - **Maximum:**
        - Normal to below anomalies - elevated in Northern and Transition zones.
        - The maximum of the Maximum temperature of 39.1°C was recorded in Tamale
        - Relatively cooler temperatures along the coast and in select forested areas.
    - **Minimum:**
        - Warmer in the eastern flanks and the East coast.
        - Cooler in Northwestern regions and certain forested areas
        - The minimum of the Minimum temperature was recorded in Wa in the Upper West, reaching 20.6°C.1.

1.0 OBSERVED CLIMATE DRIVERS

1.1 INTERTROPICAL FRONT

Also known as the Intertropical Convergence Zone (ITCZ) is a critical meteorological feature that significantly influences weather patterns in West Africa, including Ghana. The ITF is a boundary zone where the warm, moist air from the Atlantic Ocean (southwesterly monsoon winds) meets the hot, dry air from the Sahara Desert (northeasterly Harmattan winds). This convergence leads to the formation of clouds and precipitation, making it a key driver of the rainy season in West Africa. The northward

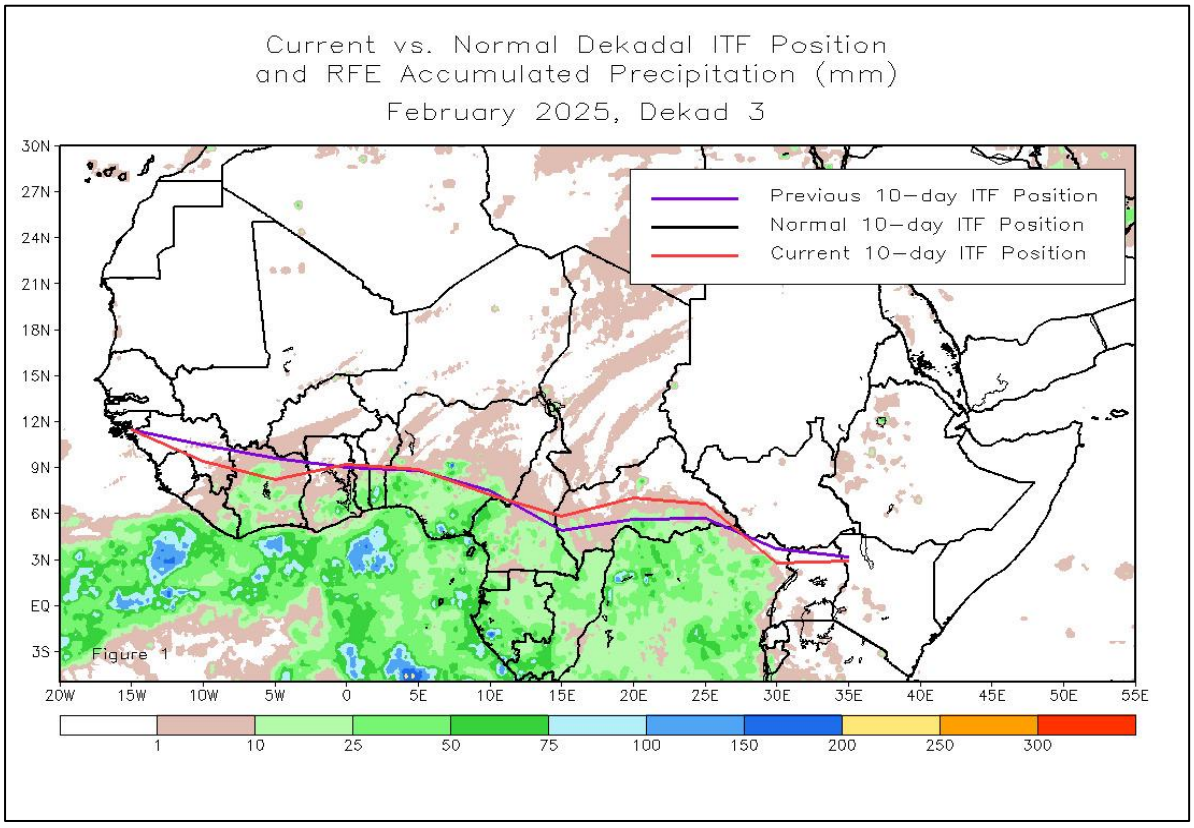


Figure 1. Current ITF position for February 3rd Dekad, 2025

movement of the ITF during March-July brings the rainy season to Ghana.

Between February 21 and 28, the current Inter-Tropical Front (ITF) shifted southward compared to its previous location. Specifically, the current ITF was located at approximately 8.6N in the northern sector of the country which is south of its previous position at 9.1N. *Figure 1* displays the current position of the ITF during the 3rd dekad of February and its previous position during the 2nd dekad of February. Similarly, *Table 1* below also shows the evolving ITF's position of Ghana, located between 5W and 5E.

DEKAD	5W	0	5E
January 1	7.2	7.6	7.8
January 2	7.3	7.8	7.5
January 3	7.9	8.2	8.5
February 1	6.6	8.1	8.3
February 2	9.6	9.0	8.8
February 3	8.2	9.2	8.9

Table 1. Dekadal evolution of the ITF position over Ghana 2025.

1.2 MADDEN-JULIAN OSCILLATION (MJO)

MJO is a tropical disturbance that moves eastward around the globe, influencing weather patterns, including rainfall and temperature, in various regions. The MJO has phases (1-8), with each phase corresponding to its location over the tropics. Its position and strength can have significant implications for weather in Ghana, particularly during the West African monsoon season.

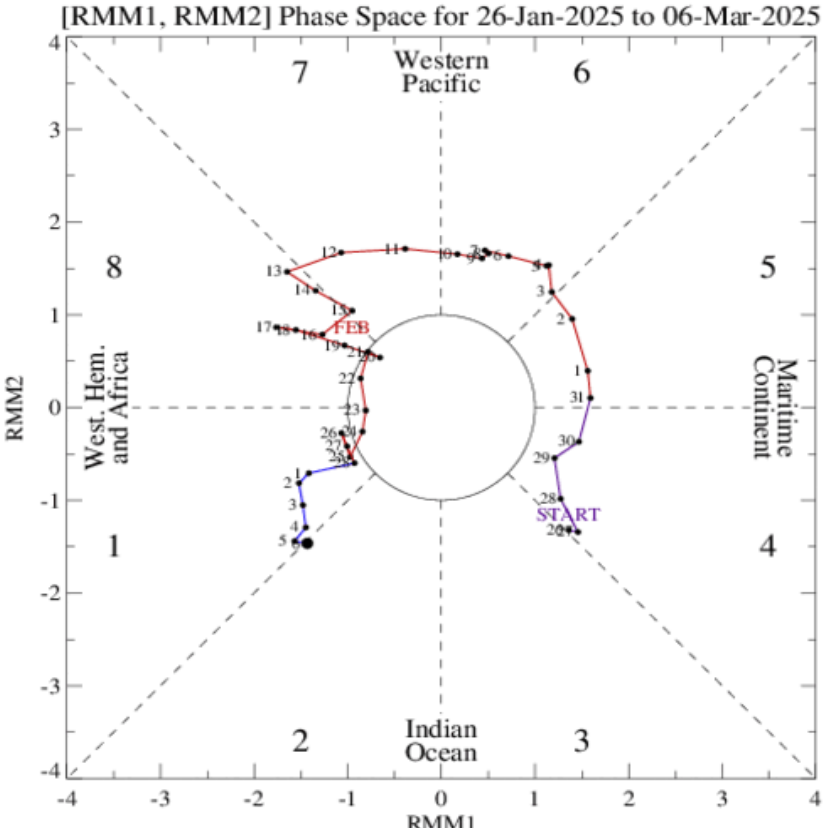


Figure 2. Current MJO position as of February 3rd Dekad, 2025

From *figure 2*, the MJO is between phase 1 (Western Hemisphere/Africa). This phase may increase rainfall activities over Ghana as the MJO's strength is increasing (i.e. away from the centre).

2.0 RAINFALL, TEMPERATURE AND RELATIVE DISTRIBUTION

2.1 RAINFALL

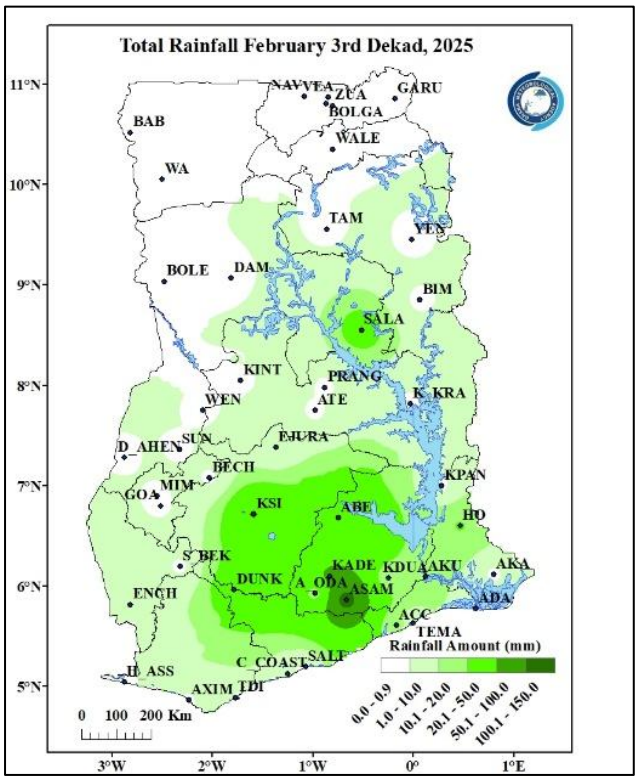


Figure 3a. Total Rainfall February 3rd Dekad, 2025

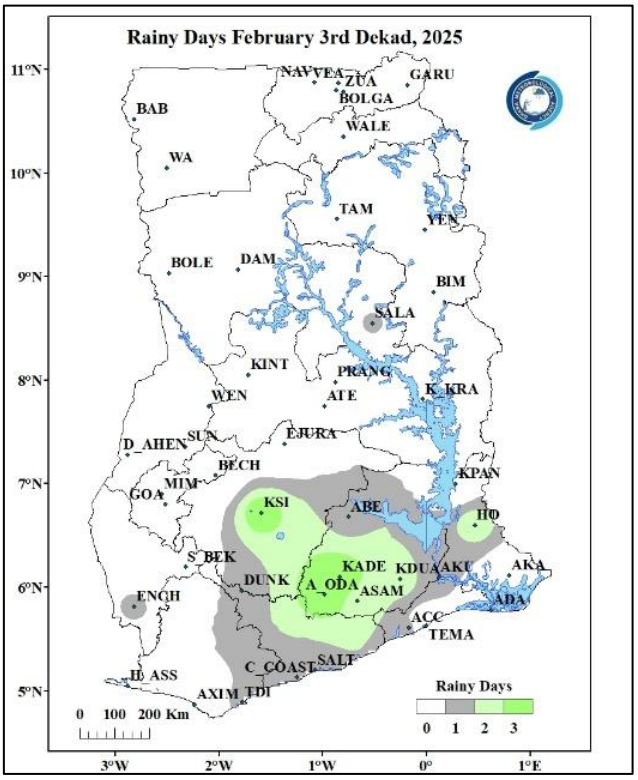


Figure 3b. Rainy Days February 3rd Dekad, 2025

Figure 3a illustrates the rainfall distribution across Ghana during the second ten-day period of February. The Southern stations Asamankese recorded the highest rainfall amount with a total of 118.8 mm. In contrast, some Northern and Southern areas including Wa, Tamale, Babile, Bolgatanga, Mim, Bechem, Akatsi, and Kete Krachi, experienced no rainfall during the period. *Figure 3b* illustrates the frequency of rainy days during the specified period. The region spanning from the transitional zone to the Northern areas experienced comparatively fewer or no rainy days, with less than 2 days of rain. The forested areas like Akim Oda, Kade, and Kumasi saw the most rainfall, with up to 3 rainy days recorded.

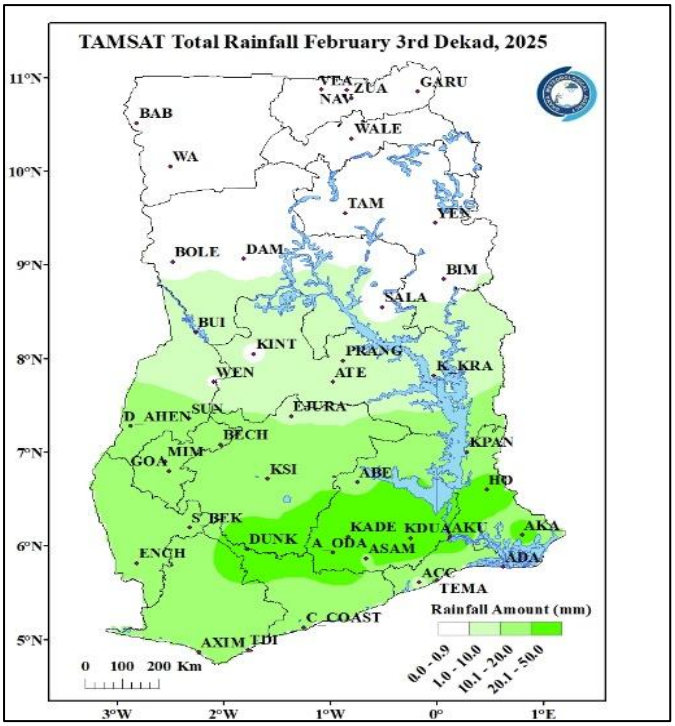


Figure 4. TAMSAT Total Rainfall February 3rd Dekad, 2025

Figure 4 also presents the total rainfall derived from the TAMSAT rainfall estimate. While the data generally aligns well with observed patterns, some underestimation is noted, particularly in the Northern sector and parts of the Southern sector.

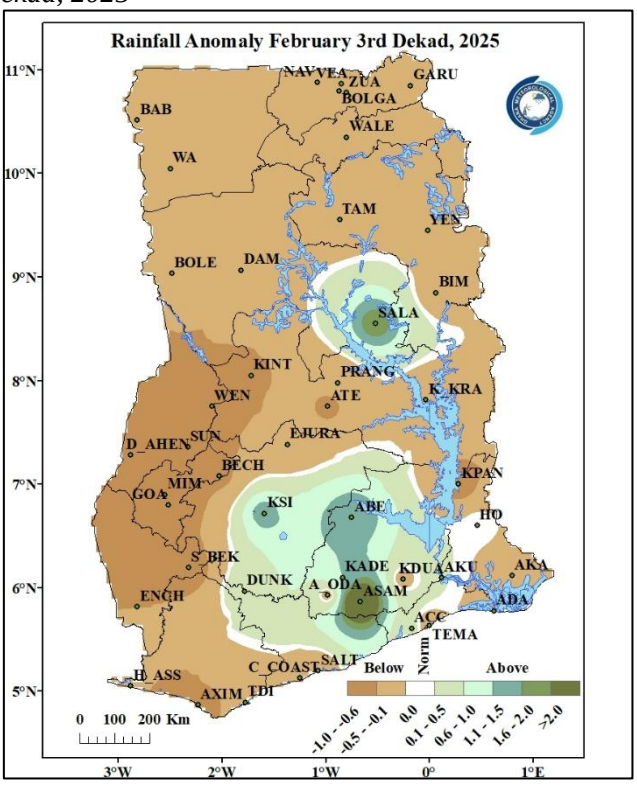


Figure 5: Rainfall Anomaly for February 3rd Dekad, 2025

Figure 5 also highlights areas with deviations from normal rainfall. Most areas of the country experienced deficit rainfall. However, some areas in the South and Northern parts of the country such as Salaga, Accra, Abetifi, and Kumasi experienced surplus rainfall.

2.2 TEMPERATURE

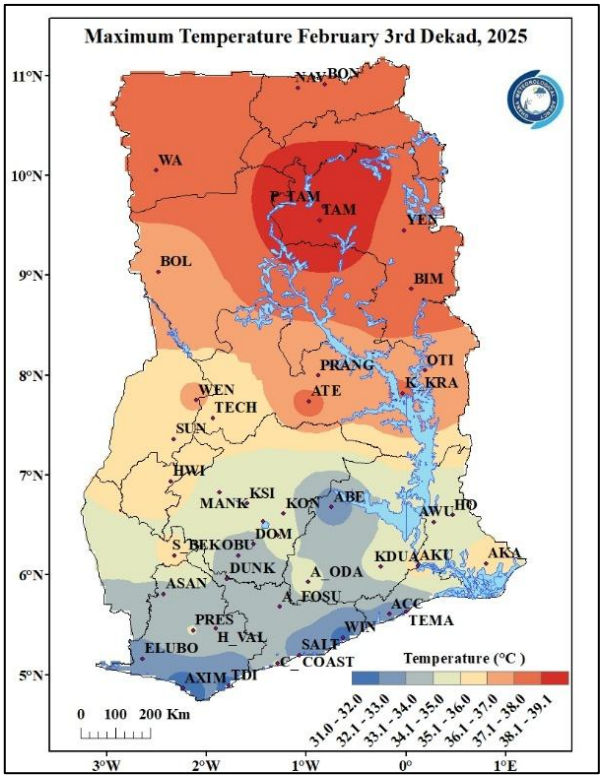


Figure 6a. Maximum Temperature February 3rd Dekad, 2025

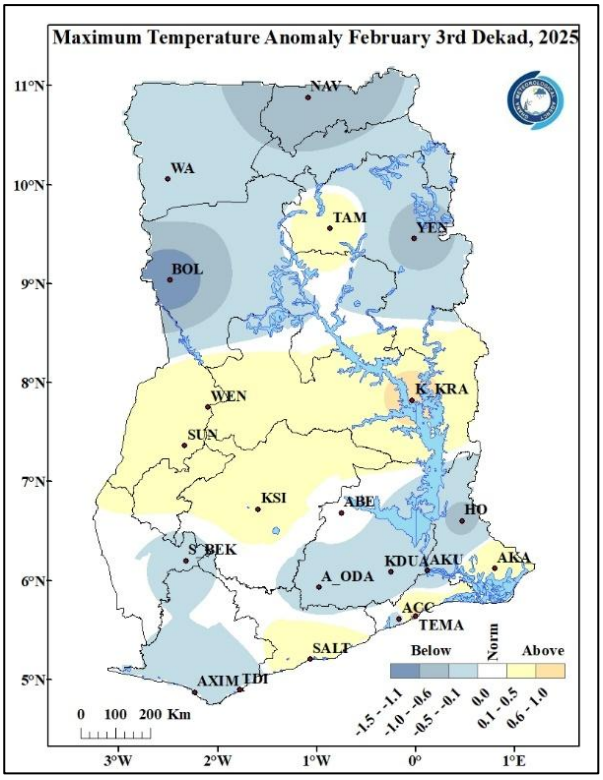


Figure 6b. Maximum Temperature Anomaly February 3rd Dekad, 2025

Figure 6a displays the distribution of average Maximum temperatures across the country. The northern belt recorded higher temperatures, ranging from 37.1°C to 39.1°C. The highest temperature of 39.1°C was recorded in Tamale, while the lowest temperature of 31.2°C was observed in Axim. In the transition zone, temperatures ranged between 35.1°C and 38.0°C. In contrast, the southern sector, including Abetifi, Accra, Saltpond, and Axim experienced relatively cooler temperatures ranging from 31.0°C to 35.0°C. Temperature were relative cooler during this dekad.

Maximum Temperature Anomaly is represented in *figure 6b* above. The northern portion and some parts of the southern sector experienced normal to below normal temperatures with the exemption of Tamale (above normal). However, the Transition, east coast and some areas in the forest area such as Kumasi, Saltpond, Wenchi, Akim Oda, Kete Krachi, and Accra experienced normal to above normal temperatures.

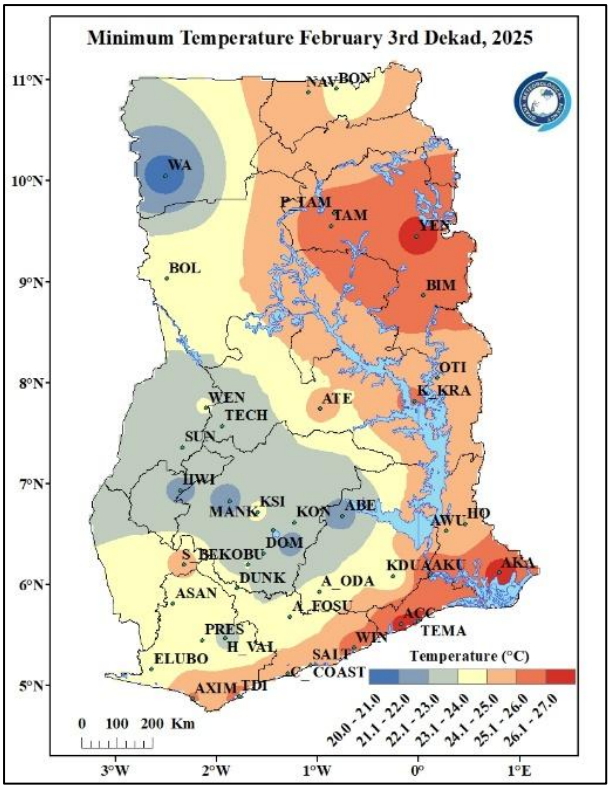


Figure 7a. Minimum Temperature February 3rd Dekad, 2025

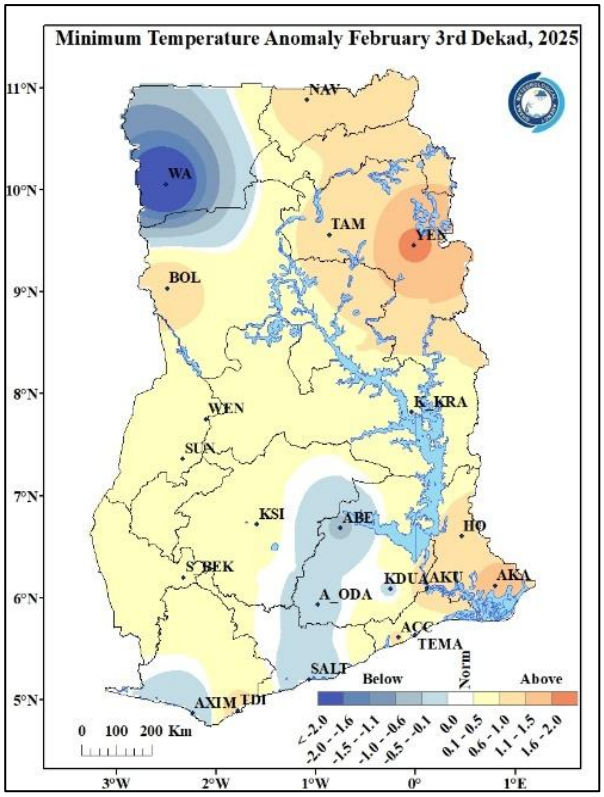


Figure 7b. Minimum Temperature Anomaly 3rd Dekad, 2025

In *Figure 7a*, the average minimum temperatures varied across different regions. The eastern fringes of the country including the East coast (Yendi and Kete Krachi, Accra, and Akatsi) experienced relatively warmer temperatures, with average values ranging from 24.1°C to 27.0°C. In contrast, the western parts of the forest zone and the northern areas such as Elubo, Abetifi, Wenchi, Bole and Wa experienced cooler average night time temperatures ranging from 20.0°C to 23.0°C. The lowest average nighttime temperature was recorded in Wa in the Upper West region, reaching 20.6°C.

In *figure 7b*, we see the Minimum Temperature Anomaly. It is evident that, most parts of the country experienced above normal temperatures indicating increasing nighttime temperatures. However, areas such as Wa, Abetifi, Axim, Akim Oda, and Koforidua experienced normal to below normal minimum temperatures.

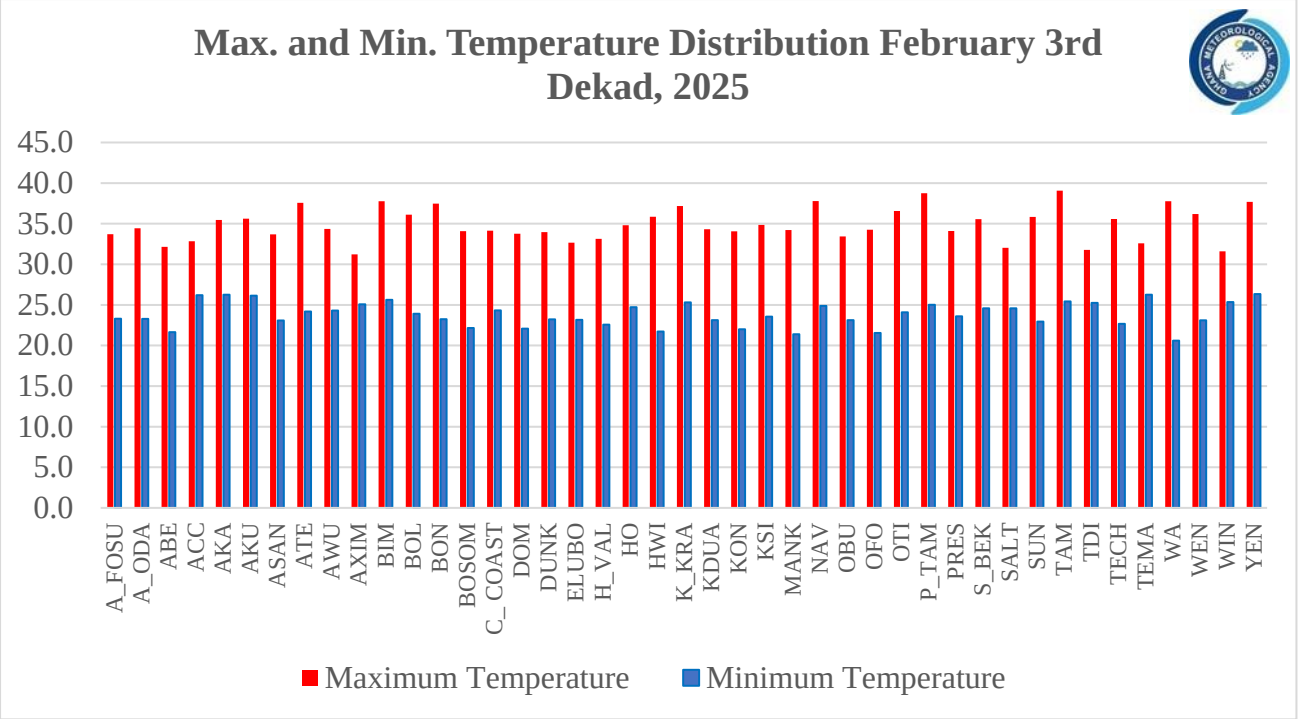


Figure 8. Max. and Min. Temperature Distribution for February 3rd Dekad, 2025

2.3 RELATIVE HUMIDITY

Observed Relative Humidity (RH) over the ten (10) day period is presented in *figure 9a* below. The forest and coastal areas experienced RH of 60 to 80%. On the other hand, the Transition and Northern areas experienced RH values ranging from 20 to 50 %. The minimum value of 17% was recorded over Navrongo while a maximum value of 77% was recorded over Axim and Saltpond.

Average RH Anomaly is also presented in *figure 9b.* Generally, a below normal RH is observed over almost the entire country. However, areas around Tamale experienced an above normal RH.

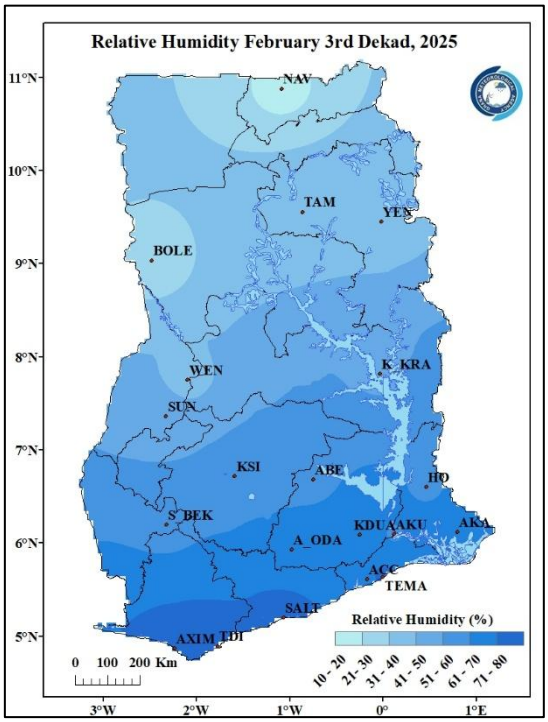


Figure 9a. Average Relative Humidity February 3rd Dekad, 2025

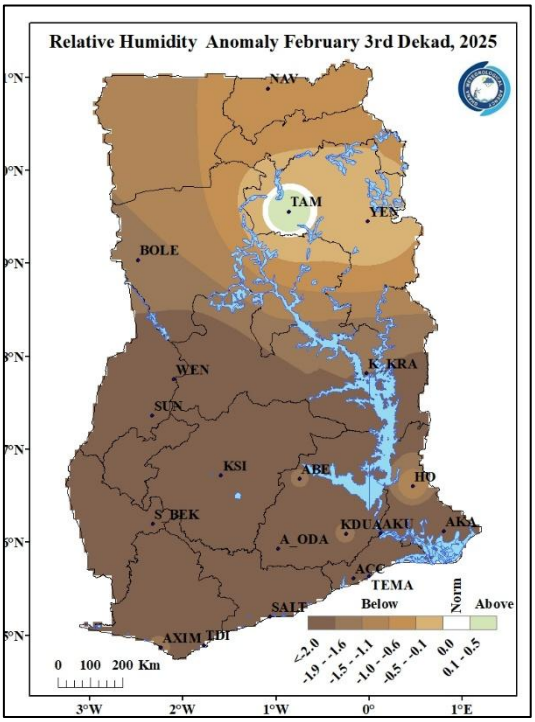
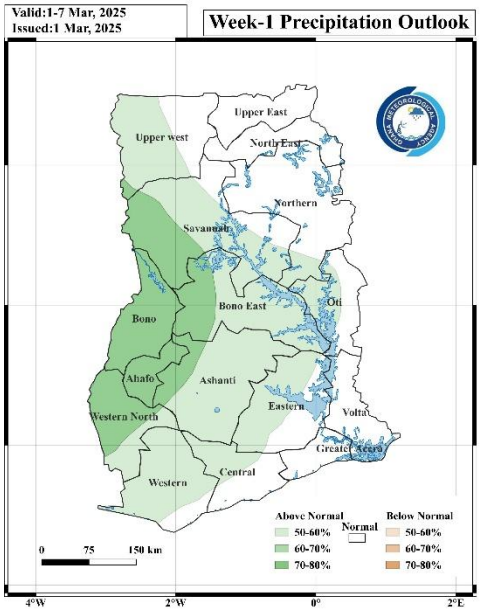
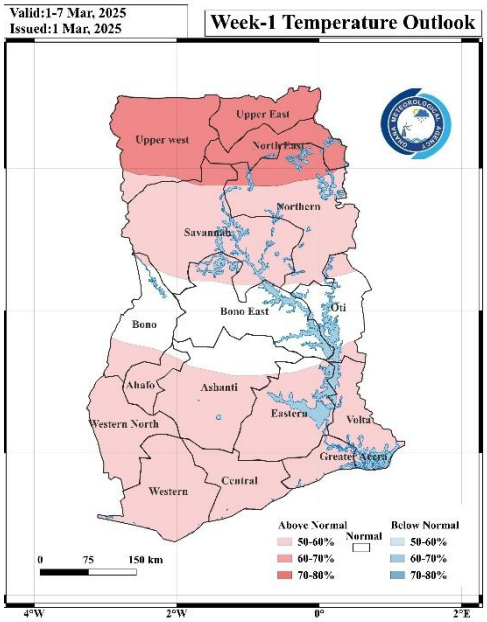


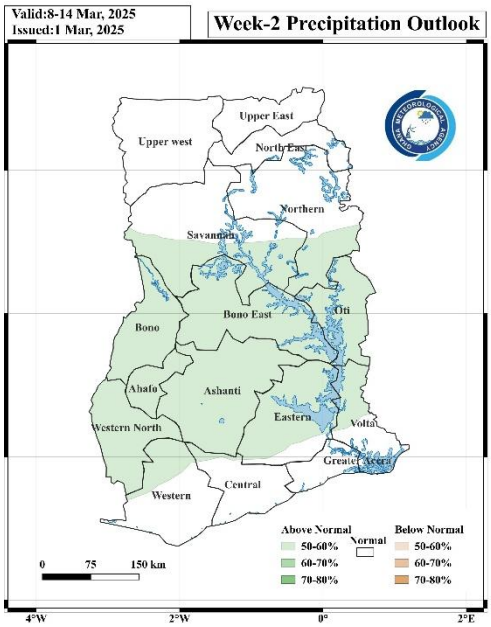
Figure 9b. Average Relative Humidity Anomaly February 3rd Dekad, 2025

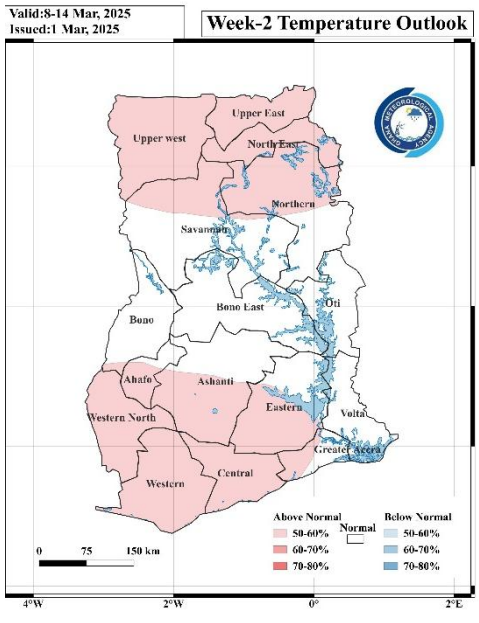
3.0 RAINFALL AND TEMPERATURE OUTLOOK 1- 7TH MARCH 2025

Week 1 is expected to bring below-normal rainfall to the southern regions, accompanied by above-normal temperatures across much of the country. In Week 2, rainfall is projected to increase above normal in the southern areas, while temperatures will drop below normal in parts of the North and remain slightly above normal in some forested regions.









4.0 ADVISORIES

1. **Health Sector**

    - Increased temperatures may lead to dehydration and heat stress.
    - Be cautious of heat-related illnesses, especially for vulnerable groups (elderly, children, and those with chronic illnesses) due to high daytime temperatures particularly in the Northern belt.

2. **Water Resources Management Sector**
    - Conserve water and use it efficiently, especially in regions with no rainfall (Northern sector).

3. **General Public**

    - Above-Normal Temperatures (Nationwide). The general public should limit outdoor activities during peak heat hours (11 am to 4 pm).
    - The use of fans or air conditioning where available to stay cool
    - Stay hydrated, avoid prolonged sun exposure, and wear light clothing.
    - Stay updated on weather forecasts from the Ghana Meteorological Agency.

5.0 APPENDIX:

5.1 TABLE OF STATIONS

STATIONS	Abrevation	STATIONS	Abrevation	STATIONS	Abrevation
Abetifi	ABE	Bui	BUI	Salaga	SALA
Accra	ACC	Cape Coast	C. COAST	Saltpond	SALT
Ada	ADA	Damongo	DAM	Sefwi Bekwai	S. BEK
Agona Kwanyako	AG. KWA	Dorma Ahenkro	D. AHEN	Sefwi Wiawso	S. WIAW
Agona Swedro	AG. SWE	Duayaw Nkwanta	D. NKWA	Sunyani	SUNY
Akatsi	AKA	Dunkwa	DUNK	Techiman	TECH
Akim Oda	AK. ODA	Goaso	GOA	Tafo	TAFO
Akropong Akwapim	A. Akwap	Ho	HO	Takoradi	TADI
Akuse	AKU	Kade	KADE	Tamale	TAMA
Asamankese	ASAM	Kete Krachi	K. KRA	Tarkwa	TARK
Asankragwa	ASANK	Kintampo	KINT	Tema	TEMA
Atebubu	ATE	Koforidua	KOF	Twifo Praso	T. PRA
Atieku	ATIEKU	Kpando	KPAN	Vea Dam	VEA
Axim	AXIM	Kumasi	KSI	Wa	WA
Babile	BABILE	Manga Bawku	M. BAWKU	Walewale	WALE
Bechem	BECH	Mim	MIM	Wamfie	WAMF
Bibiani	BIB	Navrongo	NAV	Wassaw Akropong	W. AKR
Bimbila	BIMB	Nsoatre	NSOA	Wenchi	WEN
Bole	BOLE	Obuasi	OBUASI	Winneba	WINN
Bolgatanga	BOLGA	Pong Tamale	P. TAM	Yendi	YEN
Bompata	BOMPA	Prang	PRANG	Zuarungu	ZUA
Breman Asikuma	B. ASIK				

For further inquiries, clarification, information or assistance

Contact:

The Director General

Tel. +233 (0)30 701 0019 or clients@meteo.gov.gh/info@meteo.gov.gh