SEPTEMBER 2025

CLIMATE BULLETIN

DEKAD 1, SEPT (01-10)

GMET/CLIMATE/010925 FORM337

9/1/2025

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SUMMARY

- **Rainfall:**
  - Some areas in the north received rainfall above 50mm.
  - Wa received the highest rainfall of 96.8 mm.
  - Navrongo recorded the highest rainy days of 7 days
- **Rainfall Anomalies:**
  - Deficit rainfall in most areas.
- **Relative Humidity:**
  - Maximum value of 85% was recorded over Saltpond
  - Minimum value of 61% was recorded over Akuse.
- **Temperatures:**
  - **Maximum:**
    - Above normal temperatures experienced in most of the stations.
    - The maximum of the Maximum temperature of 32.2°C was recorded in Akuse
    - Relatively cooler temperatures along the southwestern coast.
  - **Minimum:**
    - Warmer temperatures in the Northern and East Coastal sector
    - Relatively above normal temperatures across the country
    - The minimum of the Minimum temperature was recorded in Abetifi, reaching 19.8°C.

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1. 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

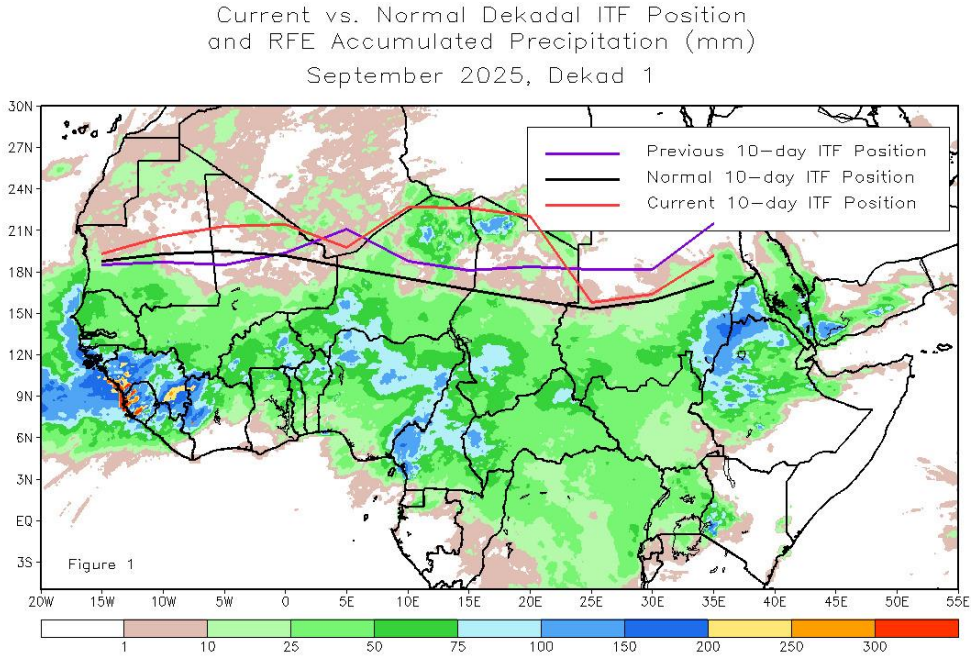

Figure 1 Current ITF position for September 1st Dekad, 2025

Figure 1 describes the position of the ITF during the 1st dekad of September and its previous position during the 3rd dekad of August. The current Inter-Tropical Front (ITF) moved up as compared to its previous location which occurred between August 21 and 31. Specifically, the current ITF is located at approximately 11.1N in the northern sector of the country which is north of its previous position at 11.5N. Similarly, *Table 1* below also shows the evolving ITF's position of Ghana, located between 5W and 5E.

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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

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.

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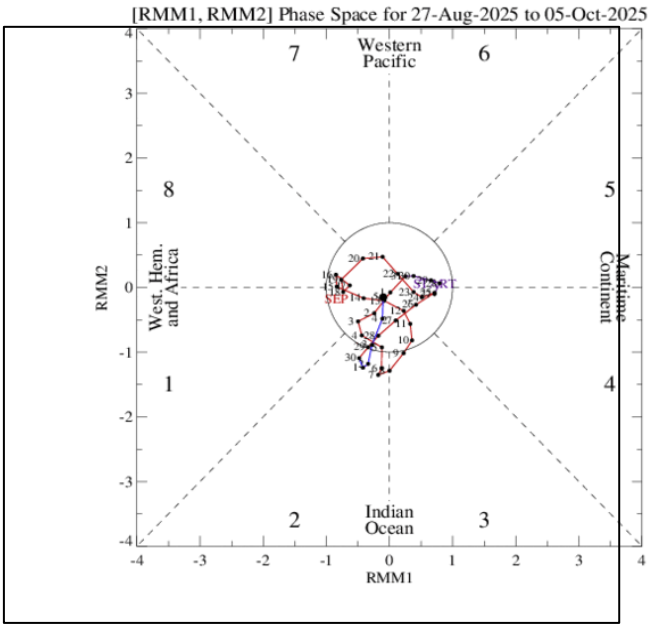

Figure 2 Current MJO position as of September 1st Dekad,

As depicted in Figure 2, the Madden-Julian Oscillation (MJO) was observed between Phases 5 and 6, corresponding to the Maritime Continent 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.

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2.0 RAINFALL, TEMPERATURE AND RELATIVE DISTRIBUTION

2.1 RAINFALL

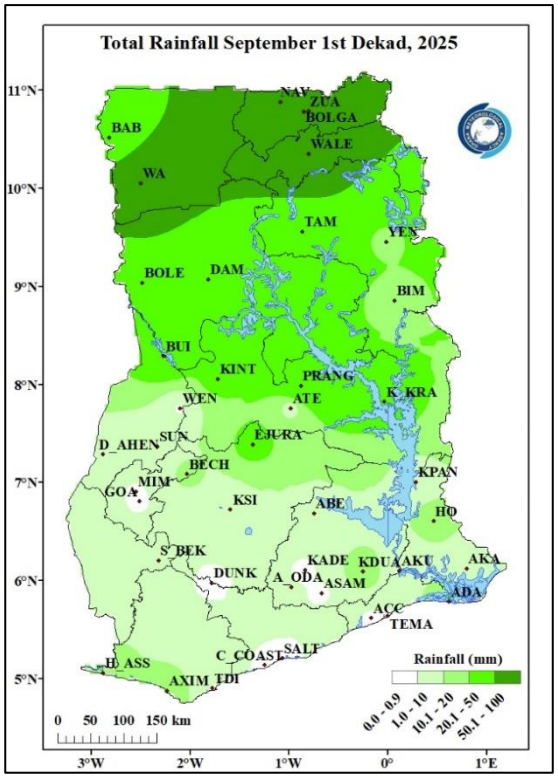

Figure 3a Total Rainfall September 1st Dekad, 2025

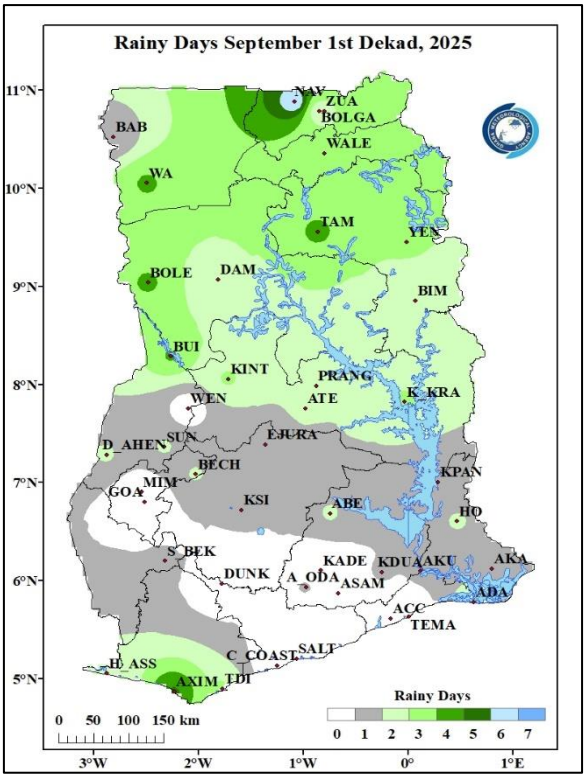

Figure 3b Total Rainy Days September 1st Dekad 2025

Figure 3a describes rainfall distribution across Ghana during the first ten-day period (dekad) of September. During this period, Wa recorded the highest total rainfall of 96.8 mm. On the other hand, several locations, particularly in the Southern parts of the country such as Accra, Tema, Saltpond, Cape Coast, Asamankese, Dunkwa, Goaso, Kade, Mim, and Wenchi experienced no rainfall.

Figure 3b illustrates the frequency of rainy days within the same period. Most stations across Ghana, spanning from the North to the coastal areas, recorded between one (1) and three (3) rainy days. Navrongo recorded the highest rainy days of seven (7) days in this dekad.

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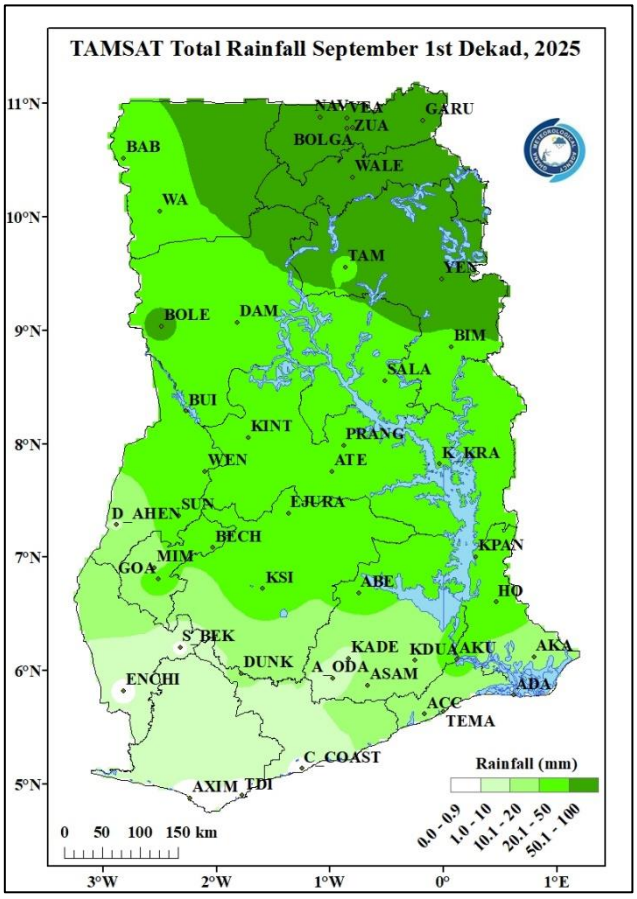

Figure 4 TAMSAT Total Rainfall September 1st Dekad, 2025

Figure 4 represents total rainfall for the duration, as calculated from the TAMSAT rainfall estimates**.** The satellite-based data is helpful in terms of nationwide rainfall distribution, but in this dekad, there were variations when compared with ground-based observations. It was overestimated in comparison to the observed ground data.

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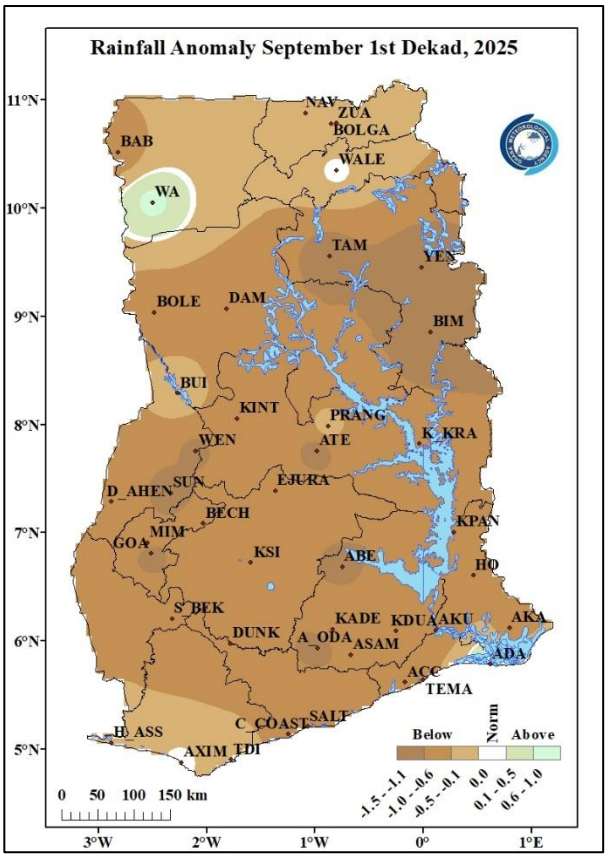

Figure 5 Rainfall Anomaly September 1st Dekad,2025

Figure 5 describes areas across the country that experienced deviations from normal rainfall during the period. Notably, most stations across the country from the Northern to the southwestern portions experienced deficit rainfall. On the other hand, Wa in the upper east region has surplus rainfall whereas rainfall in Walewale and Axim were normal.

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2.2 TEMPERATURE

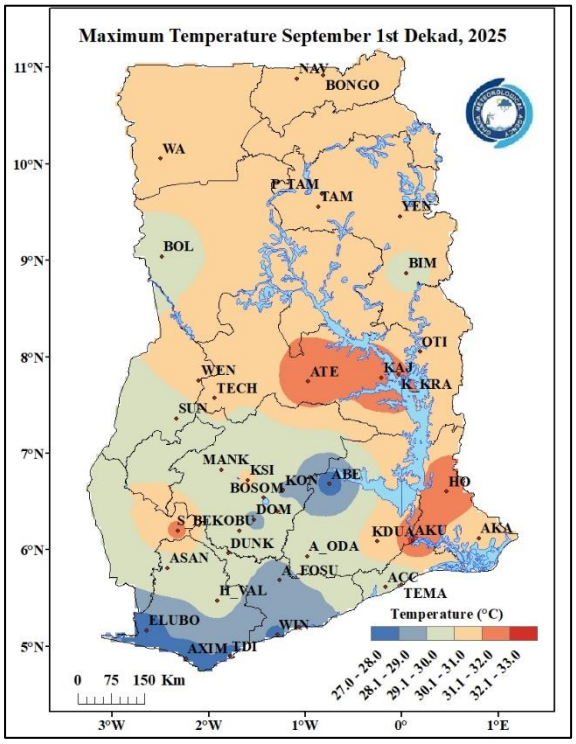

Figure 6a Maximum Temperature September 1st Dekad,2025

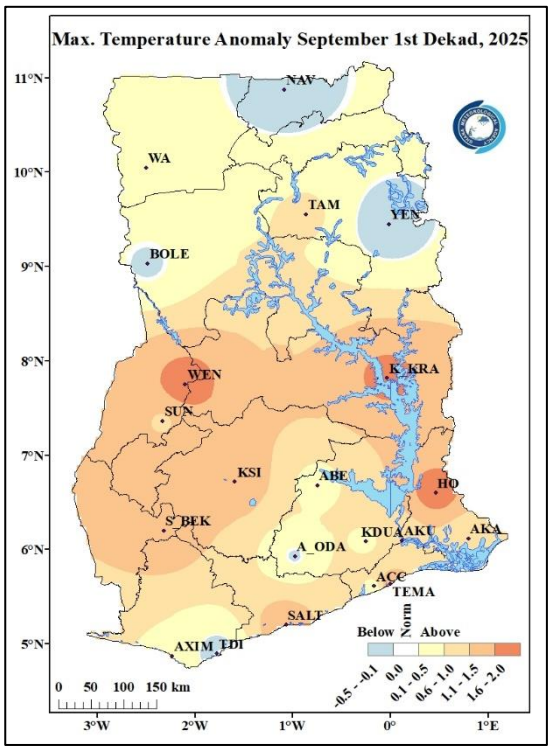

Figure 6b Maximum Temperature Anomaly September 1st Deakad,2025

Figure 6a displays the distribution of average Maximum temperatures nationwide. During the reporting period, the transition and portions of the forest areas recorded the highest temperatures, ranging from 31.0°C to 33.0°C. The highest temperature of 32.2°C, was observed in Akuse, while the lowest, 27.5°C, and was recorded in Abetifi. In the transition zone, temperatures ranged between 29.0°C and 32.0°C, whereas the southern sector, including locations such as Abetifi, Accra, Winneba, Takoradi, Axim, Elubo, Half-Assini experienced relatively cooler conditions, with temperatures ranging from 27.0°C to 29.0°C.

Figure 6b illustrates the Maximum Temperature Anomalies. In this dekad, most of the stations across the country experienced above-normal temperatures except for Axim, Takoradi, Akim Oda, Yendi, Navrongo and it environs exhibiting near-normal to below-normal temperatures.

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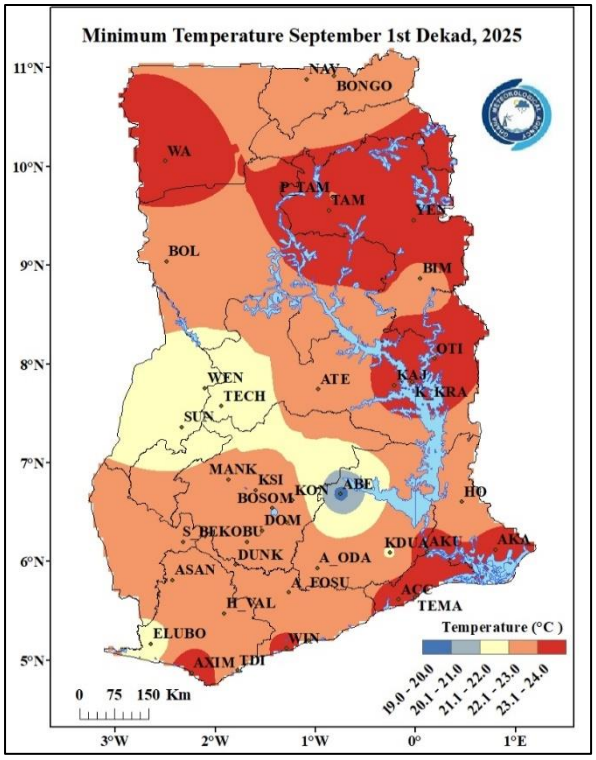

Figure 7a Minimum Temperature September 1st Dekad, 2025

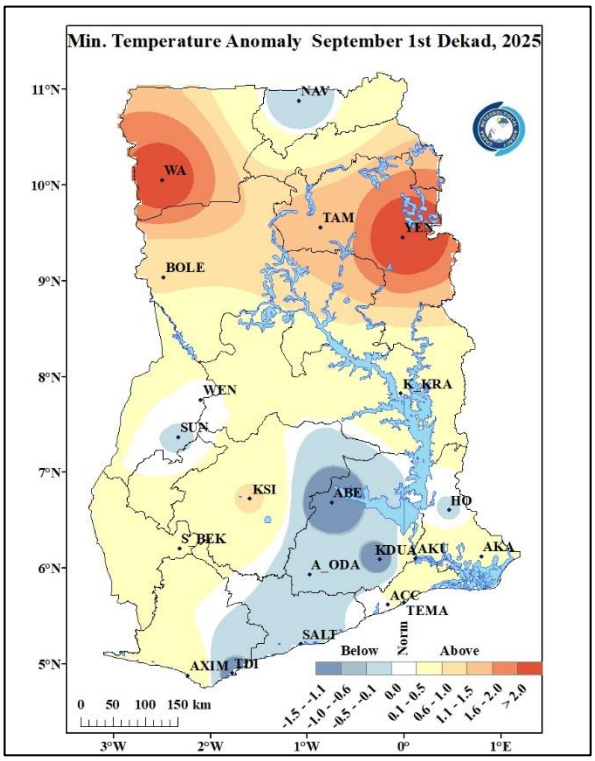

Figure 7b Minimum Temperature Anomaly September 1st Dekad, 2025

In *Figure 7a*, the average minimum temperatures varied across different sectors. The Northern sector and areas along the coast of the country (Wa, Pong Tamale, Tamale, Yendi, Bimbila, Accra, Tema and Ada experienced relatively warmer temperatures, with average values ranging from 22.1°C to 24.0°C. Conversely, areas such as Sunyani, Abetifi, Kumasi to mention a few experienced relatively cooler average night-time temperatures ranging from 19.0°C to 22.0°C. The lowest average night-time temperature was recorded in Abetifi located in the forest sector, reaching 19.8°C.

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 stations like Navrongo, Sunyani, Abetifi, Axim, Koforidua and Saltpond had near normal to below normal temperatures.

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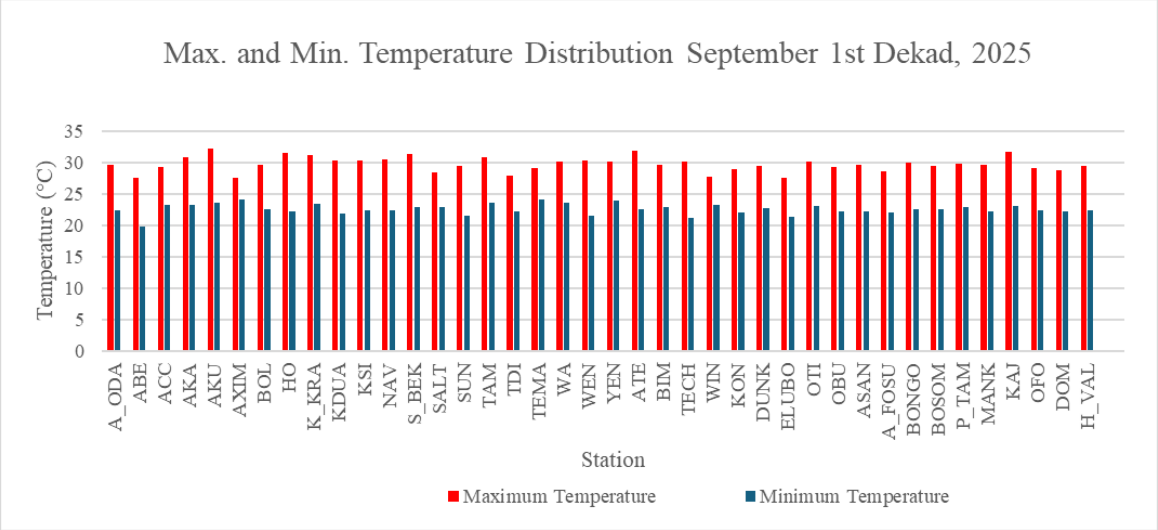

Figure 8 Maximum and Minimum Temperature September 1st Dekad, 2025

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 80% to 90%. On the other hand, the Transition and Northern areas experienced RH values ranging from 60 to 80 %. The minimum value of 61% was recorded over Akuse while a maximum value of 85% was recorded over saltpond.

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

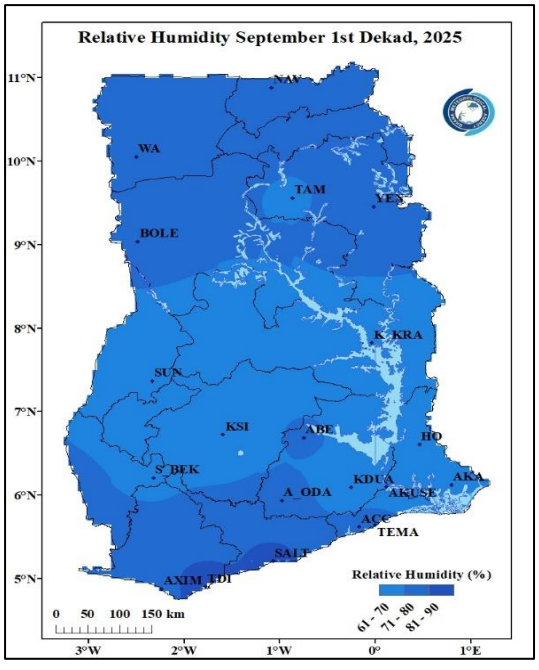

Figure 9a Relative Humidity September 1st Dekad, 2025

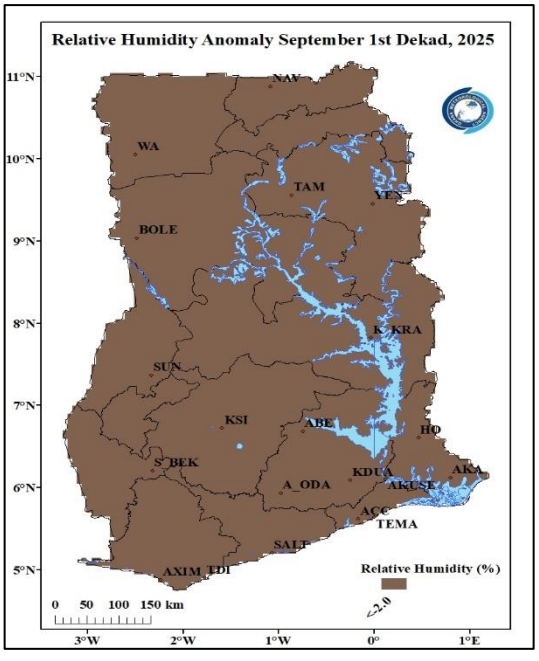

Figure 9b Relative Humidity Anomaly September 1st Dekad, 2025

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

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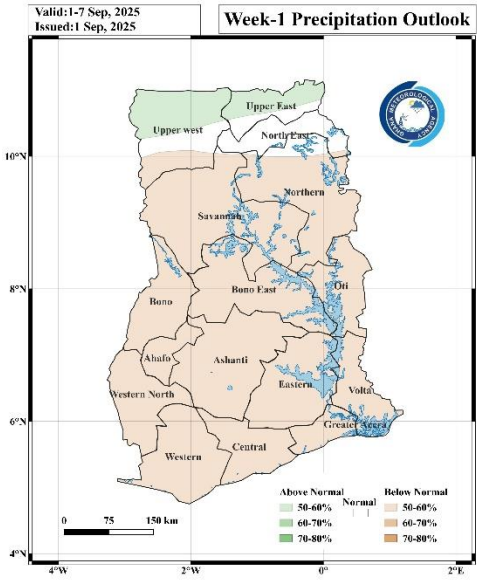
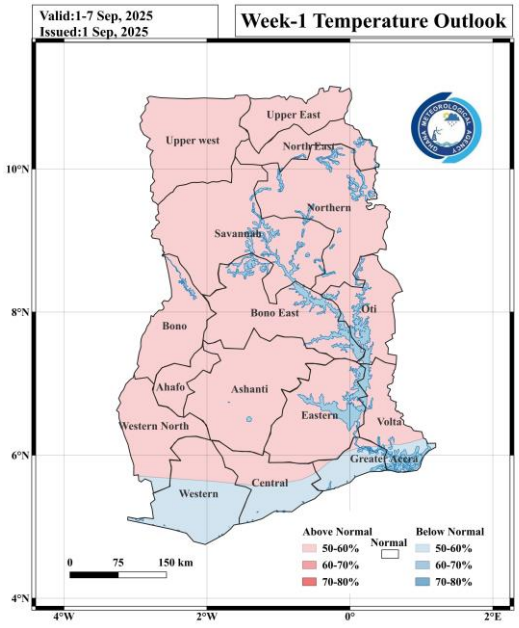
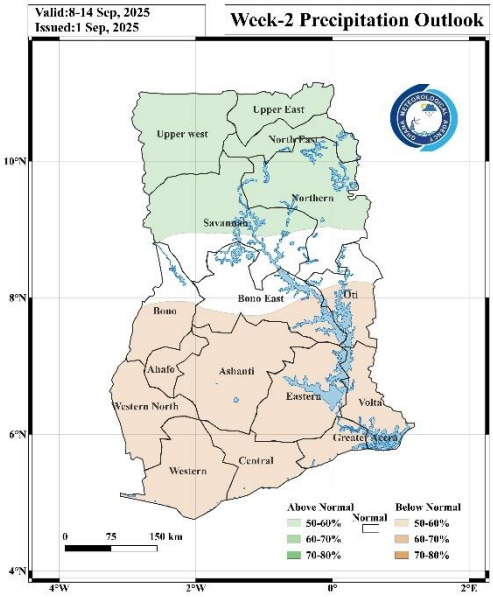
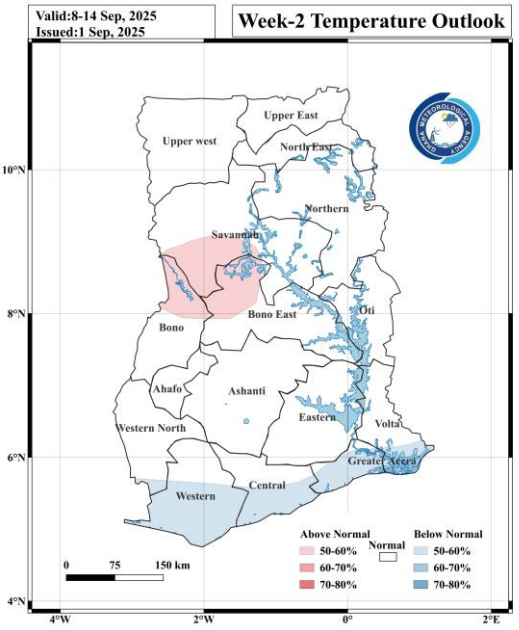
During Week 1, below-normal rainfall is expected across the southern regions, accompanied by above-normal temperatures over most parts of the country. In Week 2, rainfall is projected to be above normal across the northern portions, while temperatures are anticipated to remain near normal in most areas, except for parts of the transition zone and northern sector, where above-normal temperatures are likely.









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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 less 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.

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5.0 APPENDIX

5.1 TABLE OF STATIONS

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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