

FLOOD & DROUGHT BULLETIN

2024

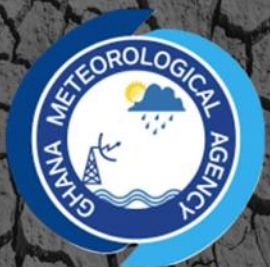


Table of Contents

INTRODUCTION	5
THE STANDARDIZED PRECIPITATION INDEX (SPI)	5
1-month SPI.....	6
3-month SPI.....	6
6-month SPI.....	6
12-month SPI.....	6
JANUARY 2024.....	8
1-Month SPI (January 2024).....	8
3-month SPI (November 2023 - January 2024)	8
6-month SPI (August 2023 - January 2024)	9
12-month SPI (February 2023 - January 2024).....	9
FEBRUARY 2024	10
1-Month SPI (February 2024).....	10
3-month SPI (December 2023 - February 2024).....	10
6-month SPI (September 2023 - February 2024).....	11
12-month SPI (March 2023 - February 2024).....	11
MARCH 2024.....	13
1-Month SPI (March 2024).....	13
3-month SPI (January 2024 - March 2024).....	13
6-month SPI (October 2023 - March 2024)	14
12-month SPI (April 2023 - March 2024).....	14
APRIL 2024.....	16
1-Month SPI (April 2024).....	16
3-month SPI (February 2024 - April 2024).....	16
6-month SPI (November 2023 - April 2024)	17
12-month SPI (May 2023 - April 2024).....	17
MAY 2024	19
1-Month SPI (May 2024)	19
3-month SPI (March 2024 - May 2024).....	19
6-month SPI (December 2023 - May 2024).....	20

12-month SPI (June 2023 - May 2024).....	21
JUNE 2024.....	22
1-Month SPI (June 2024)	22
3-month SPI (April 2024 - June 2024).....	22
6-month SPI (January 2024 - June 2024).....	23
12-month SPI (July 2023 - June 2024).....	23
JULY 2024.....	25
1-Month SPI (July 2024).....	25
3-month SPI (May 2024 - July 2024).....	25
6-month SPI (February 2024 - July 2024)	26
12-month SPI (August 2023 - July 2024)	26
AUGUST 2024	28
1-Month SPI (August 2024).....	28
3-month SPI (June 2023 - August 2024).....	28
6-month SPI (March 2023 - August 2024)	29
12-month SPI (September 2023 - August 2024).....	29
SEPTEMBER 2024	31
1-Month SPI (September 2024)	31
3-month SPI (July 2024 - September 2024).....	31
6-month SPI (April 2024 - September 2024).....	32
12-month SPI (October 2023 - September 2024).....	32
OCTOBER 2024.....	33
1-Month SPI (October 2024).....	33
3-month SPI (August 2024 - October 2024)	33
6-month SPI (May 2024 - October 2024)	34
12-month SPI (November 2023 - October 2024).....	34
NOVEMBER 2024.....	35
1-Month SPI (November 2024).....	35
3-month SPI (September 2024 - November 2024).....	35
6-month SPI (June 2024 - November 2024)	36
12-month SPI (December 2023 - November 2024)	36
DECEMBER 2024.....	37

1-Month SPI (December 2024) 37

3-month SPI (October 2024 - December 2024) 37

6-month SPI (July 2024 - December 2024) 38

12-month SPI (January 2024 - December 2024)..... 38

STATIONS 39

REFERENCE..... 40

The Flood and Drought bulletin is a monthly analysis of rainfall in Ghana prepared and released by the Ghana Meteorological Agency (GMet). The bulletin provides an authoritative and scientific understanding of rainfall variability which is essential for accurate hydrological modeling, climate change assessments, and effective water resource planning to mitigate risks associated with extreme events like droughts and floods.

Among other services and products, the Flood and Drought bulletin complements the objectives of GMet in line with the National Framework for Climate Services (NFCS) to improve co-production, tailoring, delivery and use of science-based climate predictions and services focused on the five pillars of the Global Framework for Climate Services (GFCS) by the World Meteorological Organization (WMO): agriculture and food security, disaster risk reduction, energy, health and water.

The analysis in the Flood and Drought bulletin is based on the Standardized Precipitation Index (SPI) developed by McKee et al. (1993) for the purpose of *defining and monitoring drought*. Drought is an insidious natural hazard that results from lower levels of precipitation than what is considered normal. When this phenomenon extends over a season or a longer period of time, water becomes increasingly insufficient to meet the demands of human activities and the environment. Drought must be considered a relative, rather than absolute, condition. Drought means different things to different users such as water managers, agricultural producers, hydroelectric power plant operators and wildlife biologists. Even within sectors, there are many different perspectives of drought because impacts may differ markedly. Droughts are commonly classified by type as meteorological, agricultural and hydrological, and differ from one another in intensity, duration and spatial coverage (WMO, 2012).

SPI indicator, which was developed by McKee et al. (1993), and described in detail by Edwards and McKee (1997), measures precipitation anomalies at a given location, based on a comparison of observed total precipitation amounts for an accumulation period of interest (e.g. 1, 3, 12, 48 months), with the long-term historic rainfall record for that period. This indicator measures anomalies of accumulated precipitation during a given period. In calculating SPI, precipitation is the only required input parameter (McKee and others, 1993, 1995). The SPI calculation for any location is based on the long-term precipitation record for a desired period. This long-term record is fitted to a probability distribution, which is then transformed into a normal distribution so that the mean SPI for the location and desired period is zero (Edwards and McKee, 1997).

The SPI is designed to quantify the precipitation deficit for multiple timescales and can be calculated from 1 month up to 72 months. Statistically, 1–24 months is the best practical range of

application (Guttman, 1994, 1999). The Flood and Drought bulletin of Ghana considers only the 1-month, 3-month, 6-month and 12-month SPI.

1-month SPI

The 1-month SPI compares the precipitation of a specific month with the precipitation totals from the same month for all the years included in the historical record.

3-month SPI

The 3-month SPI provides a comparison of the precipitation over a specific 3 consecutive month period with the precipitation totals from the same 3-month period for all the years included in the historical record.

6-month SPI

The 6-month SPI compares the precipitation for a specific 6 consecutive months with the same 6-month period over the historical record.

12-month SPI

The 12-month SPI is a comparison of the precipitation for 12 consecutive months with that recorded in the same 12 months in all previous years of available data.

These timescales reflect the impact of drought on the availability of the different water resources. Meteorological and soil moisture conditions (agriculture) respond to precipitation anomalies on relatively short timescales, for example 1 to 3 months (SPI-1 to SPI-3), whereas streamflow, reservoirs, and groundwater respond to longer-term precipitation anomalies, for example 3 months to 12 months (SPI-3 to SPI-12) or longer (EDO, 2020).

A real strength of the SPI is its ability to be calculated for many timescales, which makes it possible to deal with many of the drought types described above. The ability to compute the SPI on multiple timescales allows for temporal flexibility in the evaluation of precipitation conditions in relation to water supply.

In the Flood and Drought bulletin, the SPI values for any given location and accumulation period, are classified into nine different precipitation regimes (from dry to wet), as shown in Table 1. As can be seen, increasingly severe rainfall deficits (i.e., meteorological droughts) are indicated as SPI decreases below -0.5, while increasingly severe excess rainfall is indicated as SPI increases above 0.5.

ANOMALY	RANGE OF SPI VALUES	PRECIPITATION REGIME	COLOUR
Negative	Min $\leq$ SPI $\leq$ -2.0	Extreme dry	
	-2.0 < SPI $\leq$ -1.5	Severe dry	
	-1.5 < SPI $\leq$ -1.0	Moderate dry	
	-1.0 < SPI $\leq$ -0.5	Mild dry	
None	-0.5 < SPI $\leq$ 0.5	Normal precipitation	
Positive	0.5 < SPI $\leq$ 1.0	Mild wet	
	1.0 < SPI $\leq$ 1.5	Moderate wet	
	1.5 < SPI $\leq$ 2.0	Severe wet	
	2.0 < SPI $\leq$ Max	Extreme wet	

Table 1: SPI classification scheme used in the Flood and Drought bulletin

JANUARY 2024

The SPI analysis for rainfall in January 2024 has been generated in multiple timescales of 1-month (January 2024), 3-month (November 2023 – January 2024), 6-month (August 2023 – January 2024) and 12-month (February 2023 – January 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

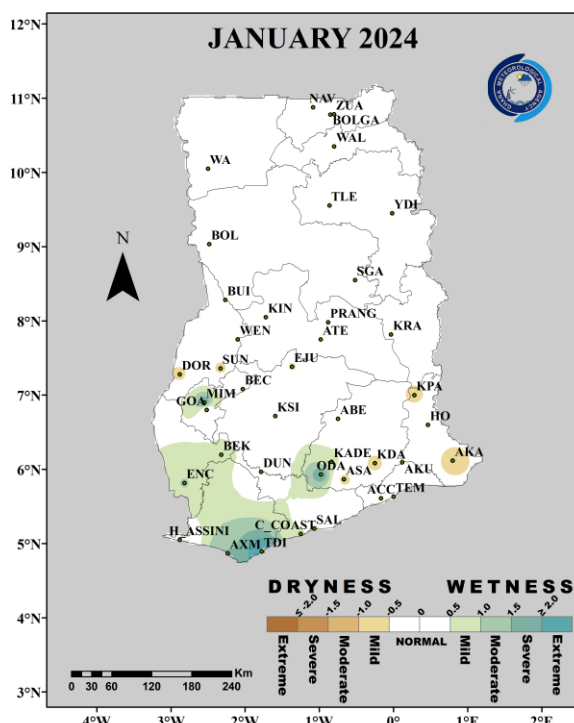


Fig. 1(a): 1-Month SPI (for meteorological drought): January 2024

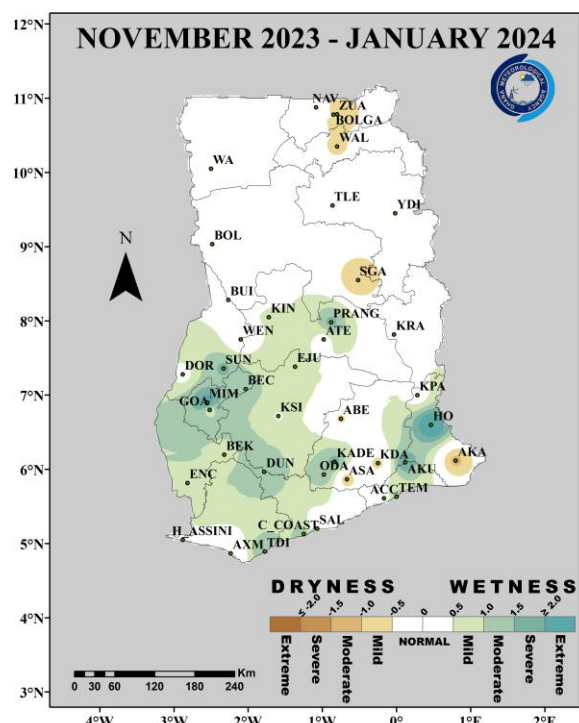


Fig. 1(b): 3-Month SPI (for agricultural drought): November 2023 – January 2024

1-Month SPI (January 2024)

The 1-Month Standardized Precipitation Index (SPI) for January is shown in Fig. 1(a). Normal condition dominates most parts of the country with mild to severe wetness shown in areas such as Goaso, Axim, Takoradi and Akim Oda within the Forest zone. Dormaa, Sunyani, Ejura, Kpando, Akatsi, Asamankese and Koforidua exhibited mild dryness.

3-month SPI (November 2023 - January 2024)

The 3-month SPI in Fig.1(b) shows normal conditions dominating most areas in the Savanna zone with patches of mild dryness Walewale, Bolgatanga and Zuarungu. The Transition zone witnessed mild to moderate wetness in areas such as Prang, Kintampo, Sunyani and Bechem with Salaga showing mild dryness. Areas such as Mim, Ejura Sefwi Bekwai, Enchi, Akim Oda, Akuse and Takoradi recorded mild to severe wetness with Ho showing extreme wetness whereas Asamankese and Koforidua had mild dry condition. The Coastal zone shows mild to moderate wet conditions in Cape Coast and Tema while Akatsi depicts mild dry condition.

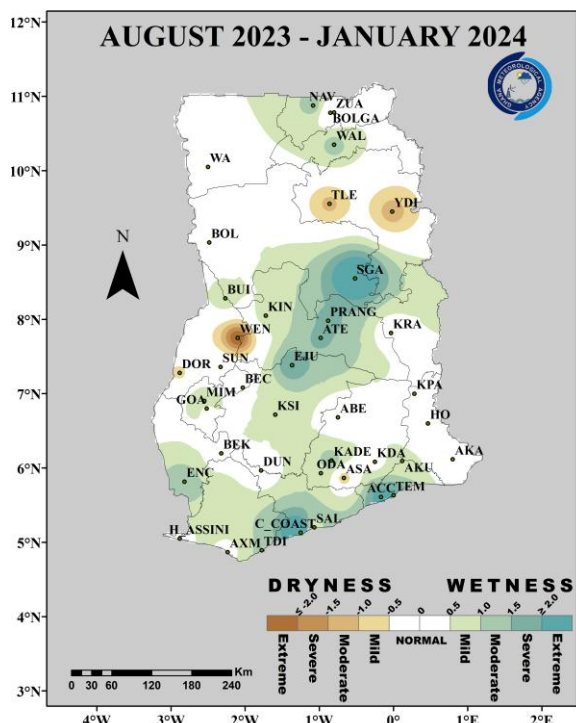


Fig. 1(c): 6-Month SPI (for hydrological drought): August 2023 – January 2024

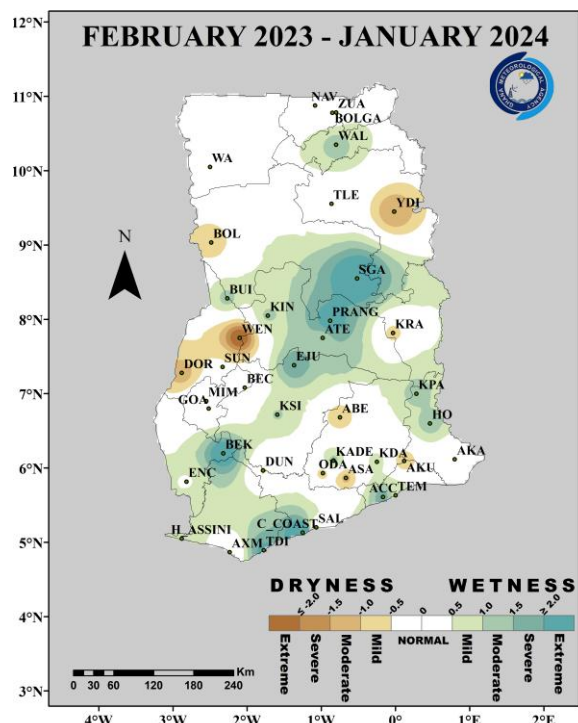


Fig. 1(d): 12-Month SPI (for streamflow and lake storage drought): February 2023 – January 2024

6-month SPI (August 2023 - January 2024)

The 6-month SPI shown Fig. 1(c) reveals mild to moderate wet conditions in Walewale and Navrongo within the Savanna zone with moderate dryness in Yendi and Tamale. The Transition zone shows extreme wetness in Salaga with mild to moderate wet conditions in areas such as Bui, Kintampo, Atebubu and Prang whereas mild dryness is seen in Dormaa with extreme dryness in Wenchi. Ejura, Kumasi, Akim Oda, Kade and Akuse in the Forest zone recorded mild to severe wetness while Asamankese showed mild dryness. The Coastal zone depicts severe to extreme wetness in Cape Coast, Accra and Tema.

12-month SPI (February 2023 - January 2024)

The 12-month SPI shown in Fig. 1(d) indicates mainly normal condition in the Savanna zone with Walewale showing moderate wet condition while Bole and Yendi showed mild to moderate dry conditions. Extreme wet condition is seen in Salaga and Prang within the Transition zone with moderate wetness in Bui, Kintampo and Atebubu whereas extreme dry condition is depicted in Wenchi with mild to moderate dryness in Dormaa and Kete Krachi. In the Forest zone, Sefwi Bekwai recorded extreme wet condition with mild to severe wetness in areas including Ejura, Kumasi, Half Assini, Takoradi, Kade, Koforidua, Ho and Kpando whilst mild dry condition is seen in Abetifi, Dunkwa, Asamankese and Akuse. The Coastal zone shows extreme wet condition in Cape Coast with Accra and Tema exhibiting mild to severe wetness.

FEBRUARY 2024

The SPI analysis for rainfall in February 2024 has been generated in multiple timescales of 1-month (February, 2024), 3-month (December 2023 – February 2024), 6-month (September 2023 – February 2024) and 12-month (March 2023 – February 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

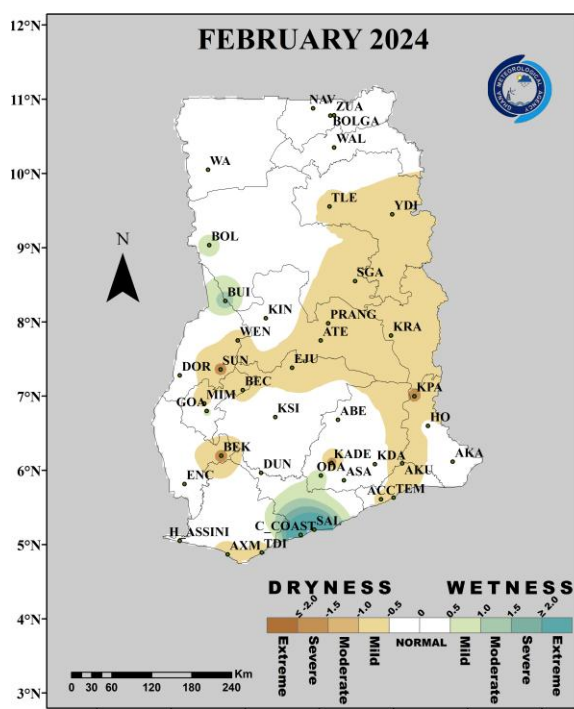


Fig. 2(a): 1-Month SPI (for meteorological drought): February 2024

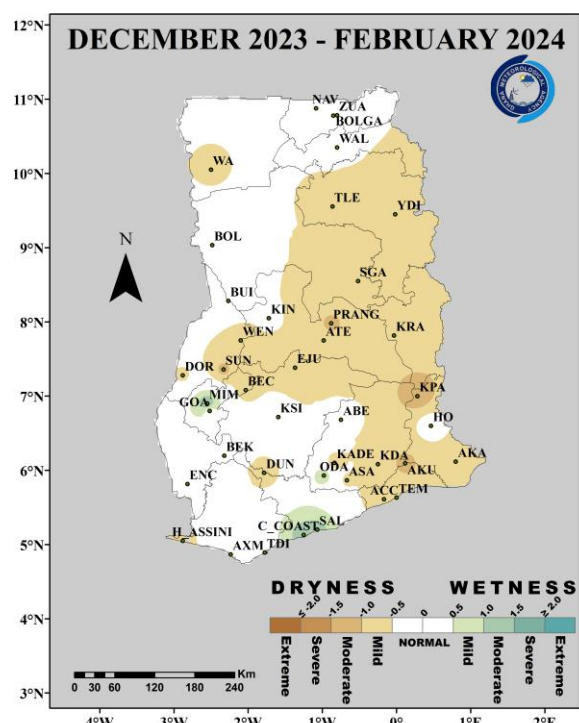


Fig. 2(b): 3-Month SPI (for agricultural drought): December 2023 – February 2024

1-Month SPI (February 2024)

The 1-month SPI for February 2024 shown in Fig.2(a) indicates predominantly normal condition in the Savanna zone with mild wet condition in Bole and mild dry condition in Tamale and Yendi. The Transition zone is characterized mainly by mild to moderate dry conditions in areas such as Salaga, Kete Krachi, Atebubu, Bechem, Sunyani and Wenchi with Bui showing moderate wet condition. Mild to moderate dry conditions are shown in Mim, Ejura, Sefwi Bekwai, Kade, Axim, Akuse and Kpando in Forest zone. Cape Coast and Saltpond in the Coastal zone recorded extreme wetness while Accra and Tema display mild dry condition.

3-month SPI (December 2023 - February 2024)

The 3-month SPI shown in Fig. 2(b) reveals mostly normal condition in the Savanna zone with mild dry condition in Wa, Tamale and Yendi. The Transition zone is characterized mainly by mild to moderate dry conditions in areas such as Salaga, Kete Krachi, Prang, Atebubu, Bechem, Wenchi, Sunyani and Dormaa. In the Forest zone, mild to moderate dry conditions are shown in Ejura, Dunkwa, Half Assini, Kade, Asamankese, Koforidua, Akuse and Kpando. Cape Coast and

Saltpond in the Coastal zone recorded moderate wetness while Accra, Tema and Akatsi display mild dry condition.

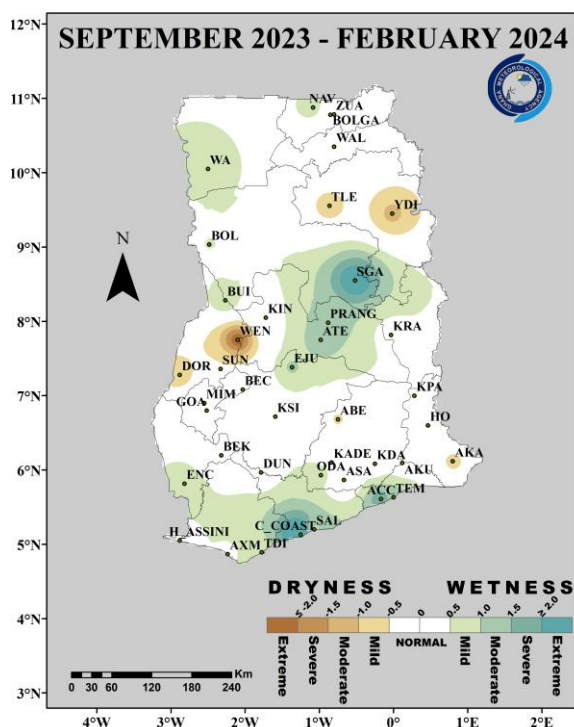


Fig. 2(c): 6-Month SPI (for hydrological drought): September 2023 – February 2024

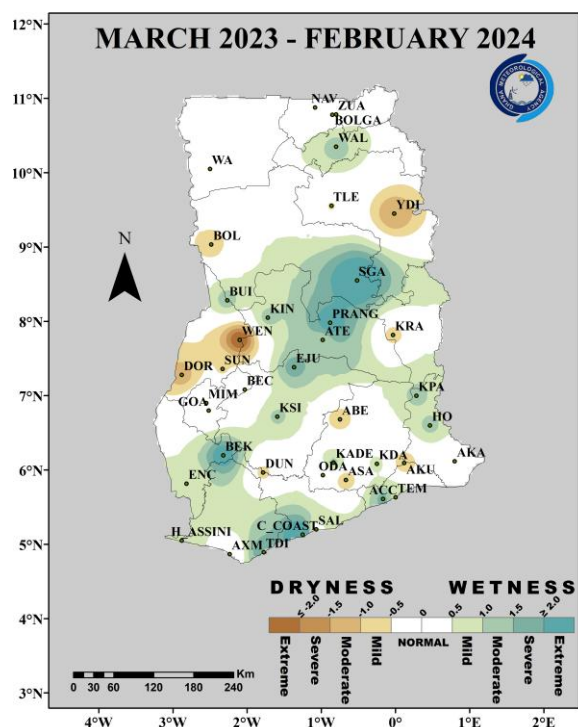


Fig. 2(d): 12-Month SPI (for streamflow and lake storage drought): March 2023 – February 2024

6-month SPI (September 2023 - February 2024)

The 6-month SPI shown Fig. 2(c) reveals mild to moderate wet conditions in Walewale and Navrongo within the Savanna zone with moderate dryness in Yendi and Tamale. The Transition zone shows extreme wetness in Salaga with mild to moderate wet conditions in areas such as Bui, Kintampo, Atebubu and Prang whereas mild dryness is seen in Dormaa with extreme dryness in Wenchi. Ejura, Kumasi, Akim Oda, Kade and Akuse in the Forest zone recorded mild to severe wetness while Asamankese showed mild dryness. The Coastal zone depicts severe to extreme wetness in Cape Coast, Accra and Tema.

12-month SPI (March 2023 - February 2024)

The 12-month SPI shown in Fig. 2(d) indicates mainly normal condition in the Savanna zone with Walewale showing moderate wet condition while Bole, Tamale and Yendi showed mild to moderate dry conditions. Extreme wet condition is seen in Salaga and Prang within the Transition zone with moderate wetness in Bui and Kintampo whereas extreme dry condition is depicted in Wenchi with mild to moderate dryness in Dormaa, Sunyani and Kete Krachi. In the Forest zone, Sefwi Bekwai recorded extreme wet condition with mild to severe wetness in areas including Ejura, Kumasi, Enchi, Half Assini, Takoradi, Kade, Koforidua, Ho and Kpando whilst mild dry

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MARCH 2024

The SPI analysis for rainfall in March 2024 has been generated in multiple timescales of 1-month (March 2024), 3-month (January 2024 - March 2024), 6-month (October 2023 – March 2024) and 12-month (April 2023 - March 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

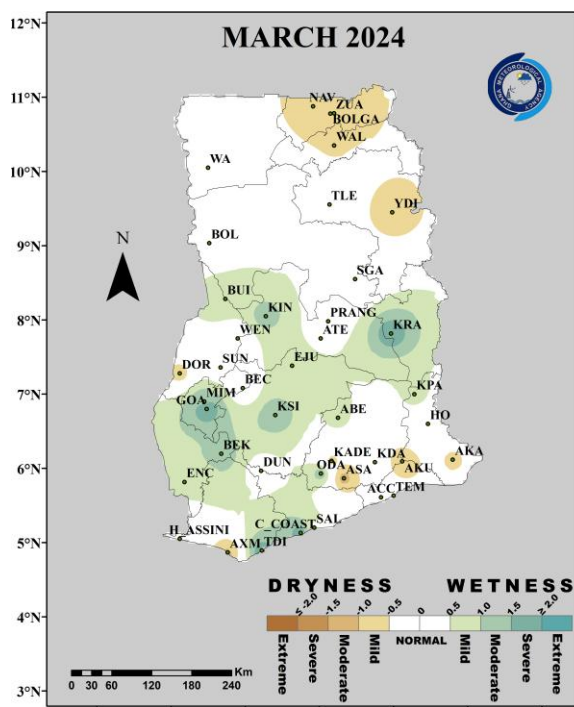


Fig. 3(a): 1-Month SPI (for meteorological drought): March 2024

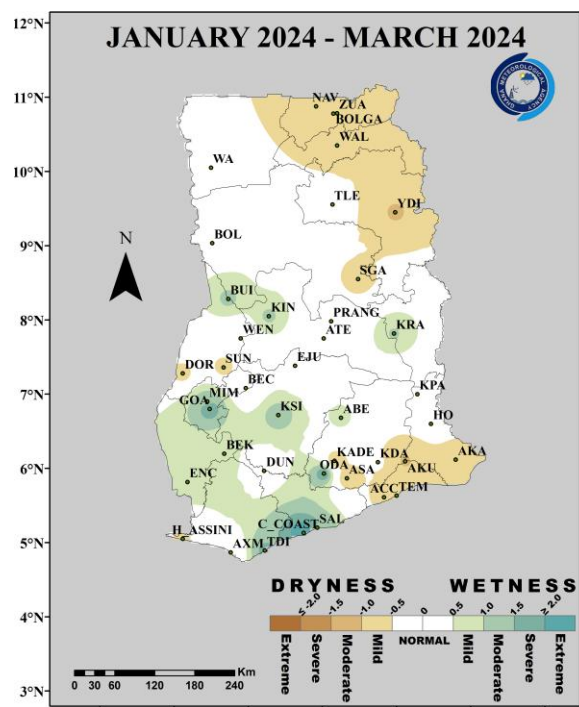


Fig. 3(b): 3-Month SPI (for agricultural drought): January 2024 – March 2024

1-Month SPI (March 2024)

The 1-Month SPI shown in Fig. 3(a) indicates that mostly normal condition in the Savanna zone with Walewale, Bolgatanga, Zuarungu, Navrongo and Yendi showing mild dry condition. The Transition zone had mild to severe wet conditions in places like Kete Krachi, Bui and Kintampo with Dormaa showing mild dryness. Mild to severe wet conditions are seen in the Forest zone in areas such as Kumasi, Goaso, Mim, Sefwi Bekwai, Enchi, Takoradi, Akim Oda, Abetifi and Kpando while Asamankese, Kade, Axim and Akuse showed mild to moderate dry conditions. The Coastal zone displayed moderate wet condition in Cape Coast while Akatsi had mild dry condition.

3-month SPI (January 2024 - March 2024)

The 3-Month SPI in Fig 3(b) shows normal condition in the Savanna zone with mild to moderate dry conditions in areas such as Navrongo, Walewale, Bolgatanga, Zuarungu and Yendi. In the Transition zone, Bui, Kintampo and Kete Krachi had moderate wet condition while mild dryness is seen in Salaga, Dormaa and Sunyani. The Forest zone recorded mild to severe wet conditions in

areas such as Mim, Goaso, Enchi, Kumasi, Takoradi, Akim Oda and Abetifi while mild to moderate dryness is shown in Half Assini, Kade, Asamankese and Akuse. The Coastal zone showed moderate to extreme wet conditions in Cape Coast and Saltpond with Accra, Tema and Akatsi displaying mild dry condition.

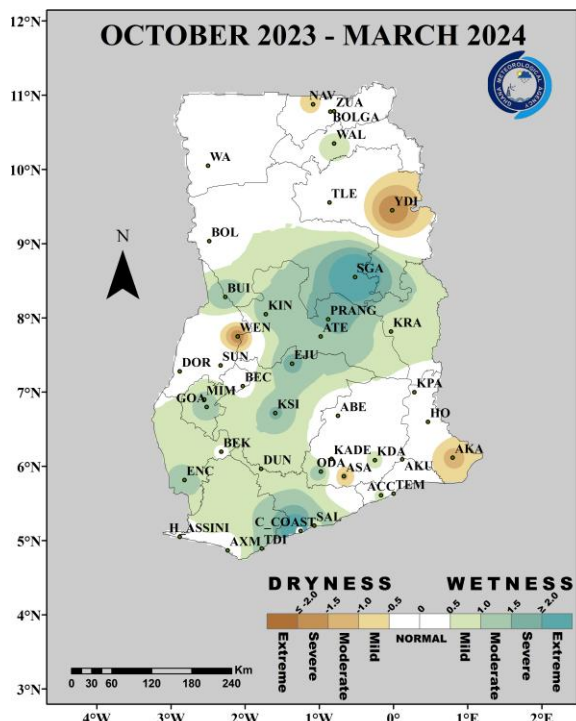


Fig. 3(c): 6-Month SPI (for hydrological drought): October 2023 – March 2024

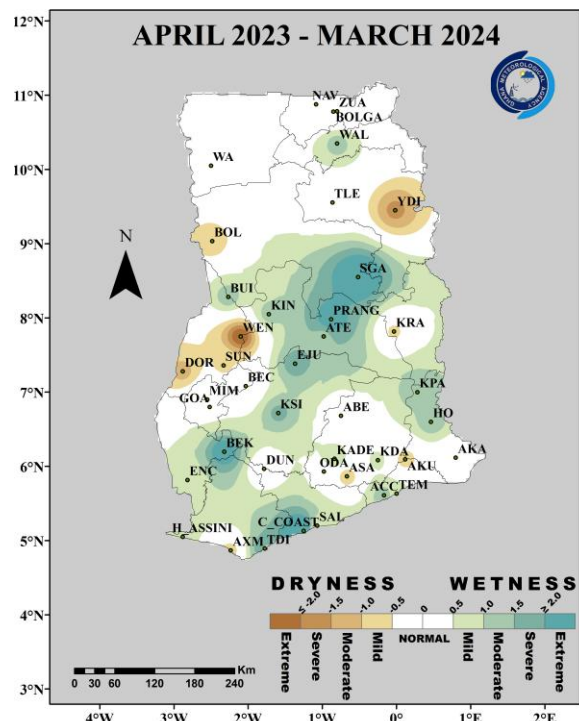


Fig. 3(d): 12-Month SPI (for streamflow and lake storage drought): April 2023 – March 2024

6-month SPI (October 2023 - March 2024)

The 6-month SPI shown Fig. 3(c) reveals predominantly normal condition in the Savanna zone with mild wet condition in Walewale while Navrongo and Yendi showed mild to moderate dryness. The Transition zone shows severe to extreme wetness in Salaga and Prang with mild to moderate wet conditions in areas such as Bui, Kintampo, Atebubu and Kete Krachi while severe dryness is seen in Wenchi. Ejura, Goaso, Mim, Enchi, Takoradi, Dunkwa and Koforidua in the Forest zone recorded mild to severe wetness while Asamankese showed moderate dryness. The Coastal zone shows severe to extreme wetness in Cape Coast and Saltpond with Accra depicting mild wet condition while Akatsi had moderate dry condition.

12-month SPI (April 2023 - March 2024)

The 12-Month SPI reveals that the Savanna zone experienced mostly normal conditions with mild to moderate wet condition in Walewale and mild to severe dry dryness in Yendi and Bole. The Transition zone recorded extreme wet condition in Salaga and Prang with moderate wetness in Atebubu, Kintampo and Bui while Dormaa, Sunyani and Kete Krachi registered mild to moderate dry conditions with Wenchi having extreme dry condition. Severe to extreme wet conditions are

shown in areas such as Ejura, Kumasi, Sefwi Bekwai and Takoradi with mild to moderate wetness in Kpando, Ho, Koforidua, Kade, Enchi and Half Assini while mild dry condition is seen in Axim, Asamankese and Akuse. The Coastal zone had moderate to extreme wet conditions in Cape Coast and Accra.

The SPI analysis for rainfall in April 2024 has been generated in multiple timescales of 1-month (April 2024), 3-month (February 2024 – April 2024), 6-month (November 2023 – April 2024) and 12-month (May 2023 – April 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

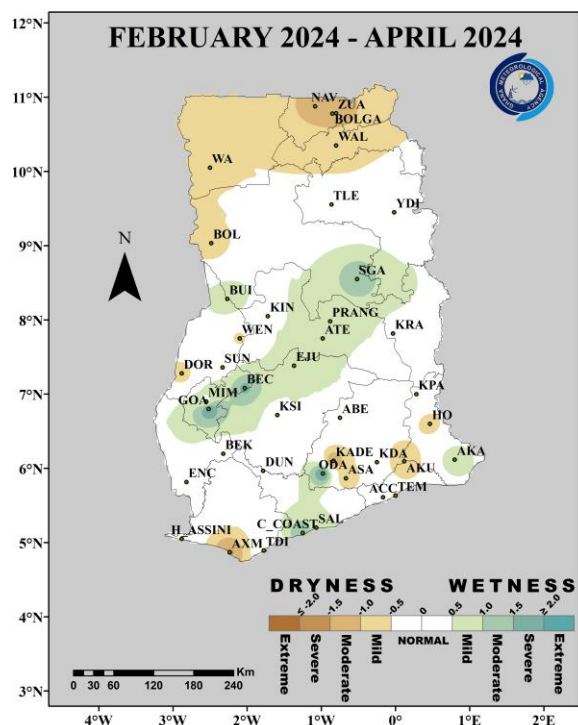


Fig. 4(b): 3-Month SPI (for agricultural drought): February 2024 – April 2024

The 1-Month SPI in Fig. 4(a) shows mild to moderate dry conditions in areas such as Navrongo, Bolgatanga, Zuarungu, Walewale and Bole in the Savanna zone. Yendi experienced moderate wet condition. Extreme wet condition is seen in Salaga and Bechem in the Transition zone with Prang, Atebubu and Sunyani showing mild to moderate wetness while mild dry condition is depicted in Dormaa and Kintampo. Mostly normal condition dominates the Forest zone. Moderate wet condition is seen in areas such as Ejura, Goaso and Akim Oda while Kumasi, Dunkwa, Axim, Takoradi and Kade showing mild to moderate dry conditions. The Coastal zone shows mild dry condition in Cape Coast and Saltpond with Accra and Akatsi displaying mild to severe wet conditions.

The 3-Month SPI as shown Fig. 4(b) reveals mild to moderate dry conditions dominating areas such as Bole, Wa, Walewale, Bolgatanga, Zuarungu and Navrongo. The Transition zone shows

mild to moderate wet conditions in areas such as Salaga, Bui, Prang, Atebubu and Bechem with mild dryness in Dormaa and Wenchi. Normal condition dominates the Forest zone with moderate wet condition in areas such as Goaso and Akim Oda while Axim, Asamankese, Kade, Akuse and depict mild to moderate dry conditions. Cape Coast, Saltpond and Akuse show mild to moderate wet conditions over the Coastal zone with Tema showing mild dry condition.

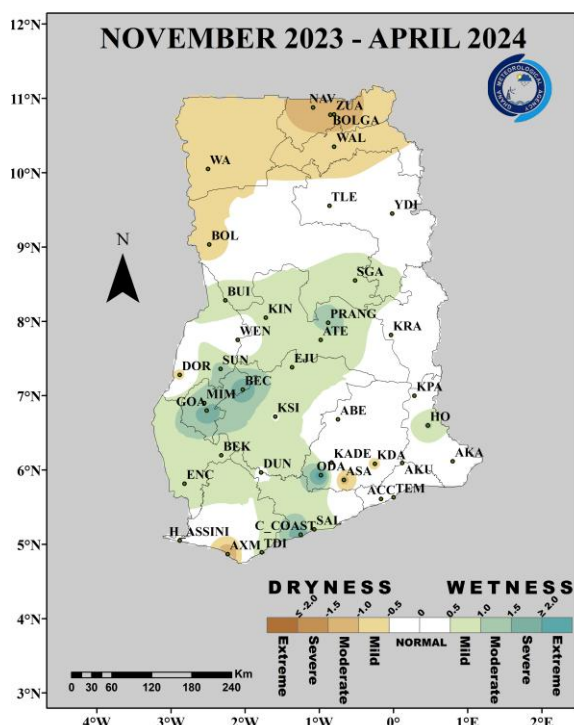


Fig. 4(c): 6-Month SPI (for hydrological drought): November 2023 – April 2024

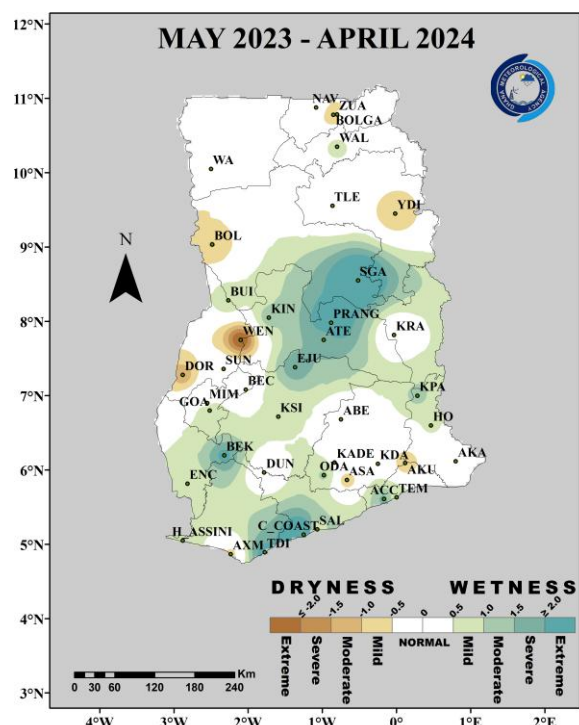


Fig. 4(d): 12-Month SPI (for streamflow and lake storage drought): May 2023 – April 2024

6-month SPI (November 2023 - April 2024)

The 6-Month SPI in Fig. 4(c) shows mild to moderate dry conditions dominating areas such as Bole, Wa, Walewale, Bolgatanga, Zuarungu and Navrongo. The Transition zone shows mild to moderate wet conditions in areas such as Salaga, Bui, Prang, Atebubu, Sunyani and Bechem with mild dryness in Dormaa. The Forest zone exhibits mild to severe wet conditions in areas such as Ejura, Goaso, Mim, Sefwi Bekwai, Enchi, Takoradi, Akim Oda and Ho while Axim, Asamankese, and Koforidua depict mild to moderate dry conditions. Normal condition dominates the Coastal zone with Cape Coast and Saltpond showing mild to severe wet conditions.

12-month SPI (May 2023 - April 2024)

The 12-Month SPI as shown in Fig. 4(d) indicates mostly normal condition over the Savanna zone with mild wet condition in Walewale and mild dryness in Yendi, Bole and Zuarungu. The Transition zone recorded extreme wet condition in Salaga and Prang with mild to severe wetness in Atebubu, Kintampo and Bui while Dormaa and Wenchi registered moderate to extreme dry conditions. Severe to extreme wet conditions are shown in areas such as Ejura, Sefwi Bekwai and

Takoradi with mild to moderate wetness in Kpando, Ho, Akim Oda, Kumasi, Goaso, Enchi and Half Assini while mild dry condition is seen in Axim, Asamankese and Akuse. The Coastal zone experienced severe to extreme wet conditions in Cape Coast and Accra with Saltpond and Tema showing mild wet condition.

MAY 2024

The SPI analysis for rainfall in May 2024 has been generated in multiple timescales of 1 month (May 2024), 3 months (March 2024 – May 2024), 6 months (December 2023 – May 2024), and 12 months (June 2023 – May 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

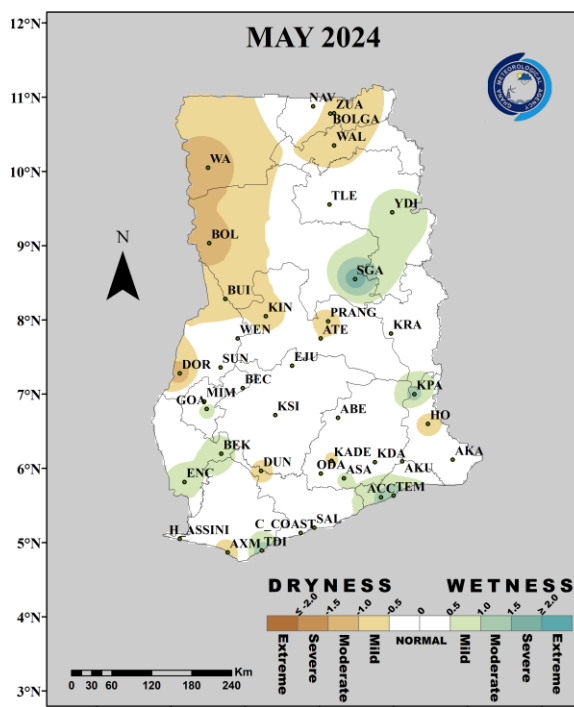


Fig. 5(a): 1-Month SPI (for meteorological drought): May 2024

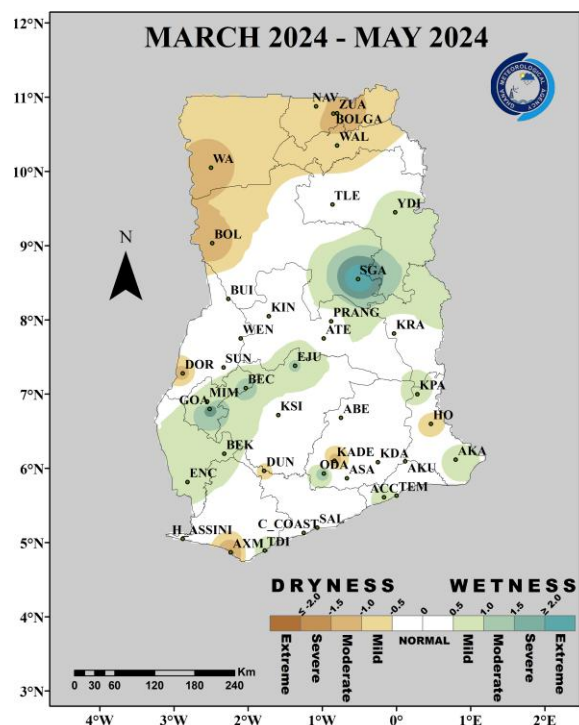


Fig. 5(b): 3-Month SPI (for agricultural drought): March 2024 – May 2024

1-Month SPI (May 2024)

The 1-Month SPI as shown in Fig. 5(a) indicates mild to moderate dry conditions over the Savanna zone in areas such as Wa, Bole, Walewale, Bolgatanga and Zuarungu with Yendi recording mild wet condition. Normal condition dominates the Transition zone with mild to moderate dry conditions in areas such as Dormaa, Bui, Prang and Kintampo while Salaga displayed severe wetness. The Forest zone is predominantly dominated by normal condition with mild to moderate wet conditions in areas such as Takoradi, Enchi, Sefwi Bekwai, Goaso, Asamankese and Kpando while mild dry condition is seen in Axim, Dunkwa, Kade and Ho. The Coastal zone depict mild to moderate wet conditions in Tema and Accra.

3-month SPI (March 2024 - May 2024)

The 3-Month SPI in Fig. 5(b) reveals mild to moderate dry conditions in areas such as Wa, Bole, Walewale, Bolgatanga, Zuarungu and Navrongo within the Savanna zone with Yendi showing mild wet condition. The Transition zone is dominated by normal condition with Salaga showing

extreme wet condition with Bechem showing moderate wetness while Dormaa displayed moderate dry condition. Normal condition is mostly seen in the Forest zone with areas such as Goaso, Ejura Enchi, Sefwi Bekwai, Takoradi, Akim Oda and Kpando showing mild to severe wet conditions while Axim, Dunkwa, Kade and Ho display mild to moderate dry condition. The Coastal zone is dominated by normal condition with mild wet condition in Tema, Accra and Akatsi.

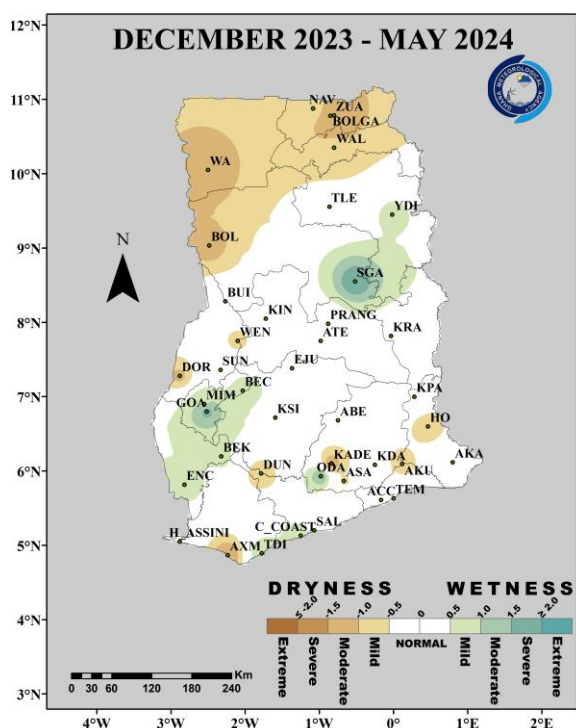


Fig. 5(c): 6-Month SPI (for hydrological drought): December 2023 – May 2024

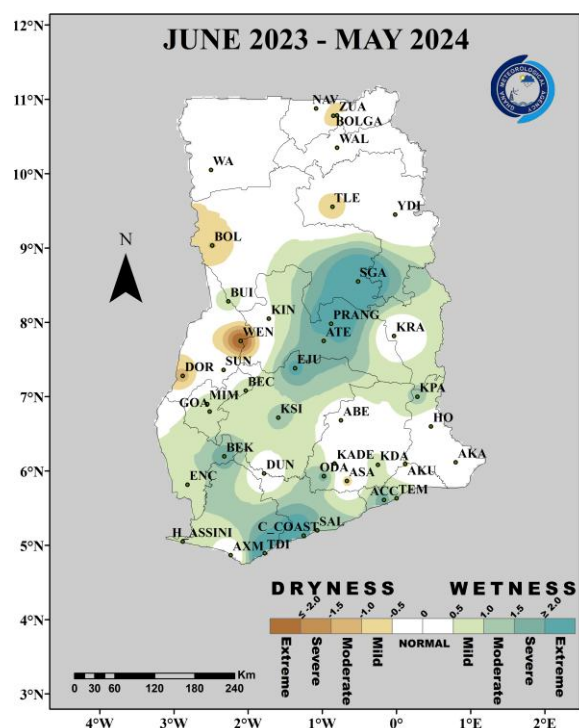


Fig. 5(d): 12-Month SPI (for streamflow and lake storage drought): June 2023 – May 2024

6-month SPI (December 2023 - May 2024)

The 6-Month SPI displayed in Fig. 5(c) shows mild to moderate dry conditions over the Savanna zone in areas such as Wa, Bole, Walewale, Bolgatanga, Navrongo and Zuarungu with Yendi showing mild wet condition. The Transition zone is dominated by normal condition with Bechem and Salaga showing mild to severe wet conditions while Dormaa and Wenchi exhibited mild to moderate dryness. Normal condition dominates the Forest zone with mild to severe wet conditions in areas such as Takoradi, Enchi, Goaso, Mim, Sefwi Bekwai and Akim Oda while Axim, Dunkwa, Asamankese, Kade, Akuse and Ho displayed mild to moderate dry conditions. The Coastal zone is predominantly normal with mild wet condition in Cape Coast.

12-month SPI (June 2023 - May 2024)

The 12-Month SPI as displayed in Fig. 5(d) shows predominantly normal condition over the Savanna zone with mild to moderate dry conditions in areas such as Tamale, Bole, and Zuarungu). Severe to extreme wet conditions are seen in Salaga, Prang and Atebubu in the Transition zone with mild wetness in Bui and Bechem while moderate to extreme dry condition persisted over Dormaa and Wenchi. The Forest zone recorded mostly normal to mild wet conditions with moderate to extreme wet conditions in areas such as Ejura, Kumasi, Sefwi Bekwai, Takoradi, Kumasi, Akim Oda and Kpando while Asamankese is shows mild dry condition. Moderate to severe wet conditions are shown in the Coastal zone in areas such as Cape Coast, Saltpond, Accra, Tema.

JUNE 2024

The SPI analysis for rainfall in June 2024 has been generated in multiple timescales of 1-month (June 2024), 3-month (April 2024 – June 2024), 6-month (January 2024– June 2024) and 12-month (July 2023- June 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

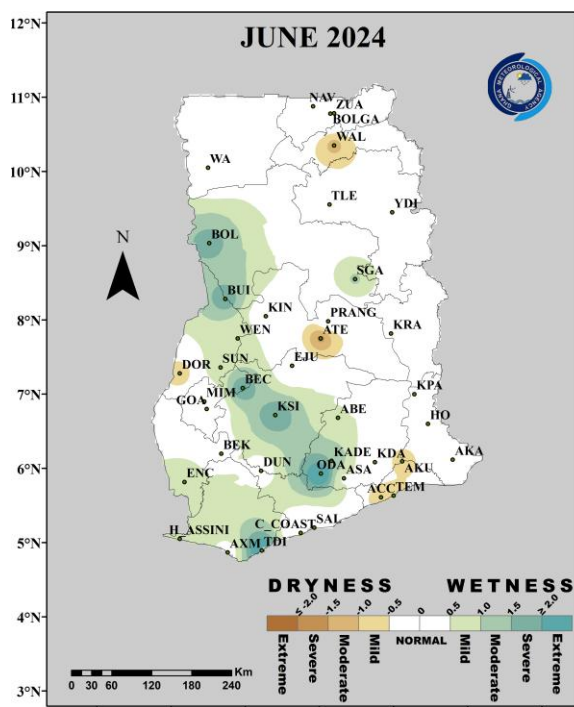


Fig. 6(a): 1-Month SPI (for meteorological drought): June 2024

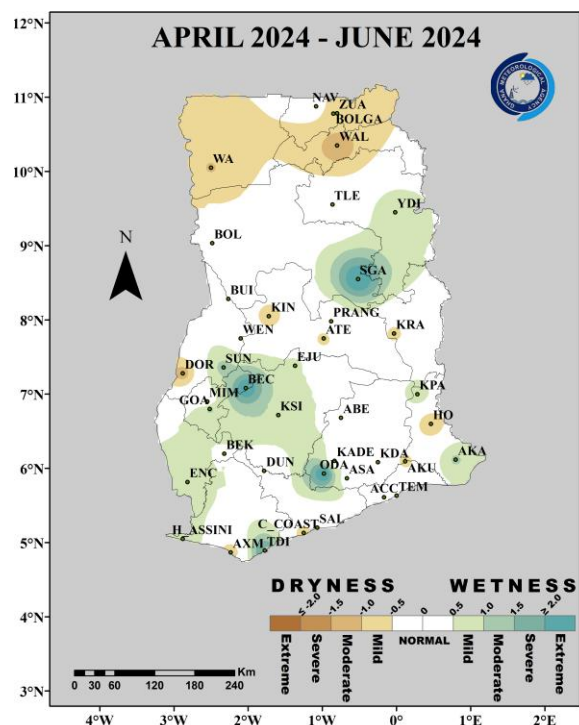


Fig. 6(b): 3-Month SPI (for agricultural drought): April 2024 – June 2024

1-Month SPI (June 2024)

The 1-Month SPI shown in Fig. 6(a) indicates normal condition dominating the Savanna zone with severe wet condition in Bole while Walewale shows moderate dryness. The Transition zone shows mostly normal condition with mild to severe wet conditions in areas such as Bui, Wenchi, Bechem, Sunyani and Salaga while mild to moderate dry conditions are seen in Dormaa and Atebubu. Severe to extreme wet conditions are seen in Takoradi, Akim Oda and Kumasi in the Forest zone with Enchi, Half Assini and Abetifi exhibiting mild wet condition while Akuse showed mild dry condition. The Coastal zone is mainly dominated by normal condition with Accra and Tema depicting mild dry condition.

3-month SPI (April 2024 - June 2024)

The 3-Month SPI in Fig. 6(b) reveals mild to moderate dry conditions over the Savanna zone in areas such as Walewale, Bolgatanga, Zuarungu, and Wa with Yendi showing mild wetness. Moderate to severe wetness is seen Salaga, Bechem and Sunyani with mild to moderate dry

conditions in areas such as Dormaa, Kintampo, Atebubu, and Kete Krachi. The Forest zone is dominated by normal condition with severe to extreme wet conditions in areas such as Takoradi and Akim Oda as well as mild wet condition in Half Assini, Enchi, Goaso, Kumasi and Kpando while Axim, Akuse and Ho experienced mild dry condition. The Coastal zone shows mainly normal condition with moderate wet condition in Akuse and Cape Coast displaying mild dryness.

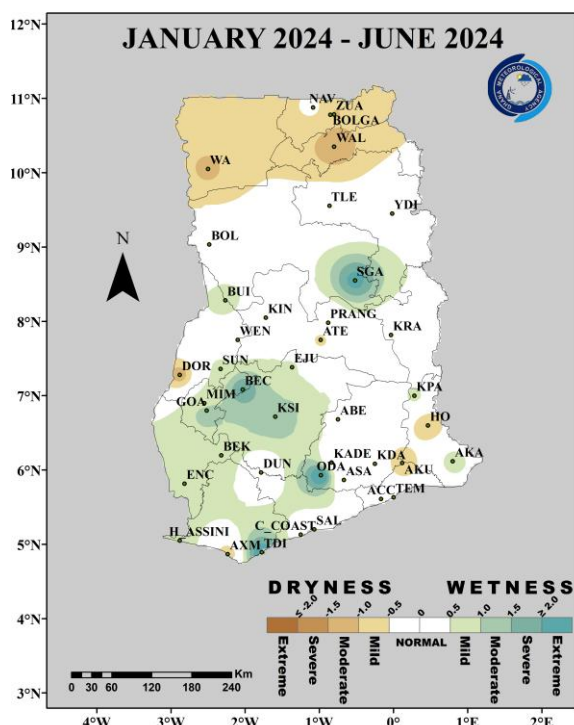


Fig. 6(c): 6-Month SPI (for hydrological drought): January 2024 – June 2024

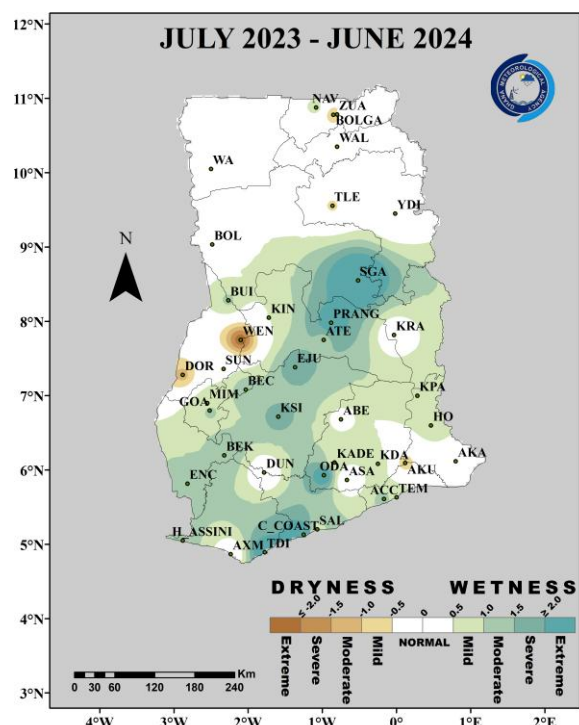


Fig. 6(d): 12-Month SPI (for streamflow and lake storage drought): July 2023 – June 2024

6-month SPI (January 2024 - June 2024)

The 6-Month SPI in Fig. 6(c) shows mild to moderate dry conditions over Savanna zone in areas such as Wa, Walewale, Bolgatanga, and Zuarungu. The Transition zone shows severe to extreme wet conditions in Salaga and Bechem with mild wet condition in Bui and Sunyani while Dormaa and Atebubu display mild to moderate dry conditions. Extreme wet condition is depicted in Akim Oda and Takoradi in the Forest zone with mild to moderate wetness in areas such as Goaso, Kumasi, Enchi, Half Assini and Kpando while mild dryness is seen in Axim, Akuse and Ho. The Coastal zone is dominated by normal condition with mild wet condition in Akatsi.

12-month SPI (July 2023 - June 2024)

The 12-Month SPI shown in Fig. 6(d) depicts mostly normal condition over the Savanna zone with spots of mild wet condition in Navrongo while mild dry condition is shown in Zuarungu and Tamale. Moderate to extreme wet conditions are shown in Salaga, Prang, Atebubu, Bechem and Bui with moderate to extreme dry conditions in Dormaa and Wenchi. Predominantly mild to

moderate wet conditions are depicted in Mim, Goaso, Sefwi Bekwai, Enchi, Half Assini, Koforidua, Ho and Kpando with severe to extreme wet conditions in Ejura, Kumasi, Takoradi and Akim Oda while Akuse showed mild dry condition. The Coastal zone shows extreme wet condition in Cape Coast with Saltpond, Accra, and Tema recording mild to moderate wet conditions.

JULY 2024

The SPI analysis for July 2024 has been generated in multiple timescales of 1-month (July 2024), 3-month (May 2024 – July 2024), 6-month (February 2024 – July 2024) and 12-month (August 2023 - July 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

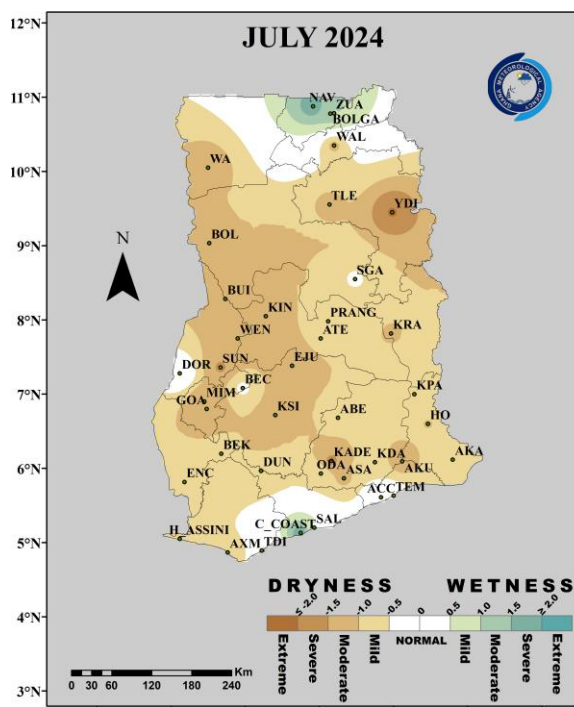


Fig. 7(a): 1-Month SPI (for meteorological drought): July 2024

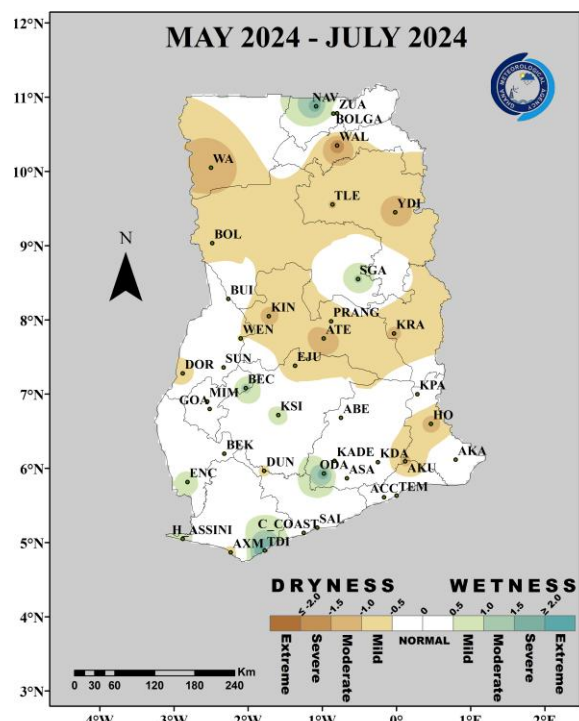


Fig. 7(b): 3-Month SPI (for agricultural drought): May 2024 – July 2024

1-Month SPI (July 2024)

The 1-Month SPI shown in Fig. 7(a) indicates mostly moderate to severe dry conditions in the Savanna zone in areas including Wa, Bole, Walewale, Tamale and Yendi with Navrongo, Zuarungu and Bolgatanga showing mild to severe wet conditions. Mild dry condition dominates the Transition zone with moderate to severe dryness in areas such as Bui, Kintampo, Wenchi, Sunyani and Kete Krachi while Salaga, Dormaa and Bechem showed normal condition. Most parts of the Forest zone depict mild dry condition with moderate to severe dryness in areas such as Goaso, Mim, Ejura, Kumasi, Dunkwa, Kade, Asamankese, Akuse and Ho while Takoradi showed normal condition. Cape Coast witnessed severe wet condition in the Coastal zone with Saltpond, Accra and Tema showing normal condition while Akatsi recorded mild dry condition.

3-month SPI (May 2024 - July 2024)

The 3-Month SPI in Fig. 7(b) reveals displays mostly mild to moderate dry conditions in the Savanna zone in areas including Wa, Bole, Walewale, Tamale and Yendi with Navrongo showing

severe wet condition. The Transition zone shows mild to moderate dryness in areas such as Kintampo, Wenchi, Dormaa, Atebubu, Prang and Kete Krachi while Salaga and Bechem showed moderate wet condition. Most parts of the Forest zone depict normal condition with mild to severe wet conditions in areas such as Kumasi, Enchi, Half Assini, Takoradi, and Akim Oda while mild to moderate dry conditions are shown in Dunkwa, Axim, Ejura, Akuse and Ho. The Coastal zone displayed normal condition.

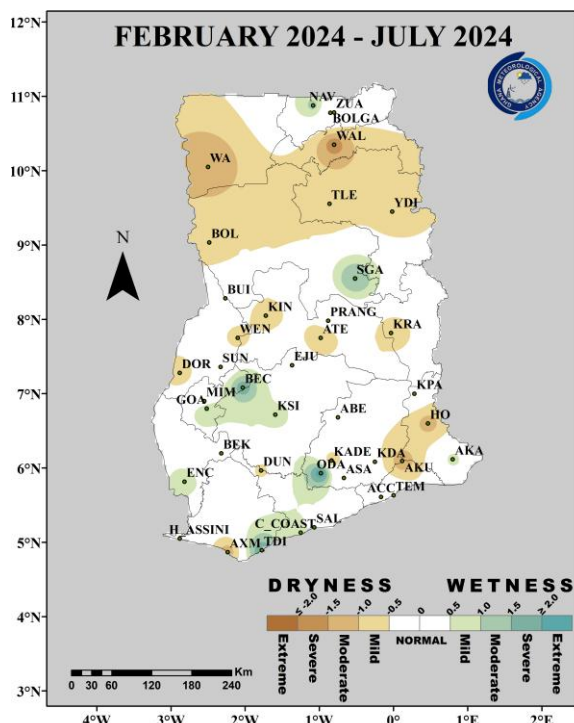


Fig. 7(c): 6-Month SPI (for hydrological drought): February 2024 – July 2024

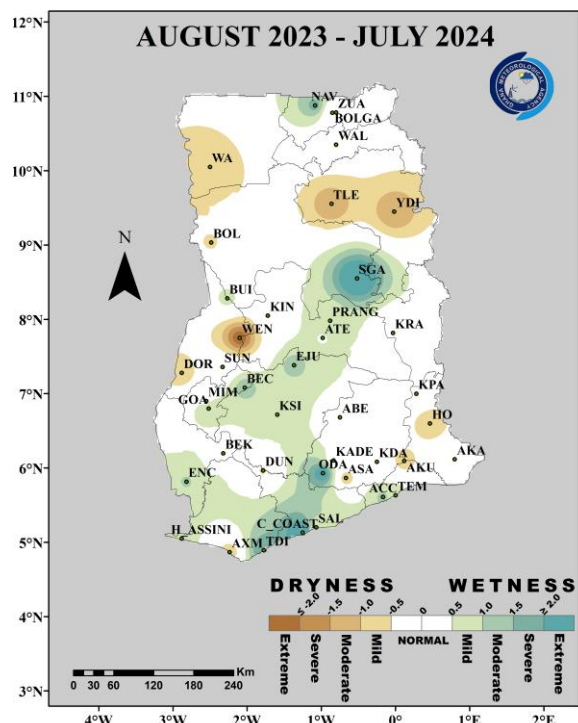


Fig. 7(d): 12-Month SPI (for streamflow and lake storage drought): August 2023 – July 2024

6-month SPI (February 2024 - July 2024)

The 6-Month SPI shown in Fig. 7(c) depicts predominantly mild to severe dry conditions in the Savanna zone in areas such as Wa, Bole, Walewale, Tamale and Yendi with Navrongo showing moderate wet condition. The Transition zone is dominated by normal condition and shows moderate to severe wet conditions in Salaga and Bechem while Kintampo, Wenchi, Dormaa, Atebubu and Kete Krachi showed mild dry condition. Normal condition is seen in most parts of the Forest zone with severe to extreme wet condition in Takoradi and Akim Oda and mild wet condition is seen in Kumasi, Goaso and Enchi. Mild to moderate dry conditions are displayed in Axim, Dunkwa, Kade, Akuse and Ho. The Coastal zone shows mainly normal condition with mild wet condition in Cape Coast and Akatsi.

12-month SPI (August 2023 - July 2024)

The 12-Month SPI in Fig. 7(d) indicates mostly mild to severe dry conditions in areas such as Wa, Bole, Tamale and Yendi within the Savanna zone while moderate wet condition is seen in

Navrongo. The Transition zone shows extreme wet condition in Salaga with mild to moderate wetness in Bechem, Prang and Bui while Wenchi registered extreme dry condition with Dormaa showing mild dry condition. Mild to Severe wet conditions are shown in areas such as Ejura, Kumasi, Goaso, Enchi, Half Assini, Takoradi and Akim Oda in the Forest zone with mild dry condition in Axim, Asamankese, Akuse and Ho. The Coastal zone shows extreme wet condition in Cape Coast with Accra, Tema and Saltpond depicting mild to moderate wetness.



AUGUST 2024

The SPI analysis for August 2024 has been generated in multiple timescales of 1-month (August 2024), 3-month (June 2024 – August 2024), 6-month (March 2024 – August 2024) and 12-month (September 2023 – August 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

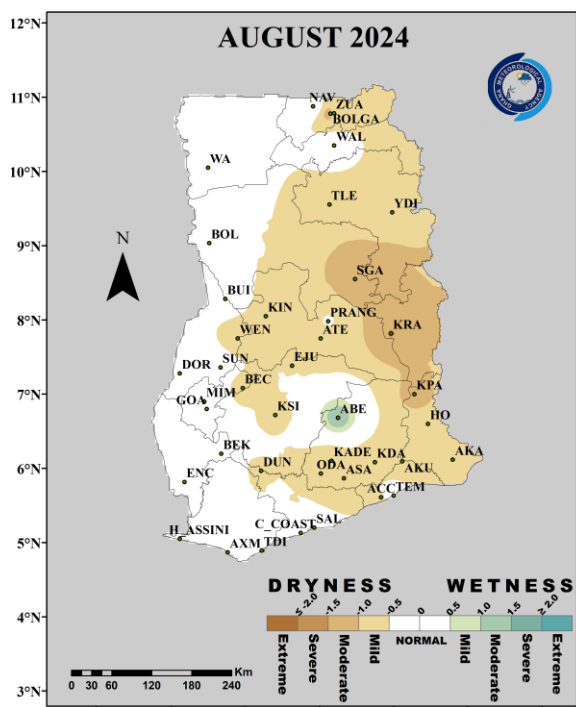


Fig. 8(a): 1-Month SPI (for meteorological drought): August 2024

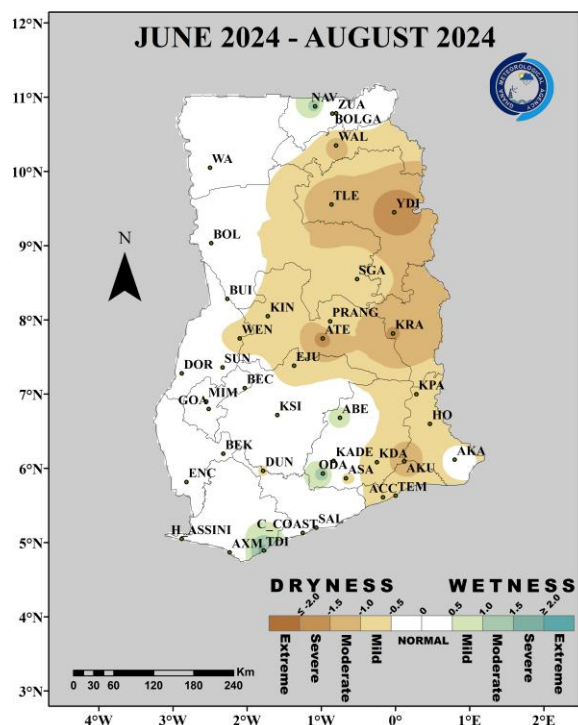


Fig. 8(b): 3-Month SPI (for agricultural drought): June 2024 – August 2024

1-Month SPI (August 2024)

The 1-Month SPI shown in Fig. 8(a) indicates mild to moderate dry conditions in the Savanna zone in areas such as Bolgatanga, Zuarungu, Tamale and Yendi. Mild to moderate dry conditions dominate the Transition zone in areas such as Kintampo, Wenchi, Bechem, Atebubu, Salaga and Kete Krachi. Some parts of the Forest zone depict normal condition with mild to severe dryness in areas such as Ejura, Kumasi, Dunkwa, Akim Oda, Kade, Asamankese, Koforidua, Akuse, Ho and Kpando. The Coastal zone shows mild dry condition in Accra and Akatsi.

3-month SPI (June 2023 - August 2024)

The 3-Month SPI in Fig. 8(b) reveals mostly moderate to severe dry conditions in the Savanna zone in areas such as Walewale, Tamale and Yendi with Navrongo showing moderate wet condition. Mild to severe dry conditions dominate the Transition zone in areas such as Kintampo, Wenchi, Atebubu, Prang, Salaga and Kete Krachi. Most parts of the Forest zone depict normal condition with mild to moderate dryness in areas such as Ejura, Dunkwa, Asamankese, Koforidua,

Akuse, Ho and Kpando while mild to severe wet conditions are shown in Takoradi, Akim Oda and Abetifi. The Coastal zone shows mild dry condition in Accra and Tema.

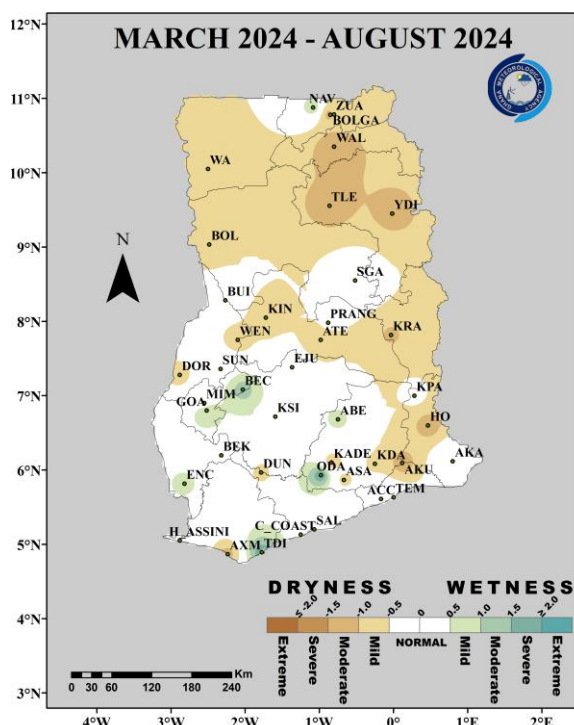


Fig. 8(c): 6-Month SPI (for hydrological drought): March 2024 – August 2024

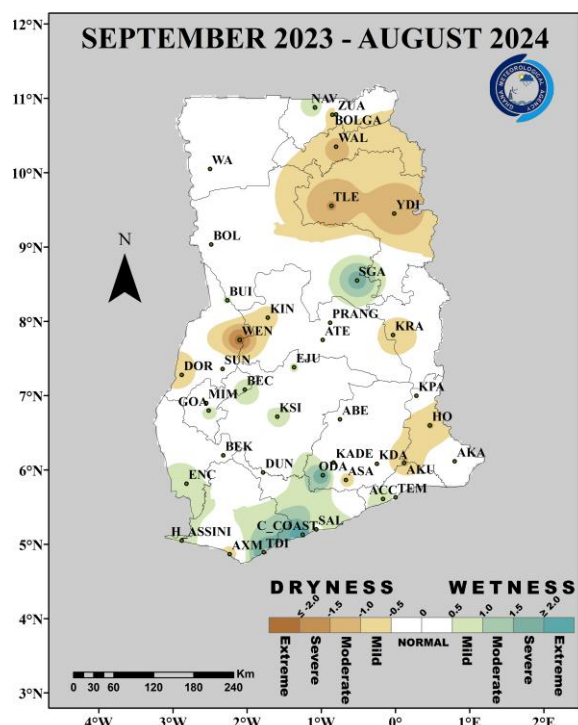


Fig. 8(d): 12-Month SPI (for streamflow and lake storage drought): September 2023 – August 2024

6-month SPI (March 2023 - August 2024)

The 6-Month SPI displayed in Fig. 8(c) shows mild to moderate dry conditions dominating the Savanna zone in areas such as Wa, Bole, Bolgatanga, Zuarungu, Walewale, Tamale and Yendi with Navrongo depicting mild wet condition. Some parts of the Transition zone show normal condition with mild to moderate dry conditions in areas such as Kintampo, Wenchi, Dormaa, Atebubu and Kete Krachi while Bechem exhibited moderate wet condition. The Forest zone mostly depict normal condition with mild to moderate dryness in areas such as Dunkwa, Axim, Kade, Asamankese, Koforidua, Akuse and Ho while Goaso, Enchi, Takoradi, Akim Oda and Abetifi depict mild to severe wet conditions. The Coastal zone shows mainly normal condition.

12-month SPI (September 2023 - August 2024)

The 12-Month SPI in Fig. 8(d) reveals normal condition most parts of the country. Mild to moderate dry conditions are shown in areas such as Bolgatanga, Zuarungu, Walewale and Yendi within the Savanna zone with Tamale exhibiting severe dryness while Navrongo showed mild wet condition. The Transition zone shows mild dry condition in Kete Krachi and Dormaa with Wenchi depicting extreme dryness while Salaga and Bechem showed mild to severe wet conditions. Ejura, Goaso, Kumasi, Enchi, Half Assini display mild wet condition in the Forest zone with Takoradi and Akim Oda showing severe wet condition while Asamankese, Akuse and Ho recording mild to

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SEPTEMBER 2024

The SPI analysis for September 2024 has been generated in multiple timescales of 1-month (September, 2024), 3-month (July 2024 – September 2024), 6-month (April 2024 – September 2024) and 12-month (October 2023 – September 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

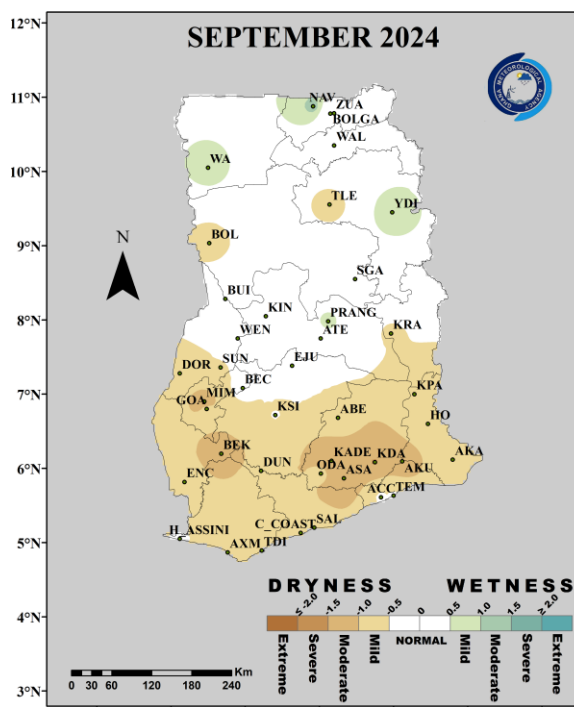


Fig. 9(a): 1-Month SPI (for meteorological drought): September 2024

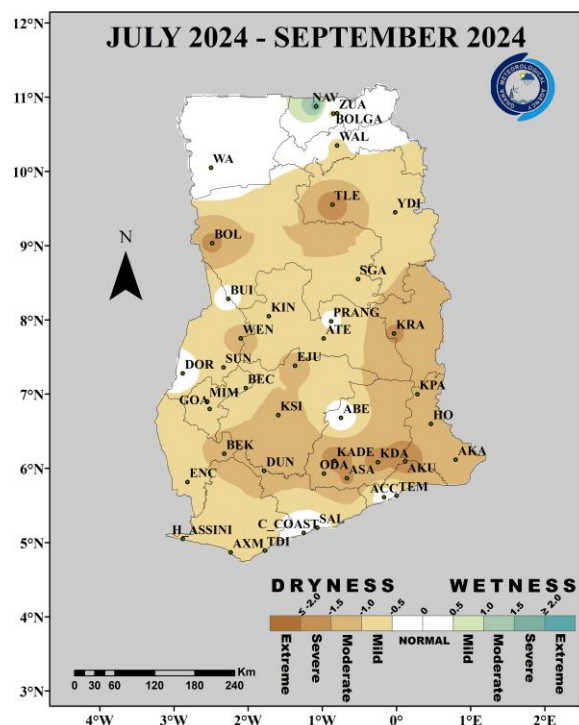


Fig. 9(b): 3-Month SPI (for agricultural drought): July 2024 – September 2024

1-Month SPI (September 2024)

The 1-Month SPI as shown in Fig. 9(a) displays normal condition dominating the Savanna zone with Yendi, Wa and Navrongo showing mild to moderate wet conditions while Tamale and Bole depict mild dry condition. The Transition zone shows mostly normal condition with Kete Krachi, Dormaa and Sunyani recording mild dry condition while Prang show mild wetness. Mild to moderate dry conditions dominate the Forest and Coastal zones especially Mim, Sefwi Bekwai, Kade, Asamankese and Akuse.

3-month SPI (July 2024 - September 2024)

The 3-Month SPI in Fig. 9(b) shows almost the entire country engulfed in mild to moderate dry conditions. Particularly, the Savanna zone shows severe dry condition in Bole and Tamale with Navrongo showing severe wet condition. Also, severe dry condition is seen in Kete Krachi in the Transition zone while Kade, Asamankese, Koforidua and Akuse in the Forest zone.

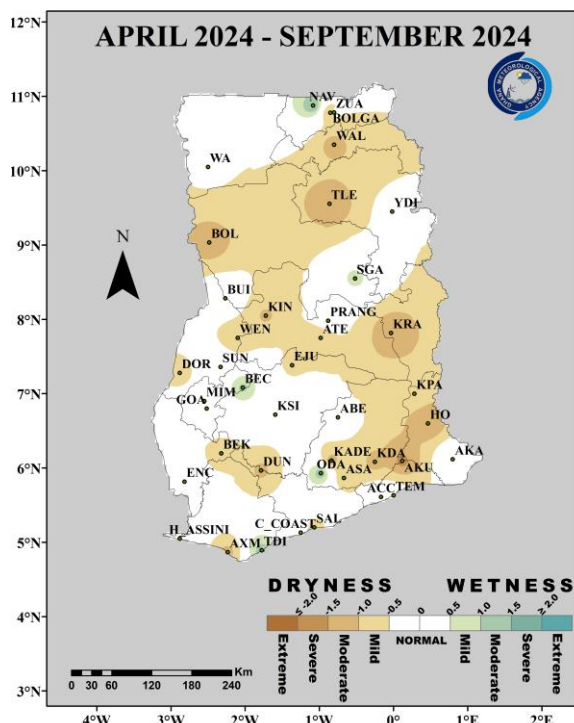


Fig. 9(c): 6-Month SPI (for hydrological drought): April 2024 – September 2024

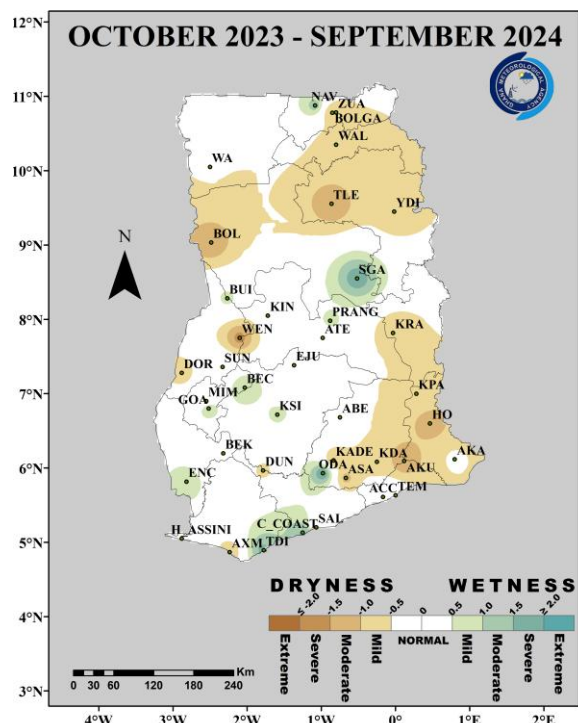


Fig. 9(d): 12-Month SPI (for streamflow and lake storage drought): October 2023 – September 2024

6-month SPI (April 2024 - September 2024)

The 6-Month SPI shown in Fig. 9(c) shows mild to moderate dry conditions in the Savanna zone in areas such as Bole, Tamale, Walewale, Bolgatanga and Zuarungu while Navrongo depicted moderate wet condition. The Transition zone displays mostly mild to moderate dry conditions in Kete Krachi, Atebubu, Kintampo, Wenchi and Dormaa while Bechem and Salaga show mild wet condition. Ejura, Sefwi Bekwai, Dunkwa, Axim, Kade, Asamankese, Koforidua, Ho and Kpando depict mild to moderate dryness with Akuse showing severe dry condition while Takoradi and Akim Oda exhibit moderate wet condition. The Coastal zone displays mostly normal condition with Saltpond showing mild dryness.

12-month SPI (October 2023 - September 2024)

The 12-Month SPI in Fig. 9(d) reveals mild to moderate dry conditions persisting in the Savanna zone in areas such as Bole, Tamale, Yendi, Walewale, Bolgatanga and Zuarungu while Navrongo depicts moderate wet condition. The Transition zone displays mostly normal condition with mild to severe dryness in Kete Krachi, Wenchi and Dormaa while Bechem, Bui, Prang and Salaga show mild to severe wet condition. Normal condition dominates the Forest zone with Sefwi Bekwai, Goaso, Enchi, Kumasi, Takoradi and Akim Oda showing mild to severe wet condition while Dunkwa, Axim, Asamankese, Kade, Koforidua, Akuse, Ho and Kpando exhibit mild to moderate dry conditions. The Coastal zone displays mostly normal condition with Cape Coast showing severe wetness.

OCTOBER 2024

The SPI analysis for October 2024 has been generated in multiple timescales of 1-month (October 2024), 3-month (August 2024 – October 2024), 6-month (May 2024 – October 2024) and 12-month (November 2023 – October 2024) respectively. The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

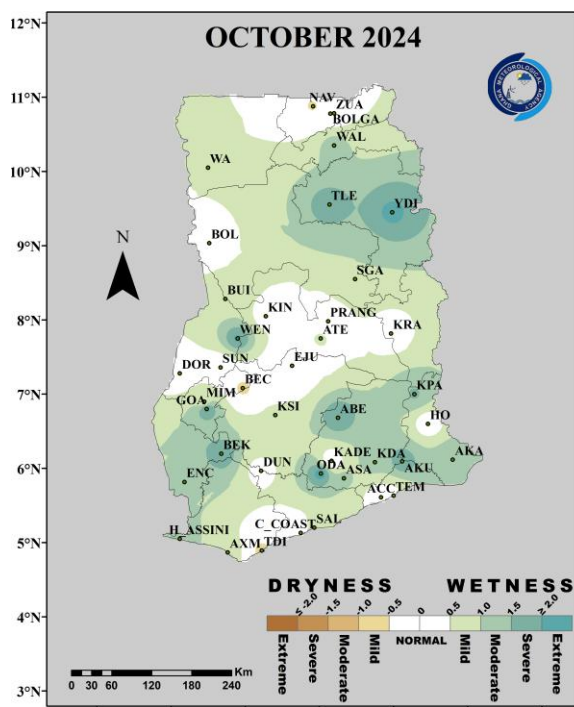


Fig. 10(a): 1-Month SPI (for meteorological drought): October 2024

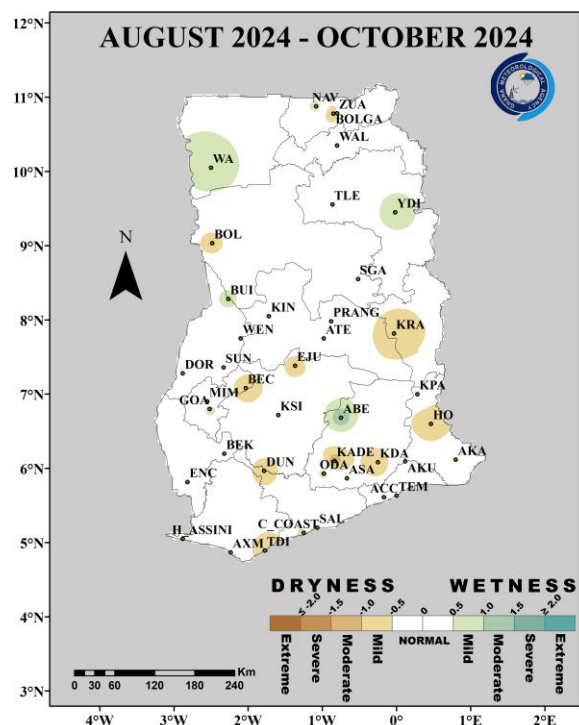


Fig. 10(b): 3-Month SPI (for agricultural drought): August 2024 – October 2024

1-Month SPI (October 2024)

The 1-Month SPI as illustrated in Fig. 10(a), indicates mild to severe wet conditions in areas such as Wa, Walewale, Tamale with Yendi showing extreme wetness while Navrongo exhibits mild dry condition. The transition zone displays mainly normal condition with mild to severe wetness in Wenchi, Bui, Atebubu and Salaga while Bechem showed mild dry condition. The Forest zone depicts predominantly mild conditions with moderate to severe wet conditions in areas such as Goaso, Sefwi Bekwai, Enchi, Half Assini, Akim Oda, Koforidua, Akuse, Abetifi and Kpando while Takoradi showed mild dry condition. Saltpond and Akatsi in the Coastal zone recorded mild to moderate wet conditions.

3-month SPI (August 2024 - October 2024)

The 3-month SPI shown in Fig. 10(b) displays predominantly normal condition over the entire country. Wa, Navrongo and Yendi in the Savanna zone shows mild wet condition while Zuarungu and Bole depict mild dryness. In the Transition zone, Bechem and Kete Krachi recorded mild dry

condition. The Forest zone shows mild to moderate dry conditions in areas such as Ejura, Dunkwa, Takoradi, Kade, Koforidua and Akim Oda while mild to moderate wet conditions are displayed over Goaso and Abetifi.

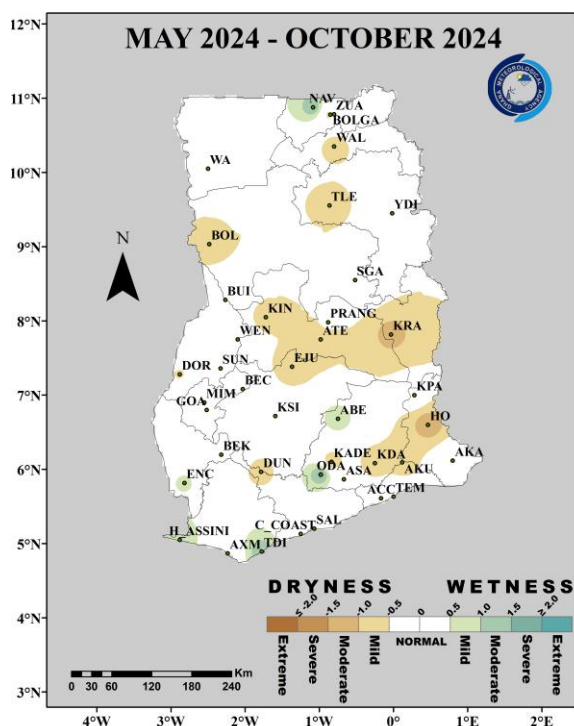


Fig 10(c): 6-Month SPI (for hydrological drought): May 2024 – October 2024

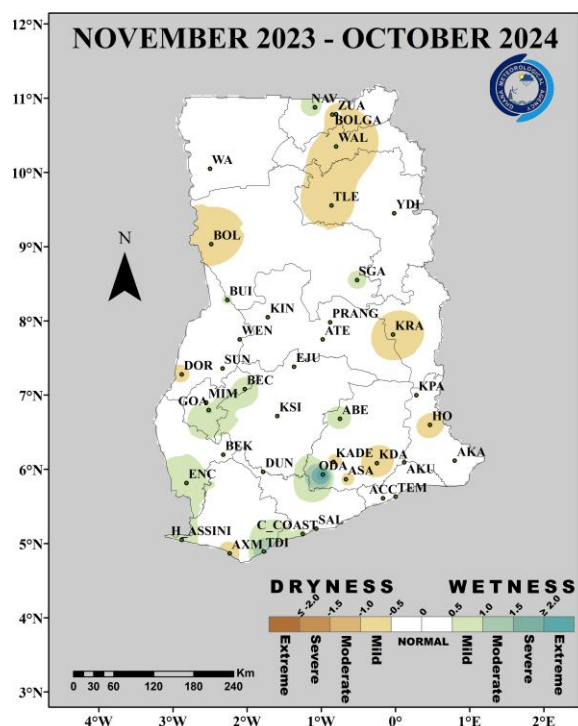


Fig 10(d): 12-Month SPI (for streamflow and lake storage drought): November 2023 – October 2024

6-month SPI (May 2024 - October 2024)

The 6-month SPI illustrated in Fig. 10(c) shows normal condition dominating the country. Bole Walewale and Tamale in the Savanna zone show mild dry condition while Navrongo and depict moderate dryness. In the Transition zone, mild dry condition is shown in Dormaa, Kintampo, Atebubu and Kete Krachi. The Forest zone shows mild to moderate wet conditions in areas such as Enchi, Half Assini, Abetifi, Takoradi and Akim Oda while Ejura, Dunkwa, Kade, Koforidua, Akuse and Ho display mild to moderate dry condition. The Coastal zone showed mainly normal conditions.

12-month SPI (November 2023 - October 2024)

The 12-month SPI as shown in Fig. 10(d) indicates normal condition dominating the country. Bole and Zuarungu in the Savanna zone show mild dry condition while Navrongo, Wa and Yendi depict mild dryness. In the Transition zone, mild dry condition is shown in Bechem and Kete Krachi. The Forest zone shows mild to moderate wet conditions in areas such as Ejura, Dunkwa, Takoradi, Kade, Koforidua and Ho while Abetifi display moderate dry condition. The Coastal zone exhibited mainly normal conditions.

NOVEMBER 2024

The SPI analysis for November 2024 has been generated in multiple timescales of 1-month (November 2024), 3-month (September 2024 – November 2024), 6-month (June 2024 – November 2024) and 12-month (December 2023 – November 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

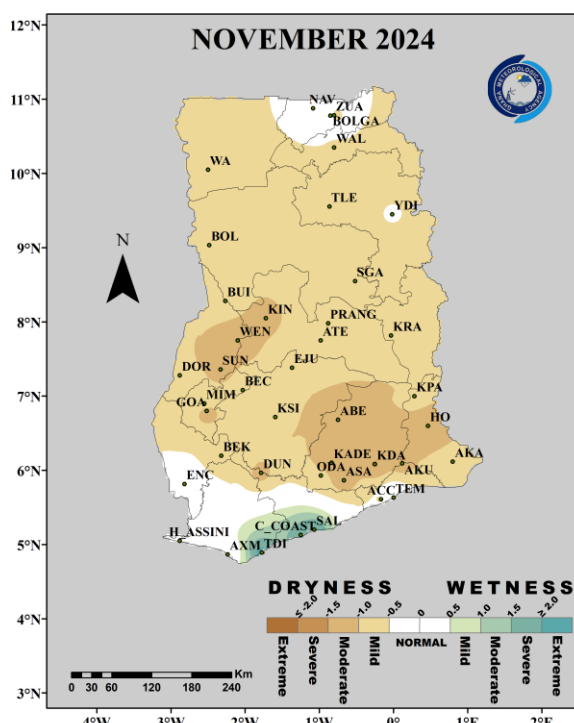


Fig. 11(a): 1-Month SPI (for meteorological drought): November 2024

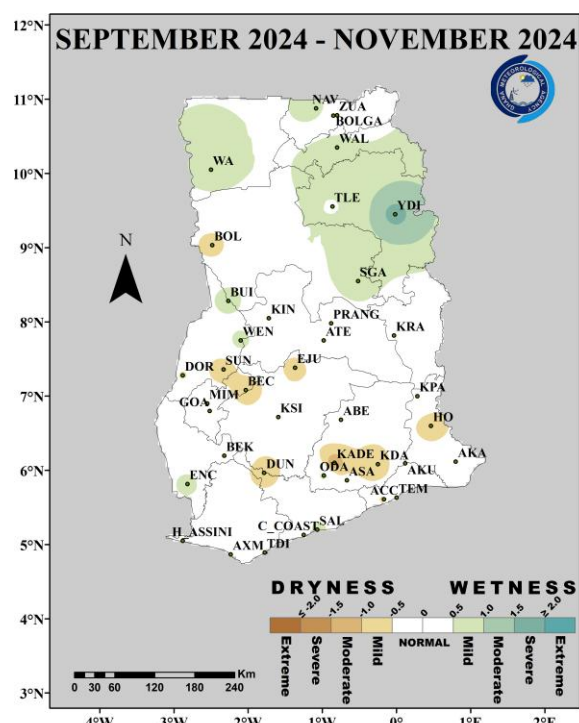


Fig. 11(b): 3-Month SPI (for agricultural drought): September 2024 – November 2024

1-Month SPI (November 2024)

The 1-Month SPI shown in Fig. 11(a) depicts widespread mild dry condition over most parts of the country. Normal condition is seen in areas such as Yendi, Bolgatanga, Zuarungu and Navrongo. Mild dry condition dominates the Transition with moderate dryness shown in Kintampo, Wenchi and Sunyani. The Forest zone is mainly characterized by normal and mild dry conditions with moderate dryness in Goaso, Dunkwa, Abetifi, Kade, Asamankese, Koforidua, Akuse and Ho while Takoradi shows extreme wet condition. Saltpond and Cape Coast in the Coastal zone display severe wet condition with Akatsi showing mild dryness.

3-month SPI (September 2024 - November 2024)

The 3-month SPI in Fig. 11(b) reveals mild to severe wetness in the Savanna zone in areas such as Yendi, Walewale, Navrongo and Wa with Bole depicting mild dry condition. The Transition zone shows predominantly normal condition with spots of mild wet condition in Salaga, Bui and Wenchi while mild dryness is shown in areas such as Sunyani and Bechem. Normal condition dominates

the Forest zone with Ejura, Dunkwa, Kade, Koforidua and Ho showing mild to moderate dry conditions while Enchi exhibits mild dry condition. The Coastal zone displays mostly normal condition with Saltpond shows mild wet condition.

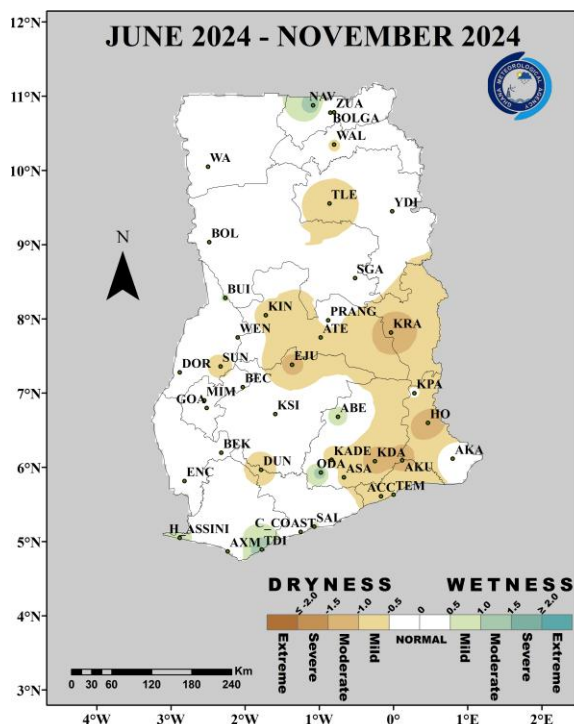


Fig. 11(c): 6-Month SPI (for hydrological drought): June 2024 – November 2024

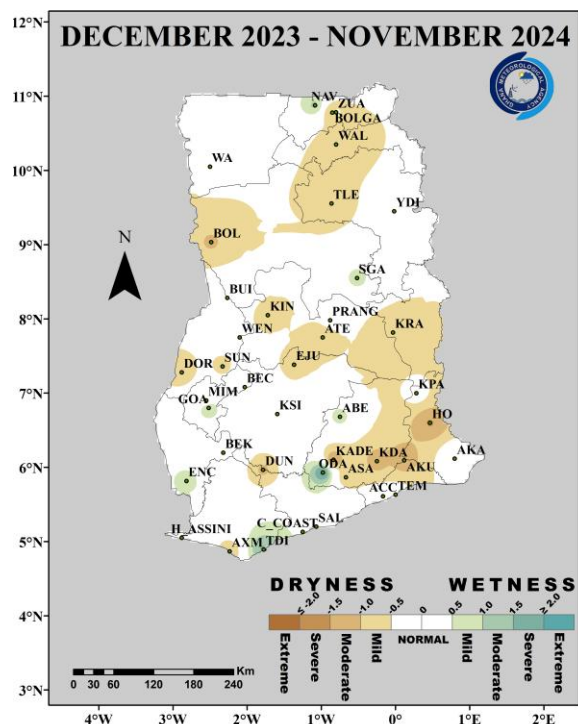


Fig. 11(d): 12-Month SPI (for streamflow and lake storage drought): December 2023 – November 2024

6-month SPI (June 2024 - November 2024)

The 6-Month SPI as illustrated in Fig. 11(c) reveals normal condition dominating the country with Navrongo showing moderate wet condition within the Savanna zone while Walewale and Tamale display mild dry condition. In the Transition zone, mild to moderate dryness is seen over areas such as Kintampo, Sunyani, Atebubu and Kete Krachi. Areas such as Ejura, Ho, Kade, Koforidua, Akuse, Asamankese and Dunkwa in the Forest zone show mild to moderate condition while mild to moderate is seen in Abetifi, Akim Oda, Axim and Takoradi. The Coastal zone depicts mild dryness in Accra and Tema.

12-month SPI (December 2023 - November 2024)

The 12-Month SPI displayed in Fig. 11(d) indicates normal condition over most parts of the country. Mild to moderate dry conditions are seen in Bolgatanga, Zuarungu, Walewale, Tamale and Bole within the Savanna zone with Navrongo showing mild wet condition. The Transition zone shows mild dry condition in areas such as Dormaa, Sunyani, Kintampo, Atebubu and Kete Krachi with Salaga showing mild wet condition. In the Forest zone, areas such as Ejura, Dunkwa, Ho, Kade, Koforidua, Akuse, Asamankese and Axim depict mild to moderate dry conditions with Goaso, Enchi, Takoradi and Abetifi show mild to moderate wetness while Akim Oda shows severe wet condition.

DECEMBER 2024

The SPI analysis for December 2024 has been generated in multiple timescales of 1-month (December 2024), 3-month (October 2024 – December 2024), 6-month (July 2024 – December 2024) and 12-month (January 2024 – December 2024). The maps generated depict the severity (positive or negative) of rainfall anomalies for the period under review.

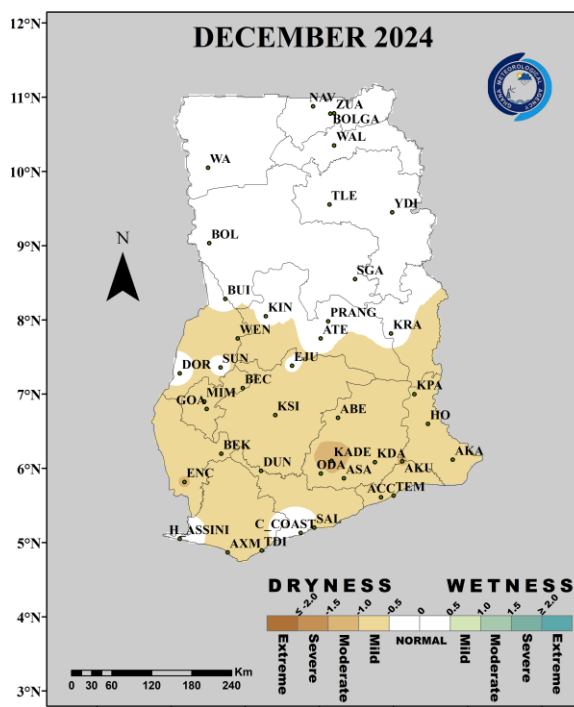


Fig. 12(a): 1-Month SPI (for meteorological drought): December 2024

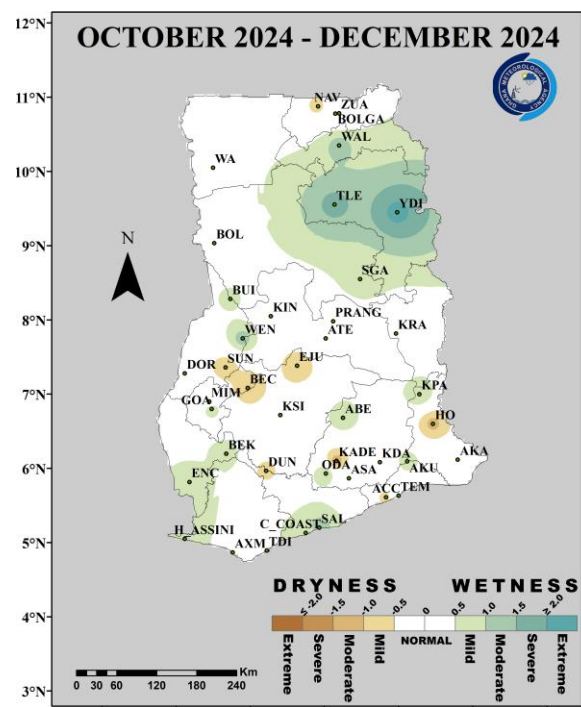


Fig. 12(b): 3-Month SPI (for agricultural drought): October 2024 – December 2024

1-Month SPI (December 2024)

The 1-Month SPI as shown in Fig. 12(a) depicts mainly normal condition over the Savanna zone. The Transition zone shows partly normal condition and mild dry condition. Mild dry condition dominate the Forest with moderate dryness in areas such as Enchi, Kade and Akuse while the Coastal zone is predominantly characterized by mild dry condition.

3-month SPI (October 2024 - December 2024)

The 3-month SPI in Fig. 12(b) reveals mild to severe wet conditions in areas such as Walewale, Tamale and Yendi in the Savanna zone with Navrongo showing mild dry condition. Bui and Wenchi in the Transition zone had mild to moderate wet condition while Sunyani and Bechem showed mild dryness. In the Forest zone, Goaso, Enchi, Sefwi Bekwai, Half Assini, Abetifi, Akim Oda, Akuse and Kpando display mild wet condition with Ejura, Dunkwa, Kade and Ho showing mild to moderate dry condition. Cape Coast and Saltpond within the Coastal zone show mild to moderate wet conditions while Accra display mild dry condition.

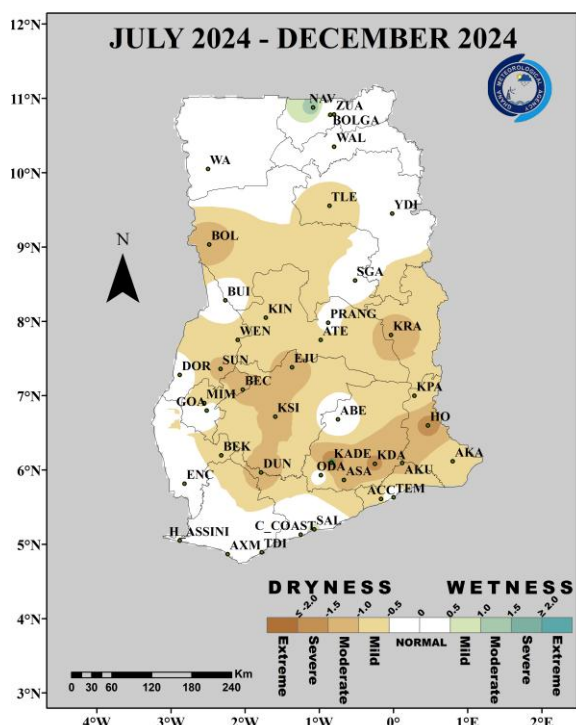


Fig. 12(c): 6-Month SPI (for hydrological drought): July 2024 – December 2024

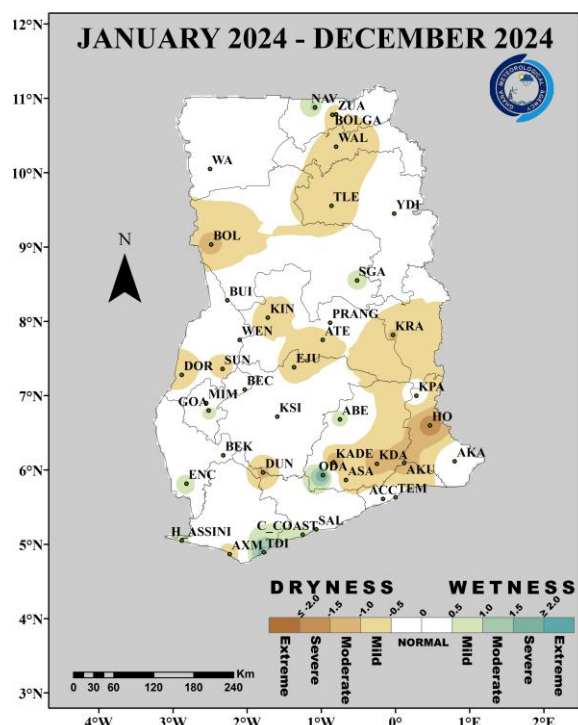


Fig. 12(d): 12-Month SPI (for streamflow and lake storage drought): January 2024 – December 2024

6-month SPI (July 2024 - December 2024)

The 6-Month SPI in Fig. 12(c) shows moderate wet condition in Navrongo within the Savanna zone with Tamale and Bole displaying mild to moderate dry conditions. Mild dry condition dominates the Transition zone with Sunyani, Bechem and Kete Krachi recording moderate dry condition. The Forest zone shows mostly mild dry condition with moderate to severe dry conditions seen in areas such as, Ejura, Kumasi, Dunkwa, Kade, Asamankese, Akuse, Koforidua and Ho. The Coastal zone is characterized mild dry condition in Accra and Akatsi.

12-month SPI (January 2024 - December 2024)

The 12-Month SPI as shown in Fig. 12(d) reveals normal condition dominating the country. Mild wet condition is shown in Navrongo within the Savanna zone with Tamale and Bole showing mild to moderate dry condition. Salaga in the Transition zone show mild wet condition while Dormaa, Sunyani, Kintampo, Atebubu and Kete Krachi display mild to moderate dry conditions. In the Forest zone, mild to moderate wet conditions are seen in Goaso, Enchi, Akim Oda, Abetifi and Takoradi with mild to moderate dry conditions shown in areas including Ejura, Dunkwa, Axim, Kade, Asamankese, Koforidua, Akuse and Ho. The Coastal zone exhibits mainly normal condition.

STATIONS

Station	Abbreviation	Station	Abbreviation	Station	Abbreviation
Abetifi	ABE	Enchi	ENC	Sunyani	SUN
Accra	ACC	Goaso	GOA	Takoradi	TDI
Akatsi	AKA	Half Assini	H_ASSINI	Tamale	TLE
Akim Oda	ODA	Ho	HO	Tema	TEM
Akuse	AKU	Kade	KADE	Wa	WA
Asamankese	ASA	Kete Krachi	KRA	Walewale	WAL
Atebubu	ATE	Kintampo	KIN	Wenchi	WEN
Axim	AXM	Koforidua	KDA	Yendi	YDI
Bechem	BEC	Kpandu	KPA	Zuarungu	ZUA
Bole	BOL	Kumasi	KSI		
Bolga	BOLGA	Mim	MIM		
Bui	BUI	Navrongo	NAV		
C_Coast	C_COAST	Prang	PRANG		
Dormaa	DOR	Salaga	SGA		
Dunkwa	DUN	Saltpond	SAL		
Ejura	EJU	Sefwi Bekwai	BEK		

REFERENCE

Copernicus European Drought Observatory (EDO): <https://edo.jrc.ec.europa.eu/> © European Commission, 2020.

Edwards, D. C. and T. B. McKee, 1997: Characteristics of 20th century drought in the United States at multiple time scales. Climatology Report 97-2, Department of Atmospheric Science, Colorado State University, Fort Collins, Colorado.

Guttman, N.B., 1994: On the sensitivity of sample L moments to sample size. *Journal of Climate*, 7(6):1026–1029.

———, 1999: Accepting the Standardized Precipitation Index: a calculation algorithm. *Journal of the American Water Resources Association*, 35(2):311–322.

McKee, T.B., N.J. Doesken and J. Kleist, 1993: The relationship of drought frequency and duration to time scale. In: *Proceedings of the Eighth Conference on Applied Climatology*, Anaheim, California, 17–22 January 1993. Boston, American Meteorological Society, 179–184.

———, 1995: Drought monitoring with multiple timescales. In: *Proceedings of the Ninth Conference on Applied Climatology*, Dallas, Texas, 15–20 January 1995. Boston American Meteorological Society, 233–236.

World Meteorological Organization, 2012: *Standardized Precipitation Index User Guide* (M. Svoboda, M. Hayes and D. Wood). (WMO-No. 1090), Geneva.



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