OCTOBER 2025

CLIMATE BULLETIN

DEKAD 3, OCTOBER (21-30)

GMET/CLIMATE/031025 FORM337

10/3/2025

TABLE OF CONTENT

LIST OF FIGURES

SUMMARY

- **Rainfall:**
  - Most areas in the country received rainfall below 50mm.
  - Mim received the highest rainfall of 223.9 mm.
  - Half Assini recorded the highest rainy days of 9 days.
- **Rainfall Anomalies:**
  - Deficit rainfall was recorded in most locations.
- **Relative Humidity:**
  - Maximum value of 80% was recorded over Saltpond
  - Minimum value of 45.1% was recorded over Navrongo.
- **Temperatures:**
  - **Maximum:**
    - Above normal temperatures experienced in most parts of the country.
    - The maximum of the Maximum temperature of 37.3°C was recorded in Bongo.
    - The minimum of the maximum temperature of 28.7°C was recorded in Abetifi.
    - Relatively cooler temperatures along the coast and places in the forest areas.
  - **Minimum:**
    - Above normal temperatures recorded across most parts of the country.
    - Warmer temperatures in parts of the northern and coastal sectors.
    - The maximum of the Minimum temperature was recorded in Ada, reaching 27.0°C.
    - The minimum of the Minimum temperature was recorded in Abetifi, reaching 21.2°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

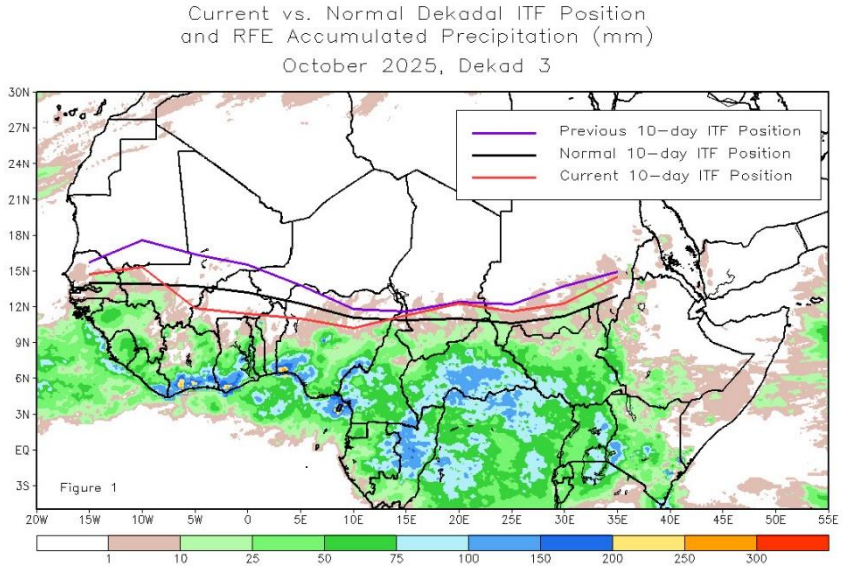


Figure 1: Current ITF position for October 3rd Dekad, 2025

Figure 1 describes the position of the ITF during the 3rd dekad of October and its previous position during the 2nd dekad of October. The current Inter-Tropical Front (ITF) moved down as compared to its previous location which occurred between October 11 and 20. Specifically, the current ITF is located at approximately 11.4N north of the country, which is south of its previous position at approximately 15.5N. 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
October 3	11.9	11.4	11.0

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.

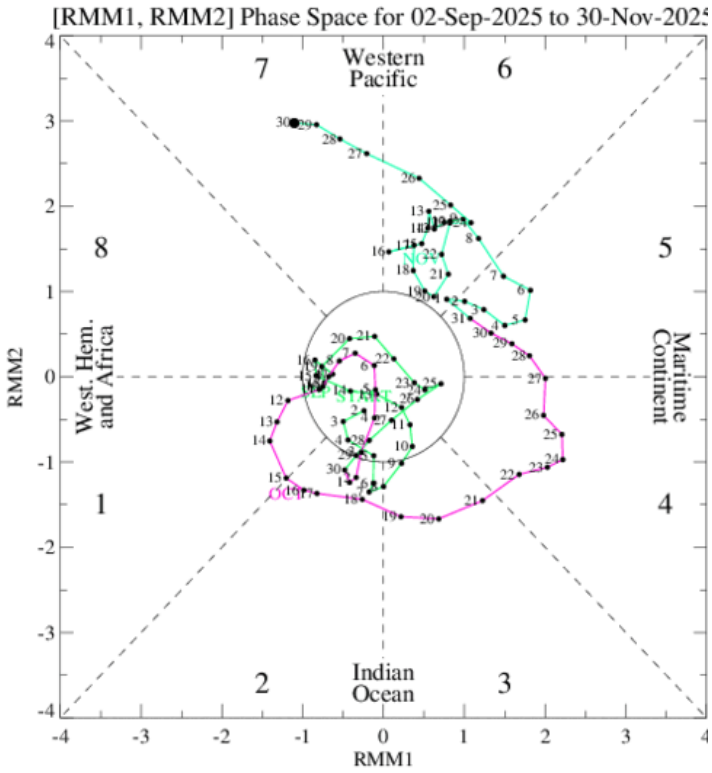


Figure 2: Current MJO position as at October 3rd Dekad, 2025

The phase-space plot in Figure 2 shows the Madden Julian Oscillation (MJO) positioned mainly in Phases 4 and 5, which align with the Maritime Continent region. Its shift away from the centre of the diagram reflects a moderate to strong amplitude, indicating that the MJO was active during this period.

In this phase, however, the MJO typically does not provide substantial support for enhanced convection over West Africa. As a result, its location may have played a role in the short-term reduction of rainfall over Ghana, since MJO activity over the Maritime Continent generally exerts limited influence on weather patterns across West Africa.

2.0 RAINFALL, TEMPERATURE AND RELATIVE DISTRIBUTION

2.1 RAINFALL

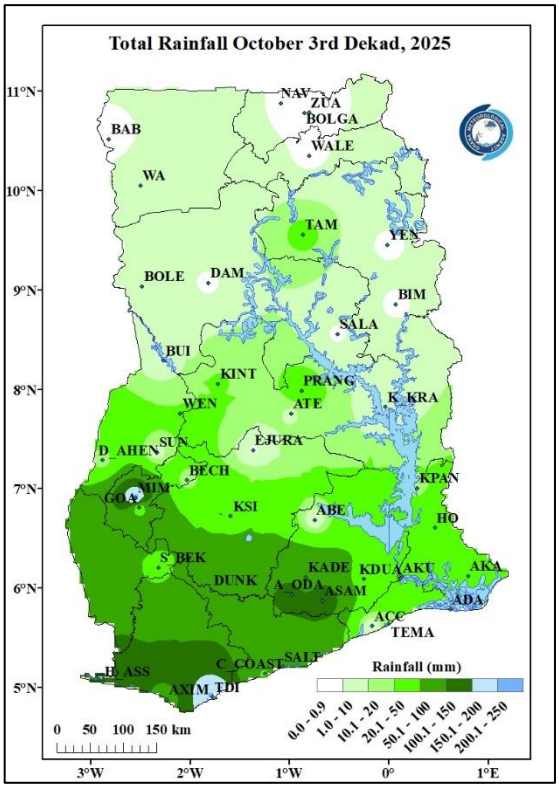


Figure 3a: Total Rainfall October 3rd Dekad, 2025

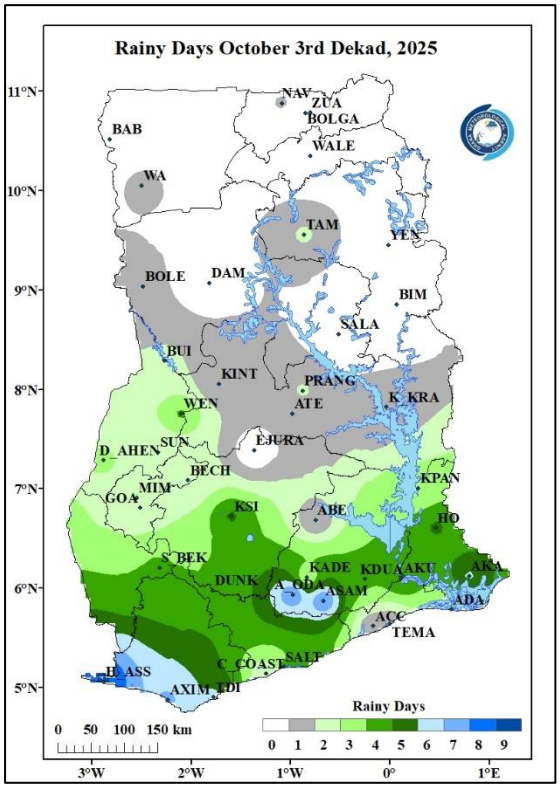


Figure 3 b: Rainy Days October 3rd Dekad, 2025

Figure 3a illustrates the spatial distribution of rainfall across Ghana during the third ten-day period (dekad) of October. Mim recorded the highest total rainfall, reaching 223.9 mm. In contrast, several stations measured less than 50 mm of rainfall, including Wa, Bole, Tamale, Sunyani, Goaso, Kumasi, Kete Krachi, Ho, and Ada. Meanwhile, stations such as Babile, Zuarungu, Bolgatanga, Walewale, Yendi, Damongo, Salaga, Bimbila, and Ejura recorded no rainfall during the period.

Figure 3b shows the frequency of rainy days within the same period. Most stations, especially those at the southern portions, recorded between four (4) and nine (9) rainy days. Half Assini recorded the highest rainy days of 9 during the period.

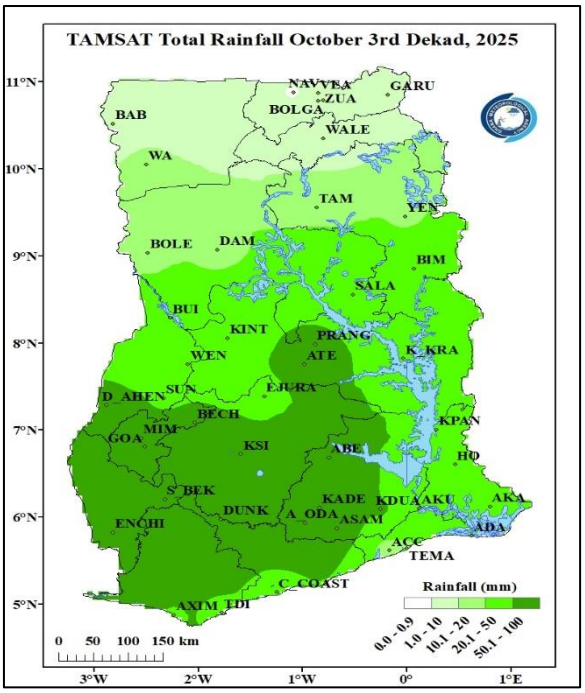


Figure 4: TAMSAT Total Rainfall October 3rd Dekad, 2025

Figure 4 shows the total rainfall for the period, derived from TAMSAT rainfall estimates. The satellite-based dataset provides useful insight into the spatial distribution of rainfall across the country. The image indicates that TAMSAT was consistent with the ground-based observations. Most stations in the southwestern part of the country recorded totals exceeding 50 mm, while stations in the northern and southeastern areas generally measured less than 50 mm.

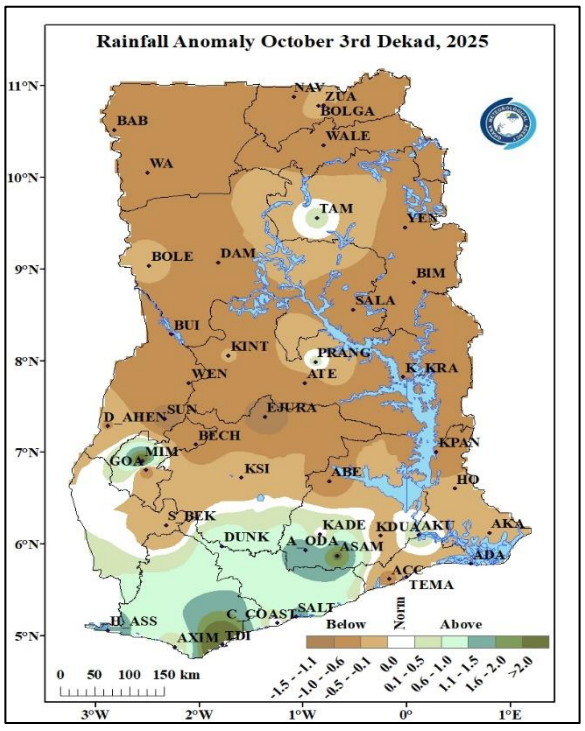


Figure 5: Rainfall Anomaly for October 3rd Dekad, 2025

Figure 5 highlights the areas of the country that experienced departures from normal rainfall during the period. Most stations, stretching from the northern sector down to the southeastern parts of the country, recorded below-normal (deficit) rainfall. In contrast, a few locations in the north and several stations in the south recorded above-normal rainfall. These include Tamale, Prang, Mim, Dunkwa, Kade, Akim Oda, Asamankese, Akuse, Half Assini, Axim, Takoradi, Cape Coast, and Saltpond. The remaining stations across the country generally experienced rainfall deficits, while Kade recorded normal rainfall conditions for the period.

2.2 TEMPERATURE

Maximum Temperature

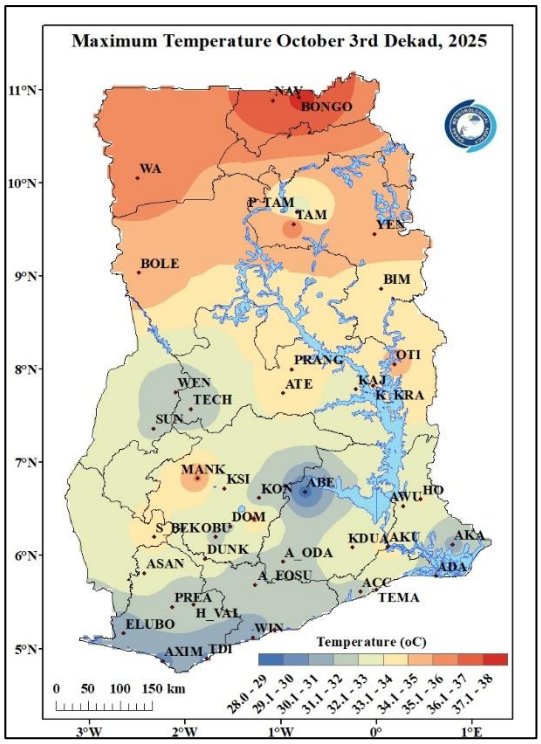


Figure 6a: Maximum Temperature October 3rd Dekad, 2025

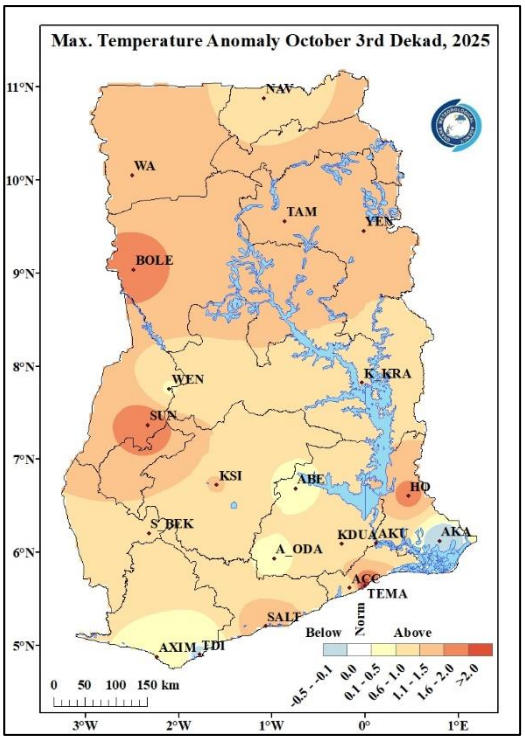


Figure 6b: Maximum Temperature Anomaly October 3rd Dekad, 2025

Figure 6a illustrates the nationwide distribution of average maximum temperatures. During the reporting period, the northern sector experienced the highest temperatures, ranging from 34.1°C to 38.0°C. Bongo recorded the peak value of 37.3°C, while Abetifi recorded the lowest at 28.7°C. In the middle belt, temperatures generally fell between 30.0°C and 35.0°C in locations such as Wenchi, Atebubu, and Kete Krachi. The southern sector, including areas like Abetifi, Accra, Winneba, Takoradi, Elubo, Akim Oda, and Half-Assini, experienced comparatively cooler conditions, with temperatures ranging from 28.0°C to 32.0°C.

Figure 6b shows the distribution of maximum temperature anomalies. During this dekad, Takoradi and its surrounding areas experienced below-normal temperatures, while the rest of the country, including Wa, Tamale, Wenchi, Kete Krachi, Axim, and Accra, experienced above-normal temperatures.

Minimum Temperature

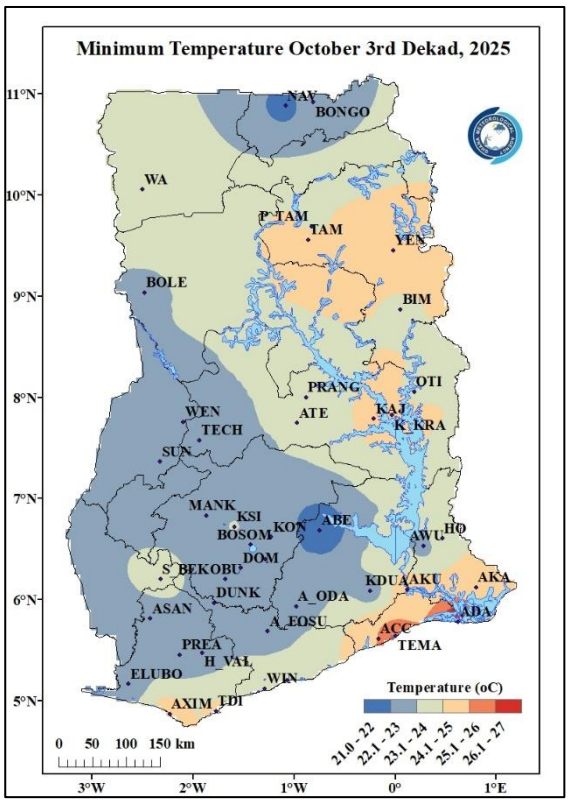


Figure 7a: Minimum Temperature October 3rd Dekad, 2025

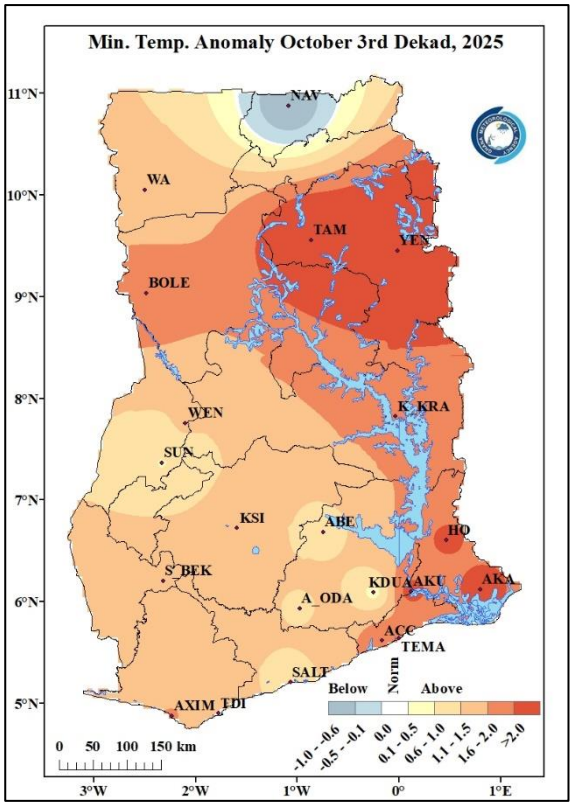


Figure 7b: Minimum Temperature Anomaly October 3rd Dekad, 2025

In *Figure 7a*, the average minimum temperatures varied across different sectors. Places in and around Pong Tamale, Tamale, Yendi, Kajaji, Kete Krachi, Axim, Takoradi, Accra, Tema, Akuse, Ada and Akatsi experienced relatively warmer conditions with temperatures ranging from 24.1°C to 27.0°C. The highest nighttime temperature recorded in the country for the period was at Ada with a temperature of 27.0°C. On the other hand, areas such as Navrongo, Bole, Sunyani, Atebubu, Asankragua, Prestea, Assin Fosu, and Abetifi, among others recorded relatively cooler nighttime temperatures ranging between 21.0°C and 24.0°C. The least nighttime temperature during the period was recorded at Abetifi with a temperature of 21.2°C.

Figure 7b, shows the Minimum Temperature Anomaly for this period. Most parts of the country experienced above normal temperatures indicating increased night-time temperatures. Navrongo and its environs, however, experienced below-normal temperatures.

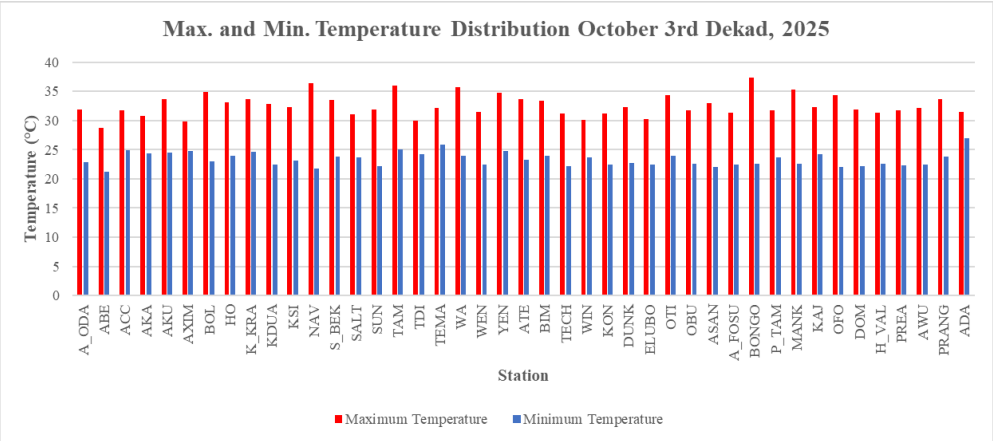


Figure 8: Max. and Min. Temperature Distribution for October 3rd Dekad, 2025

2.3 RELATIVE HUMIDITY

Figure 9a presents the observed Relative Humidity (RH) over the ten-day period. The forest and coastal zones recorded RH values between 61% and 80%, while the transition and northern areas experienced lower values ranging from 40% to 60%. The lowest RH, 45.1%, was observed at Navrongo, whereas the highest value of 80% occurred at Saltpond.

Figure 9b presents the average Relative Humidity (RH) anomaly. During this period, below-normal RH conditions were observed across the entire country.

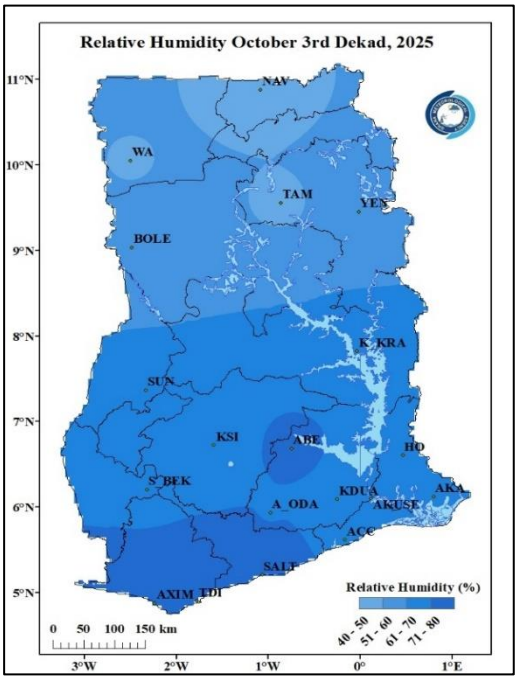


Figure 9a: Average Relative Humidity October 3rd Dekad, 2025

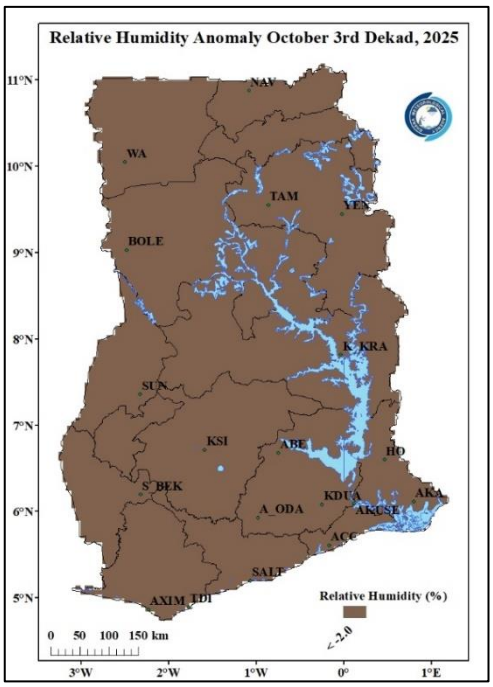
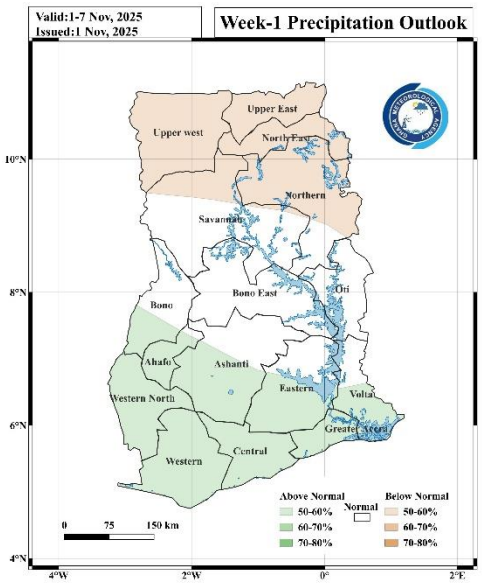
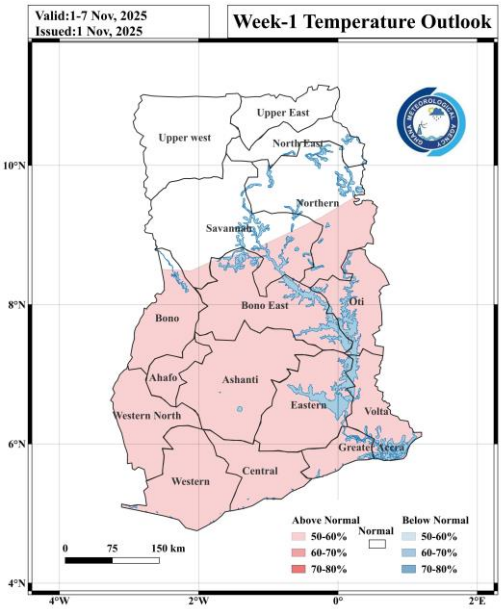


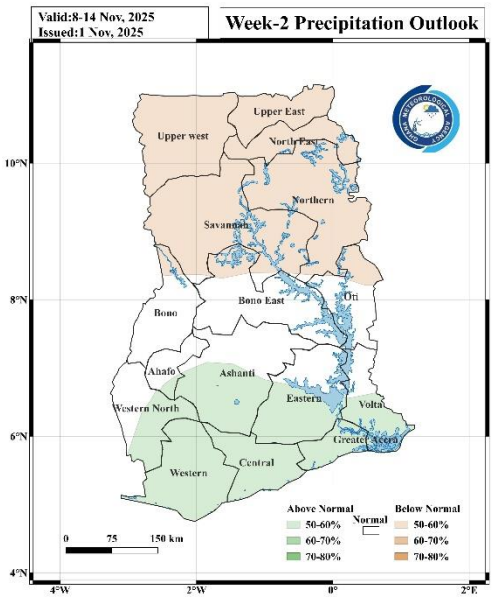
Figure 9b: Average Relative Humidity Anomaly October 3rd Dekad, 2025

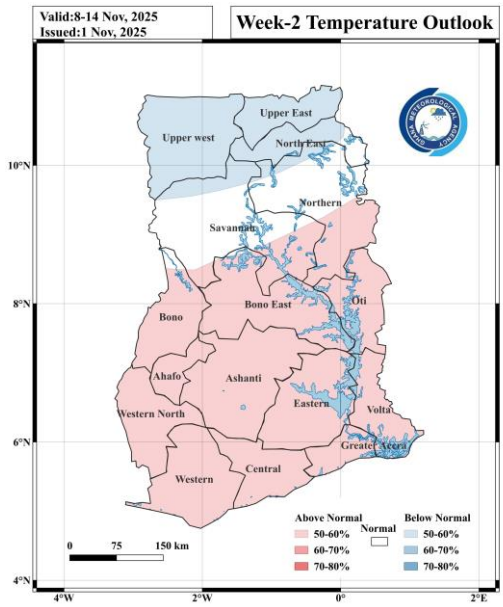
3.0 RAINFALL AND TEMPERATURE OUTLOOK 1ST- 14TH NOVEMBER 2025

During Week 1, above-normal rainfall is expected at the southern parts of the country, while the northern portions are anticipated to experience below-normal rainfall. Temperature conditions are generally expected to be above normal at the southern and middle zones. In Week 2, rainfall is projected to be above- normal at the southern zone, with the northern portions likely to receive below-normal rainfall. Temperatures during this week are also expected to remain predominantly above normal over the south with below normal temperatures expected at the northern portions.









4.0 ADVISORIES

1. Agriculture

- Farmers in southern and middle zones should take advantage of the expected above-normal rainfall for planting, transplanting, and soil moisture replenishment.
- Farmers in the north, where below-normal rainfall is expected, should consider water-conserving practices such as mulching and avoid excessive reliance on rainfall for newly planted crops.
- Irrigation scheduling may be needed in areas expecting reduced rainfall to prevent crop stress.

2. Flood and Drainage Management

- Communities in southern and middle belts 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 reduced. Drivers are also advised to avoid driving 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.

5. Water Resource Management

- Water managers should store and regulate water efficiently in the southern and middle belts to take advantage of increased runoff.
- In the north, prudent water use is recommended due to expected below-normal rainfall.

6. Energy / Power Sector

- Hydropower generation may benefit from increased inflows in the south and middle zones; 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

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