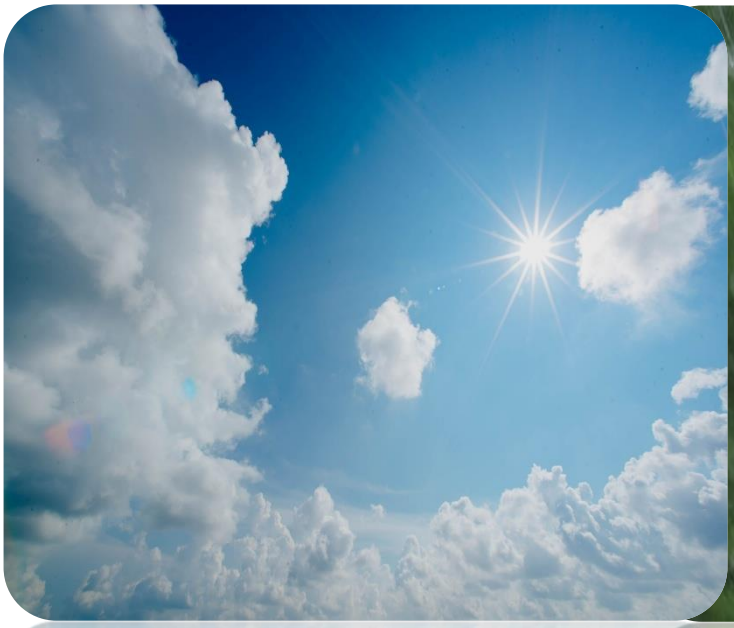
MAY 2025

CLIMATE BULLETIN



DEKAD 2, MAY (11-20)

GMET/CLIMATE/110525…...FORM337

5/11/2025

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SUMMARY

- **Rainfall:**
  - Most areas received rainfall above 50mm
  - Axim received the highest rainfall of 190.1 mm.
  - Axim and Elubo recorded the highest rainy days of 7 days
- **Rainfall Anomalies:**
  - Surplus rainfall in most areas.
  - Northen portions experienced surplus rainfall.
- **Relative Humidity:**
  - Maximum value of 78.5% was recorded over Saltpond
  - Minimum value of 49.3% was recorded over Navrongo.
- **Temperatures:**
  - **Maximum:**
    - Above normal temperatures experienced at most places across the country.
    - The maximum of the Maximum temperature of 35.46°C was recorded in Kete Krachi
    - The minimum of the Maximum temperature of 30.1°C was recorded in Abetifi and Navrongo
    - Relatively cooler temperatures were recorded along the south-western portions and in selected forested areas and a portion of the north.
  - **Minimum:**
    - Warmer temperatures in the Northern and South Eastern sectors
    - Relatively above normal temperatures at most areas of the country
    - The maximum of the Minimum temperature of 27.37°C was recorded in Ada
    - The minimum of the Minimum temperature was recorded in Hwidiem; reaching 16.55°C.

1. OBSERVED CLIMATE DRIVERS

1.1 INTERTROPICAL FRONT (ITF)

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.

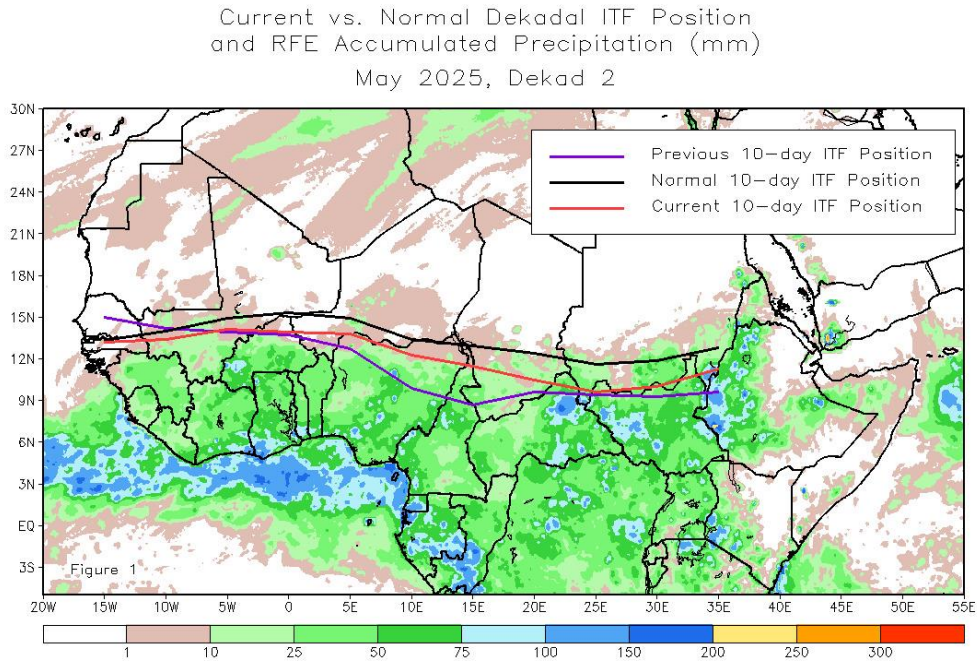


Figure 1. Current ITF position for May 2nd Dekad, 2025

Figure 1 illustrates the position of the ITF during the second dekad of May, along with its preceding position during the first dekad of the month. Overall, the ITF exhibited minimal northward movement between the two periods. Currently, the ITF is positioned around latitude 13.9°N in the northern portions of Burkina Faso, representing a slight shift from its earlier location at approximately 13.4°N recorded between May 1 and 10. 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
March 1	11.0	10.5	10.1
March 2	10.0	9.8	9.6
March 3	11.6	11.6	11.2
April 1	11.1	11.3	11.1
April 2	12.8	11.7	11.1
April 3	13.5	13.1	12.1
May 1	13.9	13.7	12.7
May 2	14.1	13.9	13.8

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.

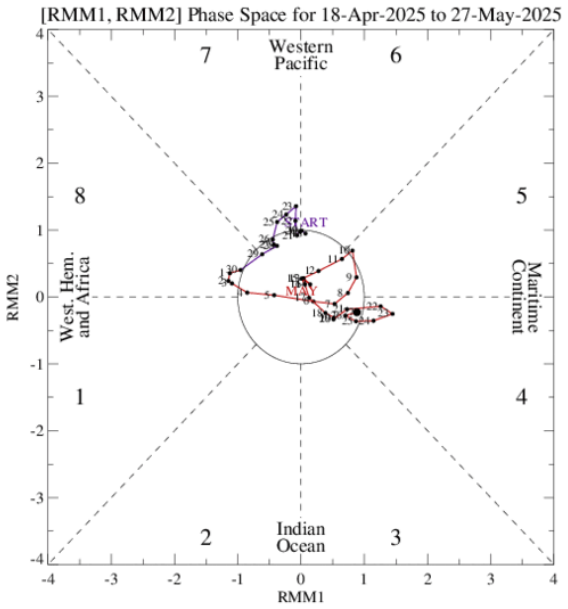


Figure 2. Current MJO position as of May 2nd Dekad, 2025

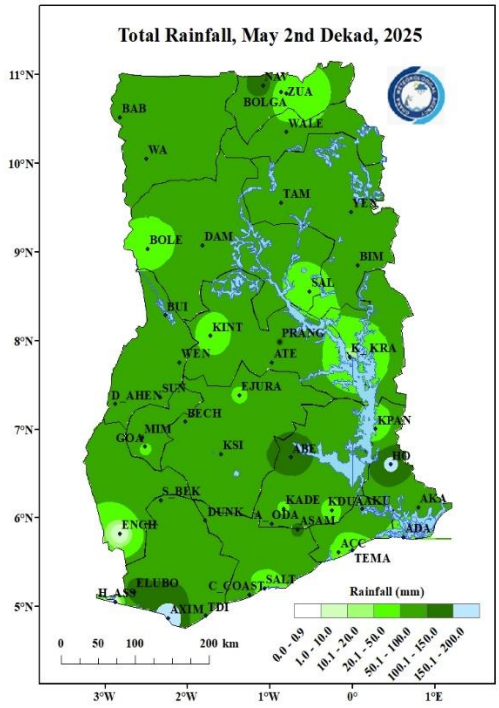
As depicted in Figure 2, the Madden-Julian Oscillation (MJO) was observed between Phases 7 and 8, corresponding to the West. Hemisphere and Africa and Western Pacific regions.

However, its position near the centre of the phase-space diagram indicates a weak amplitude, signifying a less active MJO signal during this period.

Given its current phase and weak intensity, the MJO was unlikely to significantly enhance convective activity over West Africa. This may have contributed to the suppression of rainfall over Ghana in the short term, as the influence of the MJO during weak phases tends to be minimal across the region.

2.0 RAINFALL, TEMPERATURE AND RELATIVE DISTRIBUTION

2.1 RAINFALL



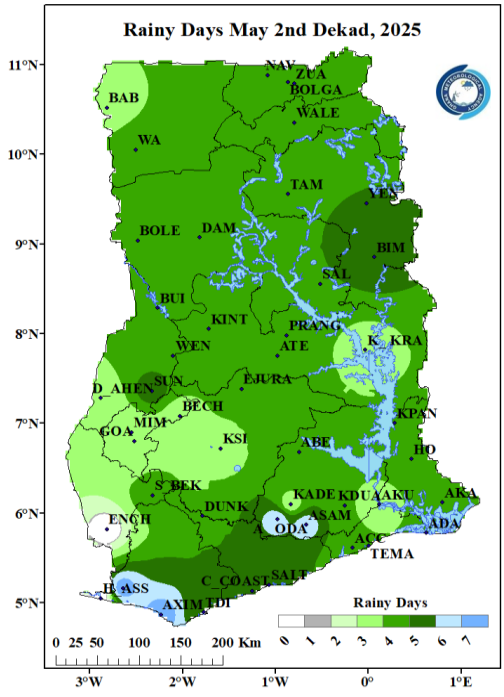


Figure 3a. Total Rainfall May 2nd Dekad, 2025

Figure 3b. Rainy Days May 2nd Dekad, 2025

Figure 3a describes rainfall distribution across Ghana during the second ten-day period (dekad) of May. During this period, Axim recorded the highest total rainfall, amounting to 190.1 mm. On the other hand, Enchi and Half Assini recorded no rainfall.

Figure 3b shows the frequency of rainy days within the same period. Most stations, from the northern to coastal zones recorded between one (1) and four (4) rainy days, while Axim and Elubo recorded the highest frequency with 7 rainy days.

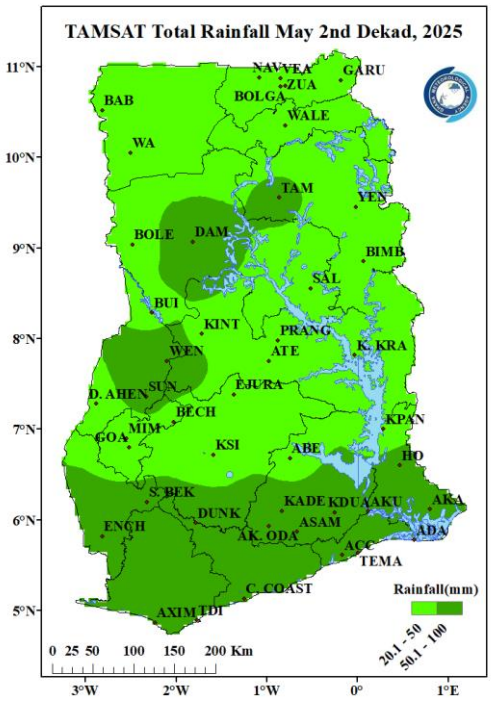


Figure 4. TAMSAT Total Rainfall May 2nd Dekad, 2025

Figure 4 represents total rainfall for the period, derived from TAMSAT satellite-based estimates**.** The data provides a useful overview of nationwide rainfall distribution. In this dekad, the extreme southern portions generally aligned with ground-based observations.

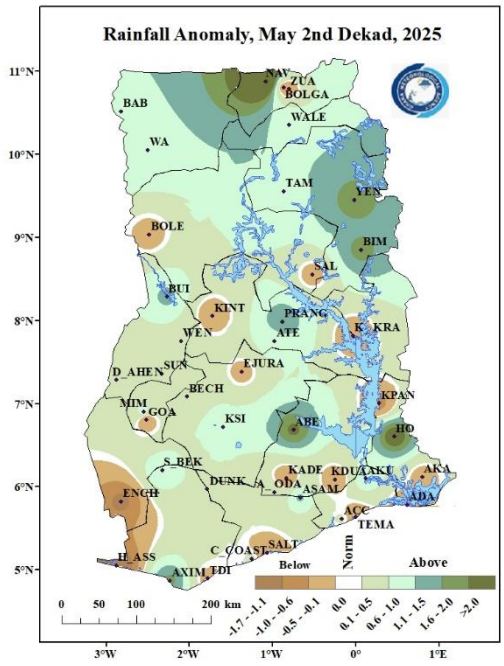


Figure 5 highlights rainfall anomalies across the country during the period. Most stations recorded normal to above-normal rainfall. However, below-normal rainfall was observed at some locations, including Bolgatanga, Bole, Kintampo, Ejura, Enchi, Half Assini, Saltpond, Koforidua, Accra, Kpando, and Kete Krachi.

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

2.2 TEMPERATURE

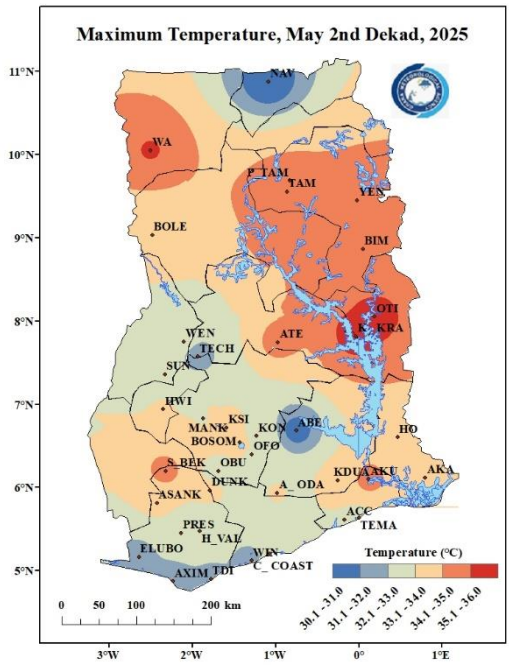


Figure 6a. Maximum Temperature May 2nd Dekad, 2025

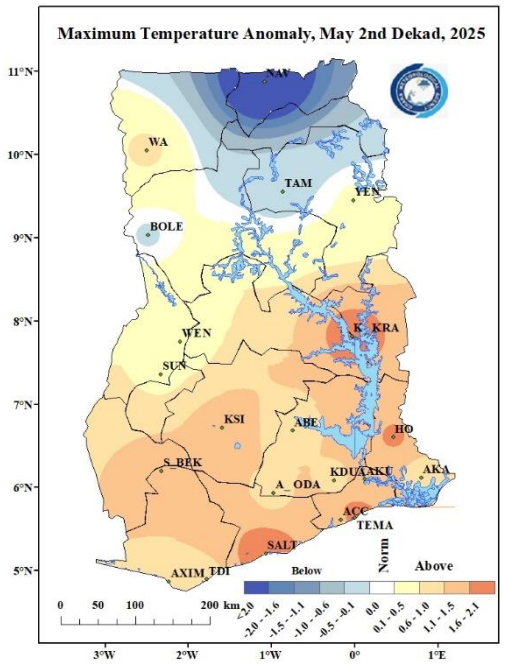


Figure 6b. Maximum Temperature Anomaly May 2nd Dekad, 2025

Figure 6a illustrates the distribution of average maximum temperatures across Ghana during the reporting period. The highest temperatures, ranging from 33.1°C to 36.0°C, were predominantly recorded in the northern and transition zones, excluding Navrongo. Kete Krachi reported the highest value at 35.46°C, followed by Oti (35.27°C) and Wa (35.07°C). The lowest maximum temperature of 30.1°C was observed at Abetifi and Navrongo. Relatively cooler conditions (30.1°C–35.0°C) were recorded in the southern areas, including Abetifi, Accra, Winneba, Axim, Elubo, Half Assini, Akim Oda, Dunkwa, Sunyani, and Techiman.

Figure 6b presents the maximum temperature anomalies for the period. Most stations across the country experienced above-normal temperatures with the exception of Bole, Tamale and Navrongo which recorded near-normal to below-normal temperatures.

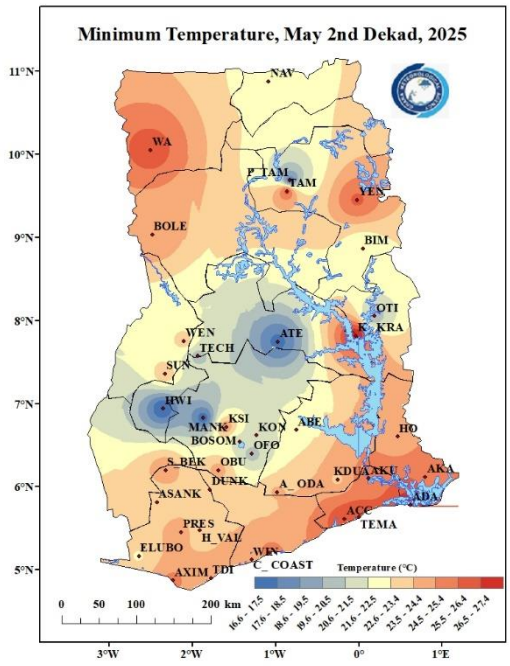


Figure 7a. Minimum Temperature May 2nd Dekad, 2025

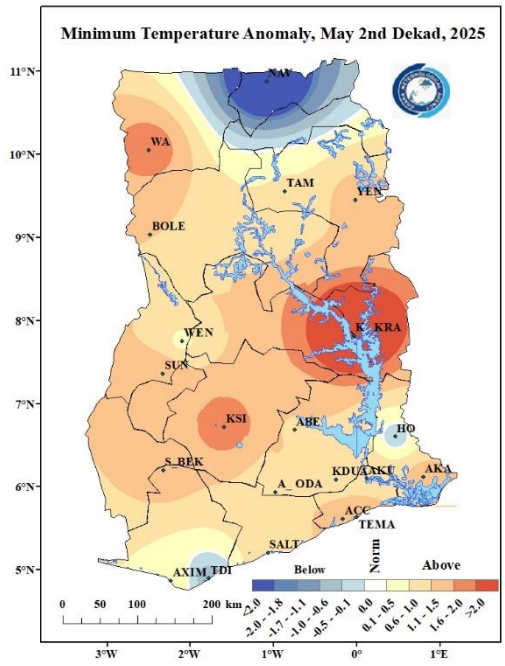


Figure 7b. Minimum Temperature Anomaly May 2nd Dekad, 2025

In *Figure 7a*, the average minimum temperatures varied across different sectors. Warmer night-time temperatures (21.6°C–27.4°C) were observed in the northern and coastal areas, including Navrongo, Wa, Tamale, Yendi, Bimbila, Kete Krachi, Ho, Accra, Ada, and Axim. However, relatively cooler conditions (16.6°C–21.5°C) were experienced in locations such as Hwidiem, Abetifi, Mankrasu, Konongo, Techiman, Atebubu, Oti, and Pong Tamale. The lowest average minimum temperature of 16.6°C, was recorded at Hwidiem in the forest zone.

In *figure 7b*, we see the Minimum Temperature Anomaly for this period. Most parts of the country experienced above normal temperatures indicating increased night-time temperatures. However, places around Navrongo, Takoradi and Ho experienced below-normal temperatures.

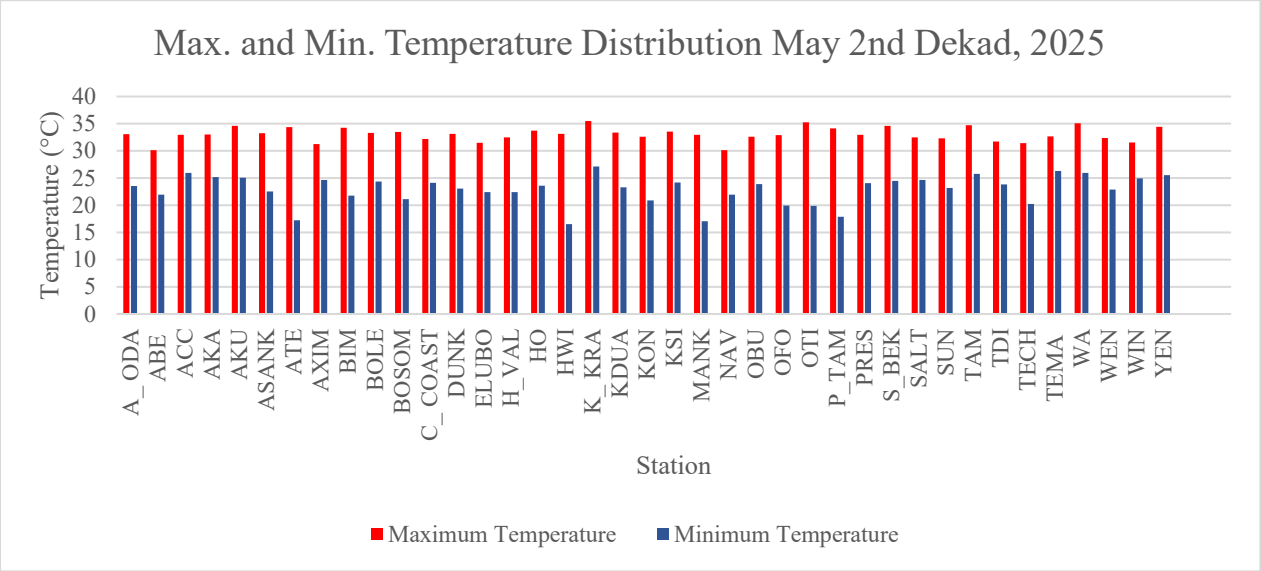


Figure 8. Max. and Min. Temperature Distribution for May 2nd Dekad, 2025

2.3 RELATIVE HUMIDITY

Observed Relative Humidity (RH) over the ten (10) day period is presented in *figure 9a* below. RH values in forest and coastal areas ranged from 61% to 80%. On the other hand, the transition and northern areas experienced RH values ranging from 41 to 60 %. The minimum value of 49% was recorded over Navrongo while a maximum value of 79% was recorded over Saltpond.

Furthermore, Figure 9b illustrates the average RH anomaly, revealing a widespread observation of below-normal relative humidity throughout the country during the period under consideration..

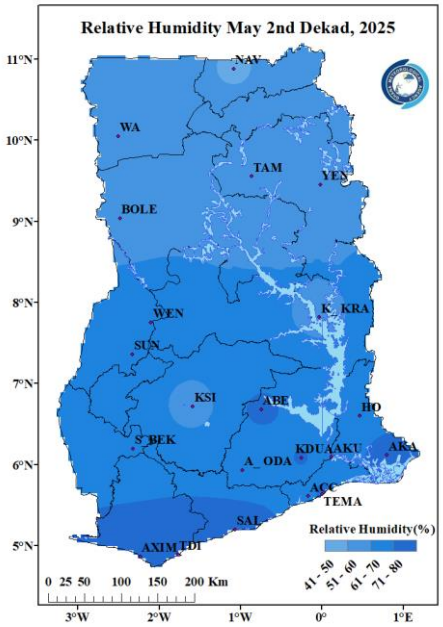


Figure 9a. Average Relative Humidity May 2nd Dekad,

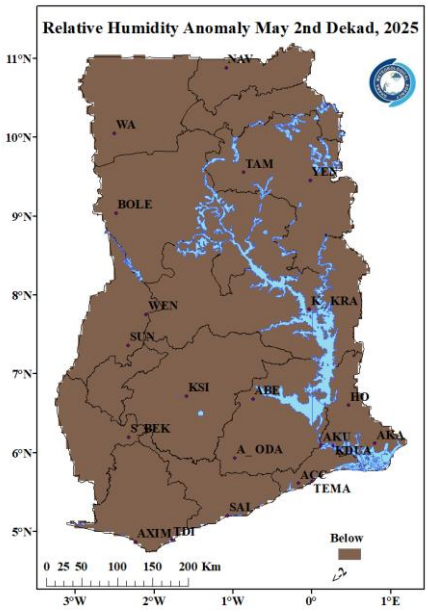
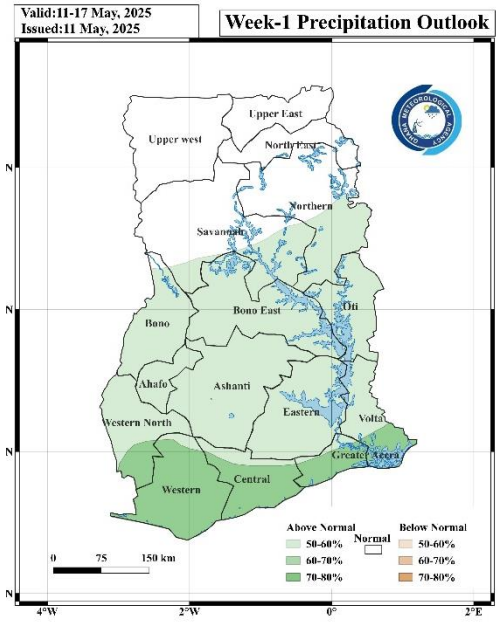
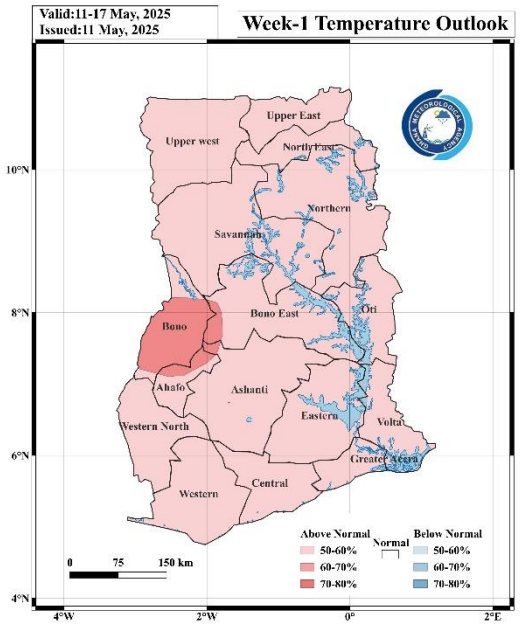


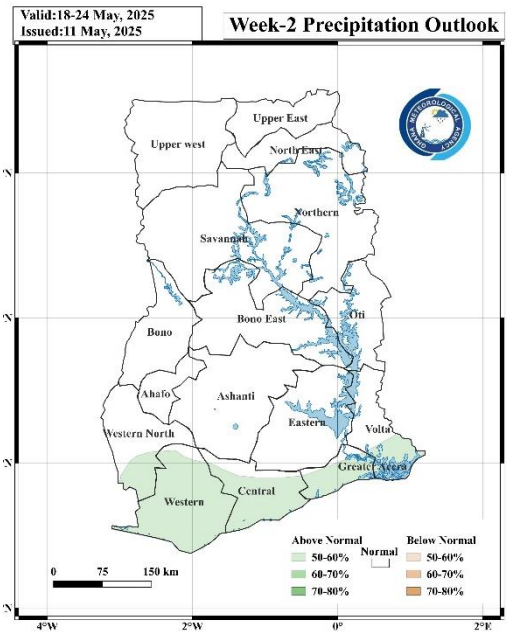
Figure 9b. Average Relative Humidity Anomaly May 2nd Dekad, 2025

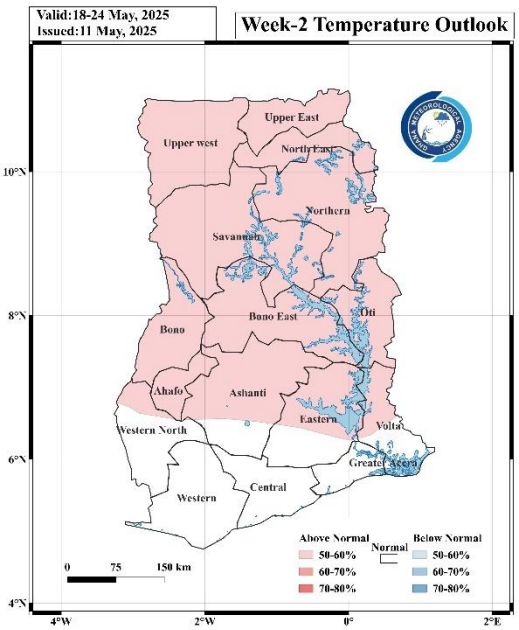
3.0 RAINFALL AND TEMPERATURE OUTLOOK 11TH- 24TH MAY 2025

Week 1 is expected to bring above-normal rainfall to the southern and transition areas and a normal rainfall to the northern portions, accompanied by above-normal temperatures across the country. In Week 2, rainfall is projected to be above normal in the south western and coastal areas whereas the rest of the country is expected to observe normal rainfall. While normal temperatures are expected at the coastal and south-western portions, the rest of the country is expected to observe above-normal temperatures.









4.0 ADVISORIES

1. **Flood**
    - Flash floods are likely to occur in cosmopolitan and city centres
    - People should move to higher grounds in case they stay in flood-prone areas
    - Once there is an approaching storm, citizens should move to stay indoors or move to safe places if they are outside.
2. **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.
3. **Water Resources Management Sector**
    - Conserve water and use it efficiently, especially in regions with less rainfall (Northern sector).
    - Rain water should be harvested for use especially at places with excess rainfall
4. **General Public**
    - Above-Normal Temperatures, 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				

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