OCTOBER 2025

CLIMATE BULLETIN

DEKAD 2, OCTOBER (11-20)

GMET/CLIMATE/021025 FORM337

10/02/2025

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SUMMARY

- **Rainfall:**
  - Most areas in the country received rainfall above 50 mm.
  - Mim received the highest rainfall of 242.5 mm.
  - Half Assini recorded the highest rainy days of 9 days.
- **Rainfall Anomalies:**
  - Surplus rainfall was recorded in most areas.
- **Relative Humidity:**
  - Maximum value of 79.2% was recorded over Axim
  - Minimum value of 60% was recorded over Wa.
- **Temperatures:**
  - **Maximum:**
    - Below normal temperatures experienced in most parts of the country.
    - The maximum of the Maximum temperature of 33.6°C was recorded in Wa and Bongo
    - The minimum of the maximum temperature of 27.6°C was recorded in Abetifi.
    - Relatively cooler temperatures along the west coast and places in the forest areas.
  - **Minimum:**
    - Below normal temperatures recorded at most parts of the country
    - Warmer temperatures in parts of the northern and coastal areas
    - The maximum of the Minimum temperature was recorded in Ada, reaching 25.3°C
    - The minimum of the Minimum temperature was recorded in Sunyani, reaching 20.1°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 (south westerly 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

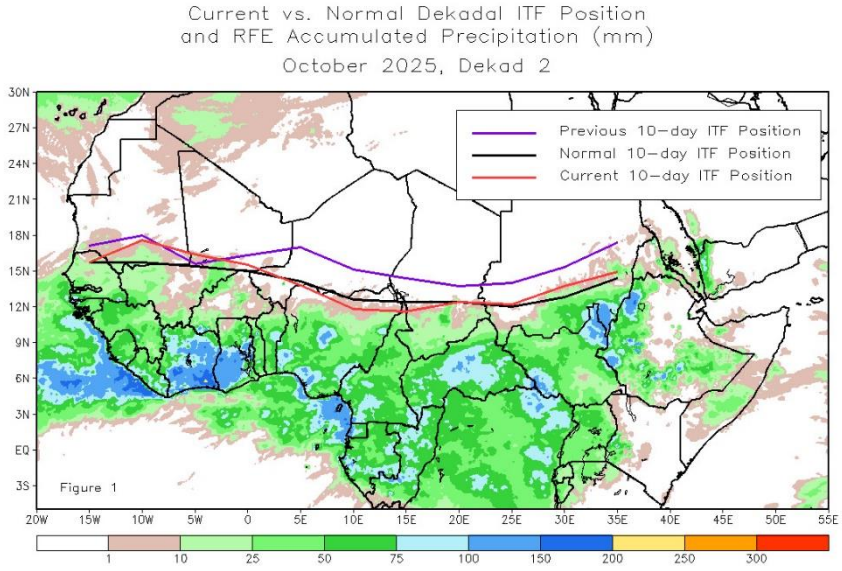


Figure 1: Current ITF position for October 2nd Dekad, 2025

Figure 1 describes the position of the ITF during the 2nd dekad of October and its previous position during the 1st dekad of October. The current Inter-Tropical Front (ITF) moved down as compared to its previous location which occurred between October 1 and 10. Specifically, the current ITF is located at approximately 15.5N of the country, which is south of its previous position at approximately 16.3N. 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
May 3	14.5	14.7	14.2
June 1	14.4	15.9	16.5
June 2	15.8	15.9	18.1
June 3	16.5	16.4	17.5
July 1	18.1	18.4	17.6
July 2	20.4	20.5	18.5
July 3	20.5	20.9	19.8
August 1	20.1	21.1	18.8
August 2	21	21.1	21.8
August 3	18.5	19.4	21.1
September 1	21.3	21.4	19.8
September 2	20	19.2	17.5
September 3	17.5	17.3	16.6
October 1	15.6	16.3	17.0
October 2	16.4	15.5	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.

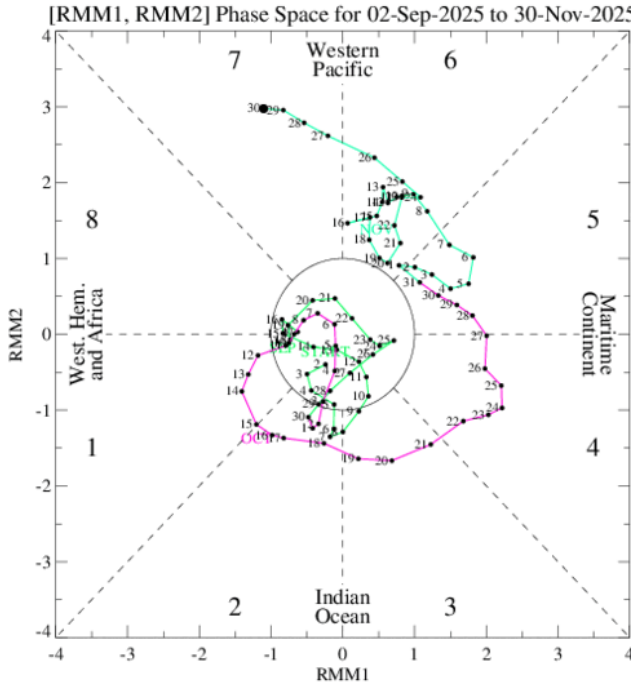


Figure 2: Current MJO position as at October 2nd Dekad, 2025

As shown in *Figure 2*, the Madden Julian Oscillation (MJO) was positioned between Phases 1 and 2, corresponding to the Western Hemisphere and Africa and Indian Ocean regions. Its location outside the centre of the phase-space diagram reflects a strong amplitude, indicating an active MJO signal during this period. In this phase and with such intensity, the MJO was likely to substantially enhance convective activity over West Africa.

2.0 RAINFALL, TEMPERATURE AND RELATIVE DISTRIBUTION

2.1 RAINFALL

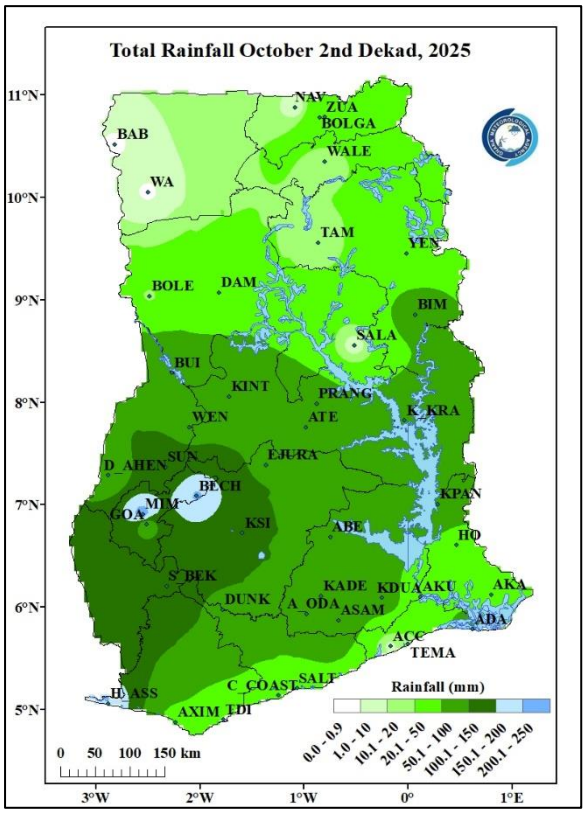


Figure 3a: Total Rainfall October 2nd Dekad, 2025

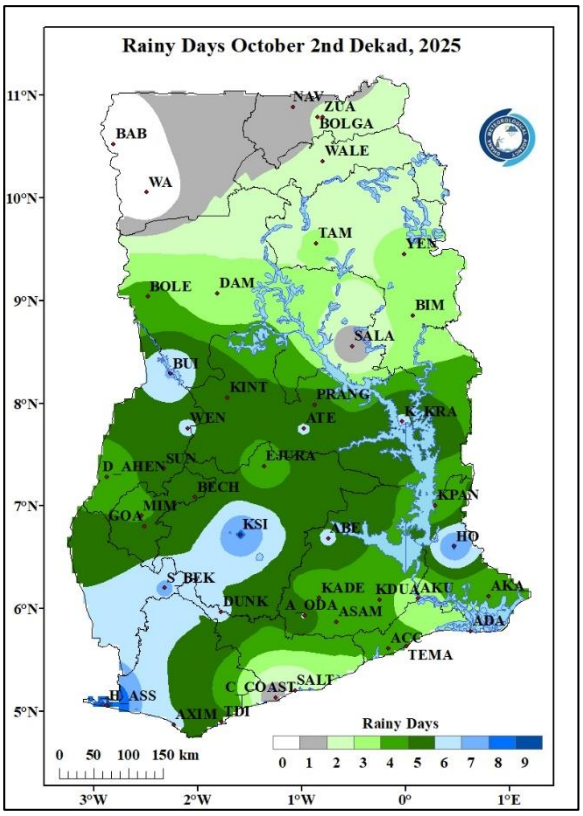


Figure 3 b: Rainy Days October 2nd Dekad, 2025

Figure 3a shows how rainfall was distributed across Ghana during the second dekad of October. Mim experienced the highest rainfall total, reaching 242.5 mm. In contrast, several stations in the northern sector such as Bole, Salaga, Navrongo, Zuarungu, Bolgatanga and Walewale, and some locations in the south, including Axim, Takoradi, Accra, Tema, Akuse, Akatsi and Ho, recorded less than 50 mm of rain. Notably, Wa and Babile did not receive any rainfall at all during this period.

Figure 3b presents the number of rainy days recorded during the same period. Most stations across the country particularly those in the southern and middle zones experienced between four (4) and nine (9) rainy days. Half Assini recorded the highest count with nine rainy days, while Wa and Babile recorded no rainfall throughout the dekad.

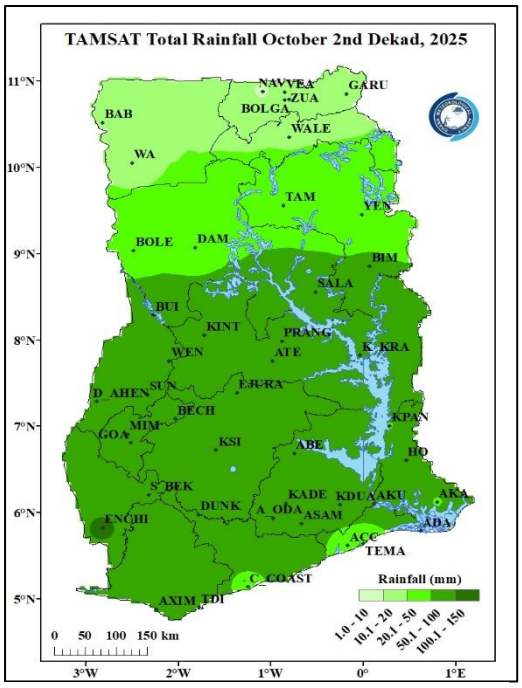


Figure 4: TAMSAT Total Rainfall October 2nd Dekad, 2025

Figure 4 presents the total rainfall for the period, derived from TAMSAT satellite rainfall estimates. The satellite-based data provides a useful depiction of nationwide rainfall distribution. The image indicates that TAMSAT generally reproduced the ground-based observations, with most stations in the southern parts of the country recording rainfall totals above 50 mm, while some stations in the northern portions and along the eastern coast recorded amounts below 50 mm.

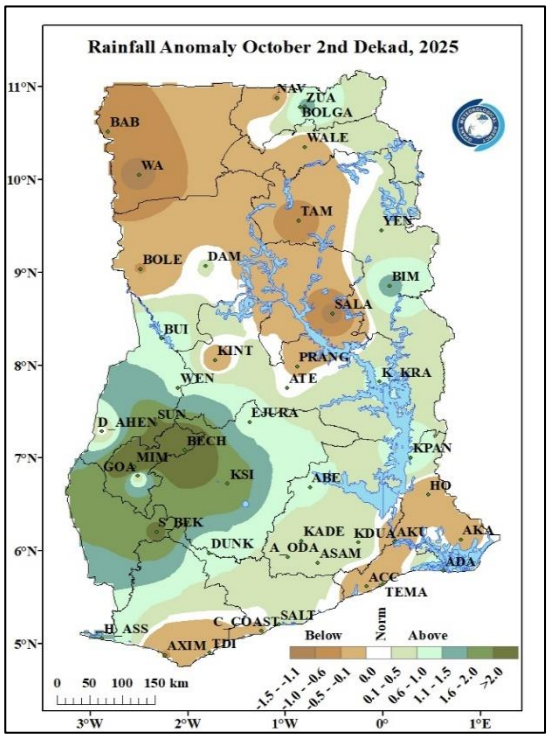


Figure 5: Rainfall Anomaly for October 2nd Dekad, 2025

Figure 5 describes areas across the country that experienced deviations from normal rainfall during the period. Notably, most stations across the country from the Northeastern portions through to the southern portions experienced surplus rainfall. These stations include Zuarungu, Yendi, Damongo, Bechem, Sefwi Bekwai, Half Assini, Asamankese and Kpando. On the other hand, places like Navrongo, Babile, Salaga, Prang, Kintampo, Bole, Salaga, Axim, Accra, Akatsi and Ho experienced deficit rainfall. Atebubu experienced normal rainfall conditions during the period.

2.2 TEMPERATURE

Maximum Temperature

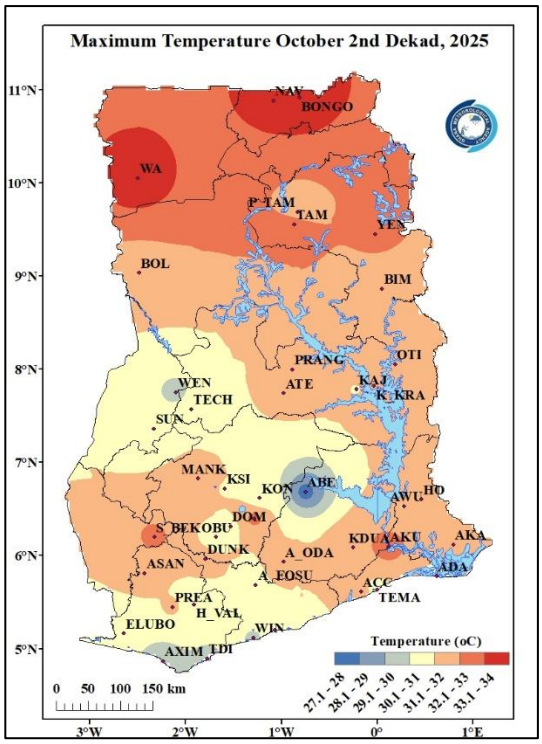


Figure 6a: Maximum Temperature October 2nd Dekad, 2025

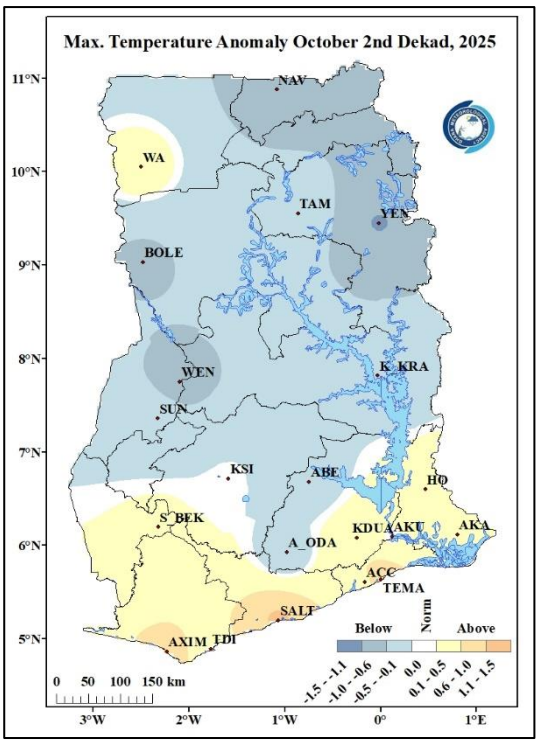


Figure 6b: Maximum Temperature Anomaly October 2nd Dekad, 2025

Figure 6a displays the distribution of average Maximum temperatures nationwide. During the reporting period, the northern and southeastern areas recorded the highest temperatures, ranging from 31.1°C to 34.0°C. The highest temperature of 33.6°C, was observed in Wa and Bongo, while the lowest, 27.6°C, was recorded in Abetifi. Places such as Abetifi, Wenchi, Kumasi, Obuasi, Elubo, Axim, and Winneba in the forest areas experienced relatively cooler conditions, with temperatures ranging from 27.0°C to 32.0°C.

Figure 6b illustrates the Maximum Temperature Anomalies. In this dekad, places in and around Wa, Sefwi Bekwai, Axim, Takoradi, Saltpond, Koforidua, Accra, Tema, Akuse, Ho and Akatsi experienced above normal temperature. Normal temperature conditions were experienced in Kumasi whereas the remaining parts of the country experienced below normal temperature.

Minimum Temperature

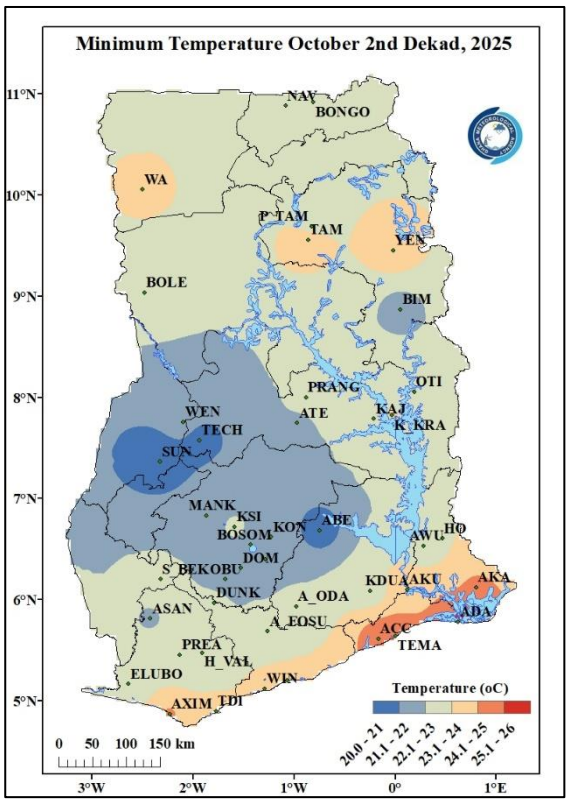


Figure 7a: Minimum Temperature October 2nd Dekad, 2025

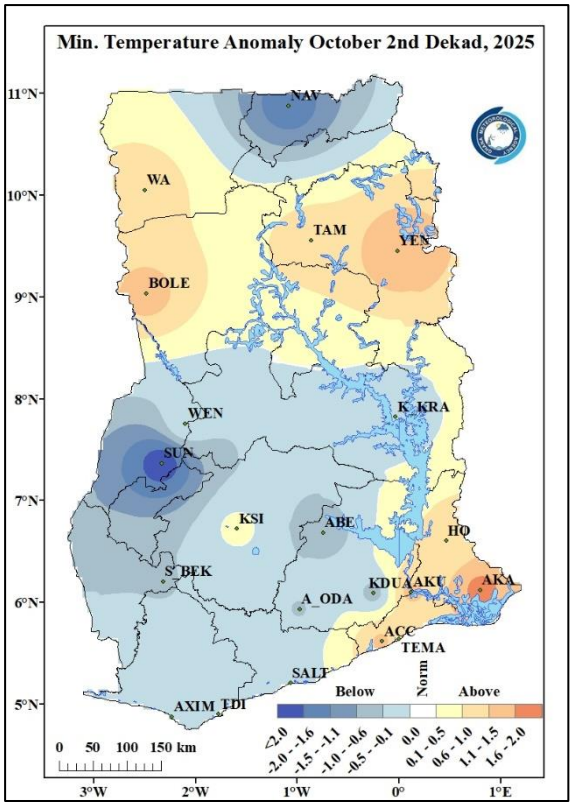


Figure 7b: Minimum Temperature Anomaly October 2nd Dekad, 2025

In *Figure 7a*, the average minimum temperatures varied across different sectors. Places in and around Wa, Tamale, Yendi, Axim, Takoradi, Winneba, Accra, Tema, Akuse, Ada and Akatsi, experienced relatively warmer conditions with temperatures ranging from 23.1°C to 26.0°C. The highest nighttime temperature recorded in the country for the period was at Ada with a temperature of 25.3°C, On the other hand, areas such as Navrongo, Pong Tamale, Sunyani, Atebubu, Assin Fosu, and Abetifi, among others recorded relatively cooler nighttime temperatures ranging between 20.0°C and 23.0°C. The least nighttime temperature during the period was recorded at Sunyani with a temperature of 20.1°C.

Figure 7b describes the Minimum Temperature Anomaly for this period. Most parts of the country experienced below normal temperatures. These areas include Navrongo, Wenchi, Sunyani, Axim, Takoradi and Abetifi. Above normal temperature was recorded at Wa, Bole, Tamale, Yendi, Kumasi, Ho, Akatsi, Akuse, Accra and Tema.

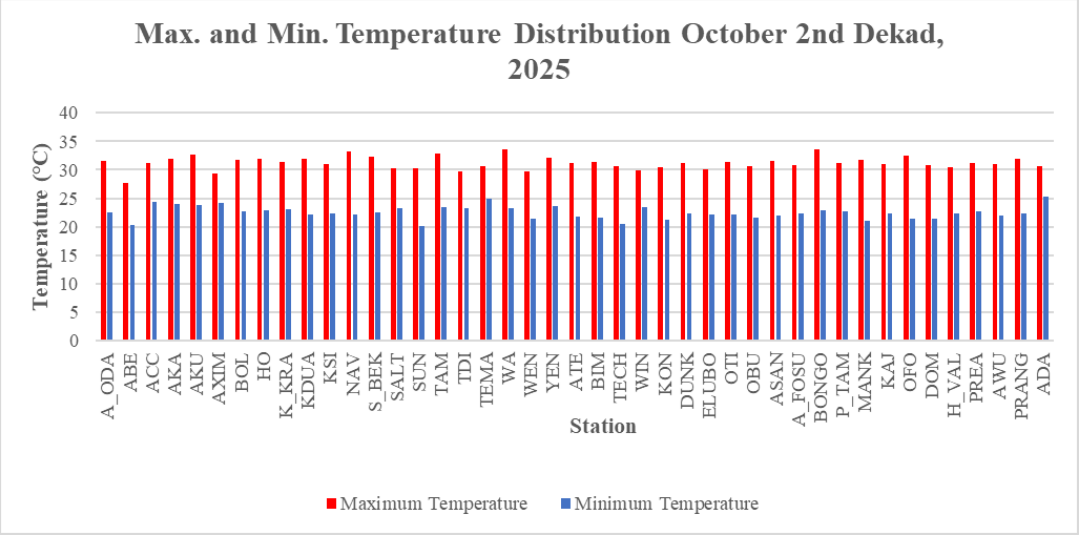


Figure 8: Max. and Min. Temperature Distribution for October 2nd Dekad, 2025

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 ranging from 60 to 80%. On the other hand, the transition and northern areas experienced RH values between 60 to 70 %. A minimum value of 60.0% was recorded over Wa while a maximum value of 79.2% was recorded over Axim.

Average RH Anomaly is also presented in *Figure 9b* below. A below normal RH is observed across the entire country.

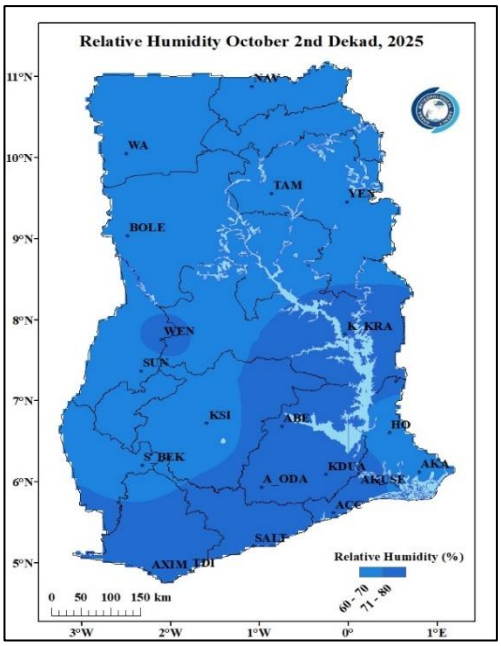


Figure 9a: Average Relative Humidity October 2nd Dekad, 2025

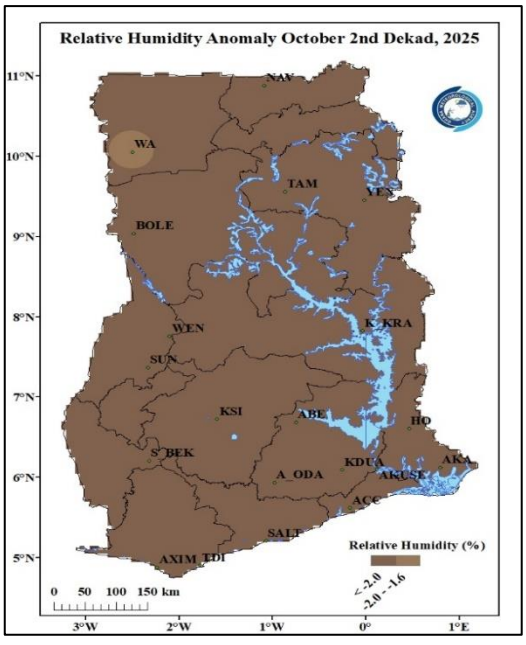
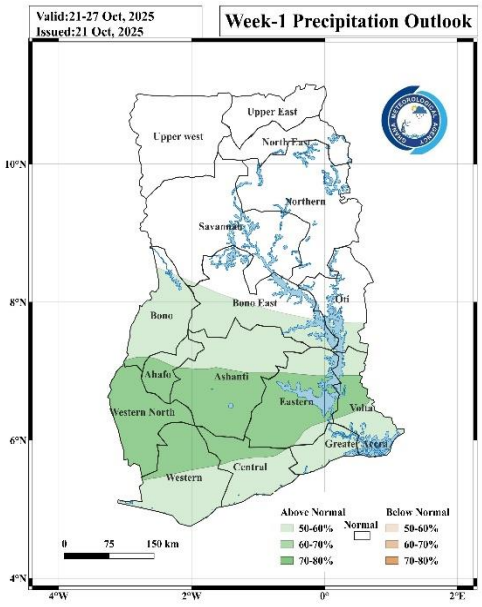


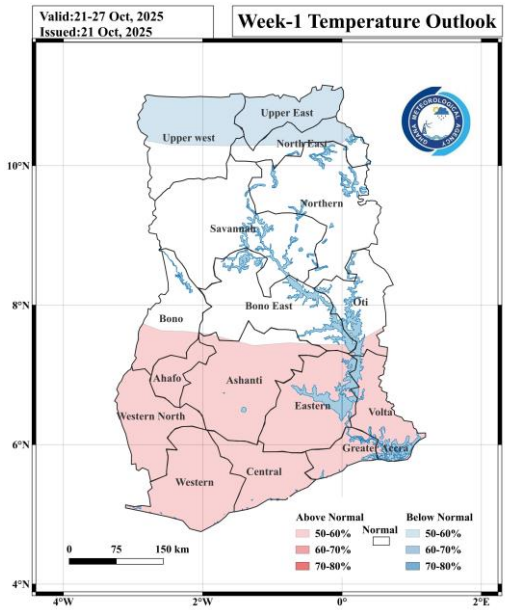
Figure 9b: Average Relative Humidity Anomaly October 2nd Dekad, 2025

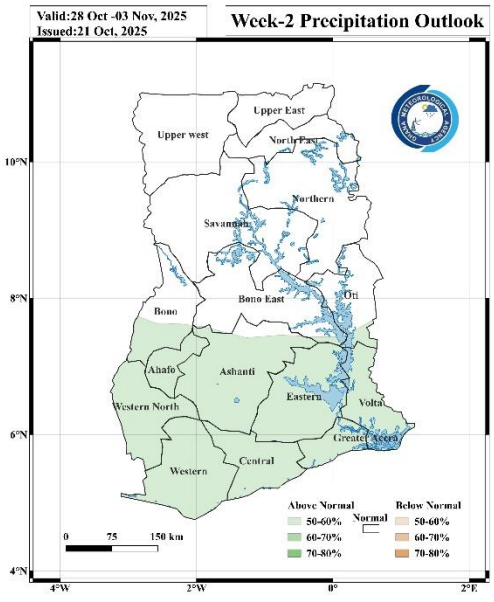
3.0 RAINFALL AND TEMPERATURE OUTLOOK 21ST- 3RD NOVEMBER 2025

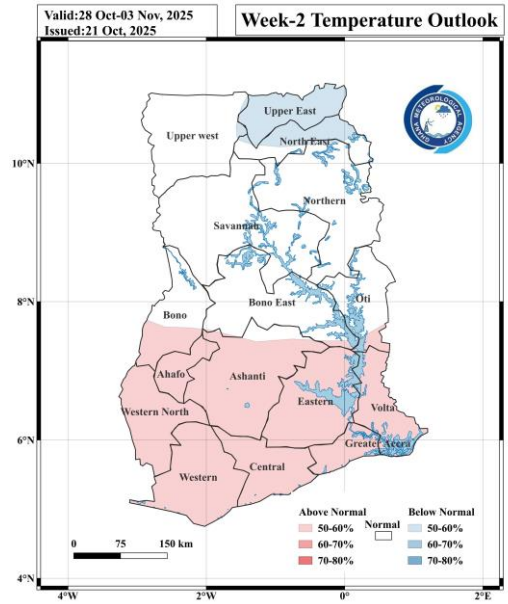
During Week 1, rainfall over the southern sector is expected to be above normal, while the rest of the country is projected to experience normal rainfall conditions. Temperatures are forecast to be above normal across most parts of the south, with a few northern portions likely to record below normal temperatures.

In Week 2, no significant changes are anticipated in the prevailing conditions. Rainfall over the southern zone is expected to remain above normal, with the middle and northern areas expected to continue to observe normal rainfall. Temperature patterns are likewise projected to remain consistent, with above normal temperatures persisting across the south and below normal temperatures likely over the northeastern portions.









4.0 ADVISORIES

1. Agriculture

- Farmers in southern areas should take advantage of the expected above-normal rainfall for planting, transplanting, and soil moisture replenishment.

2. Flood and Drainage Management

- Communities in southern areas should clear drainage channels and avoid dumping wastes at inappropriate places to reduce localized flooding risks due to above-normal rainfall.
- Residents in flood-prone areas should stay alert to weather updates from the Ghana Meteorological Agency.

3. Transportation

- Motorists should drive with caution during rainfall, as visibility may be significantly reduced. Drivers are also strongly advised to avoid attempting to drive through floodwaters.

4. Health

- Increased rainfall can promote mosquito breeding; communities are encouraged to clear stagnant water and use protective measures such as insecticide-treated nets.
- Cooler, below-normal temperatures may lead to respiratory infections; warm clothing is advised, especially for children and the elderly.
- During extreme heat, stay hydrated, avoid outdoor activity at peak hours and dress in light clothing.
- During extreme cold, dress in protective clothing and limit exposure to the cold.

5. Water Resource Management

- Water managers should store and regulate water efficiently in the southern belt to take advantage of increased runoff.

6. Energy / Power Sector

- Hydropower generation may benefit from increased inflows in the southern areas; monitoring of water levels is advised.

5.0 APPENDIX

5.1 TABLE OF STATIONS

TABLE OF STATIONS

Station	Abbreviation	Station	Abbreviation
Abetifi	ABE	Kete Krachi	K_KRA
Accra	ACC	Kade	KADE
Ada	ADA	Koforidua	KDUA
Akatsi	AKA	Kintampo	KINT
Akim Oda	A_ODA	Ho	HO
Akuse	AKU	Kpando	KPAN
Asamankese	ASAM	Kumasi	KSI
Atebubu	ATE	Mim	MIM
Axim	AXIM	Navrongo	NAV
Babile	BAB	Prang	PRANG
Bechem	BECH	Sefwi Bekwai	S_BEK
Bimbila	BIM	Salaga	SALA
Bole	BOLE	Saltpond	SALT
Bolga	BOLGA	Sunyani	SUNY
Bongo	BON	Pong Tamale	P_TAM
Bui	BUI	Tamale	TAM
Cape Coast	C_COAST	Takoradi	TDI
Damongo	DAM	Vea	VEA
Dompase	DOM	Asankragua	ASAN
Dormaa Ahenkro	D_AHEN	Tema	TEMA
Dunkwa Offin	DUNK	Wa	WA
Ejura	EJURA	Walewale	WALE
Elubo	ELUBO	Obuasi	OBU
Enchi	ENCH	Wenchi	WEN
Garu	GARU	Yendi	YEN
Goa	GOA	Zuarungu	ZUA
Half Assini	H_ASS	Assin Fosu	A_FOSU
Hunney Valley	H_VAL	Winneba	WIN
Konongo	KON	Bosomtwe	BOSOM
Mankranso	MANK	Techiman	TECH
Oti	OTI	Kajaji	KAJ

For further inquiries, clarification, information or assistance Contact:

The Director General

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