GMet

GHANA METEOROLOGICAL AGENCY

CERTIFIED PROVIDER OF AVIATION METEOROLOGICAL SERVICE

ISO-9001: 2015

2025 SEASONAL FORECAST FOR THE NORTHERN SECTOR AND UPDATE FOR THE SOUTHERN SECTOR, GHANA

MJJ-JJA-JAS

The Director General

Ghana Meteorological Agency (GMet)

37 Trinity Road, East Legon

P.O. Box LG 87, Legon

Accra, Ghana.

GA-485-3581

Tel: 0307010019

Email: info@meteo.gov.gh

NOTE:

The mentioning of particular firms or products does not constitute endorsement of same or a preference over those not mentioned.

The opinions/views expressed in GMet publications attributed to specific authors are indeed those published by the Author.

2025 Seasonal Forecast for the Northern Sector and Update for the Southern Sector

"Closing the Early Warning Gap Together" ~

World Meteorological Day 2025 Theme (World Meteorological Organization)

A publication of Ghana Meteorological Agency

Research and Applied Meteorology Department

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

PREFACE

The erratic nature of weather and climate in Northern Ghana has brought severe droughts, flash floods, and extensive damage to lives, property, and livelihoods. In recent years, unpredictable rainfall marked by delayed onsets, prolonged dry spells, and sudden intense downpours has undermined agricultural productivity, strained water and energy systems, and imposed heavy reconstruction costs on affected communities. These challenges underscore the urgent need for robust early warning systems and integrated disaster risk reduction strategies across all weather-sensitive sectors, including agriculture, security, water resources, energy, environment, maritime affairs, and local governance.

Advance notice of seasonal weather trends is indispensable for ensuring food security, safeguarding public health, and fostering resilient development. By anticipating broad climate patterns, farmers can optimize planting schedules and select drought-tolerant or flood-resistant varieties; water managers can adjust reservoir operations; energy planners can prepare for hydropower fluctuations; and emergency services can mobilize resources before crises unfold.

Against this backdrop, the Ghana Meteorological Agency (GMet) fulfills its statutory mandate by producing an annual seasonal forecast. This comprehensive document synthesizes atmospheric analyses from global and regional climate prediction centers, consensus outcomes from Continental and Regional Climate Outlook Forums, and expert interpretation by GMet's Research and Applied Meteorology Department.

The 2025 rainy season forecast for Northern Ghana details projected onset dates, cumulative rainfall amount, dry spells, cessation dates, and length of season. Tailored advisories for key sectors accompany these projections to guide evidence based decision-making and strategic planning.

This forecast owes its depth and precision to the leadership of Dr. Eric Asuman, Director General of GMet, and to the diligence of Mrs. Francisca Martey, Deputy Director of Research and Applied Meteorology, as lead author. We also acknowledge contributions from Jeremiah Zusika Lazia (Head, Climatology Unit), Nana Kofi Opoku (Head, Agrometeorology Unit), and the entire Research and Applied Meteorology Department, whose collective expertise shaped this assessment. Finally, we extend our gratitude to the stakeholders whose feedback enriched the forecast and to GMet for providing the resources and institutional support necessary to advance climate science and strengthen Northern Ghana's resilience.

FOREWORD

Dr. Eric Asuman

Concerning the evolving impacts of climate variability, Ghana continues to grapple with challenges of change in climate, particularly in the Northern sector where livelihoods are closely tied to seasonal rainfall. In this context, the importance of accurate and timely weather forecasting cannot be overstated. The 2025 seasonal forecast issued by the Ghana Meteorological Agency (GMet) provides critical insights into anticipated rainfall patterns, temperature variability, and dry spell characteristics that are essential for guiding decision-making in agriculture, water management, public health, and disaster risk reduction.

Over the past decade, Northern Ghana has experienced increasing climatic unpredictability. Seasonal patterns that were once relatively stable have become more erratic. Late onset of the rainy season, prolonged dry spells within the season, and early cessation of rains are becoming more common. For instance, in recent years, the rainy season which typically begins in late May or early June has shifted into mid-June or even early July in some districts, disrupting planting calendars and reducing crop yields. Similarly, intra-seasonal dry spells lasting up to 10–21 days during critical stages of crop development have negatively impacted food security across the Northern, North East, and Upper East regions. The central objective of the 2025 forecast is to enhance awareness and encourage proactive measures to mitigate the adverse impacts of climatic variability. It supports the theme of this year's World Meteorological Organization, "Closing the Early Warning Gap Together", by underscoring the need for timely response to early warnings and forecast advisories.

Moreover, rainfall distribution has become increasingly irregular and localized, with some areas receiving intense downpours while neighboring communities experience dry conditions. These inconsistencies not only undermine agricultural productivity but also strain water resources and contribute to localized flooding, even during seasons projected to have near-normal rainfall totals.

The 2025 seasonal forecast incorporates analyses of several major climate drivers, including the West African Monsoon system, the position and movement of the Intertropical Convergence Zone (ITCZ), and global phenomena such as the El Niño Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD). These systems play a significant role in influencing onset dates, rainfall intensity, length of season, and cessation periods. The presence of El Niño conditions, for example, has historically contributed to drier conditions and shorter rainy seasons in Northern Ghana, and this influence remain a key consideration for the upcoming season.

Recognizing these challenges, GMet continues to lead national efforts in climate forecasting by leveraging satellite observations, regional models, and collaborative partnerships with institutions such as the African Centre for Meteorological Applications for Development (ACMAD), AGRHYMET, and the World Meteorological Organization (WMO). These collaborations enable the Agency to refine its forecasting capacity and ensure that Ghana's seasonal outlooks align with continental and global early warning frameworks.

It is therefore imperative that stakeholders across Northern Ghana particularly farmers, local government authorities, water resource managers, and emergency response agencies integrate this forecast into their operational planning. Adapting agricultural calendars, promoting drought-resistant crops, improving water conservation techniques, and strengthening community-based disaster preparedness mechanisms will be vital in reducing vulnerabilities.

In conclusion, the 2025 seasonal forecast serves not only as a scientific guide but as a call to collective action. As the climate continues to change, the resilience of Northern Ghana will depend on our ability to interpret, disseminate, and respond to early warning information. Through preparedness, coordination, and innovation, we can better safeguard lives, livelihoods, and ecosystems in the face of increasing climatic uncertainty.

EXECUTIVE SUMMARY

Mrs. Francisca Martey

As part of our statutory mandate, Ghana Meteorological Agency (GMet) annually prepares the Seasonal Forecast to deliver critical weather and climate advisories tailored to Northern Ghana's rainy season. This forecast outlines essential parameters, including the projected onset of rains, cumulative rainfall amount, dry spells, cessation dates, and the length of season.

These insights are designed to inform evidence-based decision-making, policy development, and strategic planning across key weather-sensitive sectors in the region, such as agriculture, environmental management, disaster risk mitigation, security, water resource allocation, energy planning, and public health preparedness.

The 2025 Seasonal rainfall forecast employs the teleconnection between the El-Nino Southern Oscillation (ENSO) observed atmospheric condition over land and ocean, Sea Surface Temperature (SST) anomalies, Mean Sea Level Pressure (MSLP) anomalies, Madden Julian Oscillation (MJO), Inter-Tropical Convergence Zone (ITCZ), climatic data from GMet observatories across the country which covers a minimum period of 30 years. This Forecast has been agreed upon by the Consensus from Continental Centre ACMAD, Regional Climate Centre (RCC) during the Agro-Hydro Climate characteristics in the Sudanian and Sahelian Zones of West Africa (PRESASS) forum, together with the expertise and downscaled models output from the Ghana Meteorological Agency. The highlights of the 2025 May June July (MJJ), June July August (JJA), and July August September (JAS) Seasonal Forecast are:

Rainfall Onset Dates

The 2025 rainy season for the Northern part of the country is anticipated to be late to normal onset. Early onset is expected in the western part of the Transition zone, whereas late onset is expected in the eastern part of the Transition through to the entire North.

Cumulative Rainfall Amount

May June July (MJJ)

Cumulative rainfall across the country is expected to range from below normal to normal. The Upper East and Upper West are expected to have normal rainfall, while the Northern region and its environment are expected to experience below normal rainfall. In the Transition zone and some parts of the forest regions, rainfall is projected to be below normal. Coastal areas and their immediate inland areas are also expected to receive normal rainfall.

June July August (JJA)

Generally, cumulative rainfall for the season is expected to be below normal to normal rainfall for the whole country. The extreme North of the country is expected to be above normal whiles the remaining parts of the northern sector are expected to have normal rainfall. The transition zone and the middle belts are expected to experience below normal rainfall. The coastal areas into the inlands are expected to be normal.

July August September (JAS)

The country is expected to experience cumulative rainfall ranging from normal to above normal. The Upper East, Upper West, and some parts of the Northern region are forecasted to have above normal rainfall, while the remaining parts of the country are expected to experience normal rainfall.

Early Dry Spell Days

At the beginning of the season, the Northern part of the country is expected to experience long to normal dry spell days. Navrongo, Manga Bawku, and Bolgatanga are expected to have the longest dry spell of 13 days, while Bole, Babile, Vea, Wa, and Zuarungu are expected to have the shortest dry spell of 7 days. The transition is likely to experience a long to normal dry spell, However, Prang is expected to experience a short dry spell of 7 days.

Late Dry Spell Days

During the late part of the season, the entire Northern sector is expected to have long to normal dry spell days. Babile is projected to have the longest dry spell of 18 days, and Wa is expected to have the shortest dry spell of 9 days. However, the transition is expected to record normal to long dry spell days.

Rainfall Cessation Dates

Generally, the 2025 rainfall cessation date for the Northern parts of the country is expected to be Late to normal. In the transition zone, it is forecasted to have an early to normal cessation.

Length of Season

The 2025 season length of rainfall for the Northern part of Ghana is expected to be long to normal. Wenchi and Kintampo in the transition zone are likely to experience short season. Prang in the eastern part of the transition zone is forecasted to have the longest season of 212 days, whereas Wenchi in the western part of the transition is expected to have the shortest season of 123 days.

At the end of this forecast, the public and various stakeholders are provided with recommendations and early warning information for timely preparedness against potential hazards such as heavy rainfall, floods, and longer dry spells in the country. This information is intended to assist in the management of risks.

CLIMATE ZONES IN GHANA

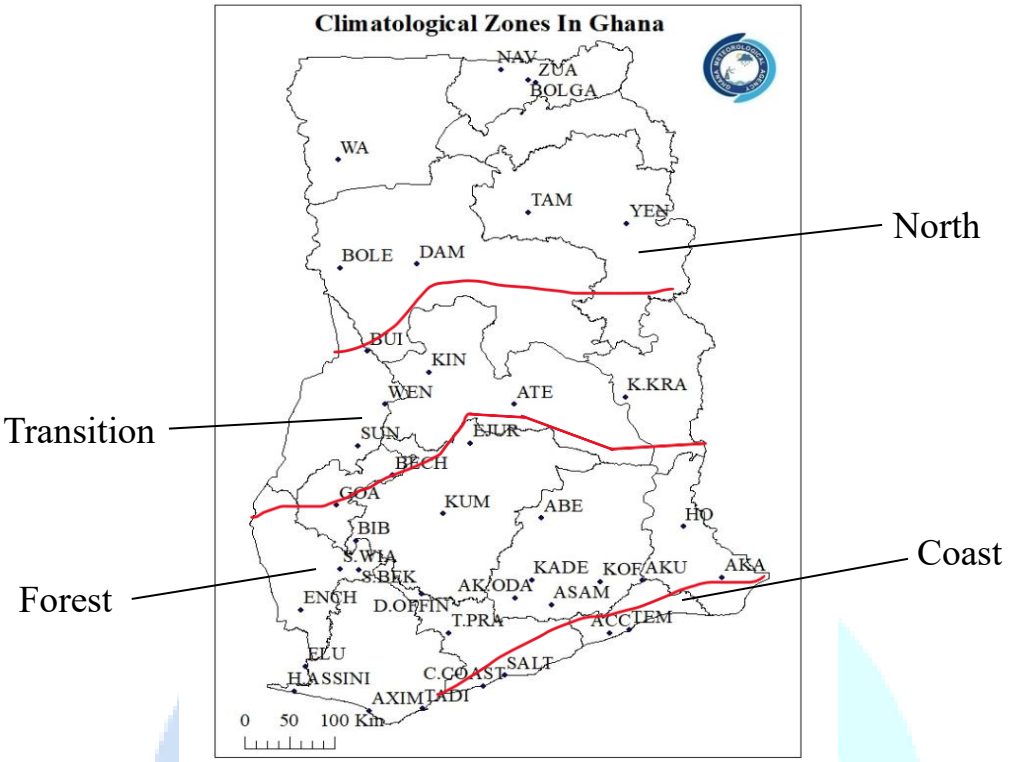


Figure 1: Map of Climatic Zones in Ghana

Table 1 List of Abbreviated Station Names

Station	Abbreviation	Station	Abbreviation
Akim Oda	A_ODA	Half Assini	H_ASS
Abetifi	ABE	Ho	HO
Accra	ACC	Kete Krachi	K_KRA
Ada	ADA	Kade	KADE
Akatsi	AKA	Koforidua	KDUA
Akuse	AKU	Kintampo	KINT
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
Bui	BUI	Tamale	TAM
Cape Coast	C_COAST	Takoradi	TDI
Dormaa Ahenkro	D_AHEN	Tema	TEMA
Damongo	DAM	Vea	VEA
Dunkwa Offin	DUNK	Wa	WA
Ejura	EJURA	Walewale	WALE
Enchi	ENCH	Wenchi	WEN
Garu	GARU	Yendi	YEN
Goa	GOA	Zuarungu	ZUA

1.0 VERIFICATION OF 2024 SEASONAL FORECAST

The evaluation of the seasonal forecasts for the year 2024 involves comparing the forecasts issued for the major rainfall season in southern Ghana with the actual rainfall data recorded by the GMet weather stations across **Northern Ghana**. This process assesses the accuracy of the predictions. GMet uses the evaluation results as a basis for improving the precision of forecasts for the following year.

1.1 Onset Probability Forecast and Verification for 2024

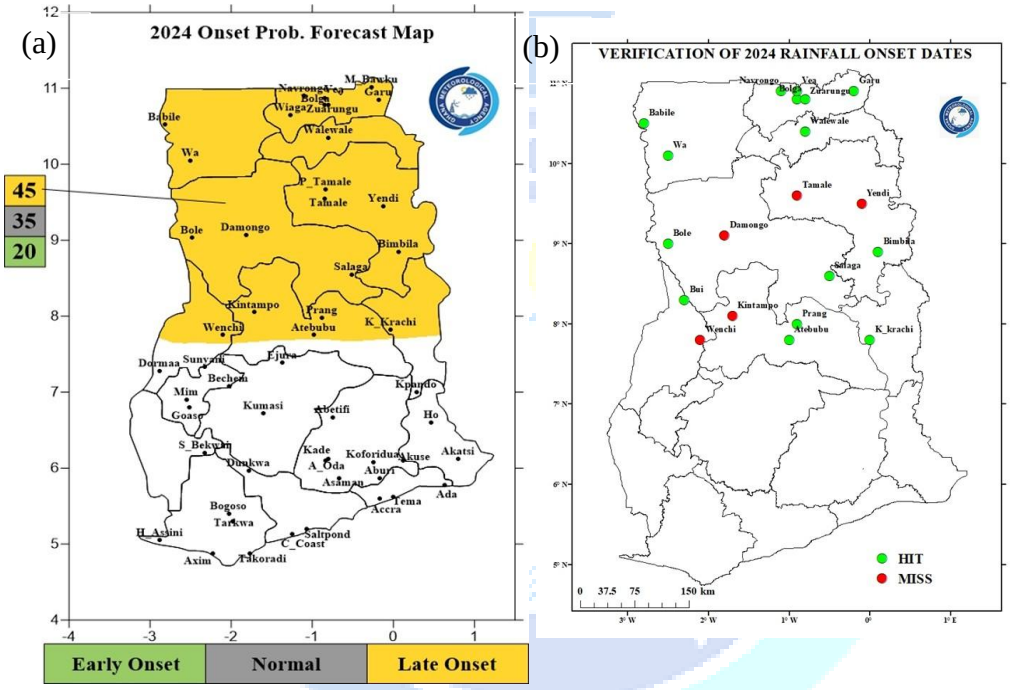


Figure 2(a): Onset Probability Forecast 2024 (b) Verification Map 2024

Total Number of Stations: 20

Percentage Hit: 75% (15)

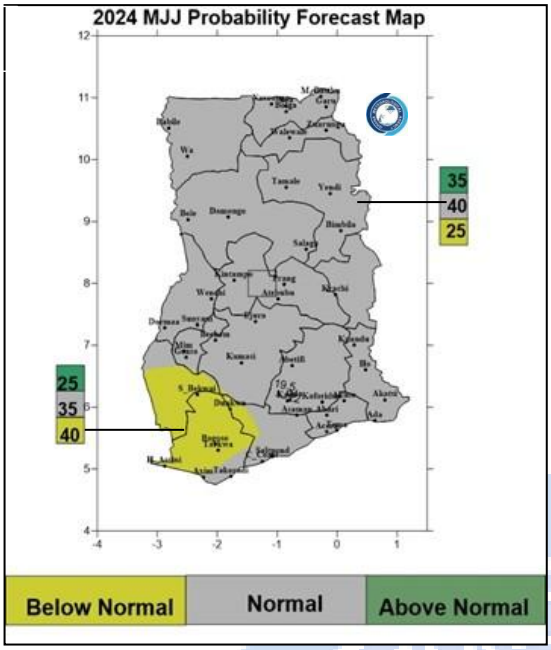
Percentage Miss: 25% (5)

Onset

Most places in Northern Ghana and the Transition Zone forecasted, except for **Wenchi, Kintampo, Damongo, Tamale and Yendi which** recorded an early onset contrary to the forecast issued.

1.2 MJJ Cumulative Rainfall Forecast Verification for 2024

(a)



(b)

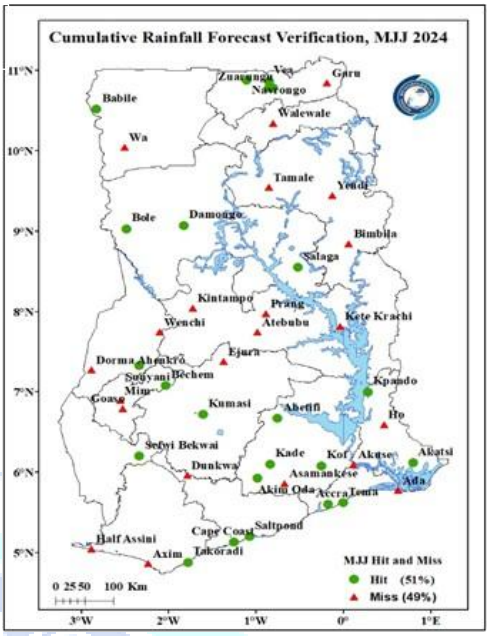


Figure 3(a): MJJ Probability Forecast 2024 (b) Verification Map 2024

Total Number of Stations: 45

Percentage Hit: 51% (23)

Percentage Miss: 49% (22)

May-June-July (MJJ) 2024 Rainfall

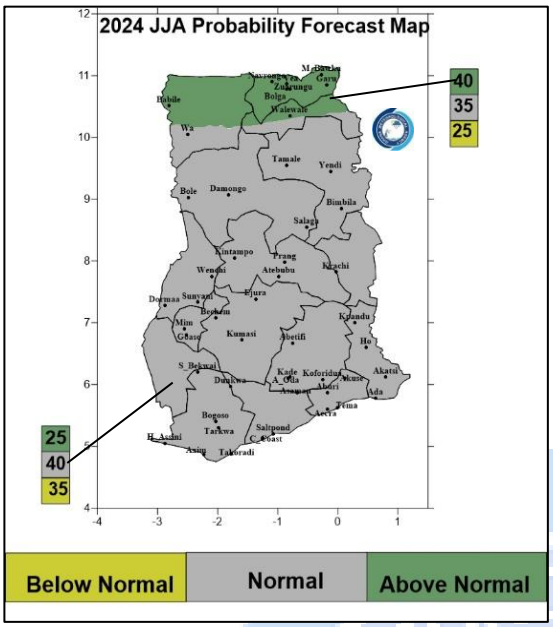
A significant number of weather stations across the country recorded rainfall values that did not align with the predicted values as illustrated in Figure 1.

Except for Half Assini and Axim, which recorded surplus rainfall contrary to the forecast, all other stations that deviated from the prediction experienced rainfall deficits. Half Assini recorded a 24.0% increase above its Long-Term Mean (LTM) and Axim recorded a 10.5% increase.

Stations that recorded rainfall deficits include, but are not limited to, Wa, which experienced a rainfall amount 33.0% below its LTM. Tamale recorded rainfall amount 23.0% less than its LTM, Bimbila experienced a decline of 48.0%. Wenchi observed a 44.4% reduction, Kete Krachi recorded a 34.0% decrease, Mim recorded a 19.4% decline, Akuse experienced 39.4% less rainfall than its LTM, and Ada experienced a 30.1% drop in rainfall as compared to its LTM.

1.3 JJA Cumulative Rainfall Forecast Verification for 2024

(a)



(b)

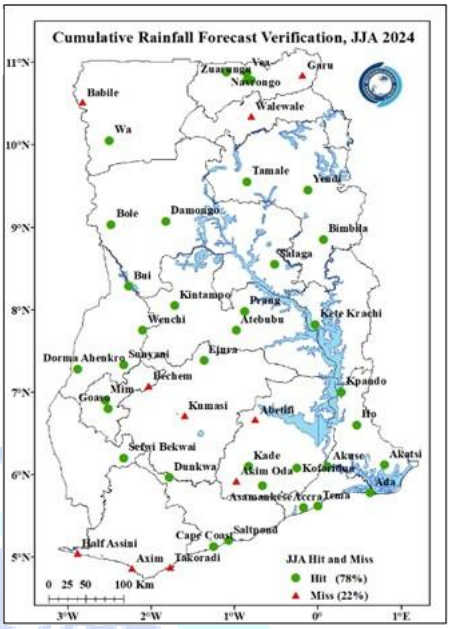


Figure 4(a): JJA Probability Forecast 2024 (b) Verification Map 2024

Total Number of Stations: 46

Percentage Hit: 78% (36)

Percentage Miss: 22% (10)

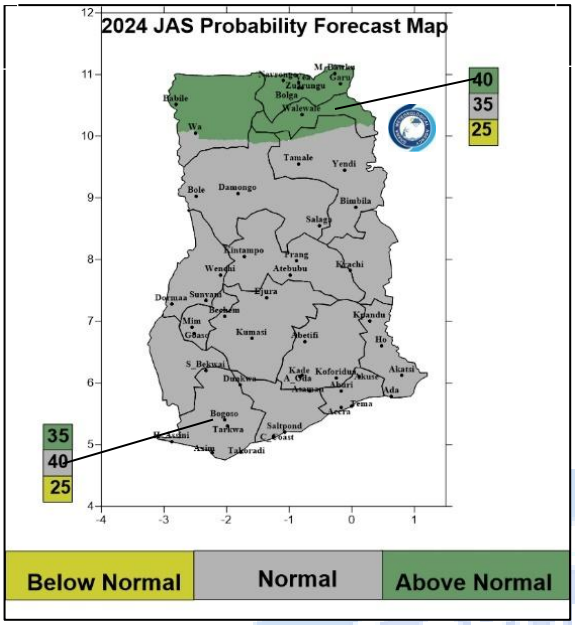
June-July-August (JJA) 2024 Rainfall

The forecast accuracy for the JJA rainfall season was 78%. However, few locations deviated from the forecast. In the northern part of the country, Babile recorded 22.4% less rainfall than its long-term mean (LTM), Walewale experienced a 30.3% deficit, and Garu saw a 28.8% reduction. On the other hand, some stations in the southern sector recorded surplus rainfall, contrary to the forecast. Bechem recorded 23.7% rainfall above its LTM, Kumasi recorded an 18.4% surplus, Abetifi experienced a 36.8% increase, and Akim Oda had a 52.0% surplus. Additionally, Half Assini recorded 19.5% above its LTM, Axim reported 20.0% rainfall above its LTM, and Takoradi showed a significant increase of 70.5% above its LTM.

1.4 JAS Cumulative Rainfall Forecast Verification for 2024

.

(a)



(b)

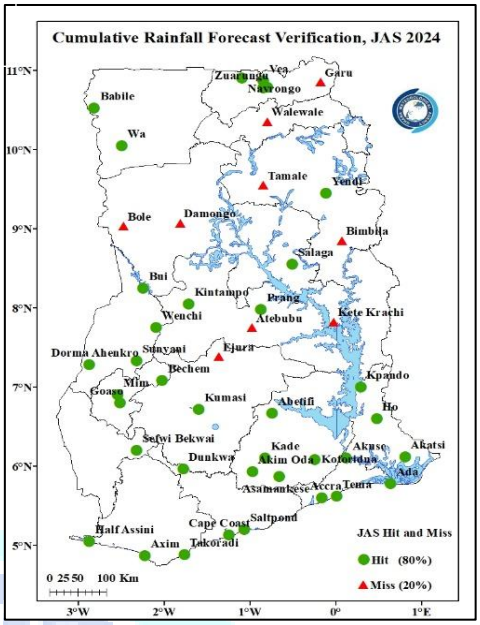


Figure 5(a): JAS Probability Forecast 2024 (b) Verification Map 2024

Total Number of Stations: 46

Percentage Hit: 80% (37)

Percentage Miss: 20% (9)

July-August-September (JAS) 2024 Rainfall

The seasonal forecast accuracy stands at 80%, as illustrated in Figure 3 above. However, some weather stations reported rainfall totals that deviated from the forecast. In the northern sector, Garu experienced a rainfall deficit of 27.9% compared to its long-term mean (LTM), Walewale saw 6.9% less rainfall than its LTM, Tamale recorded 30.9% below its LTM, Bole had 19.6% less rainfall, Damongo was 37.9% below its LTM, and Bimbila showed a 31.8% shortfall. Similarly, stations in the Transition Zone, including Ejura (31.5% deficit), Atebubu (19.3% deficit), and Kete Krachi (38.7% deficit), also experienced rainfall amounts significantly lower than expected.

1.5 Early Dry Spell Probability Forecast and Verification for 2024

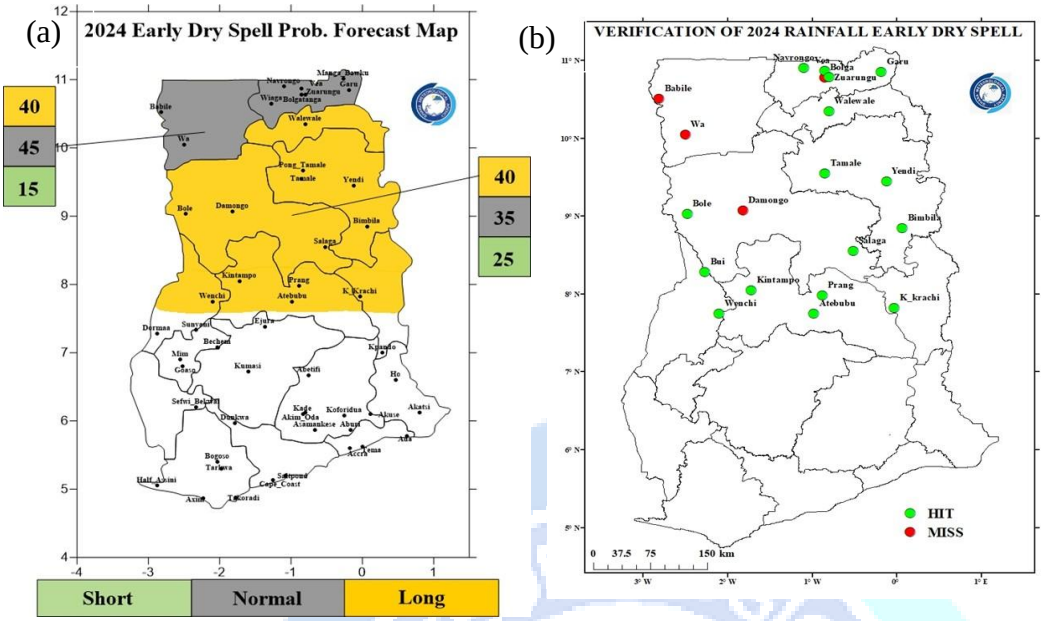


Figure 6(a): Early Dry Spell Probability 2024 (b)Verification Map 2024

Total Number of Stations: 20

Percentage Hit: 80% (16)

Percentage Miss: 20% (4)

Early dry spell

Most areas in the North and Transition Zone experienced long first dry spells as predicted except for **Damongo** which had short dry spell length. In the Upper East and West Regions **Babile, Wa** and **Bolgatanga** had short dry spells, contrary to the issued forecast.

1.6 Late Dry Spell Probability Forecast and Verification for 2024

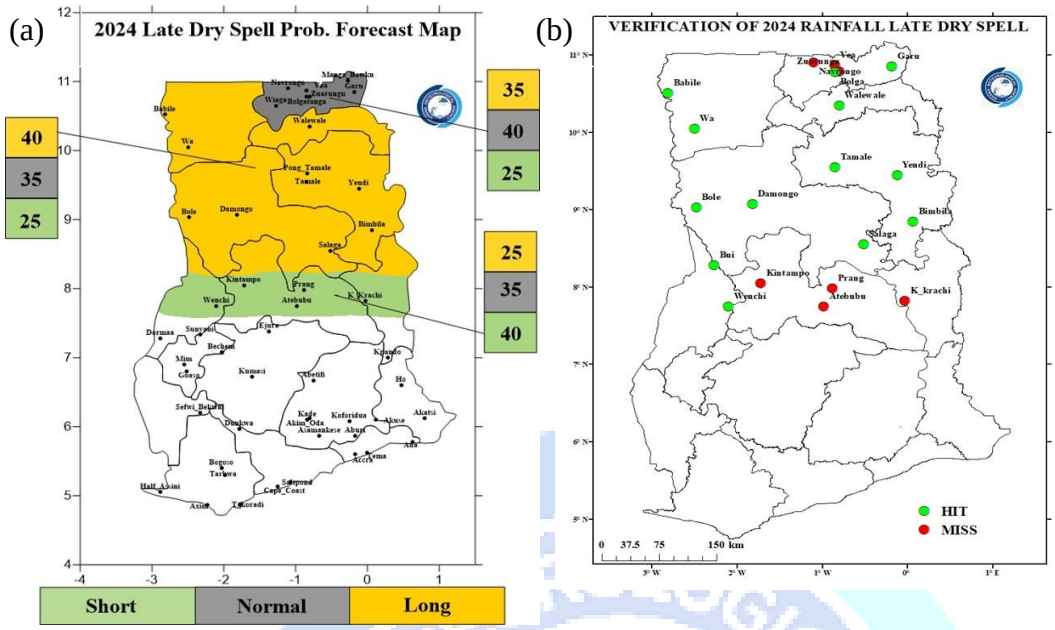


Figure 7(a): Late Dry Spell Probability Forecast 2024 (b) Verification Map 2024

Total Number of Stations: 20

Percentage Hit: 65% (13)

Percentage Miss: 35% (7)

Late dry spell

A long to normal and mostly normal long to l dry spell was forecasted for the North and Upper East respectively. Short to normal dry spell was forecasted for the transition Zone. **Navrongo**, **Vea** and **Zuarungu** in the Upper East recorded short dry spells. Most places in the Transition Zone, except for Bui and Wenchi, recorded long dry spells—contrary to the forecast.

1.7 Cessation Probability Forecast and Verification for 2024

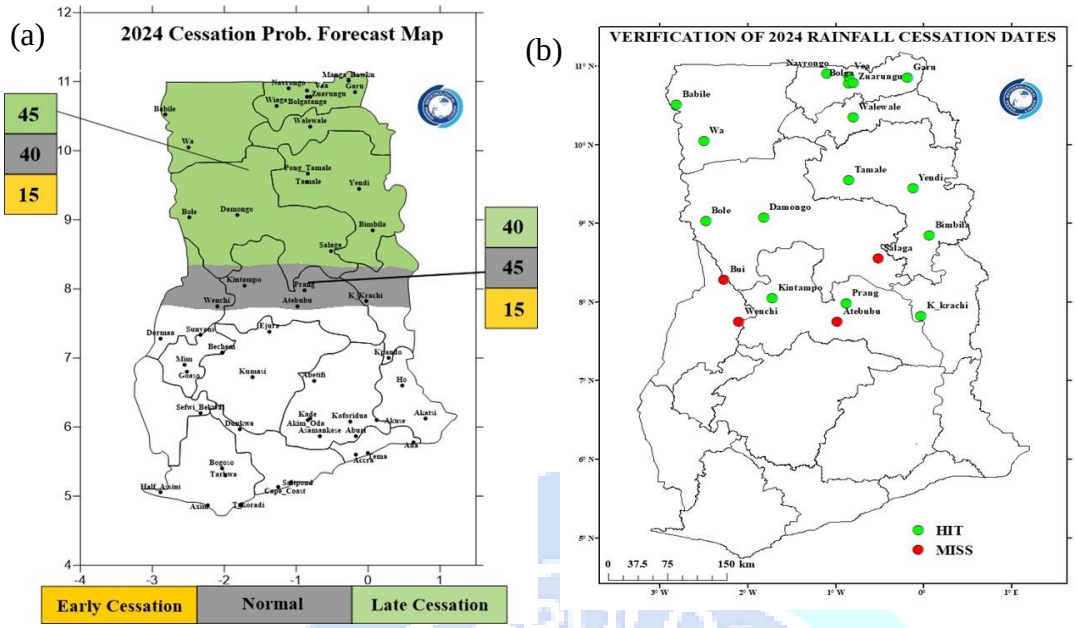


Figure 8(a): 2024 Cessation Probability Forecast 2024 and Verification Map 2024

Total Number of Stations: 20

Percentage Hit:80% (16)

Percentage Miss: 20% (4)

Cessation

The forecast for late cessation was accurate for almost all stations in the Northern Sector except for **Salaga** which experienced an early cessation. In the Transition Zone, **Atebubu, Bui** and **Wenchi** recorded early cessation, deviating from the forecast.

2.0 SEASONAL FORECAST FOR NORTHERN GHANA FOR 2025

2.1 Forecast Maps of Onset Dates for the 2025 Season

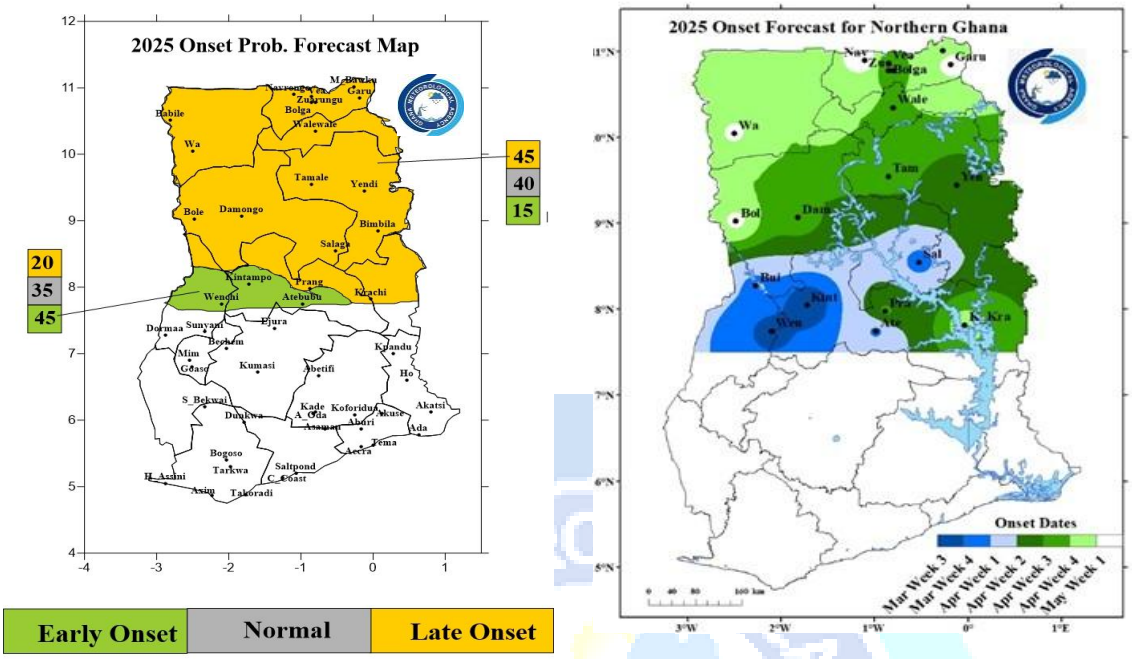


Figure 9(a): Onset Probability Forecast Map 2025 (b)Onset Dates Forecast Map 2025

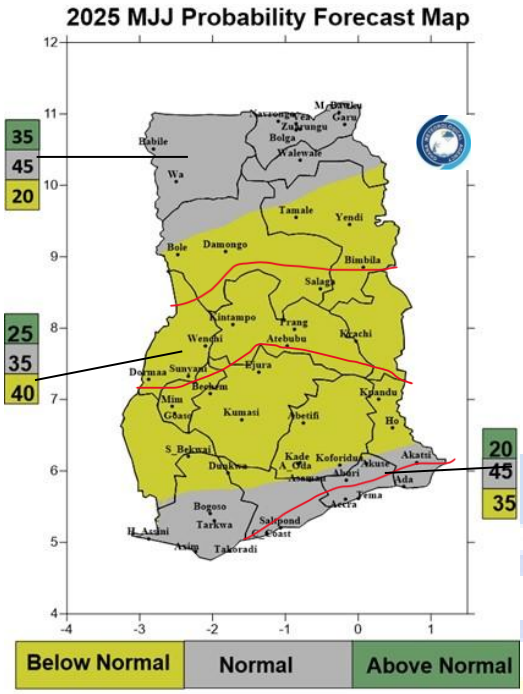
Table 2 Onset Dates for 2025 Season & Long-Term Mean (Normal) of the Onset Dates

ZONE	Normal Onset Dates (LTM)	Forecasted Onset Dates
Transition Zone	4th Week of March – 2nd Week of April	3rd Week of March – 4th Week of April
North	2nd Week of April – 4th Week of April	4th Week of March – 1st Week of May
Upper West	3rd Week of April – 1st Week of May	3rd Week of April – 1st Week of May
Upper East	4th Week of April – 2nd Week of May	3rd Week of April – 2nd Week of May

NB: Long-Term Mean (LTM) is the 30-year average condition of a given Zone from 1991-2020.

2.2 Cumulative Rainfall Forecast Maps for the MJJ Season, 2025

(a)



(b)

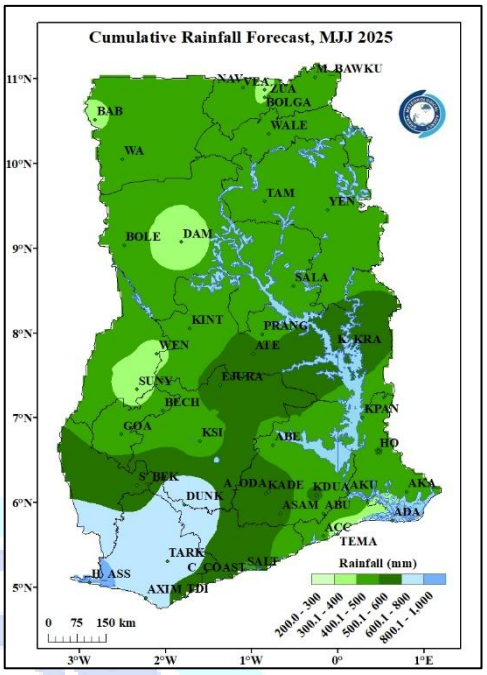


Figure 10(a): MJJ Rainfall Probability Forecast Map 2025 (b) MJJ Rainfall Forecast Map 2025

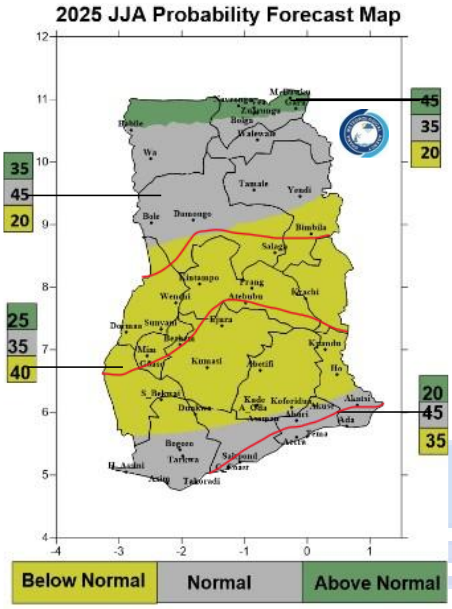
Table 3. Forecast of Total Rainfall Amount for the MJJ Season, 2025

ZONE	LTM (mm)	2025 MJJ (mm)
East Coast	286 -569	250 - 560
West Coast	504 - 1055	506 - 946
Forest	360 – 790	329 - 697
Transition	386 - 601	380 - 590
North	358 – 500	350 - 490
Upper East	345 – 460	377 - 475
Upper West	387 - 483	390 - 490

NB: Long-Term Mean (LTM) is the 30-year average condition of the given Zone from 1991-2020.

2.3 Cumulative Rainfall Forecast Maps for the JJA Season, 2025

(a)



(b)

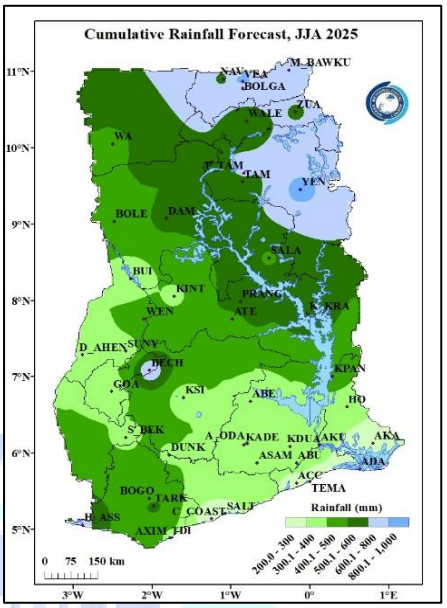


Figure 11(a): JJA Rainfall Probability Forecast Map 2025

(b)JJA Rainfall Forecast Map 2025

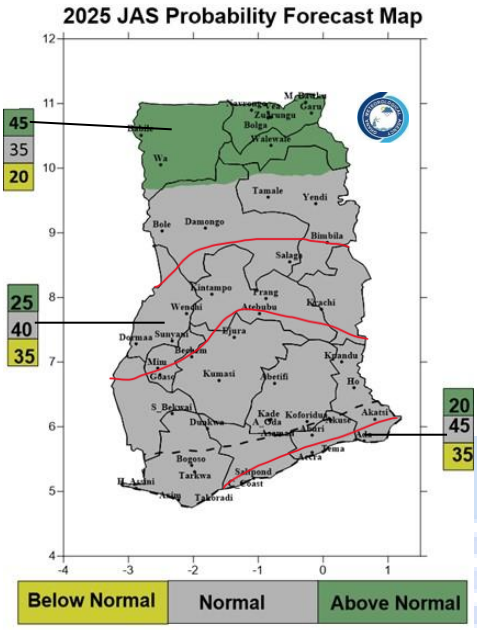
Table 4. Forecast of Total Rainfall Amount for the JJA Season, 2025

ZONE	Normal Total Rainfall LTM (mm)	Forecasted Total Rainfall 2025 (mm)
North	241 - 449	230- 440
Transition Zone	369 - 573	413 - 570
Forest Zone	365 - 784	390 - 727
West Coast	512 - 1053	556 – 986
East Coast	305 - 578	405 – 671

NB: Long-Term Mean (LTM) is the 30-year average condition of the given Zone from 1991-2020.

2.3 Cumulative Rainfall Forecast Maps for the JAS Season, 2025

(a)



(b)

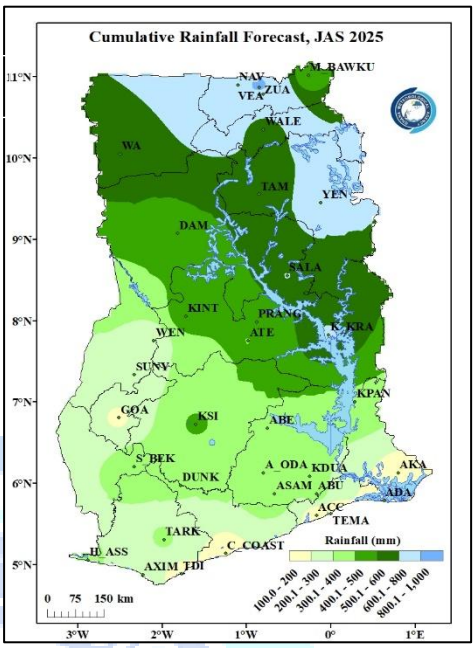


Figure 12(a): JAS Rainfall Probability Forecast Map 2025 (b)JAS Rainfall Forecast Map 2025

Table 5. Forecast of Total Rainfall Amount for the JAS Season, 2025

ZONE	LTM (mm)	2025 JAS (mm)
East Coast	68 – 213	104 – 150
West Coast	143 – 338	165 – 320
Forest	192 – 831	180 – 615
Transition	305 – 697	230– 451
North	465 – 710	402 – 660
Upper East	527 – 674	530 – 915
Upper West	512 – 596	520 – 650

NB: Long-Term Mean (LTM) is the 30-year average condition of the given Zone from 1991-2020.

2.4 First (Early) Dry Spell Days Forecast Maps for the 2025 Season

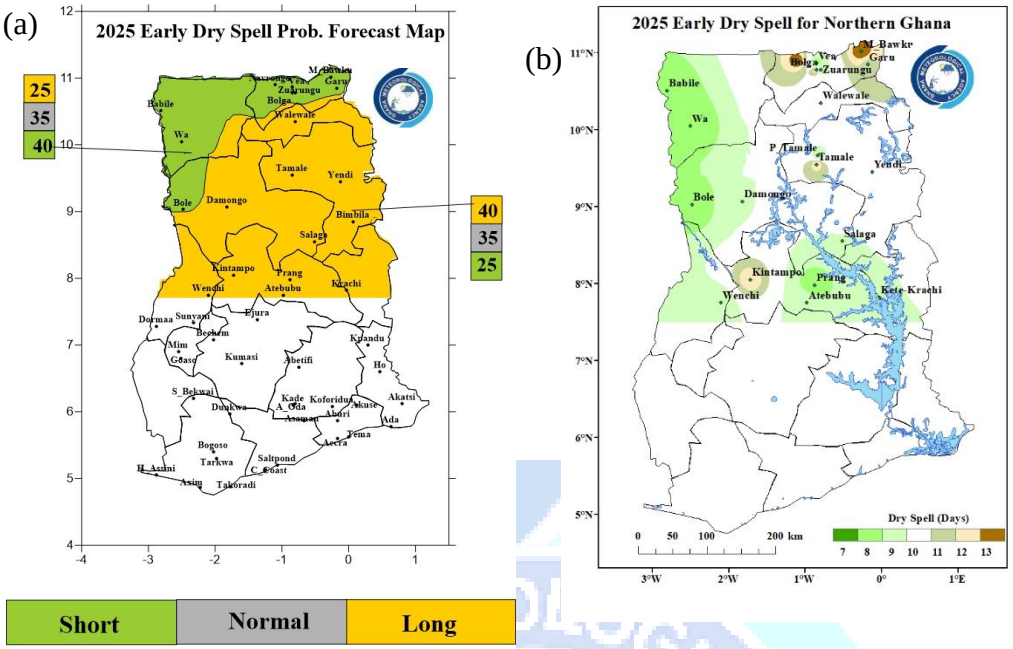


Figure 13 (a): Early Dry Spell Probability Map 2025 (b) Early Dry Spell Forecast Map 2025

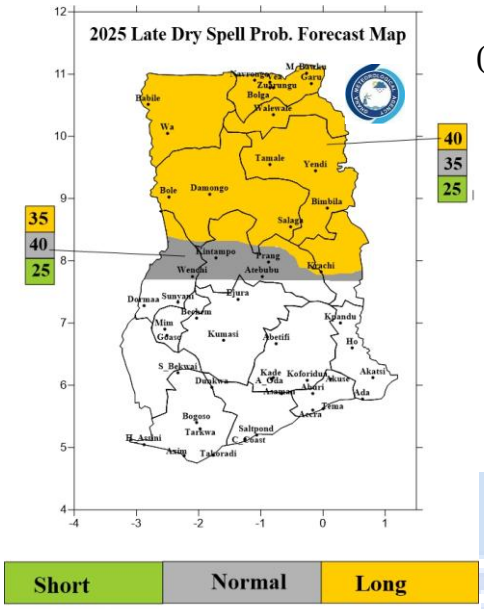
Table 6. LTM of First Dry Spell Days and Forecast of First Dry Spell Days

ZONE	LTM of First Dry Spell (Days)	Forecast of First Dry Spell (Days)
Transition Zone	8	8-12
North	11	7-12
Upper West	10	7-10
Upper East	11	7-13

NB: First (Early) Dry Spell is defined as the longest successive dry days during the first 50 days after the start of the season.

2.5 Second (Late) Dry Spell Days Forecast Maps for the 2025 Season

(a)



(b)

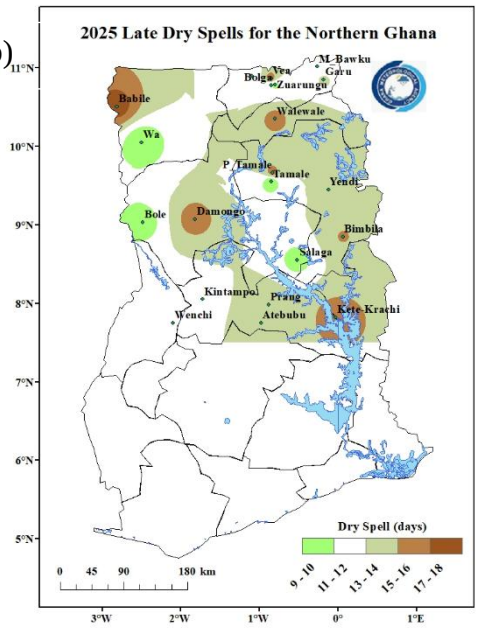


Figure 14 (a): Late Dry Spell Probability Map 2025 (b) Late Dry Spell Forecast Map 2025

Table 7. LTM for Second Dry Spell Days and Forecast of Late Dry Spell- Days

ZONE	Normal of Late Spell(Days)	Forecast of Late Spell(Days)
Transition Zone	15	11-16
North	14	9-16
Upper West	15	9-18
Upper East	15	10-17

NB: Second Dry Spell is defined as the longest successive dry days from the 51st day after the season's start to the end.

2.6 Forecast Maps for Cessation Dates for the 2025 Season

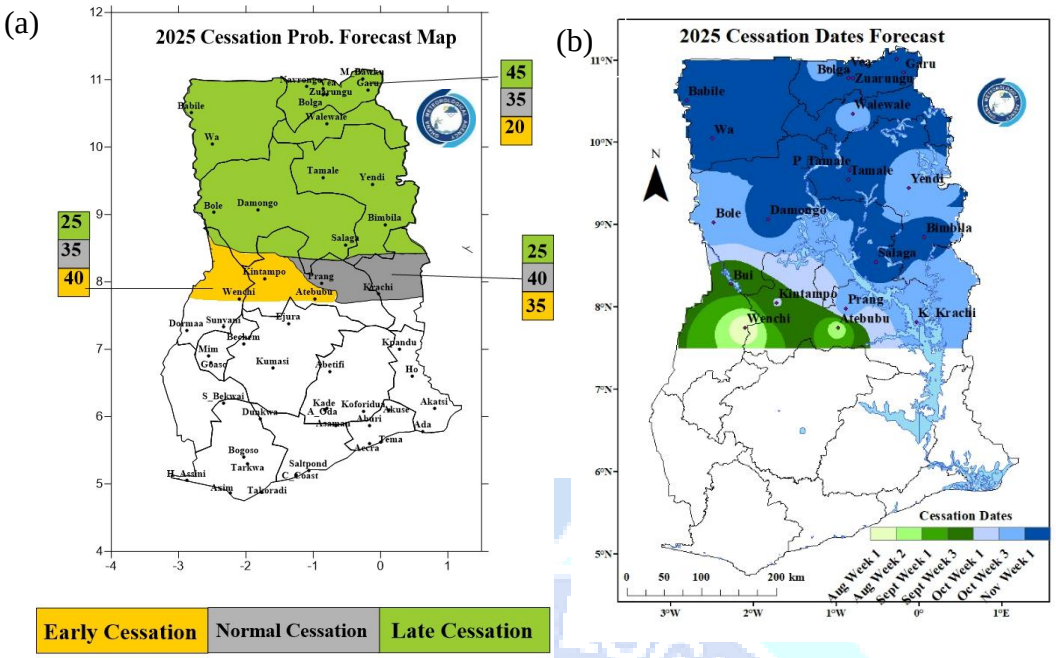


Figure 15 (a): Cessation Probability Forecast Map 2025 (b) Cessation Dates Forecast Map 2025

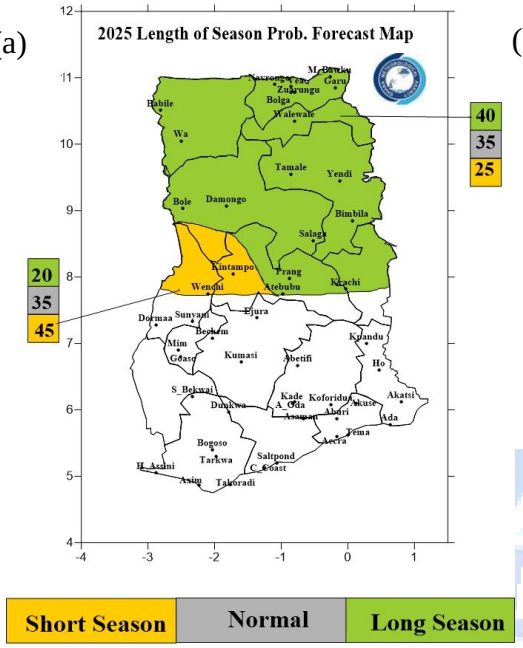
Table 8. Cessation Dates for 2025 Season & Long-Term Mean Cessation Dates

ZONE	Normal Cessation Dates	Forecasted Cessation Dates
Transition Zone	2nd Week of September – 4th Week of October	1st Week of August – 3rd Week of October
North	1st Week of October – 1st Week of November	3rd Week of September - 1st Week of November
Upper West	1st Week of October – 4th Week of October	4th Week of October - 1st Week of November
Upper East	1st Week of October – 3rd Week of October	3rd Week of October - 1st Week of November

NB: Long-Term Mean (LTM) is the 30-year average condition of the given Zone from 1991-2020.

2.7 Length of Major Rainfall Season Forecast Maps, 2025

(a)



(b)

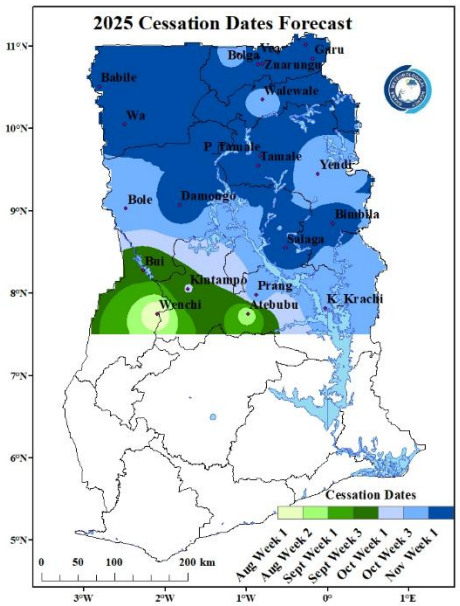


Figure 16(a): Length of Season Prob Forecast Map 2025 (b) Length of Season Forecast Map, 2025

Table 9. Forecast of Length of Rainfall Days and LTM for 2025 Season

ZONE	LTM (Days)	2025 Length of Season (Days)
Transition Zone	162 - 188	123-212
North	181 - 193	180-210
Upper West	175 - 184	180-205
Upper East	164 - 171	160-186

3.0 SUMMARY OF EXPECTED SEASONAL FORECAST FOR 2025 MJJ, JJA & JAS

3.1 Onset

Early onset is expected over Kintampo, Atebubu, Wenchi and their surrounding areas.

Late to normal onset is expected over Kete Krachi and Prang, Damongo, Tamale, Yendi, Bolgatanga, Babile, Garu, Bimbila, Yendi, Navrongo, Manga Bawku and their surroundings

3.2 Cumulative Rainfall Distribution

a) May-June-July (MJJ)

Normal to above normal cumulative rainfall for May-June-July is expected over for Babile, Wa, Navrongo, Zuarungu, Vea, Bolgatanga ,Garu, Walewale ,and Manga Bawku,**.** Areas such as Bole, Damongo, Tamale, Yendi, Bimbila, Salaga, Dormaa, Sunyani, Wenchi, Kintampo, **Below Normal to normal rainfall is expected over** Prang, Atebubu, Kete Krachi, Salaga, Mim, Goaso, Kumasi, Abetifi, Ho, Kpando Dunkwa, Sefwi Bekwai, Ejura and Akim Oda**.**

Normal to below normal rainfall are also expected to receive Ada, Tema, Accra, Cape Coast, Saltpond, Takoradi, Axim, Bogoso, Half Assini, Tarkwa, Aburi, Akuse, Ada and Akatsi,

b) June-July-August (JJA)

A**bove normal to normal** cumulative rainfall for June-July-August is expected over Navrongo, Zuarungu, Vea, Bolgatanga, Garu, Manga Bawku**.** Babile, Wa, Bole, Walewale, Tamale, Yendi.

Normal to above-normal rainfall are anticipated over Bole**,** Bimbila, Salaga, Kintampo, Prang, Wenchi, Dormaa, Bechem, Goaso, Ejura, Sefwi Bekwai Atebubu, Sunyani, Mim, Kumasi, Abetifi, Akuse,

Below normal to normal rainfall are projected over Akim Oda, Kete Krachi Kpando, Dunkwa, Koforidua, Bogoso, Tarkwa, Half Assini, Axim, Takoradi, Saltpond, Cape Coast, **Normal to below normal rainfall** is projected over Aburi, Accra Tema, Ada, Akuse, and Akatsi

c) July-August-September (JAS)

Above normal to normal cumulative rainfall for July-August-September is expected to be over Babile Wa, Walewale, Bolgatanga, Zuarungu, Vea, Navrongo, Garu, Manga Bawku and their surroundings. The remaining portions include Bole, Damongo, Tamale, Yendi, Bimbila, Salaga, Kintampo, Kete Krachi Sunyani, Mim, Sefwi Bekwai Abetifi, Kpando, Akatsi Bogoso.

Normal to below-normal rainfall are projected over Half Assini and their surroundings

3.3 Dry Spells

a) 1st (Early) Dry Spell

Short to Normal dry spells are forecasted in areas such as Bole, Salaga, Damongo, Pong Tamale, Wa, Babile, Zuarungu, Yendi, Walewale, Vea, Wenchi and Prang.

Long to normal dry spell days are expected in Bolgatanga, Navrongo, Manga Bawku, Atebubu, Kete Krachi, Kintampo and their surroundings.

b) 2nd (Late) Dry Spell

Long dry spells towards the end of the season are expected in the Northern sector in areas such as Damango, Bolgatanga, Babile, Bimibila, Garu Walewale, Vea, and Pong Tamale. **Short to Normal dry spells** are expected in Tamale, Wa, Salaga, Bole, Zuarungu, Yendi, Manga Bawku, Kintampo, Prang and Wenchi**.**

Normal to Long dry spells are expected in Atebubu, Kete Krachi and their surroundings in the Transition Zone.

3.4 Cessation

The 2025 forecast for Northern Ghana indicates that, rainfall cessation is generally expected to be **late to normal.**

Late cessation is forecasted over Wa, Babile, Zuarungu, Bolgatanga and Walewale

N**ormal cessation** is expected in areas such as Bole, Tamale, Damongo, Salaga, Prang and Kete Krachi.

Early to normal cessation are likely to be over Wenchi, Yendi and Atebubu

3.5 Length of Season

A short to normal length of the season is expected in areas like Kintampo and Wenchi. The eastern part of the Transition zone, together with the central and northernmost parts of the north **Long to normal length of the rainfall season** is forecasted for Babile, Wa, Salaga, Tamale, Prang, Yendi, Bole, Damongo, Kete Krachi, Bolgatanga, Vea, Garu, Zuarungu, Walewale and their surroundings.

4.0 POTENTIAL IMPACTS AND RECOMMENDATIONS (ADVISORIES)

While the 2025 forecasts suggest generally late to normal onset, long to normal spells and long to normal cessation, impacts are still possible:

- **Long Dry Spells, Above Normal rainfall and a Short season** in areas such as Navrongo, Bolgatanga, Damongo, Yendi, Bimbila, Babile and their environs may lead to **waterlogged soil**, **erosive runoff**, **flooding**, and **rapid filling of lowlands**, potentially disrupting transportation, economic activity, and access to healthcare.

  Risks include:

  - Floods
  - Crop and pasture damage
  - Loss of livestock and human life
  - Infrastructure destruction (roads, power lines, markets, schools, health centers, religious sites, cemeteries)
  - Spread of waterborne and diarrheal diseases
  - Pest outbreaks
  - Landslides and river siltation
  - Post-harvest losses

- **Long Dry Spells and Below Normal rainfall** in areas like Atebubu, Kete Krachi and their surroundings may lead to:

  - Poor rainfall distribution
  - Disrupted crop calendars
  - Poor pasture growth
  - Delayed transhumance (the practice of moving livestock from one grazing ground to another in a seasonal cycle)
  - Prolonged hunger gaps
  - Migration and abandonment of farms

- Heatwaves and dust storms
- Crop failures, yield loss, food inflation and food crises

- **Normal Length of Season, Short Dry Spells Below Normal rainfall** in Bui and its surroundings may lead to:
  - Crop failure
  - Food insecurity
  - Livelihood disruption
  - Water scarcity
  - Pasture depletion for livestock
- These risks, when combined with **civil insecurity, poverty**, and **household vulnerability**, could intensify **social tensions**, **land conflicts**, **pastoralist-farmer clashes**, **disputes over infrastructure**, and contribute to **social unrest**, **banditry**, **terrorism**, etc.

III. Recommendations

1) Flood Risk

- Establish and operationalize integrated monitoring and early warning systems for flood risk.
- Improve disaster, hydrological and meteorological collaboration.
- Sensitize the populace in the exposed areas about the impending danger.
- The Municipal and Metropolitan authorities and the National disaster Agency are advised to put in place the necessary measures to ensure communities and livelihoods are safeguarded.
- Authorities should provide emergency/temporal sites for the victims and assist the homeless and vulnerable groups in society during this period.
- Ensure the Control/maintenance of dams and road infrastructure.
- Promote flood-tolerant crops (An all-year- round activity)

- Maintain flood protection infrastructure
- Clean drainage systems
- Control livestock movement

2) Disease and Pest Risk

- Strengthening disease alert systems (cholera, malaria, dengue, etc.)
- Improve national health systems
- Sanitize communities and drain contaminated water
- Vaccinate people and animals
- Monitor and prevent pest outbreaks (especially locusts already reported in the Maghreb)

3) Long Dry Spell Risk

- Set up education and sensitization of the people on the likelihood of bush fires.
- Support water harvesting whenever it rains and ensure prudent use of available water
- Promote small-scale irrigation and gardening
- Use drought-tolerant crop varieties
- Adopt climate-smart farming practices
- Engage with national meteorological, hydrological and agricultural experts for information and advice to provide relief to affected areas.

IV General Recommendations

4)Transport and Public Safety

- Drivers are advised to refrain from driving through floodwater. Road users should be mindful when plying roads in flood-prone areas as flash floods are likely to occur, especially in Cosmopolitan areas and city centers.
- Light aircraft are advised to take the utmost care and avoid flying through deep convective clouds that are associated with severe turbulence and lightning, especially in the afternoon hours.
- Motorists should be mindful of fallen trees and objects on roads during or after a storm.

5) National/Local Authorities

Local authorities in areas where heavy rainfall is expected are advised to.

- Provide emergency/temporal sites for the victims.
- Ensure the control/maintenance of dams and road infrastructure
- Work hand in hand with the communities through the local authorities (assembly members) to sensitize the populace on sustained community clean-up exercises and activities.
- Ensure enough food storage.
- Build the capacity of national health systems and national platforms for disaster risk management
- Collaborate with the Ghana Meteorological Agency, National Disaster Management Organization (NADMO) and Health Services to disseminate warnings and create awareness on climate-related diseases.
- Strengthening the dissemination and communication of hydro-climatic information (including seasonal forecasts) and raising community awareness through radio, television, mobile phones, and information platforms for disaster risk reduction management.
- Monitor the quality treatment of water and sanitation in towns and villages
- Improve agro-hydro-meteorological advisory services

6) General Public

- Take advantage of average to above average runoff situations to develop fish farming and optimize fishing yields in river basins.
- Continuously desilt drains, especially in front of our homes and shops, before and during the season.
- Monitor water quality and report any suspicions to the environmental offices of the assemblies or to the standard authority.
- People should move to higher ground in case they stay in flood-prone areas.

7) Health Sector – Facing the risk of diseases

In places where the rainy season is wetter, there are high levels of risk of Cholera, malaria, dengue fever, bilharzia, and diarrhea. To mitigate the development of germs and reduce the risk of water and airborne diseases, it is strongly recommended that:

- Public Education should be intensified through national platforms on disaster risk reduction such as the radio, tv, information vans, churches, mosques etc
- Dissemination of bulletins on climate-sensitive diseases.
- Prevent diseases by vaccinating people and animals.
- Set up stocks of mosquito-proofed nets, anti-malaria drugs
- Provision of mosquito nets, antimalarial drugs in affected areas.

8) Agriculture, Food Security and Livestock

- Invest in improved seed varieties and the development of yield enhancement techniques for both food crops and cash crops.
- Provide fertilizers (organic and mineral fertilizers). iii. Increase vigilance against crop pests (e.g., armyworm and other pests).
- Monitor and follow the updates of these seasonal forecasts and the short- and medium-term forecasts produced and disseminated by the national meteorological and hydrological services.
- Focus on drought-tolerant crops and early maturing varieties for areas likely to experience water deficits.
- Strengthen monitoring of food and nutrition security in at-risk areas.
- Implement early warning systems to mitigate the impact of the long dry spells anticipated

NB: This outlook should be used with the Daily, Weekly, Sub seasonal, Monthly and regular updates issued by the Agency.

For further inquiries, clarification, information, or assistance Contact:

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

Ghana Meteorological Agency

info@meteo.gov.gh

www.meteo.gov.gh

@GhanaMet Ghana Meteorological Agency (GMet)

Ghana Meteorological Agency (GMet) @ Ghana Meteorological Agency