OCTOBER 2025

CLIMATE BULLETIN

DEKAD 1, OCTOBER (01-10)

GMET/CLIMATE/011025 FORM337

10/1/2025

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SUMMARY

- **Rainfall:**
  - Most areas in the country received rainfall above 50mm.
  - Abetifi received the highest rainfall of 183.5 mm.
  - Axim recorded the highest rainy days of 8 days.
- **Rainfall Anomalies:**
  - Surplus rainfall was recorded in most locations.
- **Relative Humidity:**
  - Maximum value of 82.1% was recorded over Axim
  - Minimum value of 63% was recorded over Wa.
- **Temperatures:**
  - **Maximum:**
    - Above normal temperatures experienced in most parts of the country.
    - The maximum of the Maximum temperature of 33.3°C was recorded in Tamale.
    - The minimum of the maximum temperature of 27.2°C was recorded in Abetifi.
    - Relatively cooler temperatures along the coast and places in the forest areas.
  - **Minimum:**
    - Above 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 25.6°C
    - The minimum of the Minimum temperature was recorded in Abetifi, reaching 20.2°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. Table 1 below 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

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.

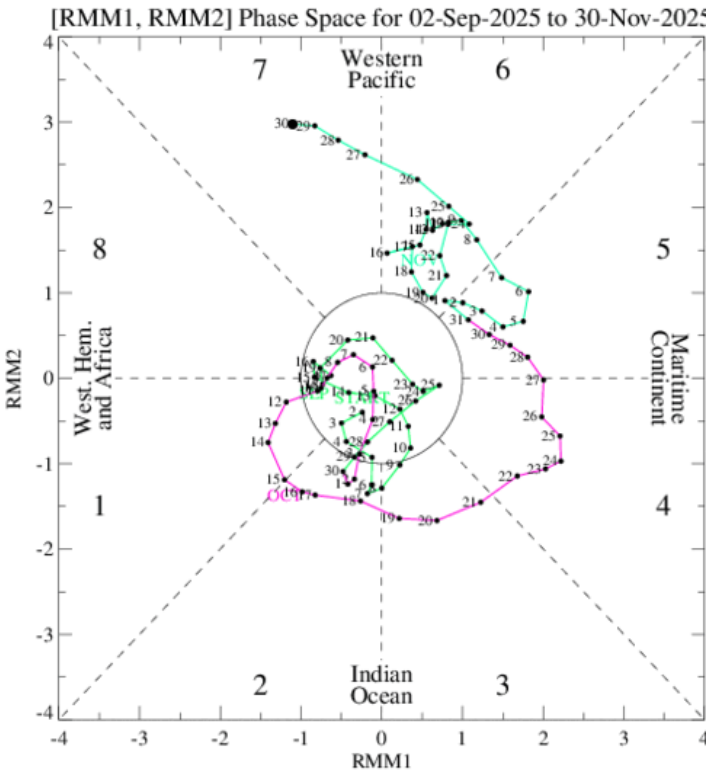


Figure 1: Current MJO position as at October 1st Dekad, 2025

As depicted in *Figure 1*, the Madden-Julian Oscillation (MJO) was observed between Phases 2 and 8, corresponding to the Indian Ocean and West Hemisphere and Africa 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 amplitude, the MJO was not expected to substantially enhance convective activity over West Africa. This likely contributed to the short-term suppression of rainfall over Ghana, as a weak MJO typically exerts limited influence on the region's weather patterns.

2.0 RAINFALL, TEMPERATURE AND RELATIVE DISTRIBUTION

2.1 RAINFALL

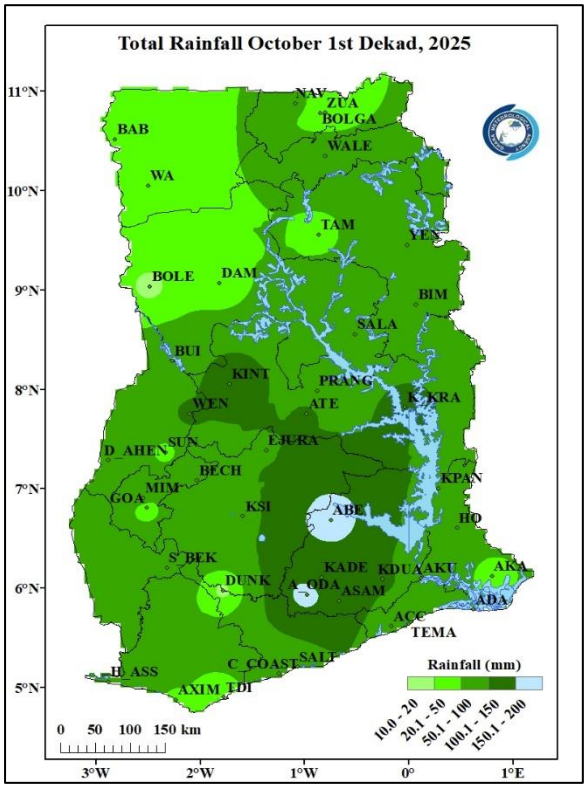


Figure 2a: Total Rainfall October 1st Dekad, 2025

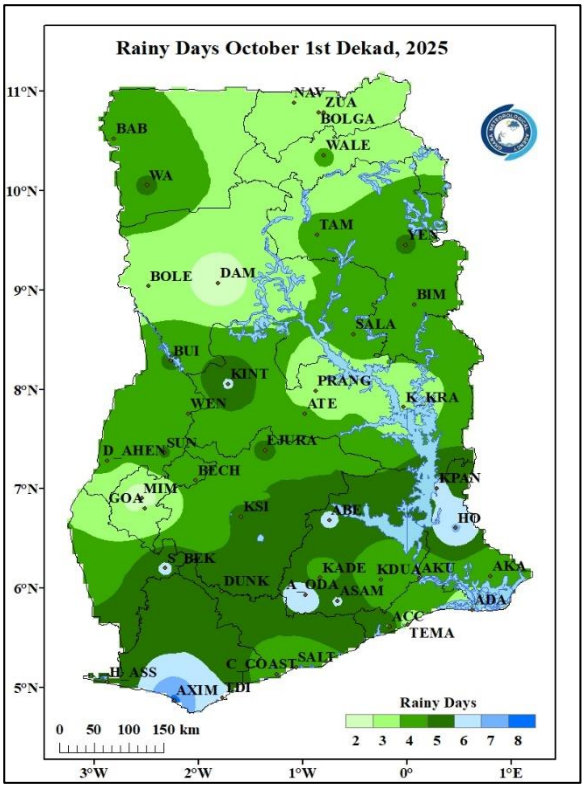


Figure 2b: Rainy Days October 1st Dekad, 2025

Figure 2a illustrates the spatial distribution of rainfall across Ghana during the first ten-day period (dekad) of October. Within this period, Abetifi recorded the highest cumulative rainfall amount of 183.5 mm. In contrast, several stations recorded rainfall totals of less than 50 mm, including Babile, Wa, Zuarungu, Bolgatanga, Bole, Damongo, Tamale, Sunyani, Goaso, Dunkwa, Axim, Takoradi, and Akatsi. The lowest rainfall amount of 14.6 mm, was observed at Bole during the dekad. Figure 2b presents the frequency of rainy days during the same period. Most stations across Ghana, from the northern to the coastal areas, recorded between four (4) and eight (8) rainy days. Axim experienced the highest frequency with eight (8) rainy days, whereas Mim and Damongo recorded the lowest, with two (2) rainy days during the dekad.

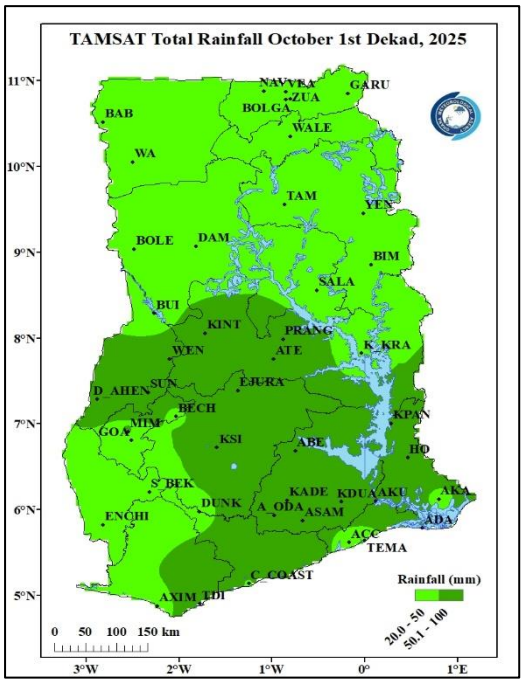


Figure 3: TAMSAT Total Rainfall October 1st Dekad, 2025

Figure 3 shows the total rainfall for the period, derived from TAMSAT satellite rainfall estimates. The satellite-based data provides a useful overview of rainfall distribution across the country. However, the image indicates that TAMSAT estimates did not fully align with ground-based observations. Most stations in the country recorded rainfall totals between 20 and 50 mm, while some stations in the forest and coastal portions recorded amounts between 50 and 100 mm.

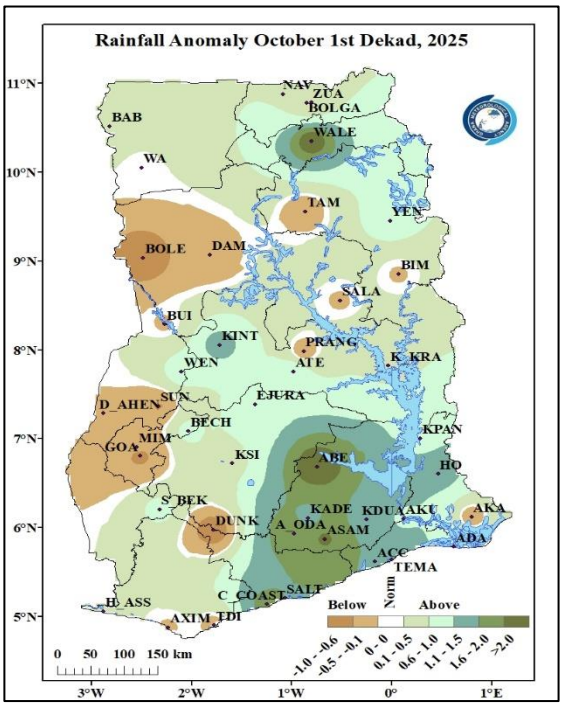


Figure 4: Rainfall Anomaly for October 1st Dekad, 2025

Figure 4 illustrates the areas across the country that experienced deviations from normal rainfall during the period. Most stations, spanning from the northern to the southern areas, recorded above-normal rainfall, including Babile, Walewale, Kintampo, Kumasi, Kpando, Abetifi, Cape Coast, and Accra. On the other hand, stations such as Bole, Tamale, Bimbila, Salaga, Prang, Goaso, Dunkwa, Axim, Takoradi, and Akatsi experienced below-normal rainfall. Wa, however, recorded normal rainfall conditions during the period.

2.2 TEMPERATURE

Maximum Temperature

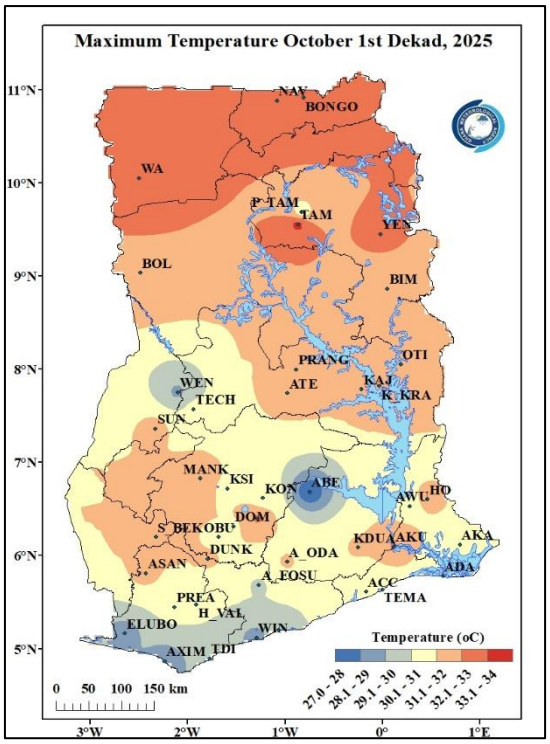


Figure 5a: Maximum Temperature October 1st Dekad, 2025

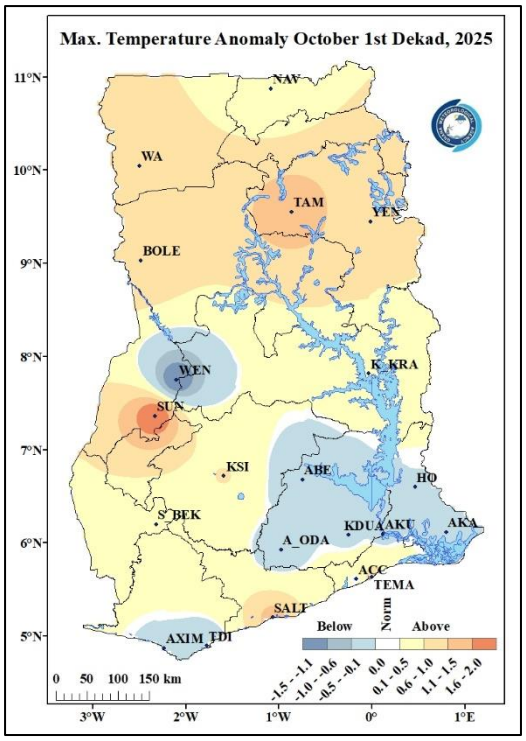


Figure 5b: Maximum Temperature Anomaly October 1st Dekad, 2025

Figure 5a illustrates the spatial distribution of average maximum temperatures across the country. During the reporting period, the highest temperatures were observed over the northern portions, with values ranging from 31.1°C to 34.0°C. The maximum temperature of 33.3°C was recorded at Tamale, while the lowest value of 27.2°C was observed at Abetifi. Relatively cooler conditions prevailed over the forest and coastal zones, where average maximum temperatures ranged between 27.0°C and 32.0°C, as recorded at stations such as Abetifi, Kumasi, Accra, Winneba, Takoradi, Elubo, and Half-Assini.

Figure 5b depicts the maximum temperature anomalies during the dekad. Areas in and around Wenchi, Abetifi, Akim Oda, Koforidua, Akuse, Ho, Akatsi, Axim, and Takoradi recorded below-normal temperatures, while the remaining parts of the country experienced above-normal temperature conditions.

Minimum Temperature

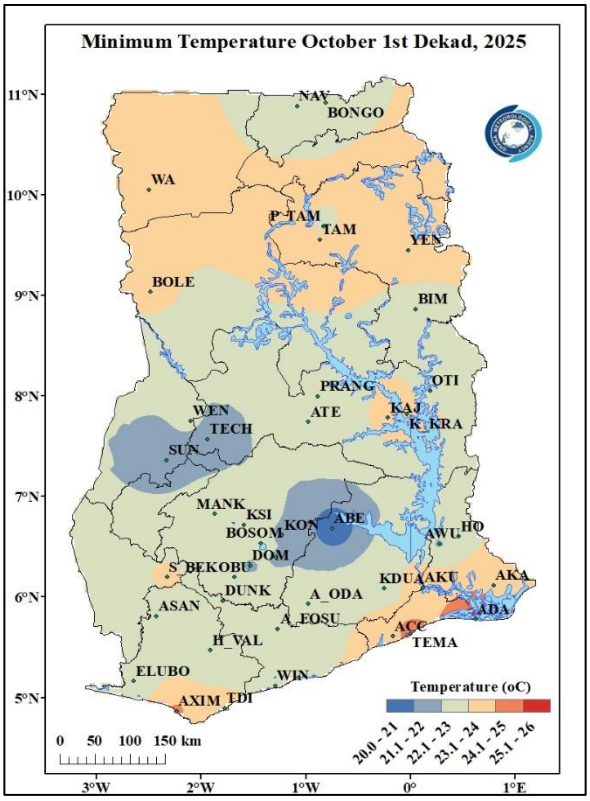


Figure 6a: Minimum Temperature October 1st Dekad, 2025

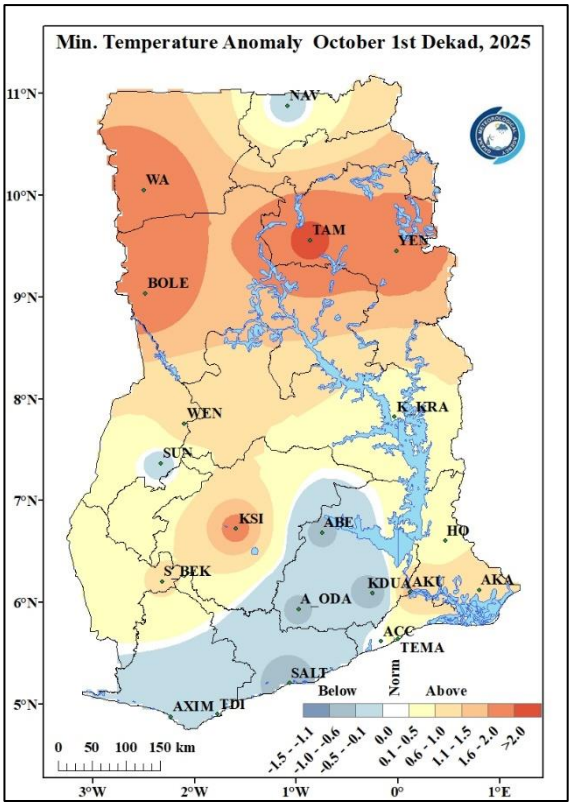


Figure 6b: Minimum Temperature Anomaly October 1st Dekad, 2025

In *Figure 6a*, the average minimum temperatures varied across different sectors. Relatively warmer nighttime conditions were observed in and around Wa, Bole, Tamale, Yendi, Kete Krachi, Kajaji, Sefwi Bekwai, Axim, Takoradi, Akuse, Accra, Tema, Ada, and Akatsi, with temperatures ranging from 23.1°C to 26.0°C. The highest minimum temperature during the period was recorded at Ada, with a value of 25.6°C. On the other hand, relatively cooler nighttime temperatures were recorded in areas such as Navrongo, Pong Tamale, Sunyani, Atebubu, Assin Fosu, and Abetifi, among others, where values ranged between 20.0°C and 23.0°C. The lowest minimum temperature for the period was observed at Abetifi with a value of 20.2°C.

Figure 6b, shows the Minimum Temperature Anomaly for this period. Most parts of the country experienced above normal temperatures indicating increased night-time temperatures. However, places in and around Navrongo, Sunyani, Abetifi, Akim Oda, Koforidua, Saltpond, Takoradi and Axim experienced below-normal temperatures. Normal temperature conditions were recorded in Accra.

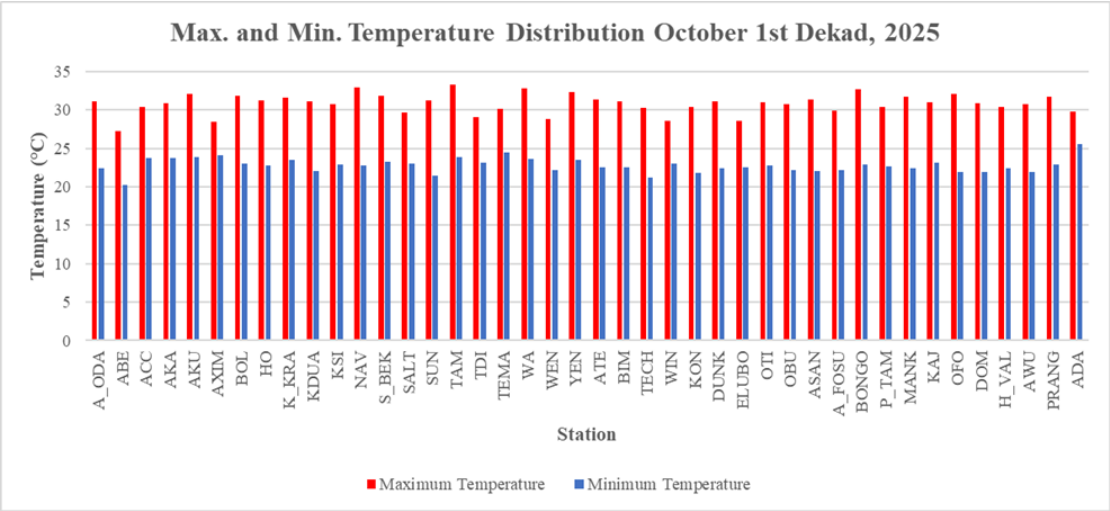


Figure 7: Max. and Min. Temperature Distribution for October 1st Dekad, 2025

2.3 RELATIVE HUMIDITY

Observed Relative Humidity (RH) over the ten (10) day period is presented in *figure 8a* below. The forest and coastal areas experienced RH of 70 to 90%. On the other hand, the transition and northern areas experienced RH values ranging from 60 to 80 %. Wa recorded the lowest RH value of 63% during the period whereas Axim recorded the highest value of 82.1%.

Average RH Anomaly is also presented in *Figure 8b* below. A below normal RH is observed across the entire country.

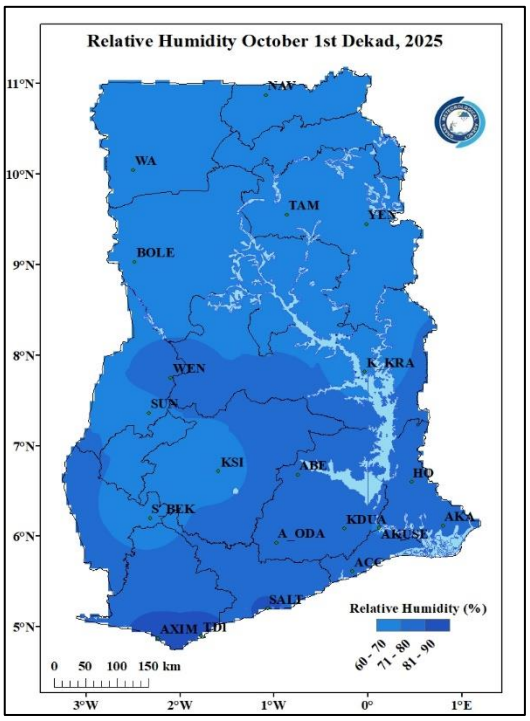


Figure 8a: Average Relative Humidity October 1st Dekad, 2025

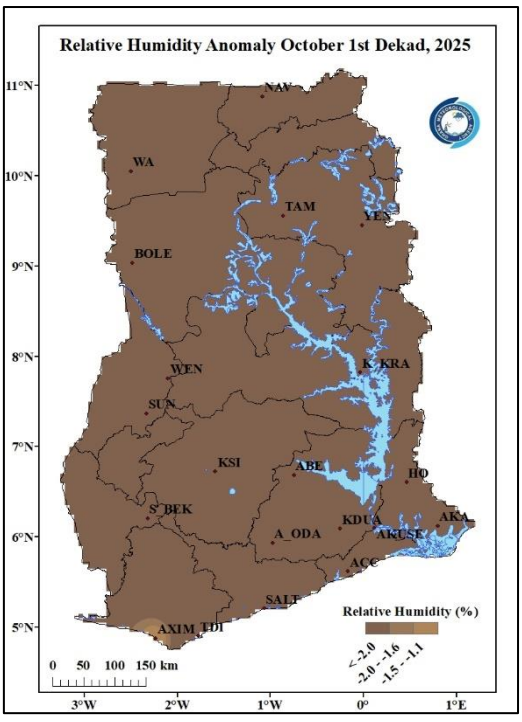
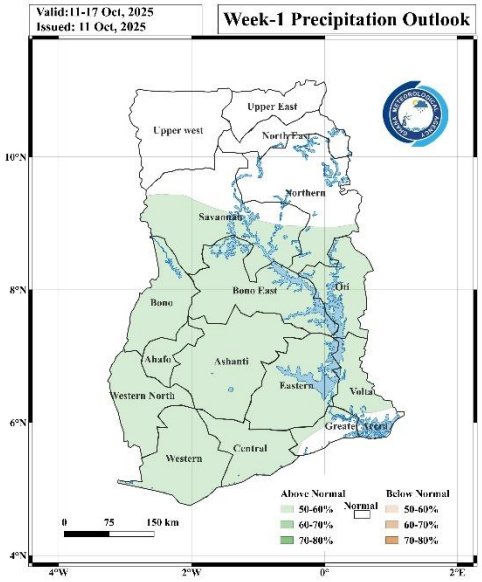
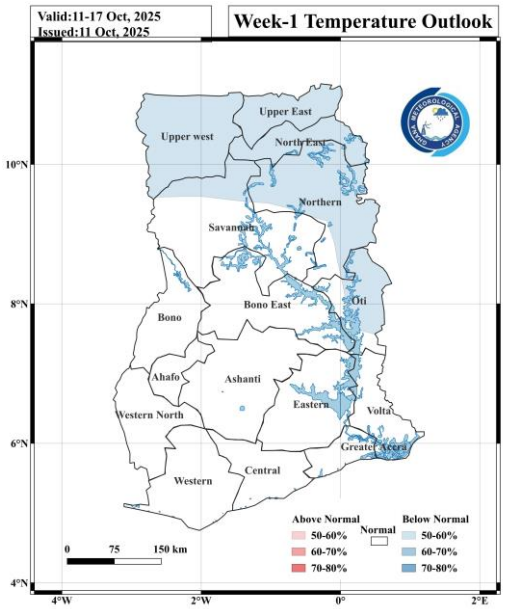


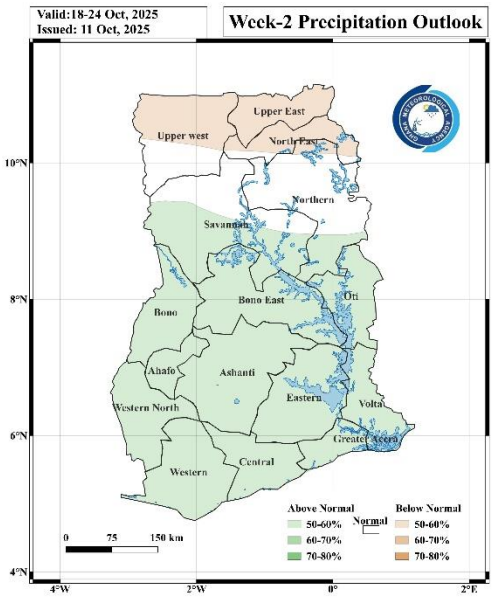
Figure 8b: Average Relative Humidity Anomaly October 1st Dekad, 2025

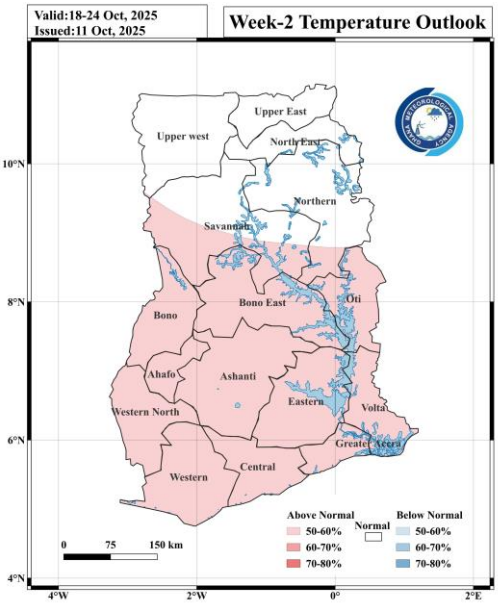
3.0 RAINFALL AND TEMPERATURE OUTLOOK 11TH- 24TH OCTOBER 2025

During Week 1, above-normal rainfall is expected across most parts of the country, while normal rainfall conditions are expected at the northern portions. Temperature conditions are generally expected to be below normal at the northern portions whereas normal temperatures are expected at the remaining parts of the country. In Week 2, rainfall is projected to be above- normal across the southern and middle zones, with parts of the north likely to receive below-normal rainfall. Temperatures during this week (week 2) are expected to be above normal over areas in the southern and middle areas of the country.









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 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.

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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