

MARCH 2025

CLIMATE BULLETIN



DEKAD 1, MARCH (1-10)

GMET/CLIMATE/010325

3/1/2025

FORM337

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SUMMARY

- **Rainfall:**
 - Most areas received significant rainfall (> 30.0 mm).
 - Ho received the highest rainfall of 60.6 mm.
 - Forest zone: Highest rainy days (7 days).
 - Transition area to northern parts: Least rainy days.
- **Rainfall Anomalies:**
 - Deficit rainfall in most areas.
 - Wa, Accra, Bimbila, Ho, Enchi and Kumasi experienced normal to surplus rainfall.
- **Relative Humidity:**
 - Maximum value of 77% was recorded over Ada.
 - Minimum value of 29% was recorded over Navrongo.
- **Temperatures:**
 - **Maximum:**
 - Normal to above anomalies - especially in Northern and Transition zones.
 - The maximum of the Maximum temperature of 41.1°C was recorded in Navrongo
 - Relatively cooler temperatures along the coast and in select forested areas.
 - **Minimum:**
 - Above normal temperatures over the entire country.
 - Cooler over the coastal regions and certain forested areas
 - The minimum of the Minimum temperature was recorded in Abetifi, reaching 22.3°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.

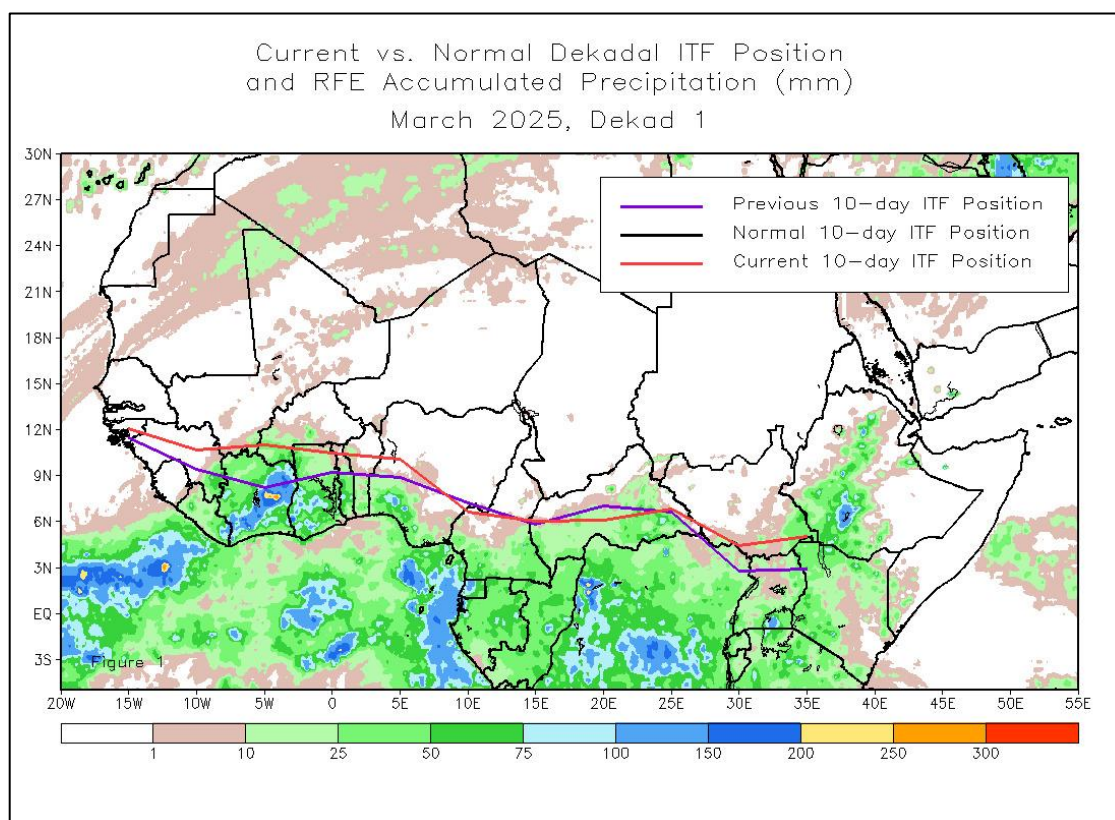


Figure 1. Current ITF position for March 1st Dekad, 2025

Between March 1 and 10, the current Inter-Tropical Front (ITF) shifted northward compared to its previous location. Specifically, the current ITF was located at approximately 10.5N in the northern sector of the country which is north of its previous position at 8.6N. *Figure 1* displays the current position of the ITF during the 1st dekad of March and its previous position during the 3rd 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
March 1	11.0	10.5	10.1

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.

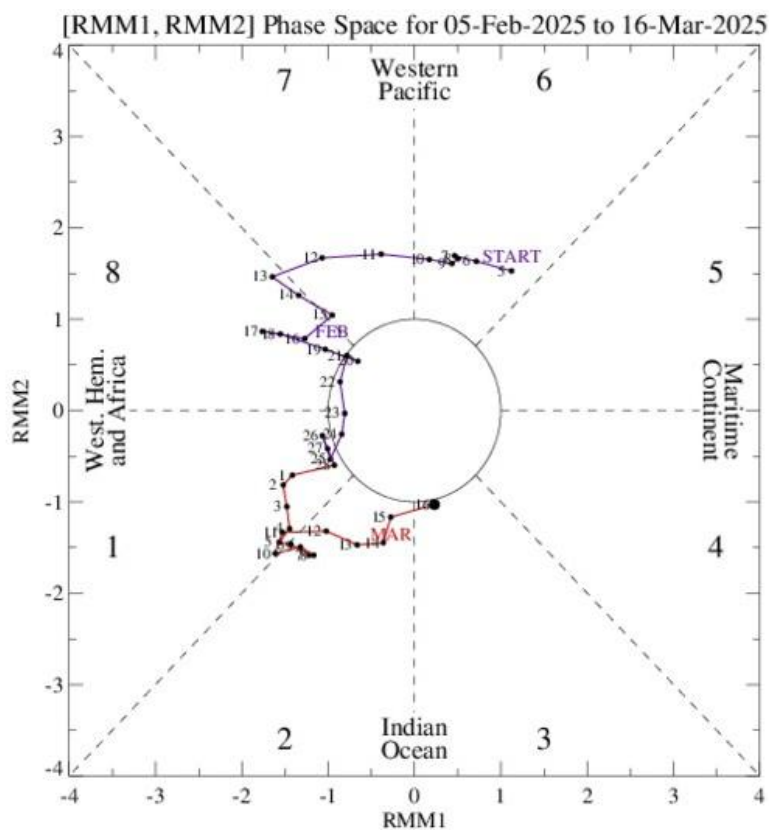


Figure 2. Current MJO position as of March 1st Dekad, 2025

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).

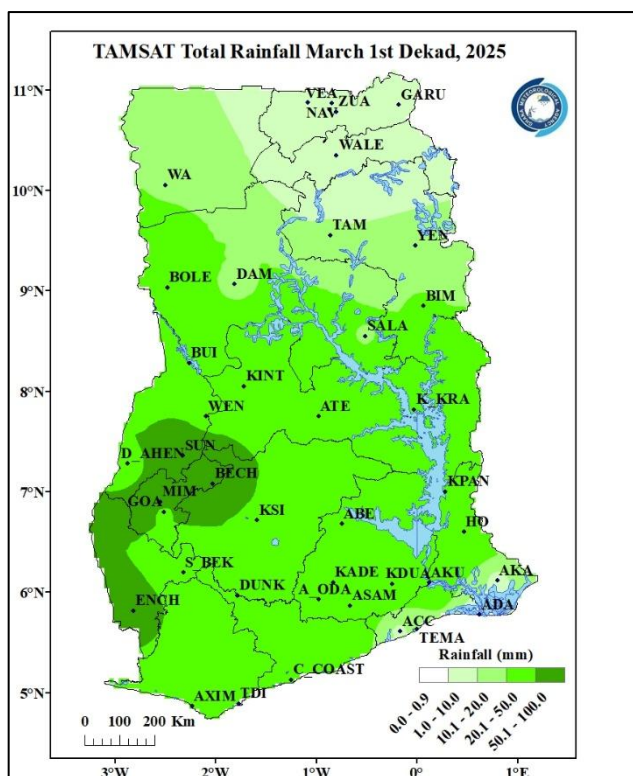


Figure 4. TAMSAT Total Rainfall March 1st Dekad, 2025

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

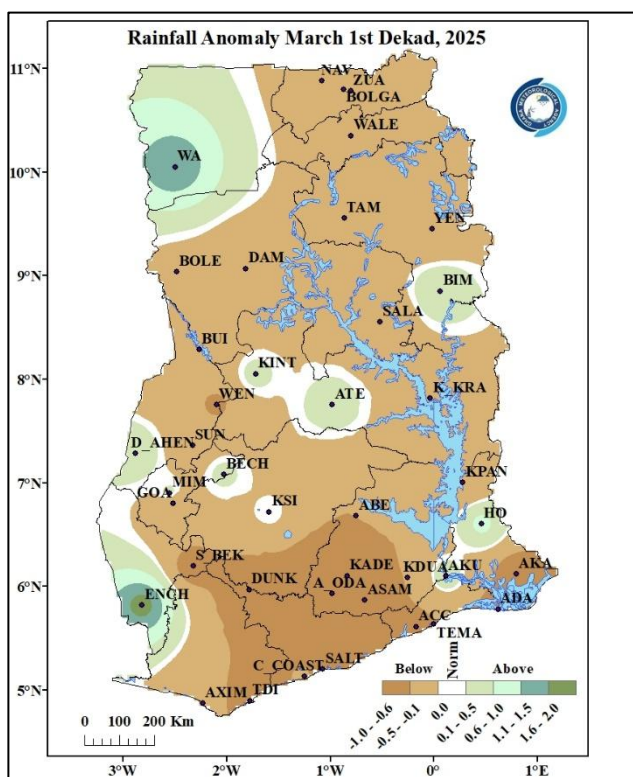


Figure 5: Rainfall Anomaly for March 1st Dekad, 2025

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 Wa, Bimbila, Atebubu, Enchi, Ho and Kumasi experienced normal to surplus rainfall.

2.2 TEMPERATURE

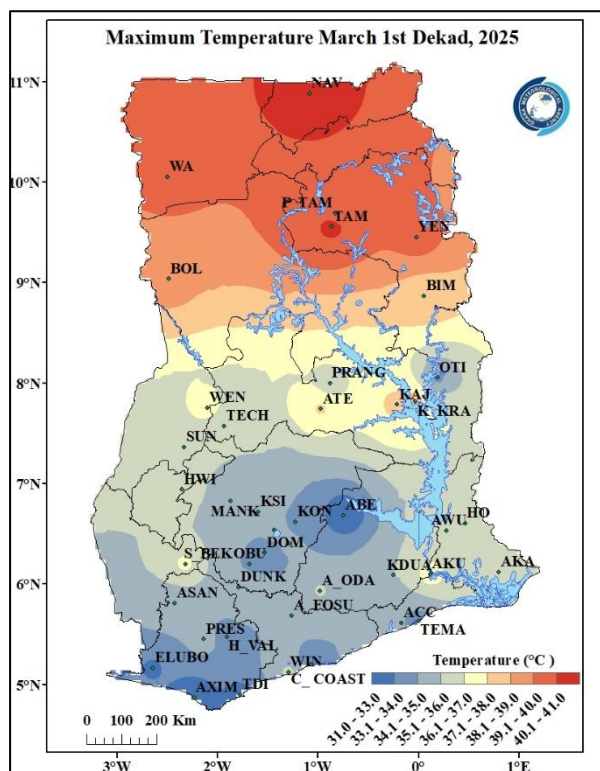


Figure 6a. Maximum Temperature March 1st Dekad, 2025

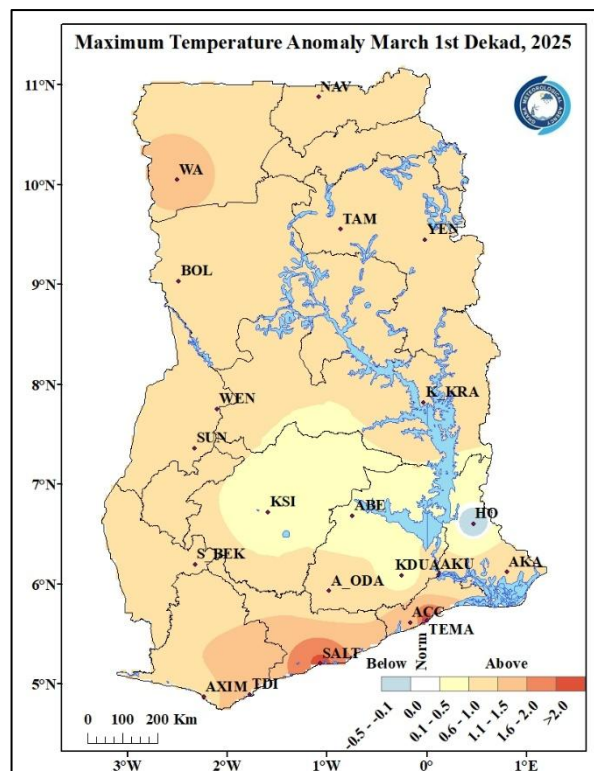


Figure 6b. Maximum Temperature Anomaly March 1st Dekad, 2025

Figure 6a displays the distribution of average Maximum temperatures across the country. The northern belt recorded higher temperatures, ranging from 37.1°C to 41.0°C. The highest temperature of 41.0°C was recorded in Navrongo, while the lowest temperature of 31.9°C was observed in Abetifi. 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.

Maximum Temperature Anomaly is represented in figure 6b above. Almost the entire country experienced normal to above normal temperatures with the exemption of Ho (below normal). This signifies increasing temperatures in the country.

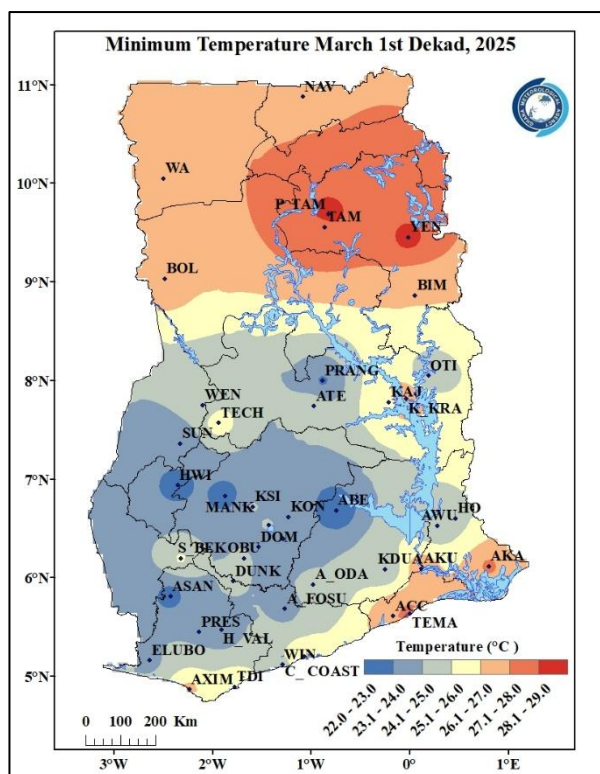


Figure 7a. Minimum Temperature March 1st Dekad, 2025

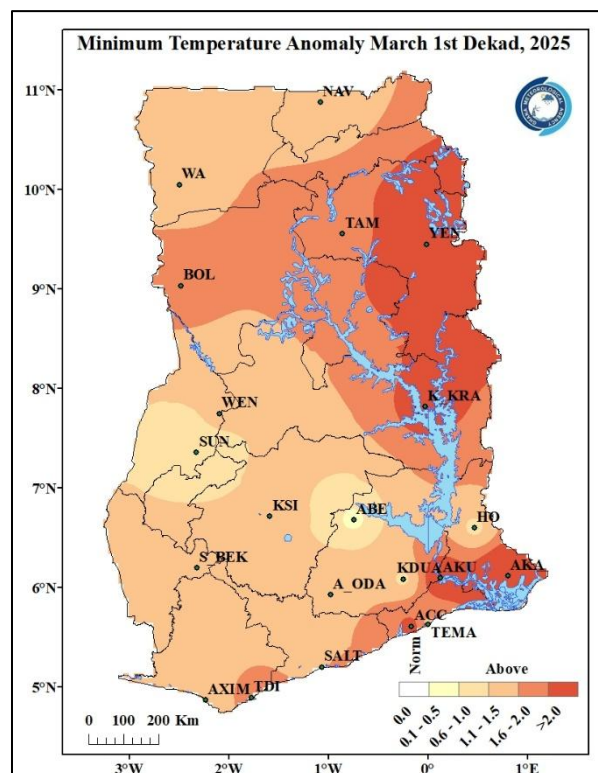


Figure 7b. Minimum Temperature Anomaly March 1st Dekad, 2025

In Figure 7a, the average minimum temperatures varied across different regions. The northern sector and the East coast experienced relatively warmer temperatures, with average values ranging from 26.1°C to 29.0°C. In contrast, places in the transition and the forest zones, and west coast such as Elubo, Abetifi, Prang, Ho and Bechem 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 22.3°C.

In figure 7b, we see the Minimum Temperature Anomaly. It is evident that, the entire country experienced above normal temperatures indicating increasing nighttime temperatures.

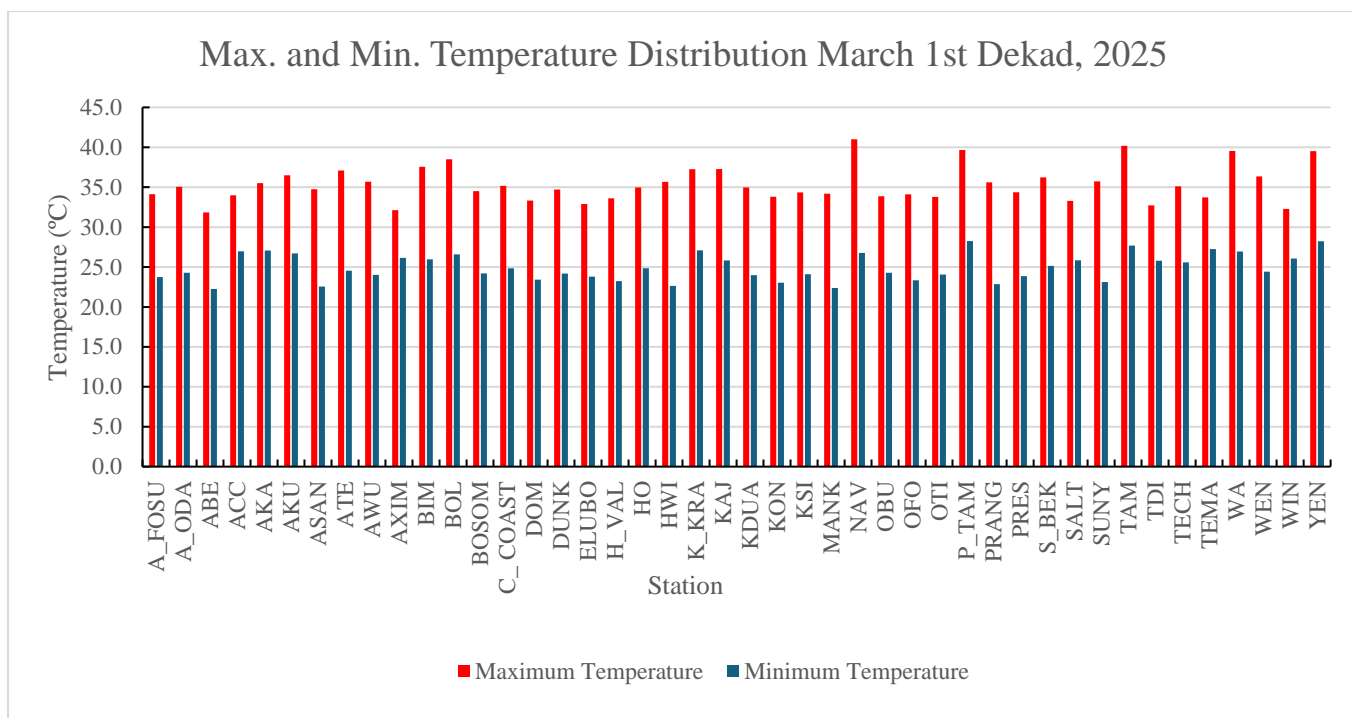


Figure 8. Max. and Min. Temperature Distribution for March 1st Dekad, 2025

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 29% was recorded over Navrongo while a maximum value of 77% was recorded over Ada.

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 and Navrongo experienced an above normal RH.

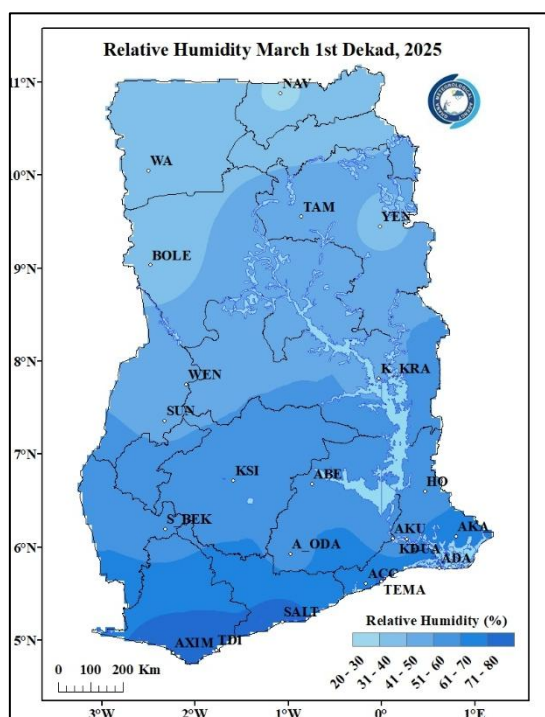


Figure 9a. Average Relative Humidity March 1st Dekad, 2025

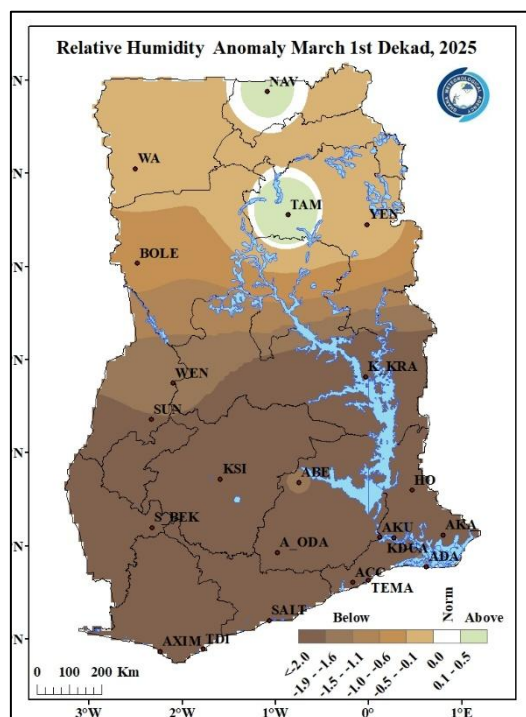
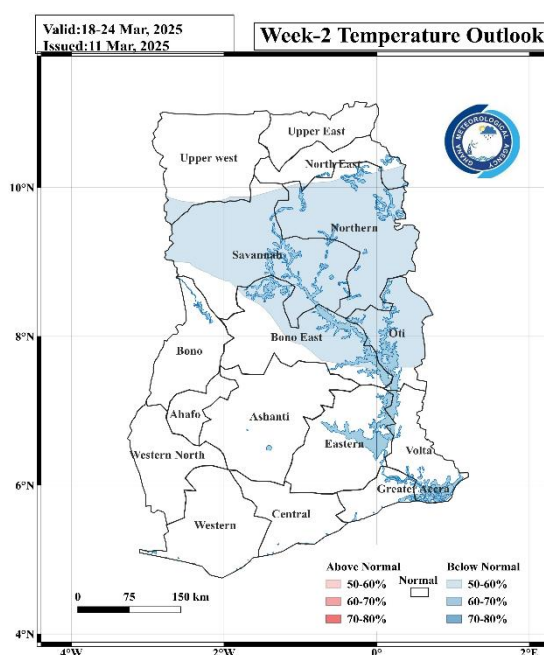
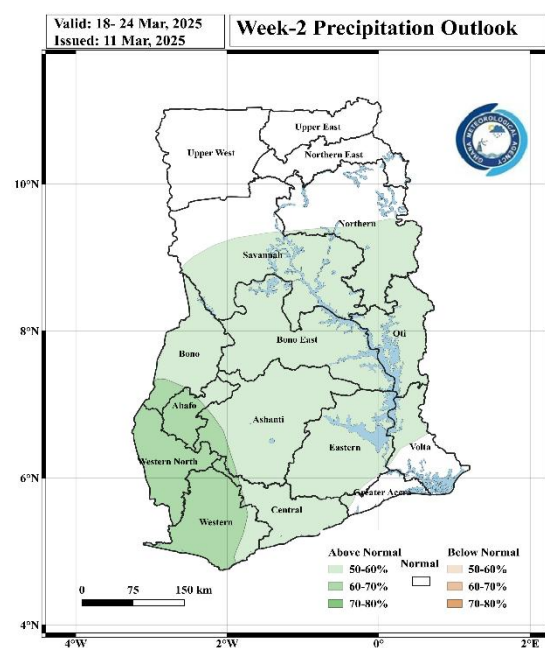
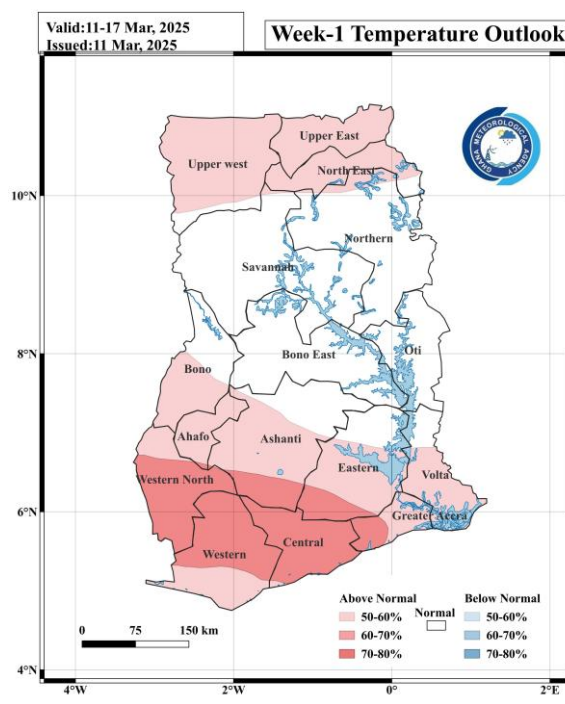
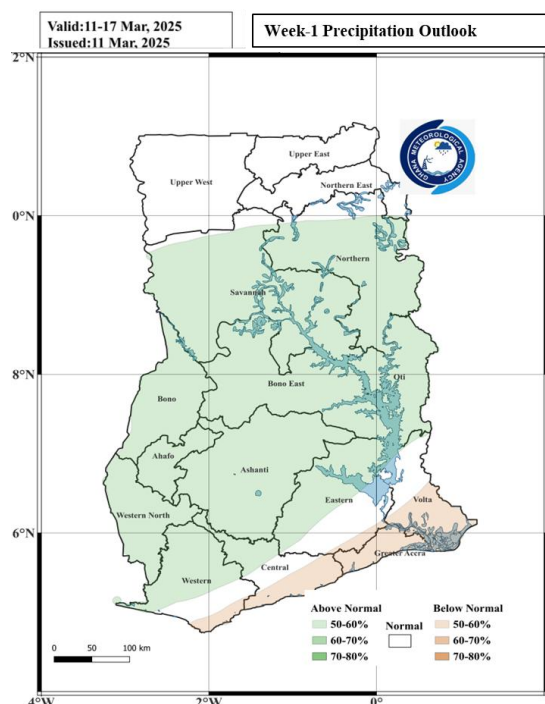


Figure 9b. Average Relative Humidity Anomaly March 1st Dekad, 2025

3.0 RAINFALL AND TEMPERATURE OUTLOOK 1- 7TH MARCH 2025

Week 1: Above normal rainfall is expected over most parts of the country. Places along the coast are expected to have below normal rainfall with the Upper East, Upper West & North East Regions expected to receive normal rainfall.

Week 2: The Transition Zone and most parts of Southern Ghana are expected to receive above normal rainfall. The southeastern portions of the country together with some areas in the Northern Sector are to expect normal conditions.



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	Abreviation	STATIONS	Abreviation	STATIONS	Abreviation
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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