FEBRUARY 2025

CLIMATE BULLETIN

DEKAD 2, FEBRUARY (11-20)

GMET/CLIMATE/020225 FORM337

2/11/2025

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SUMMARY

- **Rainfall:**
    - Most areas received minimal rainfall (< 20.0 mm).
    - Goaso received the highest rainfall of 46.3 mm.
    - Forest zone: Highest rainy days (5 days).
    - Transition area to northern parts: Least or no rainy days.
- **Rainfall Anomalies:**
    - Normal to surplus rainfall in most areas.
    - Eastern coast, Upper West and Upper East received deficit rainfall.
- **Relative Humidity:**
    - Maximum value of 79% was recorded over Axim.
    - Minimum value of 20% was recorded over Navrongo.
- **Temperatures:**
    - **Maximum:**
        - Above normal anomalies - elevated in Northern and Transition zones.
        - The maximum of the Maximum temperature of 40.0°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 Abetifi in the Forest zone, reaching 22.7°C.

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

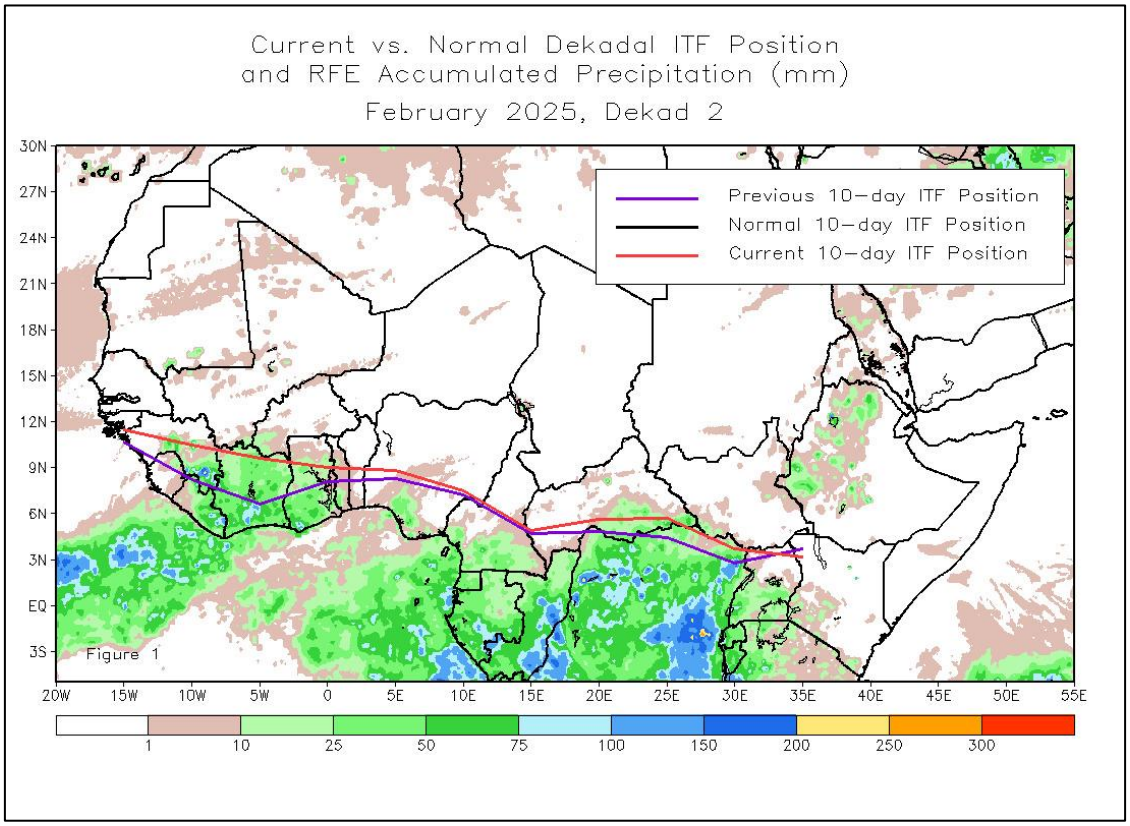


Figure 1. Current ITF position for February 2nd Dekad, 2025

Between February 11 and 20, the current Inter-Tropical Front (ITF) moved northward compared to its previous location. Specifically, the current ITF was located at approximately 9.1N in the northern sector of the country which is north of its previous position at 7.7N. *Figure 1* displays the current position of the ITF during the 2nd dekad of February and its previous position during the 1st 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

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.

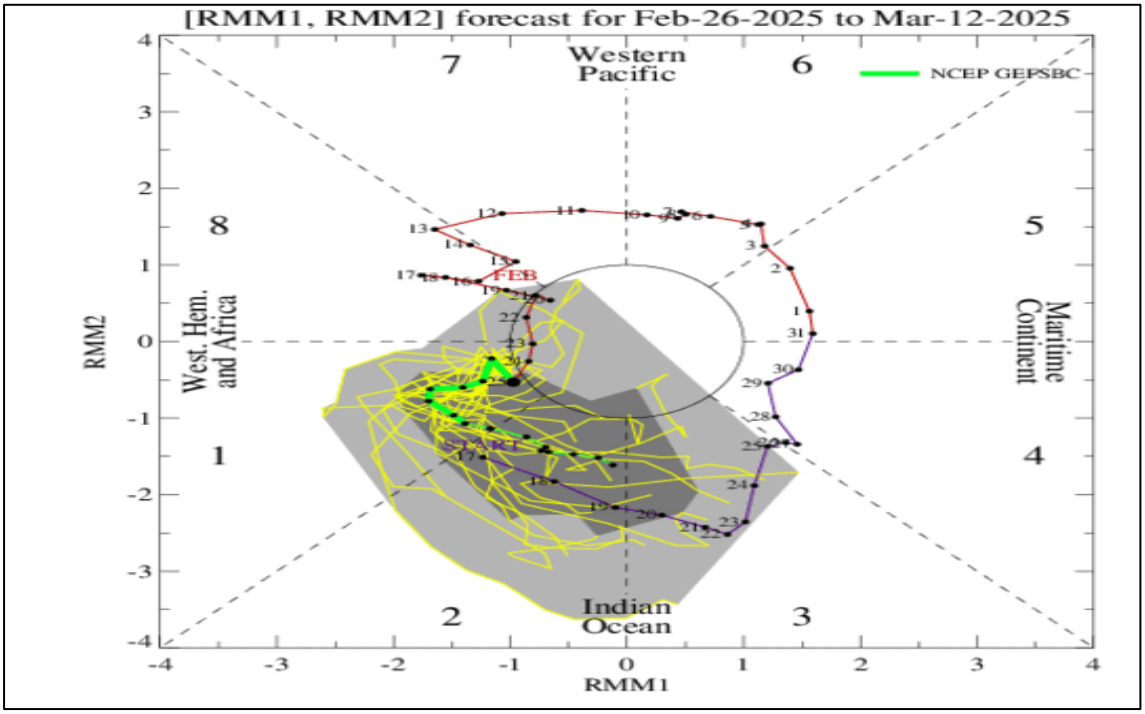


Figure 2. Current MJO position as of February 2nd Dekad, 2025

From figure*2*, the MJO moved from phase 7- 8 (Western Hemisphere/Africa). This phase may suppress rainfall activities over Ghana as the MJO's strength is weakening (i.e. close to the centre).

2.0 RAINFALL, TEMPERATURE AND RELATIVE DISTRIBUTION

2.1 RAINFALL

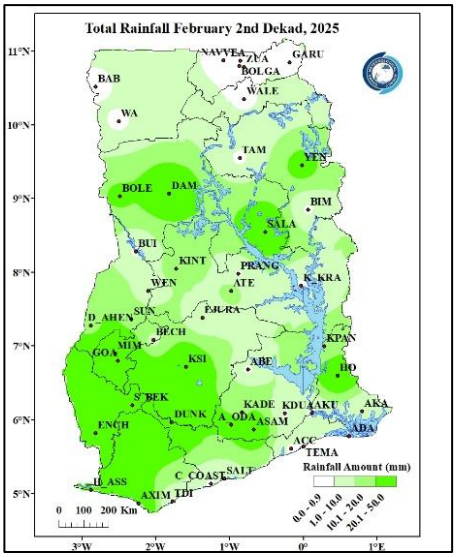


Figure 3a: Total Rainfall February 2nd Dekad,2025

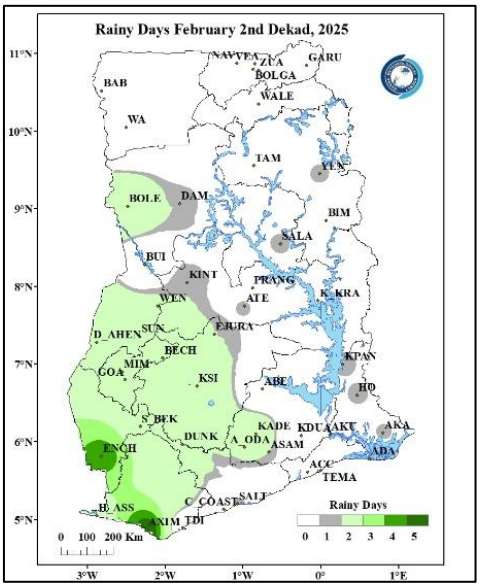


Figure 3b Rainy Days February 2nd Dekad, 2025

Figure 3a illustrates the rainfall distribution across Ghana during the second ten-day period of February. The Southern stations, Goaso and Mim recorded the highest rainfall amounts, with totals of 46.3 mm and 45.5 mm respectively. In contrast, some Northern and Southern areas including Wa, Tamale, Babile, Bolgatanga, Accra, Abetifi, Akuse, Tema 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 3 days of rain. The forested areas like Axim and Enchi saw the most rainfall, with up to 5 rainy days recorded.

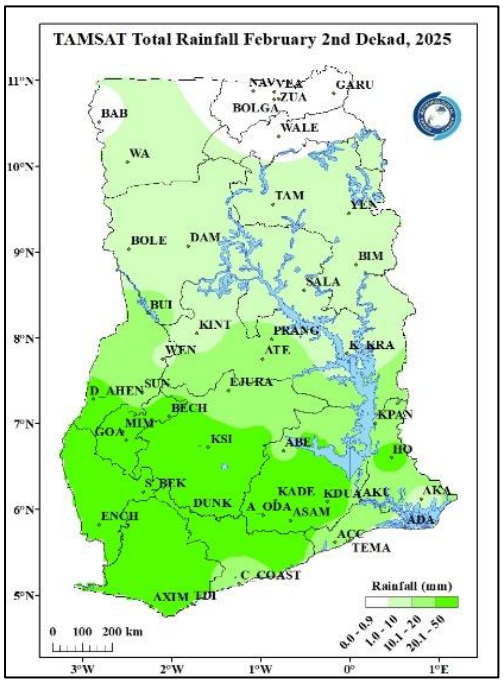


Figure 4. TAMSAT Total Rainfall February 2nd Dekad, 2025

In figure 4, the total rainfall derived from TAMSAT rainfall estimate is also presented. The satellite data performed well over the period and was able to capture the highest and lowest rainfall amounts over the designated sectors and zones of the country

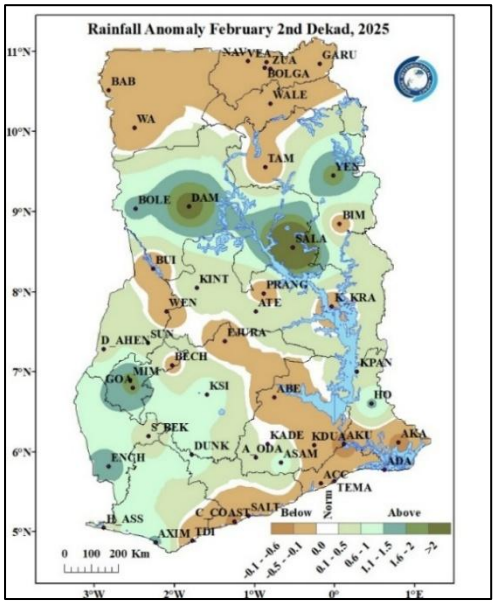


Figure 5: Rainfall Anomaly for February 2nd Dekad, 2025

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

2.2 TEMPERATURE

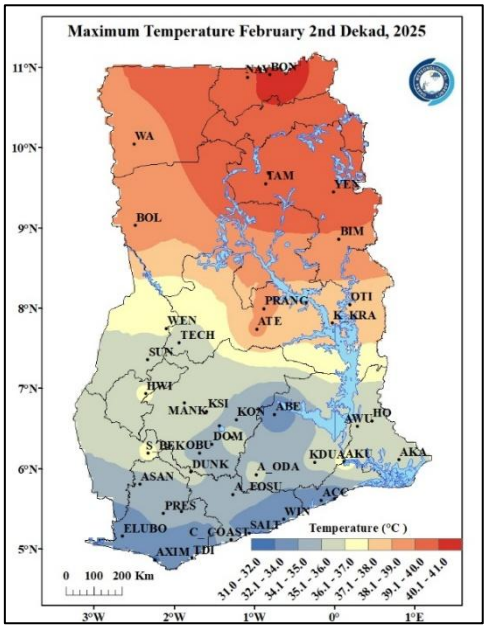


Figure 6a. Maximum Temperature February 2nd Dekad,2025

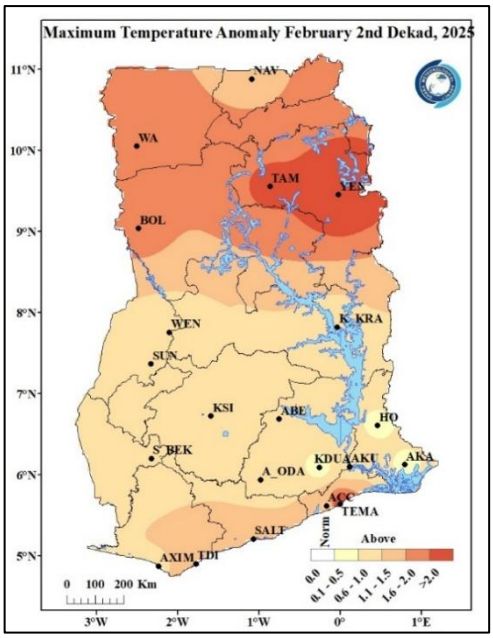


Figure 6b. Maximum Temperature Anomaly February 2nd Dekad,2025

Figure 6a displays the distribution of average Maximum temperatures across the country. The northern belt recorded higher temperatures, ranging from 38.1°C to 40.0°C. The highest temperature of 40.0°C was recorded in Tamale, while the lowest temperature of 31.9°C was observed in Axim. In the transition zone, temperatures ranged between 36.1°C and 39.0°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. It is evident that, almost the entire country experienced above normal temperatures indicating increasing daytime temperatures.

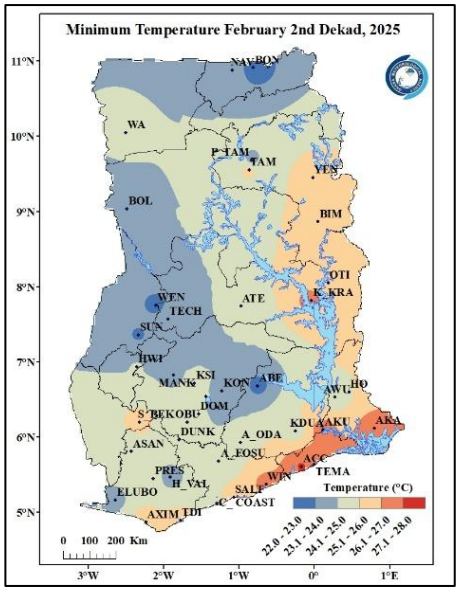


Figure 7a: Minimum Temperature February 2nd Dekad,2025

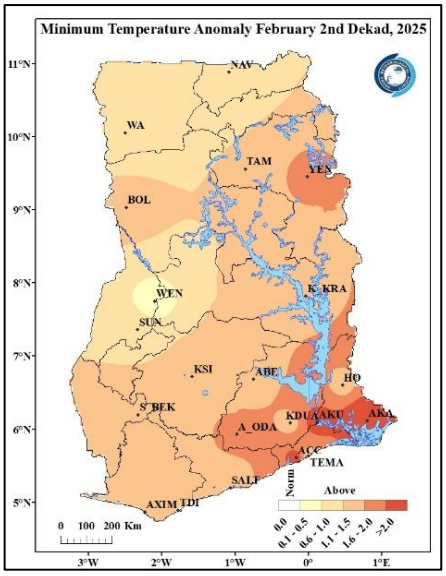


Figure 7b: Minimum Temperature Anomaly February 2nd Dekad, 2025

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 25.1°C to 28.0°C. In contrast, the western parts of the coast, forest, and northern areas such as Elubo, Abetifi, Wenchi, Bole and Navrongo experienced cooler average nighttime temperatures ranging from 22.0°C to 25.0°C. The lowest average nighttime temperature was recorded in Abetifi in the forest zone, reaching 22.7°C.

In *figure 7b*, we see the Minimum Temperature Anomaly. Again, the entire country experienced above normal temperatures indicating increased nighttime temperatures during the period.

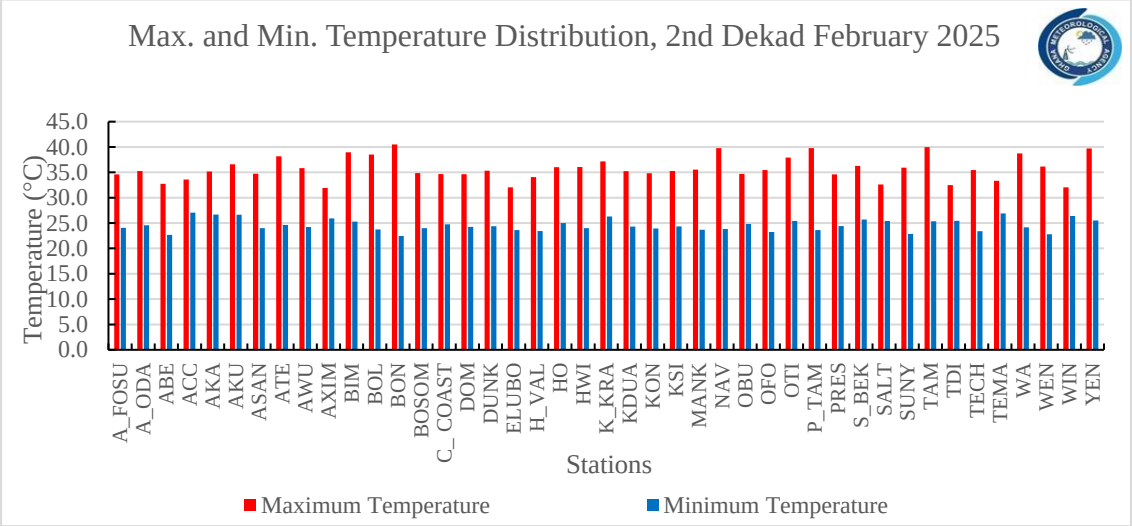


Figure 8. Max. and Min. Temperature Distribution for February 2nd Dekad,2025

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 relative humidity values ranging from 20 to 50 %. The minimum value of 20% was recorded over Navrongo while a maximum value of 79% was recorded over Axim.

Average relative humidity Anomaly is also presented in *figure 9b.* Generally, a below normal relative humidity is observed over almost the entire country. Areas around Wa and Tamale, however, experienced an above normal relative humidity.

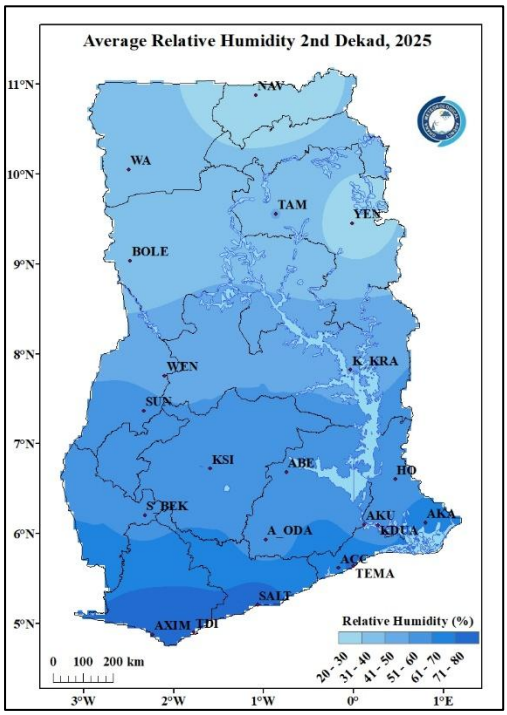


Figure 9a. Average Relative Humidity February 2nd Dekad,2025

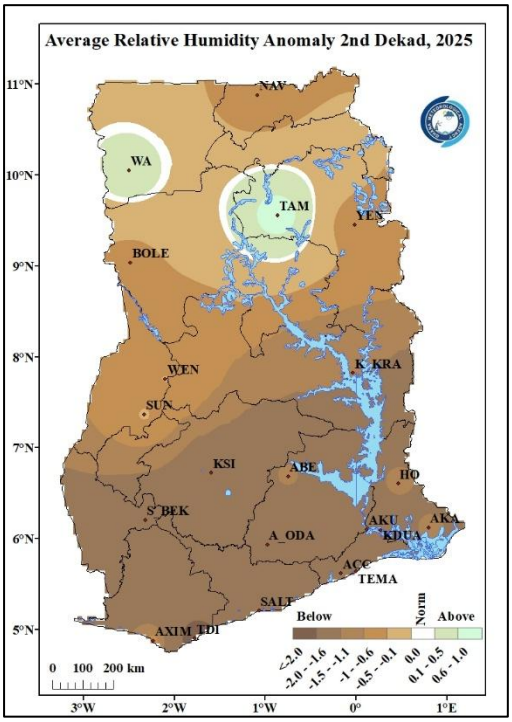
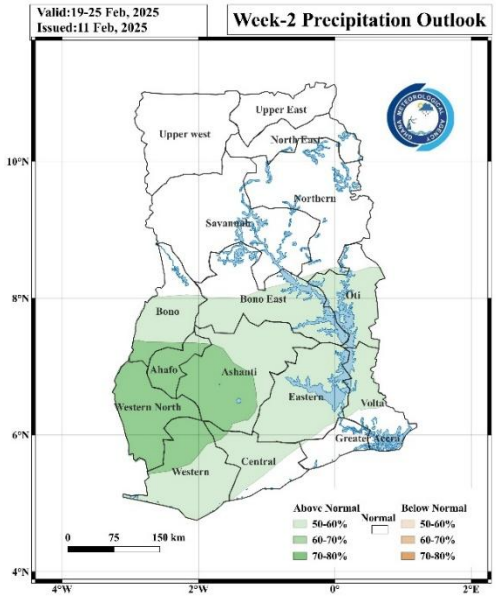
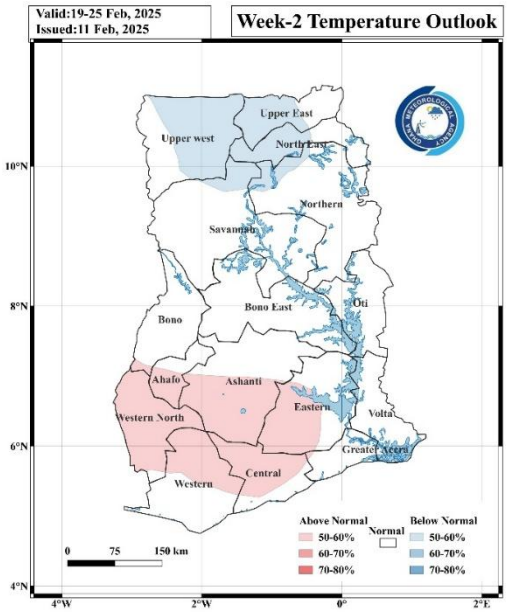


Figure 9b. Average Relative Humidity Anomaly February 2nd Dekad,2025

3.0 RAINFALL AND TEMPERATURE OUTLOOK 19TH - 25TH FEBRUARY 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 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				

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