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GHANA METEOROLOGICAL AGENCY SEASONAL RAINFALL FORECAST FOR THE MINOR RAINY SEASON: SEPTEMBER OCTOBER NOVEMBER (SON) 2024.

Ref. No: Met. 9.3/210

Date Issued: ***4*** **th August 2024**

Summary
The 2024 Minor Season is expected to have above normal to normal rainfall for the extreme north and the forest zone. The transition, most portions of the north and east coast are forecasted to experience normal to above normal rainfall. Late to normal onset of rains are expected over most areas in the southern part of the country. Most parts of the southern sector are expected to have short to normal dry spells with the transition likely to record long to normal dry spells within the early part of the season. The second dry spell for the entire coast is expected to be long to normal, whereas the transition and the forest zone is expected to have normal to short dry spells. Normal to late cessation is predicted for the southern half of the country. The east coast will experience late to normal cessation. At the end of these forecasts, recommendations are made to the various stakeholders to help manage risks and take advantage of the benefits of the season.

2024 SON (MINOR) SEASONAL FORECAST

Observed atmospheric conditions over land and oceans coupled with outputs from the World Meteorological Organization (WMO) recommended Leading forecast Centers like International Research Institute for Climate and Society (IRI), Climate Prediction Centre (NCEP-CPC, NOAA), the European Centre for Medium-Range Weather Forecast (ECMWF), UK Met Office, Meteo France, North American Multi-Model Ensemble (NMME), North Carolina Institute for Climate Studies together with the data, local climatology experience and outputs of the Ghana Meteorological Agency, do suggest that the minor rainy season over the country is expected to be as follows:

Onset Probability Forecast and Onset Dates for the 2024 Minor Season

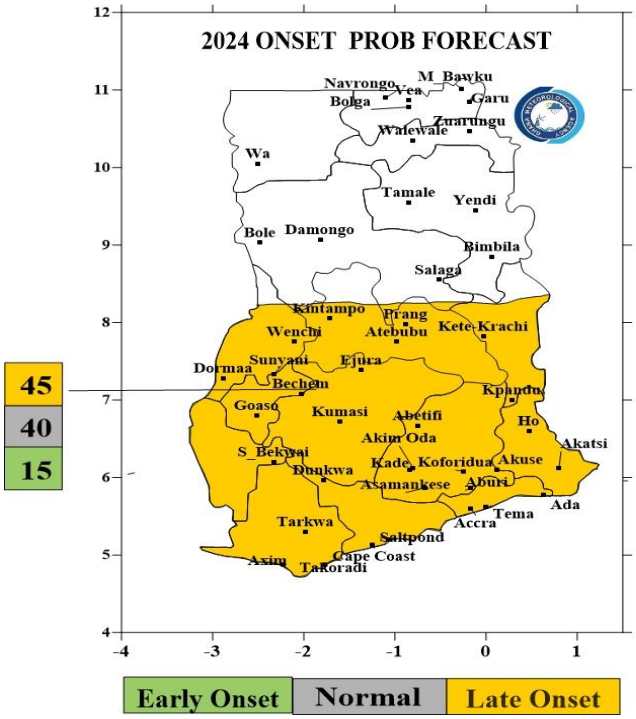


Fig. 1 Prob. forecast for *Onset dates for the 2024 minor season*

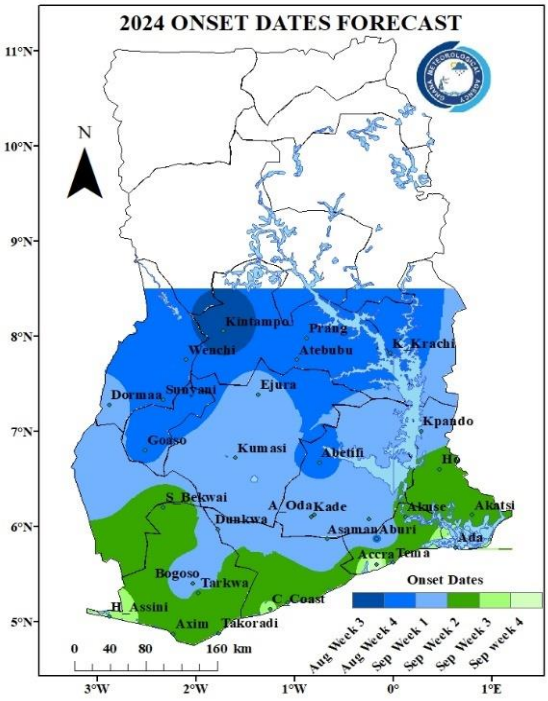


Fig. 2 *Onset dates for the 2024 minor season*

Table 1. Long-Term Mean (LTM) of Onset and Onset Dates for 2024 Minor Rainfall Season

Note: Normal (*Long-term mean (LTM)) is the 30-year average condition of the given Zone from 1991-2020*

ZONE	Normal Onset Dates (LTM)	Forecasted Onset Dates
Transition Zone	3rd Week of Aug – 1st Week of Sept	4th Week of Aug – 1st Week of Sept.
Forest Zone	3rd Week of Aug – 1st Week of Sept	4th Week of Aug – 2nd Week of Sept
West Coast	4th Week of Aug. – 2nd Week of Sept	2nd Week of Sep– 3rd Week of Sept.
East Coast	1st Week of Sept. – 3rd Week of Sept	2nd Week of Sep – 4th Week of Sept.

Probability Forecast and Total Rainfall Maps for 2024 Minor Season

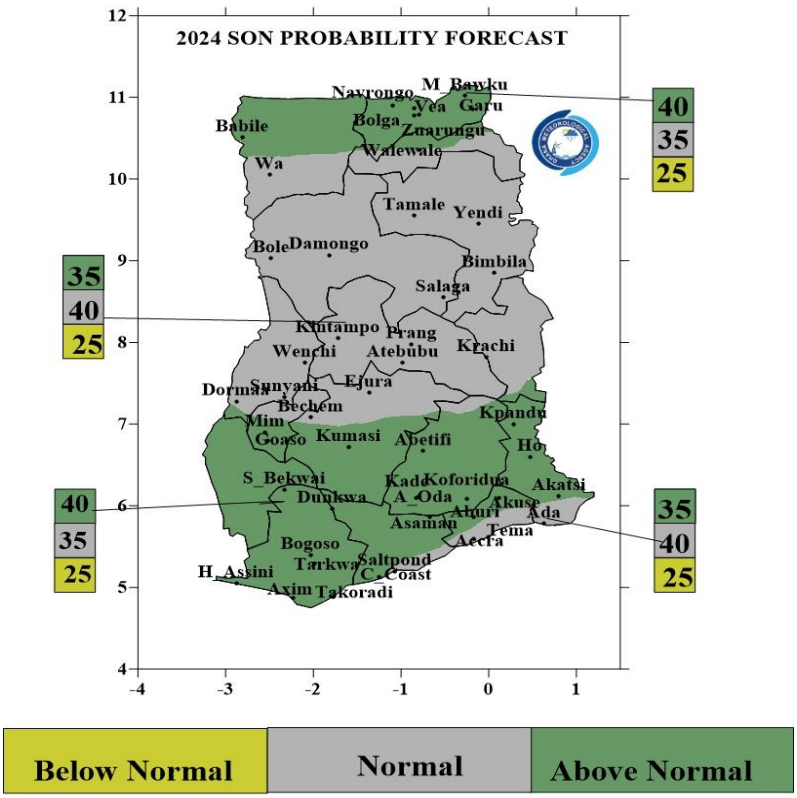


Fig. 3 *Total Rainfall Probability Forecast for the 2024 minor season*

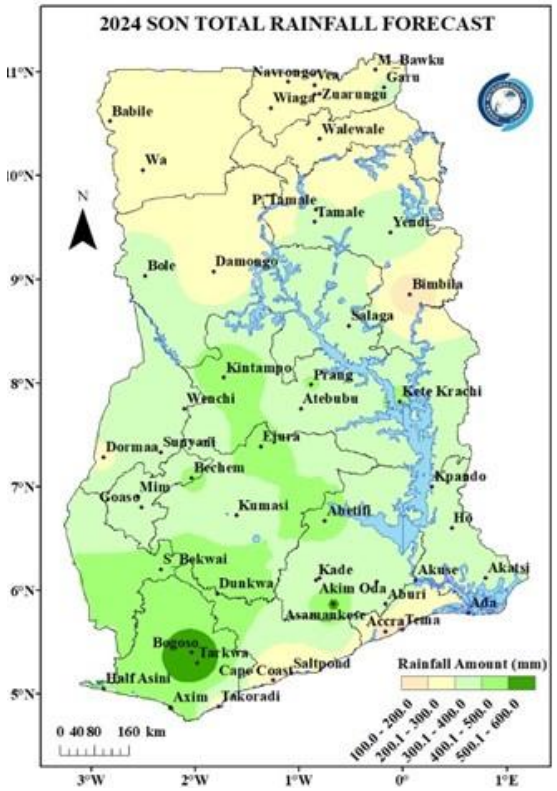


Fig. 4 *Total Rainfall for the 2024 minor season*

Table 2. Forecast of Total Rainfall Amount for the 2024 Minor Season

ZONE	Normal Total Rainfall LTM (mm)	Forecasted Total Rainfall 2024 (mm)
East Coast	82 -250	86 – 258
West Coast	218 – 515	279 – 519
Forest	240 – 588	247 – 597
Transition	290 – 572	336 – 570
North	112 – 452	215 – 453
Upper East	171 – 320	194 – 325
Upper West	218 - 312	245 – 312

First Dry Spell Days and Probability Forecast Maps for the 2024 Minor Season

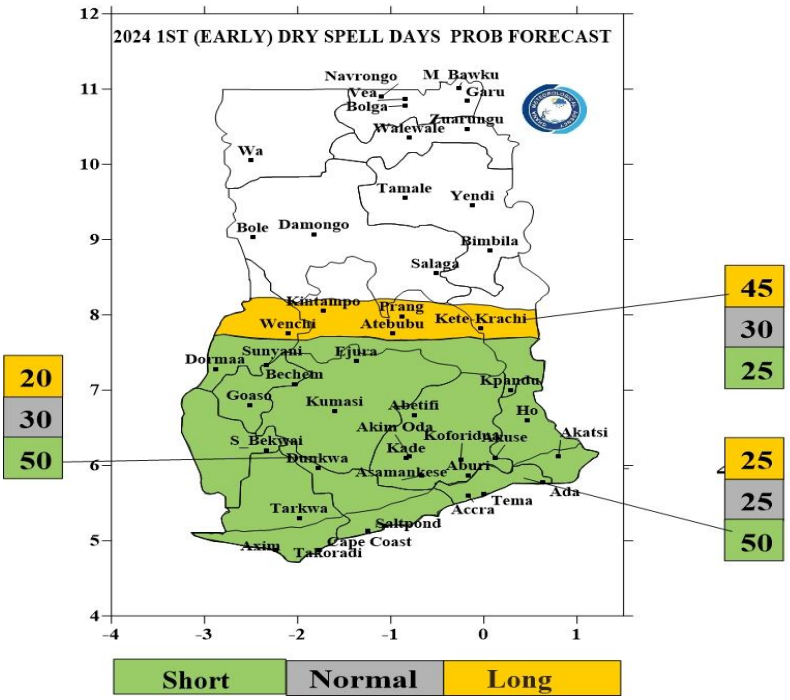


Fig. 5 *First Dry Spell Days Probability Forecast for the 2024 minor season*

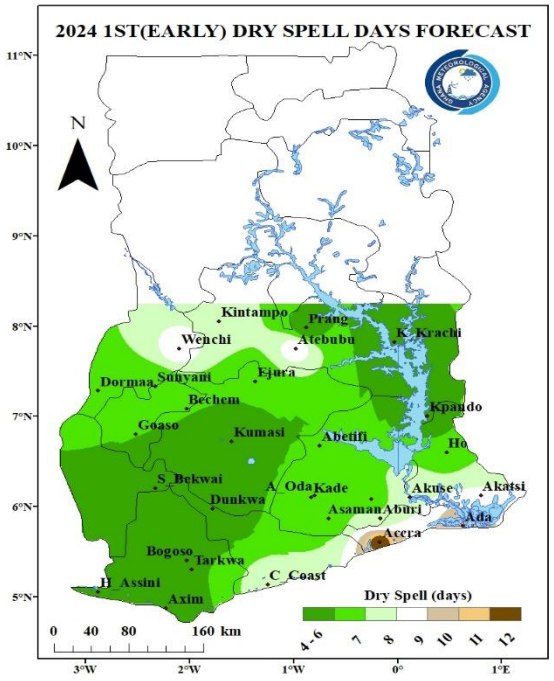


Fig. 6 First *Dry Spell Days for the 2024 minor season*

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

Table 3. LTM for Minor Season and its Forecast of First Dry Spell Days

ZONE	LTM of First Dry Spell(days)	Forecast of First Dry Spell(days)
Forest Zone	6-10	4-7
West Coast	7-8	5-8
Transition Zone	6-7	7-9
East Coast	10-13	8-14

Second (Late) Dry Spell Days and Probability Forecast Maps for the 2024 Minor Season

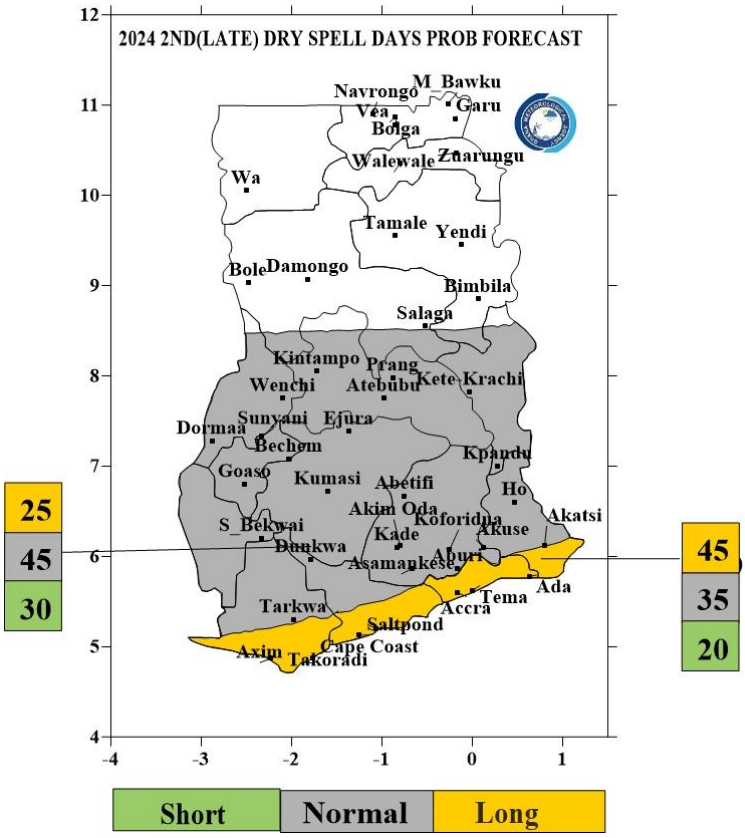


Fig. 7 *Second Dry Spell Days Probability Forecast for the 2024 minor season*

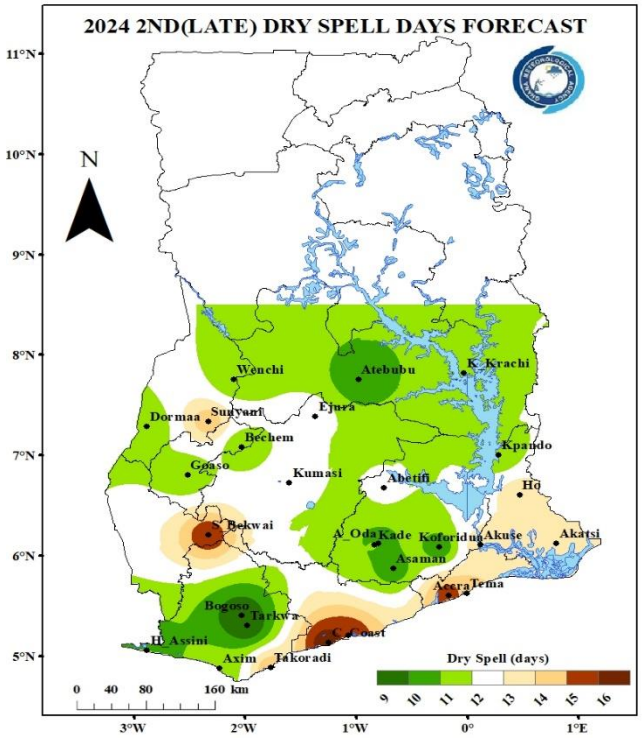


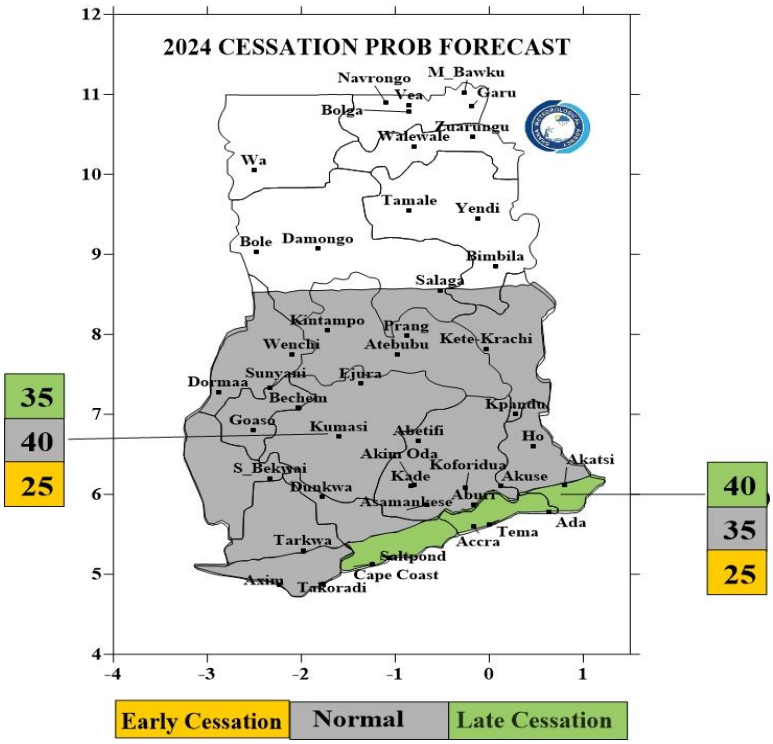
Fig. 8 *Second Dry Spell Days for the 2024 minor season*

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

Table 4. LTM for SON Season and its Forecast of Late Dry Spell

ZONE	Normal of Late Spell(days)	Forecast of Late Spell(days)
Forest Zone	9-16	9-15
Transition Zone	10-17	10-11
West Coast	10-13	10-14
East Coast	11-14	14-16

Cessation Probability Forecast and Cessation Dates Maps for 2024 Minor Season



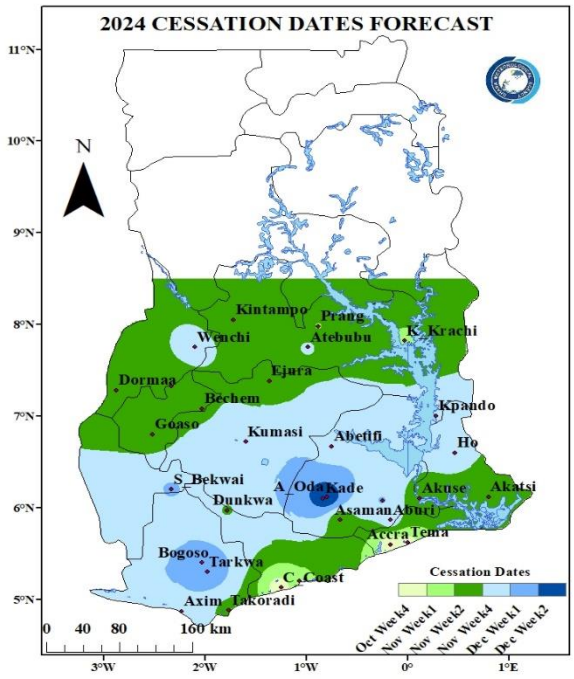


Table 5. Long-Term Mean of Cessation and Cessation Dates for 2024 Minor Rainfall Season

ZONE	Normal Cessation dates (LTM)	Forecasted Cessation dates
East Coast	3rd Week of Oct – 4th Week of Oct.	4th Week of Oct – 2nd Week of Nov.
Transition Zone	1st Week of Nov – 3rd Week of Nov	1st Week of Nov – 4th Week of Nov.
West Coast	4th Week of Oct – 4th Week of Nov	2nd Week of Nov – 4th Week of Nov.
Forest Zone	1st Week of Nov – 1st Week of Dec.	1st Week of Nov – 2nd Week of Dec.

Length of Season and Probability Forecast Maps for 2024 Minor Season

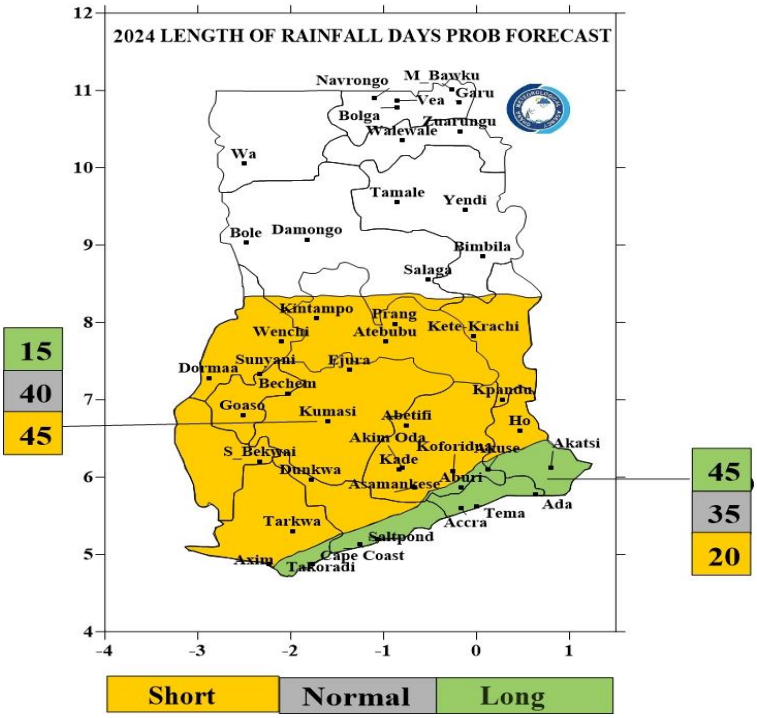


Fig. 11. Length of rainfall days Probability forecast for the 2024 minor season

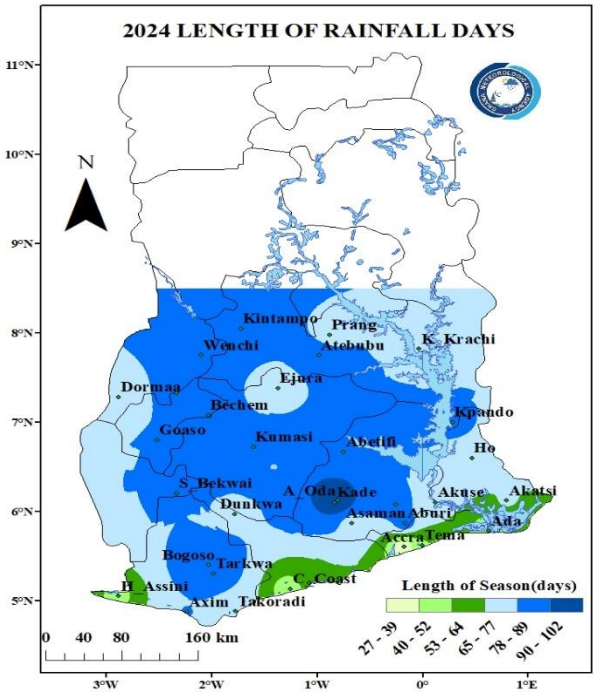


Fig. 12. *Length of rainfall days for the 2024 minor season*

Table 6. Forecast of Length of Rainfall Days and LTM for 2024 Minor Season

ZONE	LTM (Days)	Forecasted Length of Rainfall Days
Transition	65-95	70 - 86
West Coast	55-80	49 - 77
East Coast	30-45	27 - 59
Forest	65-100	65 - 102

NB: The East coast mostly does not have the length of the season spanning beyond 50 days

SUMMARY OF MINOR SEASONAL FORECAST, 2024

1. TOTAL RAINFALL DISTRIBUTION

a) Update of Northern Ghana Rainfall Season

The extreme North is expected to have mostly above normal to normal rainfall in places like Babile, Zuarungu, Walewale, Bolgatanga, Garu, and their surroundings.
Areas such as Bole, Damongo, Tamale, Yendi, Bimbila, Salaga, and their surroundings are expected to receive normal to above-normal rainfall during the season. (*See Table 2 for Normal Rainfall amounts*)

b) Southern Ghana Rainfall Season

The distribution of SON seasonal total rainfall is expected to receive above - normal to normal for the southern part of the country.
The transition zone is anticipated to receive rainfall ranging from normal to above-normal amounts. These areas encompass Kintampo, Prang, Wenchi, Sunyani, Kete Krachi, and their surroundings. (Table 1 for normal rainfall amount).
Places in the forest zone including but not limited to Goaso, Kumasi, Ejura, Koforidua, Ho, Tarkwa, Sefwi Bekwai and Aburi are projected to experience above normal to normal rainfall.
Accra, Tema, Ada, Saltpond and their environs making up the east coast are also expected to receive normal to above normal rains during this season.
Axim, Half Assini and Takoradi in the west coast are expected to have above normal to normal rainfall.

2. ONSET

Late to normal onset dates are expected over most places in Southern Ghana such as Kumasi, Goaso, Tema, Tarkwa, Sefwi Bekwai and Accra. However, in the Transition zone, areas around Kintampo and Wenchi are likely to experience a normal onset.
Along the coast, Saltpond and its surroundings are also expected to record a normal onset for the 2024 Minor season. (*See Table 1 for Normal Onset dates*)

3. DRY SPELLS

a) 1st (Early) Dry Spell

The first dry spell for the transition sector (Kintampo, Wenchi, Atebubu, Kete Krachi and Prang) is expected to be long to normal. Most areas in the southern sector are forecasted to have short to normal dry spell days. However, Ada, Cape Coast and their surroundings along the east coast are expected to have longer dry spell days. (*See Table 3 for 1st dry spell days).*

b) 2nd (Late) Dry Spell

The dry spell days in the coastal region is projected to vary from long to normal dry days, with Cape Coast expected to experience the longest number of dry spell days. The forest and transition zones are forecasted to exhibit normal to short dry spell days, where most areas such as Bogoso, Tarkwa, Asamankese and their surroundings are likely to experience normal duration of dry days. (*See Table 4 for 2nd dry spell days*)

4. CESSATION

Normal to late cessation is expected in most parts of southern Ghana such as Dunkwa, Bogoso, Goaso, Kete Krachi, Sunyani, Kade, Prang and their surroundings. Exceptionally, Asamankese in the forest zone is expected to have early to normal cessation. However, areas within the East Coast (Ada, Tema, Accra, Cape Coast and Saltpond) are expected to experience a late to normal cessation (*See Table 5 for Cessation dates*).

5. LENGTH OF RAINFALL DAYS

In the transition and forest zones most areas like Kete Krachi, Kintampo, Ho, Bechem and its surroundings are expected to have short to normal length of rainfall days. However, areas such as Abetifi and Koforidua are expected to be longer than normal. Over the coast, the season is forecasted to be long to normal for most areas except Half Assini and Ada, which are likely to have short length of rainfall days. (*See Table 6 for the length of rainfall days)*

POTENTIAL IMPACTS AND RECOMMENDATIONS (ADVISORIES)

At the peak of the SON season, there is a high probability of a few incidences of heavy rains accompanied by strong winds and lightning in the Northern sector which could lead to localized floods. There is also a high probability of experiencing shorter to normal dry spells during the beginning of the season and relatively normal to long dry spells towards the end of the season. The minor Season, characteristically, has a relatively shorter length of season. Therefore, to mitigate any risk that might affect people, animals, crops, and other properties, it is recommended that:

a) Disaster Management Sector

In the phase of flood risk: (There is a high probability of occurrence this year, 2024, in the Northern half of Ghana due to the impact of the rains and the likelihood of the spillage of the Bagre dam in Burkina Faso)

i. Establish and operationalize integrated monitoring and early warning systems for floodrisk.
ii. Exchanges between the agencies in charge of flood monitoring, disaster risk reduction,and humanitarian aid should be escalated.
iii. Sensitize the populace of the exposed areas about the impending danger.
iv. Settlers in flood-prone areas should be relocated (Domestic/Farming/ Commercial places)

b) Transport and Public Safety

Flash Floods may occur especially in places like low-lying areas of Accra and Kumasi during the September to November period. This may lead to some roads becoming impassable when it rains. Road users should be mindful when plying those roads. Drivers should resist driving through flood waters.

c) National/Local Authorities

Municipal Authorities in areas where deficit rainfall may occur are advised to;

i. Ensure the Control/maintenance of dams/dugouts for irrigation as well as for livestock.
ii. Ensure enough food storage.
iii. Collaborate with the Meteorological Agency, National Disaster Management Organization (NADMO), and Health Services to disseminate warnings and create awareness of climate-related diseases.
iv. Monitor the quality of water and sanitation in towns and villages.
v. Promote irrigation and ensure rational management of water resources for crops and other uses.

d) General Public

i. Must be mindful of the impact of deficit rainfall on dams and its attendant challenges to the energy sector. The public is therefore advised to use energy prudently.
ii. Wear protective clothing to avoid any sickness arising from the relatively cool conditions that may prevail.

e) Health Sector – Facing the risk of diseases

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

i. Public Education should be intensified through national platforms on disaster risk reduction through the radio, TV, information vans, etc.
ii. Dissemination of bulletins on climate-sensitive diseases.
iii. Intensify collaboration with stakeholders such as the meteorological, hydrological, and disaster organizations. Prevent diseases by vaccinating people and animals.
iv. Stock up on medication and medical supplies ahead of the rainy season, especially in remote areas.

f) Agriculture, Food Security and Livestock Sectors

For areas where it is likely to observe normal to above normal rainfall, late season start dates, short to normal dry spells, normal to late cessation, and deficit river/dam flows, it is *recommended that farmers, breeders, authorities, projects, and NGOs*:

i. Invest more in the seeds of improved varieties (short maturation crops) and practice the development of yield enhancement techniques for both food crops and cash crops.
ii. Be mindful of the decisions and choices they make since there is the likelihood of moisture deficit towards the end of the season coupled with the fact that the season is shorter.
iii. Diversify income-generating activities and promote agricultural practices such as no-tillage, mulching, market gardening, and agroforestry to offset the production deficit that could affect areas exposed to dry spells at the tail end of the season.
iv. Adopt farming techniques/practices for the conservation of soil water.
v. Liaise with national Meteorological, Agricultural, and Hydrological Authorities for information

and expert advice.

vi. Device plans to protect farm produce due to the likelihood of rains during harvest time which could lead to post-harvest losses.

NB. This outlook should be used with the 24-hour and regular updates issued by the Agency.

For further enquiries, clarification, information or assistance
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