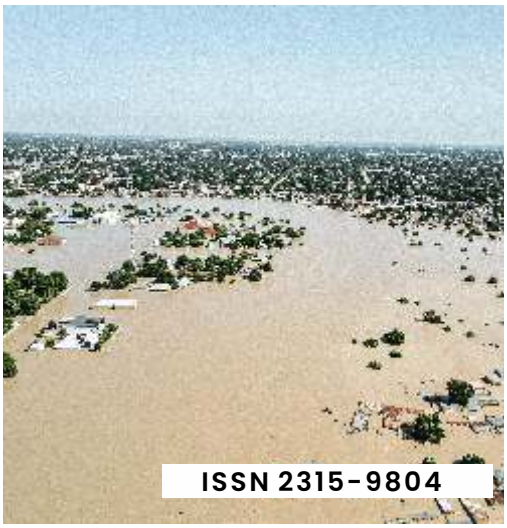
NiMet
Nigerian Meteorological Agency

HYDRO METEOROLOGICAL BULLETIN

A PUBLICATION OF THE NIGERIAN METEOROLOGICAL AGENCY

1ST QUARTER 2025



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Hydro Meteorology Bulletin

January - March 2025

A publication of Nigerian Meteorological Agency

Our Mandate

To provide for the regulation of meteorology and for related matters

Our Vision

To be a World Class provider of Weather and Climate services for safety and sustainable national socio-economic development.

Our Mission

To observe Nigerian Weather and Climate and provide Meteorological, Hydrological, and Oceanographic Services in support of National needs and International Obligations

Who We Serve

Aviation, Agriculture, Building and Construction, Commerce, Health, Hydrology, Marine, Oil and Gas, Sports, Social Events, Power and Energy, Telecommunication and more...

EDITORIAL

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PREFACE

This edition features the First Quarter 2025 Hydro Meteorological Bulletin, produced by the Nigerian Meteorological Agency (NiMet). The bulletin provides essential hydro meteorological insights to support key water-dependent sectors, including agriculture, hydropower and electricity generation, marine operations, water resource management, environmental services, dam and reservoir management, construction, academia, and other relevant stakeholders.

NiMet's HydroMet Division monitors drought and flood conditions across all states using the Standardized Precipitation Index (SPI). The SPI quantifies rainfall anomalies by expressing actual rainfall as a standardized deviation from the long-term rainfall probability distribution. Due to its ability to facilitate comparisons across time and geographic regions, the SPI has become a widely adopted tool for flood and drought assessment.

Based on SPI analyses, four (4) thematic maps are developed to reflect varying degrees of wetness or dryness over different time scales:

- 1-month SPI – (assesses meteorological drought),
- 3-month SPI – (monitors agricultural drought),
- 6-month SPI – (indicates groundwater drought),
- 12-month SPI – (tracks stream flow and lake storage drought).

Since the SPI tool is calibrated, it enables clear identification of climate conditions driven by rainfall variability. These conditions are categorized into classifications such as normal, mild wet/dry moderately wet/dry, severely wet/dry, or extremely wet/dry.

The information contained in this bulletin is intended to guide strategic planning and decision-making across water-related sectors. It serves as a practical tool for stakeholders such as dam operators and water resource managers. As NiMet continues to enhance the quality and scope of this product, we welcome feedback and suggestions from stakeholders to ensure it meets evolving needs and expectations.

Professor Charles Anosike
Director General/CEO NiMet &
Permanent Representative of Nigeria
with WMO

APPLICATIONS OF THE BULLETIN TO RELEVANT SECTORS OF THE ECONOMY

NiMet's Hydrometeorological Bulletin provides useful information for planning, operations and decision making in various sectors of the economy that are dependent on or affected by water availability. These sectors include among others agriculture, hydrology and water resources, dams and hydroelectric power generation.

1. AGRICULTURE

This bulletin provides information on the state of soil moisture content across Nigeria at every period of the year. Soil moisture information is very critical for all agricultural activities. The information provided in this Bulletin therefore help farmers to take critical decisions during the periods of land preparation, planting time, seed and seedling selection, fertilizer application, irrigation requirement and planting in both the dry and rainy seasons. Thus, the information in the bulletin helps to optimize crop production and enhance food security.

2. HYDROLOGY AND WATER RESOURCES

This bulletin is a useful tool for monitoring the prospects of water availability for domestic, industrial, agricultural and hydro-power generation needs. In addition, the product assists water resources managers in monitoring trans-boundary streams and river flows. Generally, stream-flows and ground water recharges are usually affected by water availability which can be monitored using the Standardized Precipitation Index (SPI) over the preceding 6 and 12 months.

3. DAM MANAGEMENT

The Bulletin provides information for adequate monitoring of water levels in dams. This is to help dam managers to effectively manage the dams and make informed decisions to avoid dams' failure and flooding of downstream communities and ecosystems.

4. HYDRO-ELECTRIC POWER GENERATION

This Bulletin helps to determine power generating potential of dams, considering the volume of water accumulated for driving the turbines.

5. MARITIME AND WATERWAYS

This product can provide operators of coastal marine and inland waterways transportation with information that would be useful in monitoring water levels, as well as controlling the speed of

the ferryboats and other river crafts. With a view to ensuring safety of the passengers and cargoes.

6. ENVIRONMENTAL PLANNING

The bulletin is a strategic product that can help environmental planners to identify potential flood prone areas and plan proper drainage systems especially in designs and town planning.

7. FLOOD & DROUGHT DISASTER MANAGEMENT

Flood and Drought disasters are quite common in Nigeria especially during the rainy season. The Standardized Precipitation Index (SPI) information provided in this Bulletin could be used by disaster managers to identify areas where the soil moisture has reached saturation levels such that any additional rainfall may result in massive runoff and flooding in that area. Similarly, the information in this Bulletin could be used for early detection of onset of drought and necessary measures taken by relevant agencies as well as communities that are likely to be affected.

8. BUILDING AND CONSTRUCTION

Construction collapses are major and recurring issues facing the construction sector, and as such information such as the Intensity-Duration-Frequency (IDF) is very important as this gives information about the return period of a significant rainfall threshold with the possibility of flooding for a particular location of interest. As such infrastructures such as drains, bridges, culverts, dams etc. would benefit from such product.

Introduction

1.1 NIGERIA AND ITS CLIMATE

Nigeria is located between latitude 4^{0}N to 14^{0}N and longitude 3^{0}E to 15^{0}E respectively with a total area of 923,768 square kilometers (km2). Nigeria has a tropical climate with variable rainy and dry season. The climate of Nigeria is usually broadly divided into two (2) seasons – the Wet and Dry. Large-scale weather phenomenon such as the high-pressure systems which include the St. Helena High, Azores depending on their magnitude, determines the seasonality of rainfall in Nigeria.

Generally, the wet season spans from around February to November in the south; while in the north/north central states, the onset of rain spans from around the month of May to sometime in October. Generally, the amount and length of the rainy season decreases from south to north. Specifically, the southern part of the country receives an annual rainfall of between 1800-3000mm; while the north receives between 400-1500mm of annual rainfall.
In the South, rainfall is mostly bimodal having two rainfall peaks; one in June and the other in September. On the other hand, rainfall in the north is mostly unimodal having a peak in August which accounts for the prevalence of flooding events in that period of the year.

The dry season (Harmattan) is usually experienced between November to March and it is often characterized by little or no rainfall.
The country exhibits inter-annual and intra-annual variability from one year to the other, causing either extreme rainfall or abnormally low rainfall with the attendant harsh weather consequences of flood or drought respectively. Similarly, rainfall resulting from climate change has and is still causing effects and impacts that should be quantified to mitigate and/or adapt to climate-related hazards.

The threat of climate change is more severe in the coastal zones and low-lying plains, which are constantly plagued with floods and erosion, while in the Sudano Sahelian region, the impacts are felt as water-stress, and in some cases flash floods especially in recent times.
In order to adapt and/or mitigate the impacts of the floods and drought, scientists are challenged to find ways of monitoring the various indicators (in this case rainfall and other parameters) driving these extreme events. An effective mitigation strategy requires an early warning system and which makes this document a veritable tool.
The Drought and Flood Monitoring

Bulletin is a vital scientifically-evolved product developed by NiMet and serves as a proactive diagnostic tool capable of monitoring and forewarning (Early Warning system, EWS) on these harsh weather conditions.

Soil moisture conditions (agriculture) responds to precipitation anomalies on relatively short timescales, for example 1-3 months, whereas stream flow, reservoirs, and groundwater responds to longer-term precipitation anomalies of the order of 6 months up to 12 months or longer. Thus, an SPI-6 or12 with a positive value of 2 (severely wet), indicates that the location in question has over the last 6 or 12 months consecutively received above normal rainfall causing the location to be very wet and an additional rainfall inputs in the coming months would flow over the surface as run off. This is the reasoning behind the SPI, and thus this is why and how the information contained in this bulletin is used in identifying and monitoring flood prone areas.

The bulletin also highlights the role and contributions of hydro-meteorological information towards the accomplishment of water resources assessment and management with respect to sustainable socio-economic development of the country.

1.2 SUMMARY OF RAINFALL ACTIVITIES OVER NIGERIA IN FIRST QUARTER, JANUARY - MARCH 2025

During the first quarter of 2025 (January–March), rainfall activities across Nigeria generally followed the expected seasonal pattern, with predominantly dry conditions particularly in the northern and central states. This period corresponds with the peak of the dry season, driven largely by the dominance of the north easterly winds.

However, isolated rainfall events were observed in the southern and coastal zones, especially in parts of Cross River, Akwa Ibom, Bayelsa, Delta, Rivers, and Lagos States, where mild to moderate wetness were recorded due to early moisture inflow from the Atlantic Ocean. These early rains, though scattered and short-lived, marked the onset of the pre-rainy season in some parts of the South.

The north-central and northern states remained largely dry, as expected, with mainly no rainfall. In some cases, below-normal rainfall was observed in locations where light showers typically occur during late March, suggesting a slightly delayed onset in those areas.

Overall, the 1st Quarter in 2025 was characterized by mainly no rainfall in the northern zone of the country, which is in agreement with the climatology of the dry season. However, the southern zone recorded rainfall synonymous with this period.

JANUARY, 2025 ANALYSIS

PREAMBLE

The Standardized Precipitation Index (SPI) technique, as recommended by the World Meteorological Organization (WMO), is used in analyzing the state of wetness or dryness across Nigeria on timescales of one month (for 1-month SPI), three months (for 3-month SPI), six months (for 6-month SPI), and twelve months (for 12-month SPI). The results of the analyses are presented in the Hydrometeorological Bulletins, published every month by the Nigerian Meteorological Agency (NiMet). The SPI is an indicator for soil and groundwater conditions in various places. It is therefore used for monitoring drought (water deficit) as well as excess wetness (surplus water) in the soil. The soil moisture conditions in any area have implications for agriculture and water resources management. Its practical applications include; SPI-1and3- Meteorological and Agricultural drought Monitoring, SPI-6- Groundwater Drought Monitoring and SPI-12-Stream Flow and Lake Storage Drought Monitoring respectively.

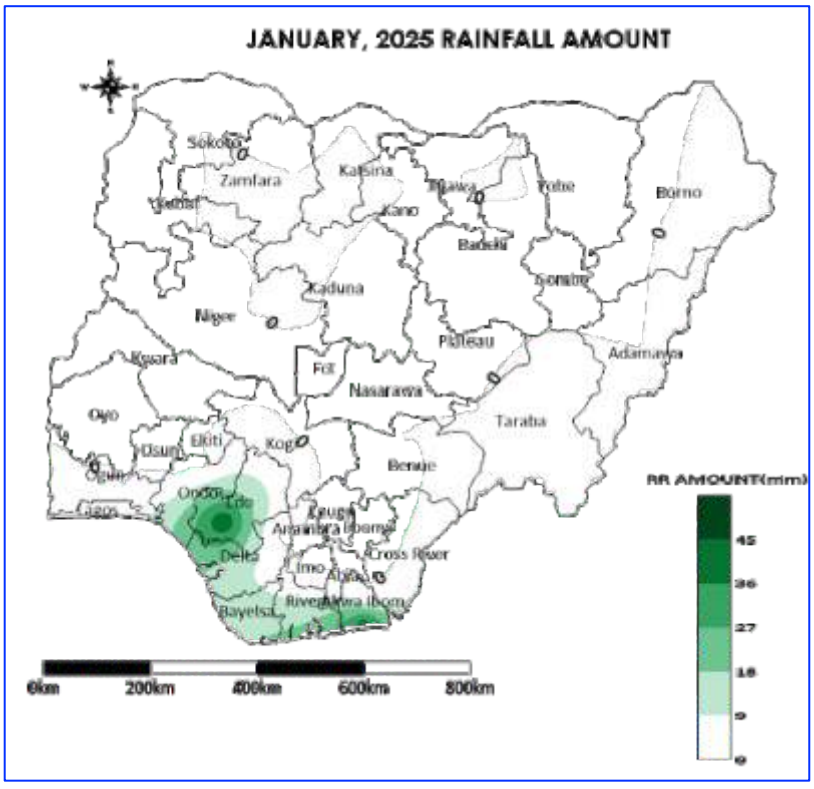


Figure 1: Rainfall Amounts across Nigeria in January, 2025

Observed Features

During the period under review, the rainfall amounts over parts of Ondo, Edo, Delta, Bayelsa, Rivers and Akwa Ibom states ranged between 9mm and 45mm. No rainfall was recorded in the other places in the country.

In this edition of the Bulletin, the results of 1-month (i.e., January 2025), 3-month (November 2024 to January 2025), 6-month (August 2024 to January 2025), and 12-month (February 2024 to January 2025) are as presented below.

2.2: 1-MONTH SPI FOR JANUARY 2025

The 1-month January 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st to 31st January 2025

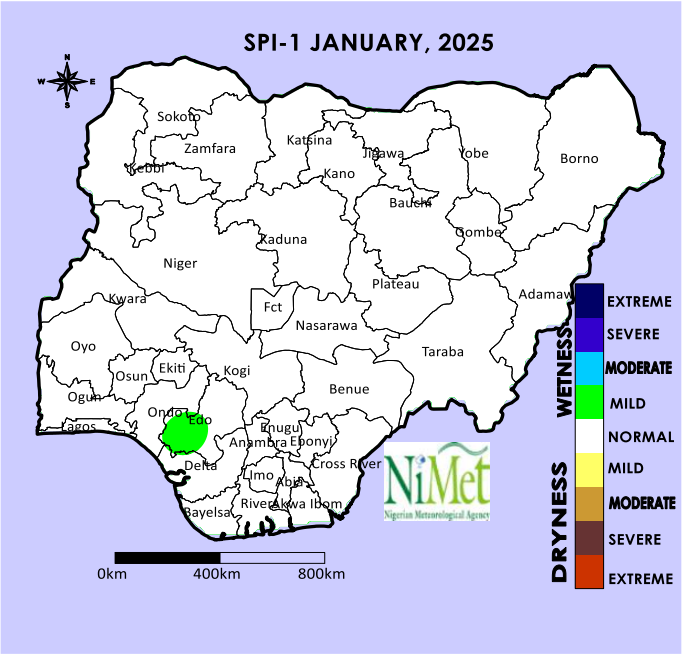


Figure 2(a): 1-Month SPI (Meteorological and Agricultural Drought Monitoring)

Observed Features

The 1-month SPI analysis shows that soil moisture was normal across the country, except in parts of Edo state where mild wetness was observed during the period under review (Figure 2(a)).

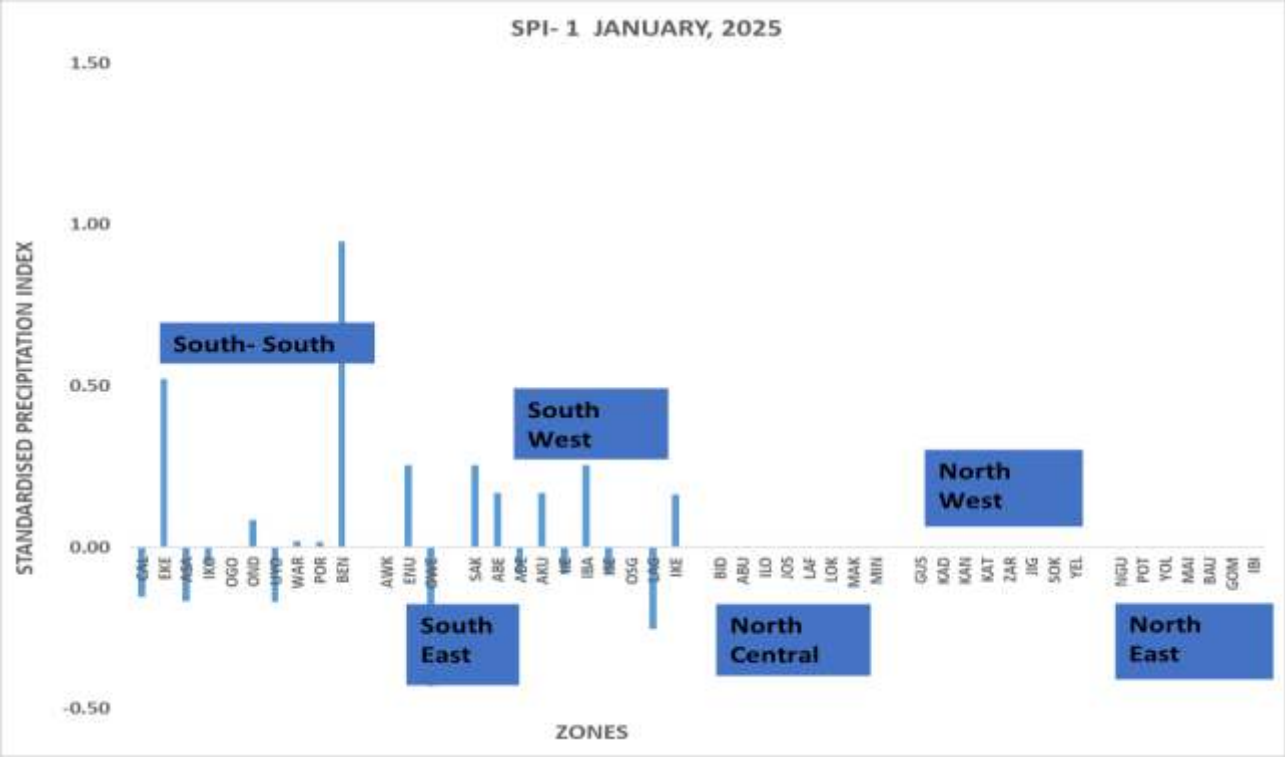


Figure 2(b): 1-month SPI for Meteorological and Agricultural Drought Monitoring by zones across Nigeria in January 2025

2.3: 3-MONTH SPI FOR JANUARY 2025

The 1-month January 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st to 31st January 2025

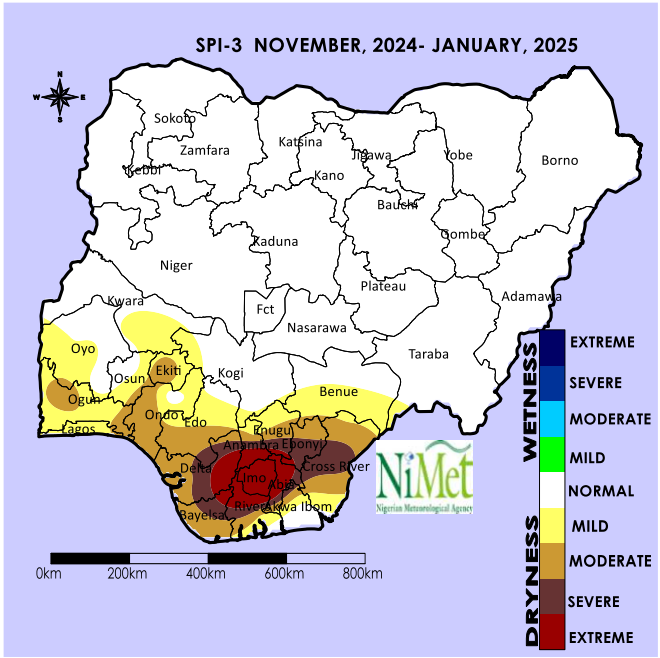


Figure 3(a): 3-Month SPI (Meteorological and Agricultural Drought Monitoring) Across Nigeria in January 2025

Observed Features

The analysis reveals that the soil moisture conditions were normal in almost the entire northern and central states of the country, except the southern parts of Kwara, Kogi, and Benue states, which recorded mild dryness during the period under review. In contrast, Oyo, Osun, Ekiti, Ogun, Lagos, Ondo, Edo, Enugu, Anambra, Ebonyi, Delta, Imo, Cross River, Abia, and Akwa Ibom States experienced mild-to-severe dry conditions during the same period (See Figure 3(a)).

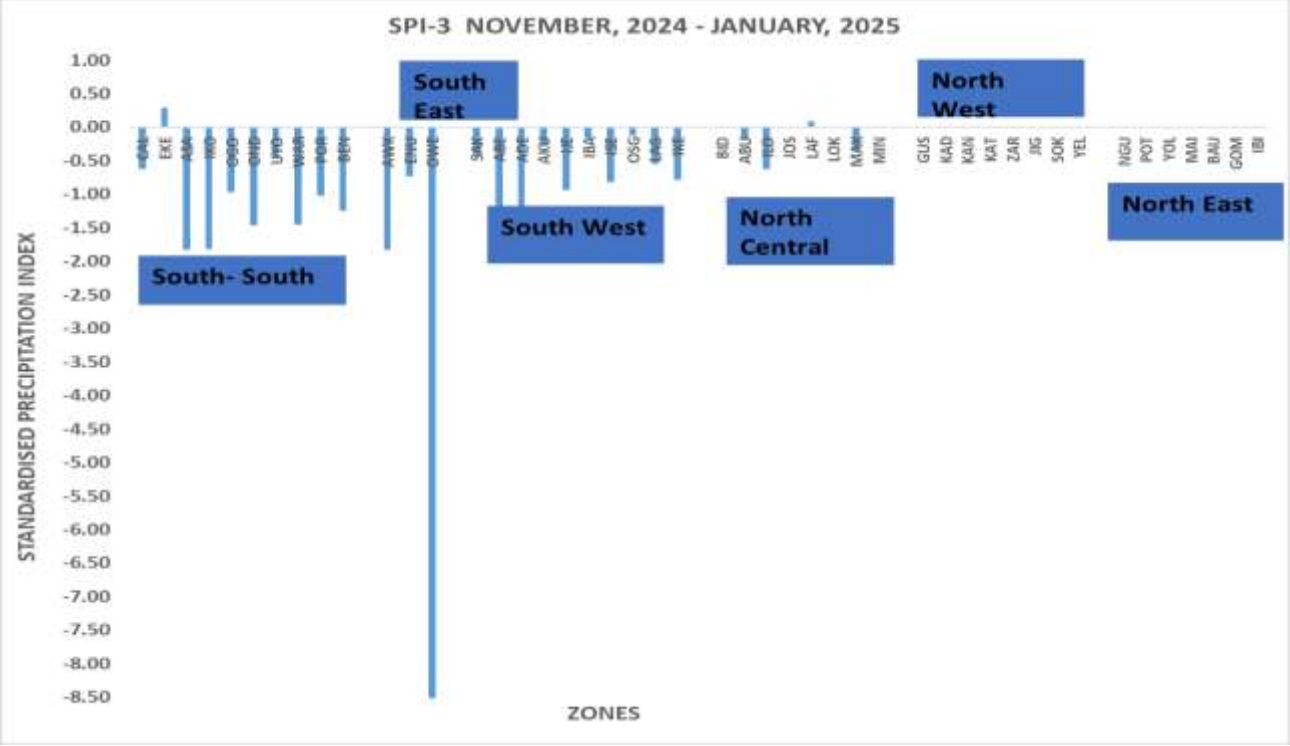


Figure 3(b): 3-Month SPI for Meteorological and Agricultural Drought Monitoring by zones across Nigeria in January 2025

Observed Features

The meteorological and agricultural drought monitoring across zones in Nigeria reveals that mild–to–severe dry conditions occurred in the southern zones of the country in January 2025, while the moisture conditions in the northern states remained normal during the period under review. (Figure 3(b)).

2.4: 6-MONTH SPI FOR JANUARY 2025

The rainfall data from various locations across Nigeria for the period August 2024 to January 2025 were used for the analysis of the 6-month SPI for January 2025. The results of the analysis are shown in Figures 4(a) and (b).

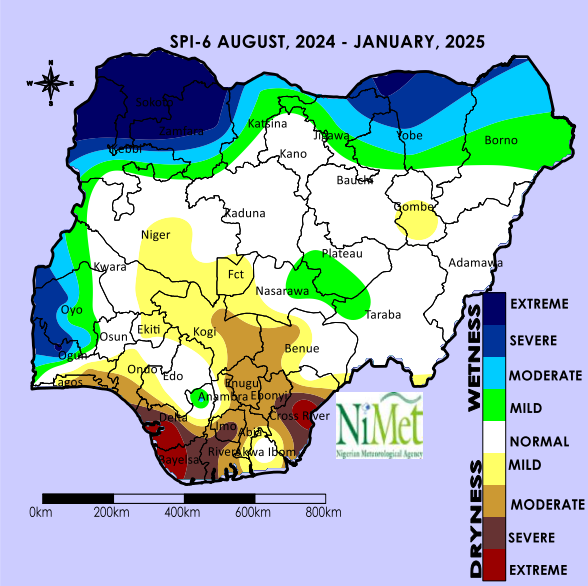


Figure 4(a): 6-Month SPI (Groundwater Drought Monitoring)

Observed Features

Analysis revealed that Sokoto, and Zamfara, parts of Kebbi, Borno, Niger, Kwara, Nasarawa, Taraba, Benue, Kogi, Plateau, Oyo, Osun, Ondo, Ogun, Edo and Anambra States experienced mild-to-extreme wetness which may favor groundwater recharge around these areas. However, parts of Gombe, the FCT, Niger, Kogi, Benue, Ekiti, Ondo, Lagos, Edo, Imo, Abia, Enugu, Anambra, Ebonyi, Cross-River, Delta, Rivers and Bayelsa States recorded mild-to-extreme dryness, while the soil moisture conditions in the remaining parts of the country were normal.

Figure 4(b): 6-month SPI for Groundwater Drought Monitoring by zones across Nigeria in January 2025

Observed Features

The SPI-6 zonal analysis showed prospect of positive groundwater recharge over parts of the northern states with mild-to-extreme wet conditions, while most parts of the southern zones may have to grapple with low groundwater recharge due to its obvious mild-to-extreme dry conditions (Figure 4(b)).

2.5: 12-MONTH SPI FOR JANUARY 2025

Rainfall data from various locations across Nigeria for the period 1st February 2024 to 31st January 2025 were used for the analysis of the 12-month SPI for January 2025. The results are shown in Figures 5(a) and (b).

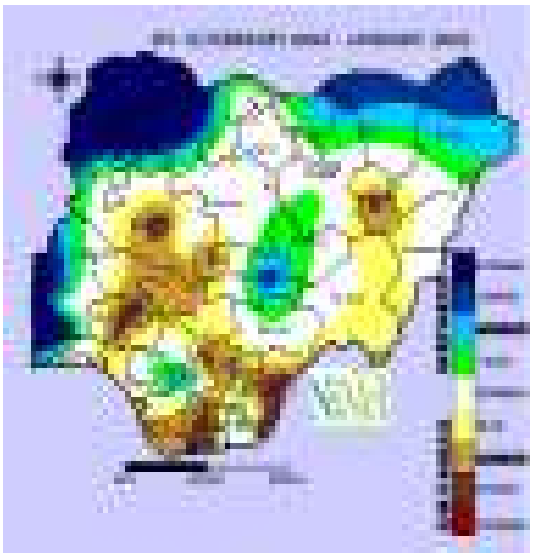


Figure 5(a): 12-Month SPI (Streamflow and lake storage Drought Monitoring)

Observed Features

The 12-month SPI analysis for all states across the Nigeria shows mild-to-extreme wet conditions over parts of Plateau, Nasarawa, Borno, Yobe, Jigawa, Katsina, Kebbi, Sokoto, Kwara, Oyo, Ogun, Edo, Delta and Akwa Ibom states. (See Figure 5(a). These conditions may favor stream flow and lake recharge storage over affected areas. However, parts of the FCT, Gombe, Niger, Kwara, Kogi, Benue, Osun, Lagos, Ekiti, Ondo, Edo, Enugu, Anambra, Ebonyi, Delta, Abia, Cross River, Akwa Ibom and Rivers states experienced mild-to-severe dryness.

Figure 5(b): 12-Month SPI (Streamflow and lake storage Drought Monitoring) by zones across Nigeria in January 2025

Observed Features

Figure 5(b) analysis for stream flows and lake storage monitoring showed that in the last 12 months the cumulative rainfall resulted in mild-to-extreme wetness conditions over parts of Plateau, Nasarawa, Borno, Yobe, Jigawa, Katsina, Kebbi, Sokoto, Kwara, Oyo, Ogun, Edo, Delta and Akwa Ibom states. This favors stream flow and lake recharge storage. However, a significant portion of the country especially the north may witness low hydrological recharge conditions.

2.6:-Rainfall Forecast and Outlook Across Nigeria for February, 2025

Figure 6: Model Probability Forecast for February 2025 Precipitation

OUTLOOK FOR FEBRUARY 2025

With the progressive northward movement of the ITD in February 2025, rainfall amounts between 20mm and over 60mm are expected in the coastal cities and across the inland states of the south. Preparations for rainfall-dependent activities are therefore expected to commence in earnest over affected areas.

FEBRUARY, 2025 ANALYSIS

PREAMBLE

The February edition reveals predominantly normal soil moisture condition across the country. However, a few states in the south experienced mild wet and dry conditions. It also showed gradual but steady rainfall activities particularly at the coast.

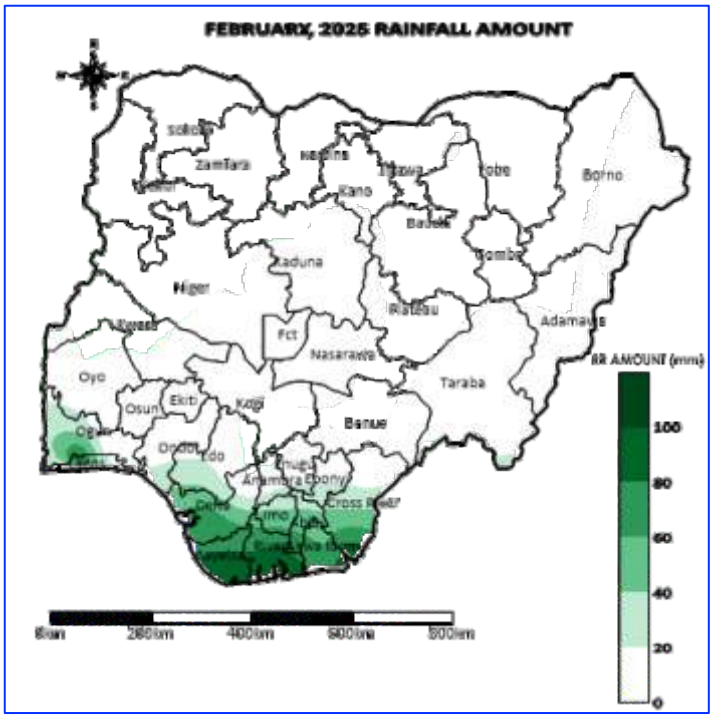


Figure 7: Rainfall Amounts across Nigeria in February, 2025

Observed Features

The rainfall distribution across Nigeria during the period under review witnessed a slight increase in rainfall amounts and spread to other parts of the southern states compared to the previous month. The highest rainfall was recorded in Cross River state with approximately 100 mm.

The rainfall distribution across Nigeria during the period under review witnessed a slight increase in rainfall amounts and spread to other parts of the southern states compared to the previous month. The highest rainfall was recorded in Cross River state with approximately 100 mm.

3.2: 1-MONTH SPI FOR FEBRUARY 2025

The 1-month February 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st to 28th February 2025

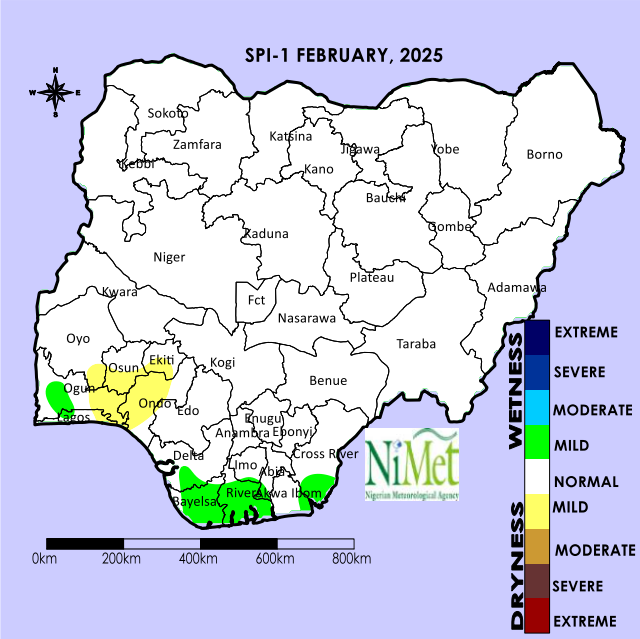


Figure 8(a): 1-Month SPI (Meteorological and Agricultural Drought Monitoring)

Observed Features

The 1-month SPI analysis shows that most parts of the country had normal soil moisture conditions in February 2025. However, parts of Oyo, Osun, Ekiti and Ondo states recorded mild dryness, while mild wet conditions were observed in some parts of Ogun, Lagos, Delta, Bayelsa, River and Akwa Ibom states.

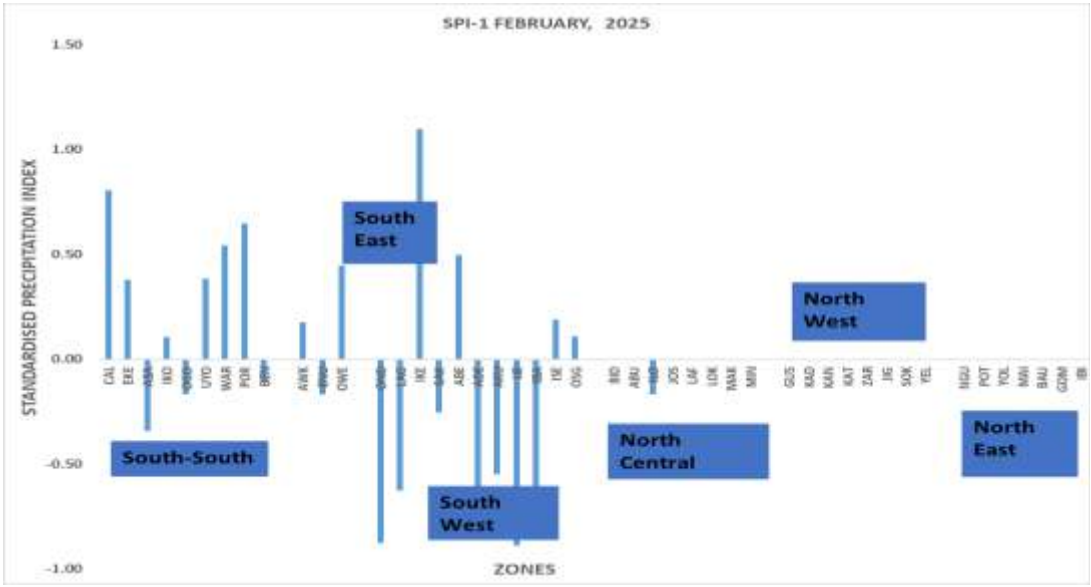


Figure 8(b): 1-month SPI for Meteorological and Agricultural Drought Monitoring by zones across Nigeria in February 2025

Observed Features

The 1-month SPI analysis by zones reveals mild wet and dry conditions across the southern zones while, the northern zones reveal normal soil moisture condition.

3.3: 3-MONTH SPI FOR FEBRUARY 2025

The 3-month February 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st December 2024 to 28th February 2025.

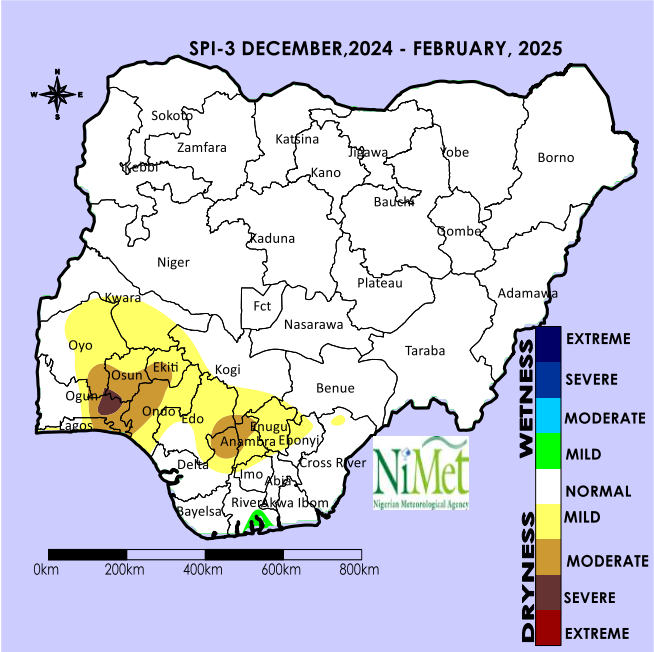


Figure 9(a): 3-Month SPI (Meteorological and Agricultural Drought Monitoring) Across Nigeria in February 2025

Observed Features

As shown in Figure 9a, the analysis indicates predominantly normal soil moisture conditions across the northern and the coastal states of the south. However, parts of Oyo, Ogun, Ekiti, Osun, Lagos, Ondo, Edo, Enugu, Anambra, Ebonyi and Delta states experienced mild-to- severe dryness. This suggests inadequate soil moisture to support agricultural activities for the period under review.

Figure 9(b): 3-Month SPI for Meteorological and Agricultural Drought Monitoring by zones across Nigeria in February 2025

Observed Features

The 3-month SPI analysis by zones shows the prevalence of normal soil moisture condition across the northern zones, while some parts of the southern zones experienced mild-to-severe dry conditions.

3.4: 6-MONTH SPI FOR FEBRUARY 2025

The 6-month February 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st September 2024 to 28th February 2025.

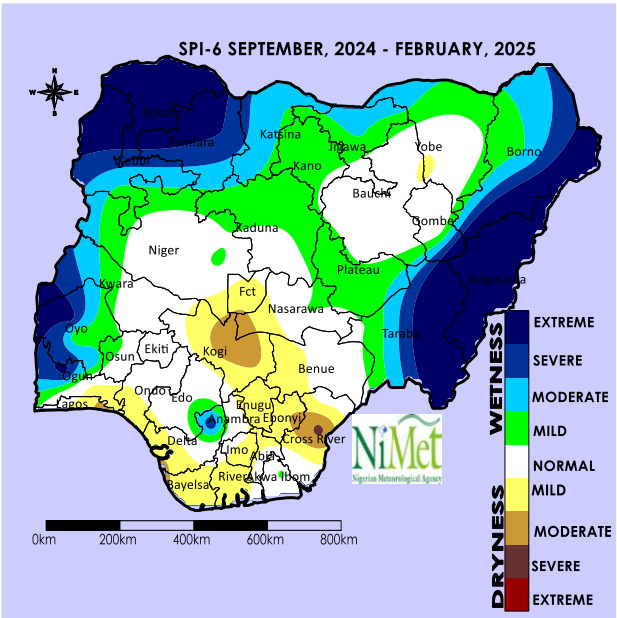


Figure 10(a): 6-Month SPI (Groundwater Drought Monitoring)

Observed Features

The 6-month analysis reveals that Sokoto, and Zamfara, as well as parts of Kebbi, Borno, Gombe, Katsina, Kaduna, Kano, Jigawa, Yobe, Adamawa, Taraba, Niger, Plateau, Oyo, Osun, Ondo, Ogun, Edo and Anambra states experienced mild-to-extreme wetness conditions that are likely to enhance groundwater recharge in these areas. However, parts of the FCT, Kogi, Nasarawa, Benue, Lagos, Enugu, Anambra, Ebonyi Cross-Rivers, Imo, Delta, Rivers and Bayelsa states experienced mild-to- moderate dryness. The soil moisture in other parts of the country remained within the normal range..

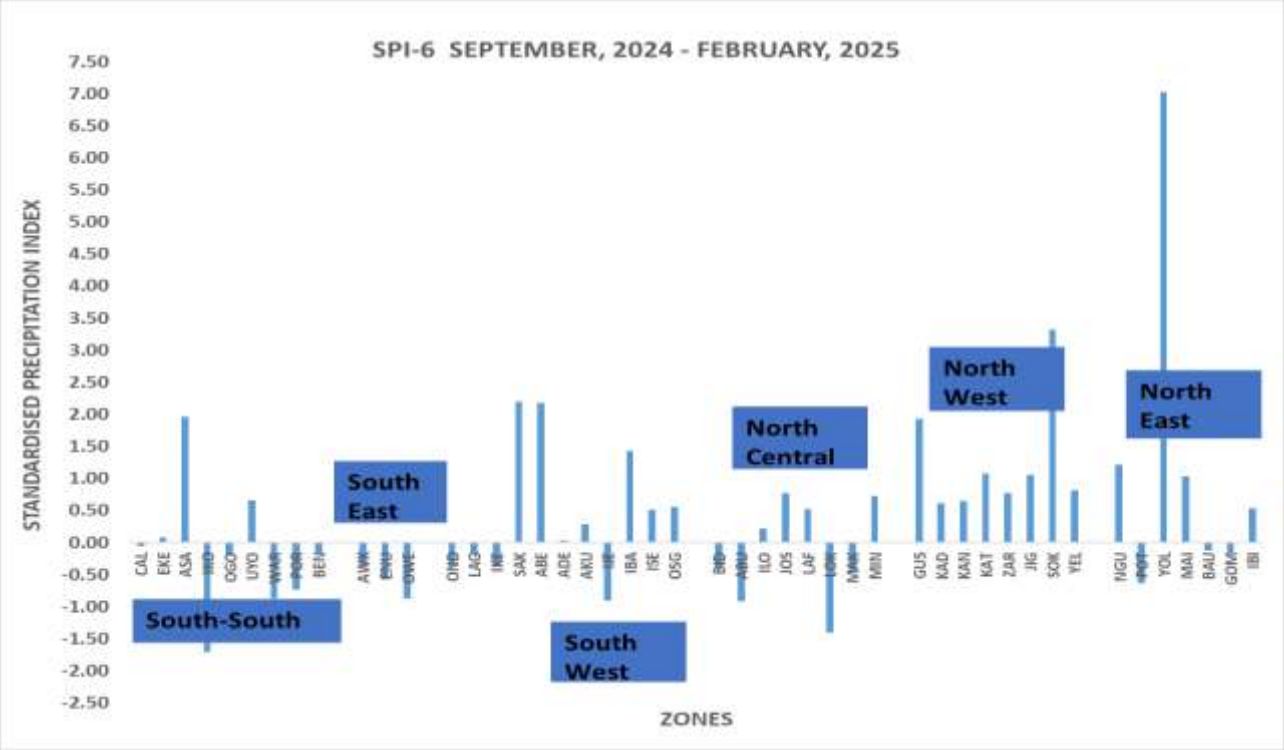


Figure 10(b): 6-month SPI for Groundwater Drought Monitoring by zones across Nigeria in February 2025

Observed Features

The 6-month zonal analysis indicates prospect of positive groundwater recharge across all zones during the period under review, making the period suitable for groundwater exploration especially at the north-west and north- east zones of the country.

3.5: 12-MONTH SPI FOR FEBRUARY 2025

Rainfall data from various locations across Nigeria for the period 1st March 2024 to 28th February 2025 were used for the analysis of the 12-month SPI for February 2025. The results are shown in Figures 5(a) and (b).

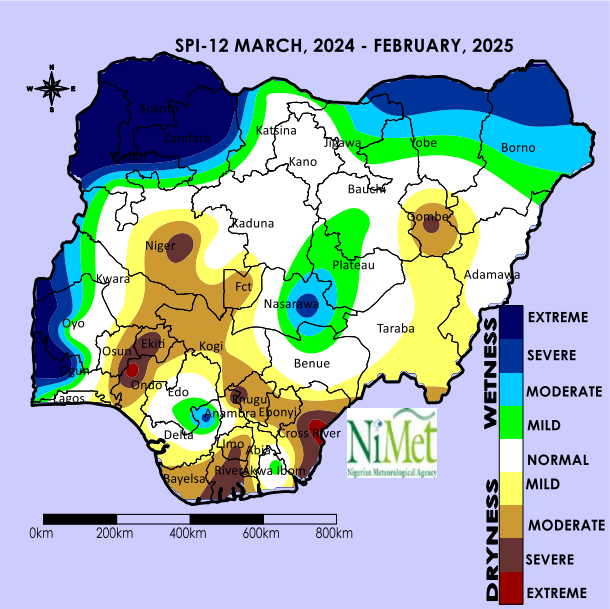


Figure 11(a): 12-Month SPI (Streamflow and lake storage Drought Monitoring)

Observed Features

The 12-month analysis shows that Sokoto, Zamfara, parts of Kebbi, Borno, Katsina, Jigawa, Yobe, Bauchi, Plateau, Nasarawa, Benue, Oyo, Ogun, Edo, and Anambra states experienced mild-to-extreme wetness during the period. However, mild-to-extreme dryness was recorded over parts of the FCT, Gombe, Adamawa, Taraba, Niger, Kogi, Osun, Ekiti, Ondo, Lagos, Enugu, Anambra, Ebonyi, Cross-river, Imo, Abia, Bayelsa, Rivers and Akwa-Ibom states.

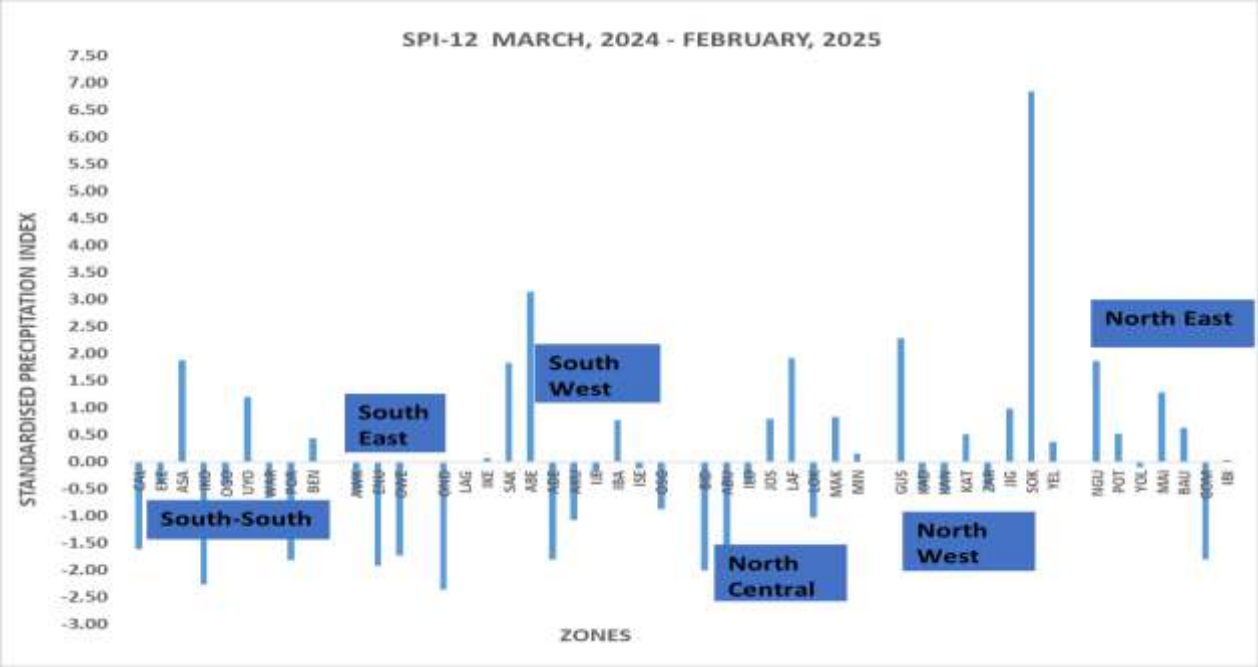


Figure 11(b): 12-Month SPI (Streamflow and lake storage Drought Monitoring) by zones across Nigeria in February 2025

Observed Features

The 12-month SPI analysis across the zones in Nigeria for streamflow and lake storage monitoring reveals a range of mild-to-extreme wetness and dryness conditions in both the northern and southern zones. This portends positive influence on streamflow and lake recharge potentials in the affected zones.

3.6: Rainfall Forecast and Outlook Across Nigeria for March,2025

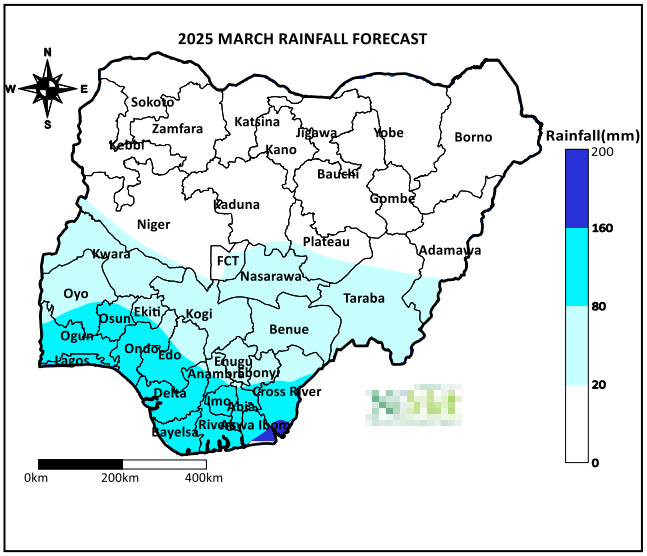


Figure 12: Model Probability Forecast for March 2025 Precipitation

OUTLOOK FOR MARCH 2025

With the continuous northward movement of the ITD, the country is expected to witness an increase in rainfall amounts and spread to other parts of the southern states compared to the previous month. Rainfall of about 20-80mm is expected over the central states, while 80-160mm is expected over the south and about 200mm projected over Akwa Ibom state. However, the northern states are still expected to experience episodes of harmattan dust.

MARCH, 2025 ANALYSIS

PREAMBLE

For the period under review, the northern states of the country largely witnessed normal (SPI=0) soil moisture condition due to little or no rainfall recorded during the period in consistence with expected dry condition for this time of the year. However, the south west and the south-south states experienced a mix fortune of wetness and dryness respectively due to gradual commencement of onset activities.

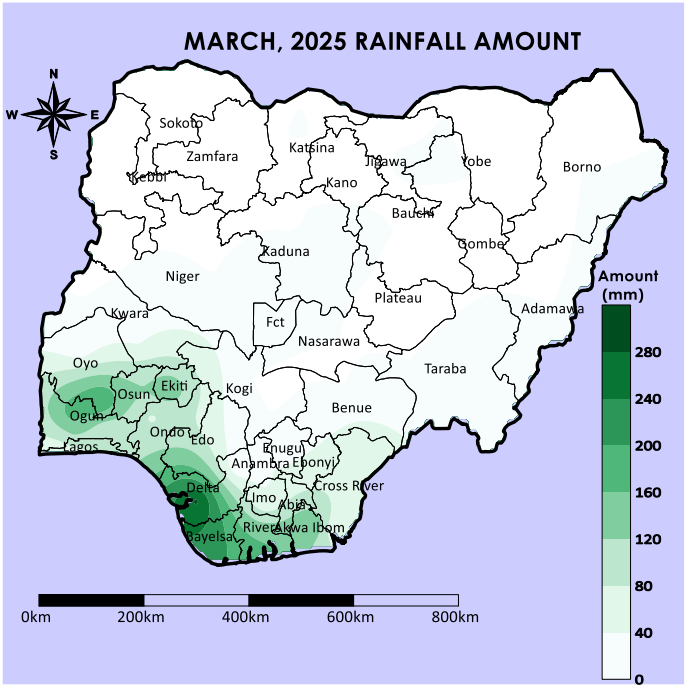


Figure 13: Rainfall Amounts across Nigeria in March, 2025

Observed Features

The distribution of rainfall over Nigeria during the review period indicates that the rainy season has become established across the southern states, with some areas recording up to 280 mm of rainfall. In contrast, the FCT as well as Kogi and Kwara states, in the central region recorded only a few millimeters of rainfall.

In this edition of the Bulletin, the results of 1-month (i.e., March 2025), 3-month (January to March 2025), 6-month (October 2024 to March 2025), and 12-month (April 2024 to January 2025) are as follows;

4. 2: 1-MONTH SPI FOR MARCH 2025

The analysis of one-month SPI across Nigeria in March 2025 is based on total rainfall data for 1st to 31st March 2025.

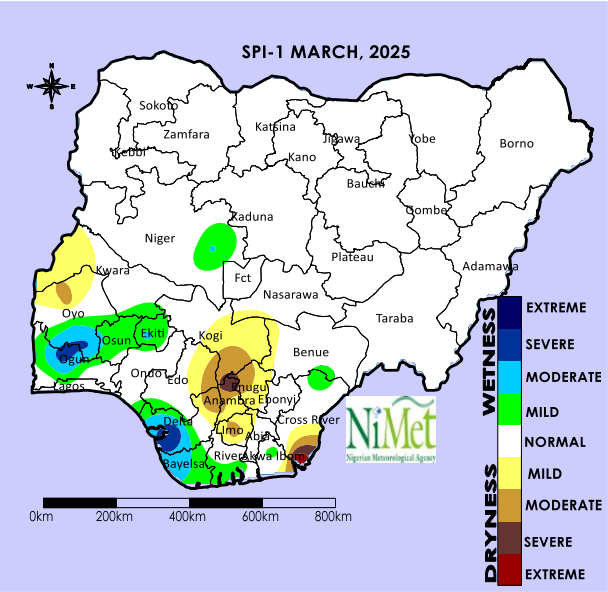


Figure 14(a): 1-Month SPI (Meteorological and Agricultural Drought Monitoring)

Observed Features

The 1-month SPI indicates the prevalence of climatological normal condition over the northern part of the country, largely due to the absence of rainfall during the period under review. In comparison to the long-term mean, parts of Kwara, Oyo, Kogi, Anambra, Imo and Cross River states experienced dryness, while parts of Niger, Oyo, Ogun, Osun, Ekiti, Delta, Bayelsa, Akwa Ibom, and Benue states showed wetness. (Figure14(a)).

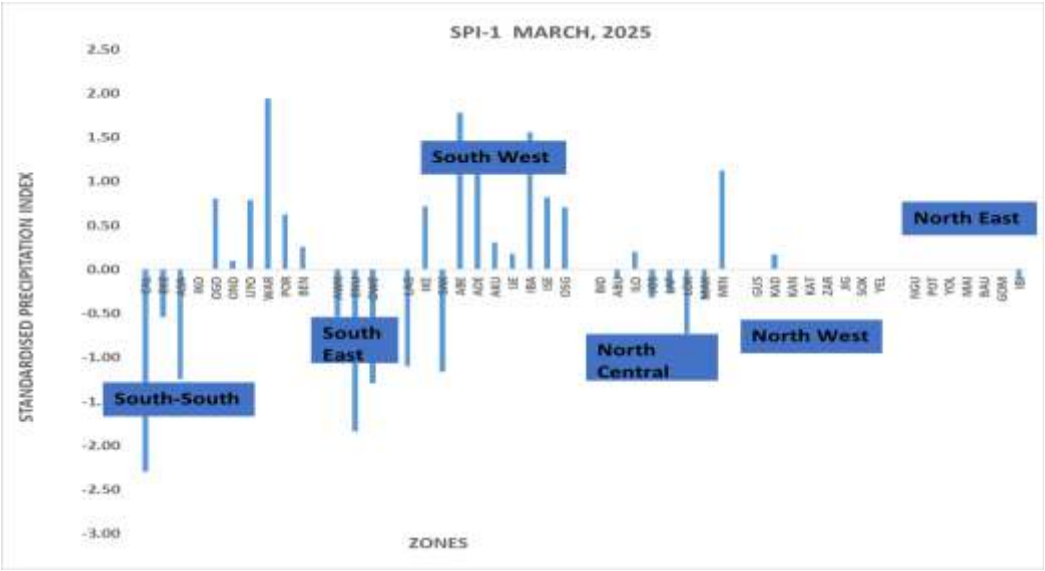


Figure 14(b): 1-month SPI for Meteorological and Agricultural Drought Monitoring by zones across Nigeria in March 2025

Observed Features

The 1-month SPI analysis by zones shows that the South-South experienced drier than normal conditions, while the South-south experienced wetter conditions. The North-Central zone showed signs of mild dryness, while the Northern zones remained under normal condition (SPI=0).

4.3: 3-MONTH SPI FOR MARCH 2025

The 3-month March 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st January 2025 to 31st March 2025

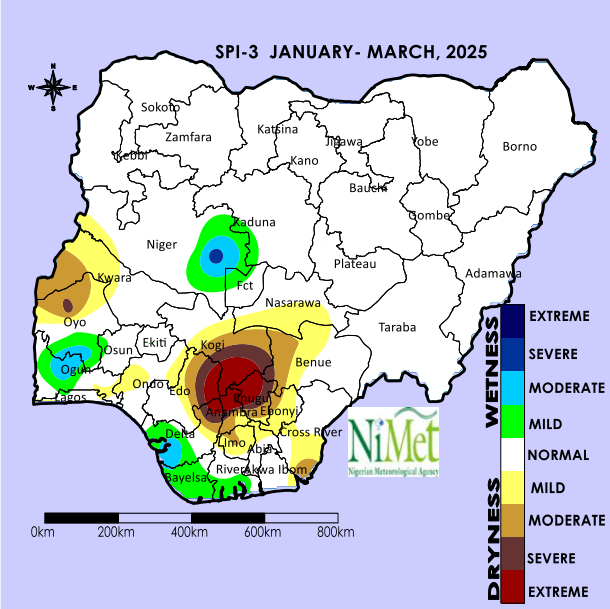


Figure 15(a): 3-Month SPI (Meteorological and Agricultural Drought Monitoring) Across Nigeria in March 2025

Observed Features

As shown in Figure 15(a), the analysis reveals significant dryness across the inland states of the South, while wet conditions were observed in parts of Niger, Ogun, Delta, Bayelsa, and Rivers states. Meanwhile, normal conditions prevailed across the rest of the country.
ned under normal condition (SPI=0).

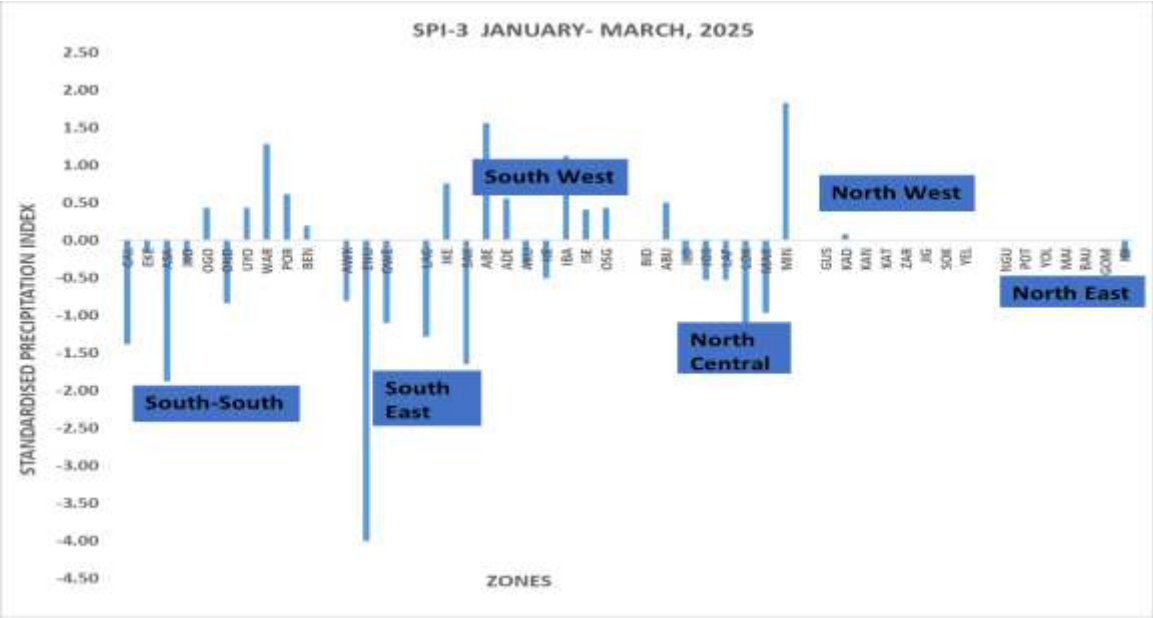


Figure 15(b): 3-Month SPI for Meteorological and Agricultural Drought Monitoring by zones across Nigeria in March 2025

Observed Features

The meteorological and agricultural drought monitoring across zones in Nigeria shows parts of the South-South zones experiencing certain degree of dryness, while parts of South-West also recorded wet conditions. The North-Central zone however, also contends with varying degree of dryness, whereas normal climatological conditions prevailed across other northern zones as shown in Figure 15(b).

4.4: 6-MONTH SPI FOR MARCH 2025

The 6-month March 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st October 2024 to 31st March 2025.

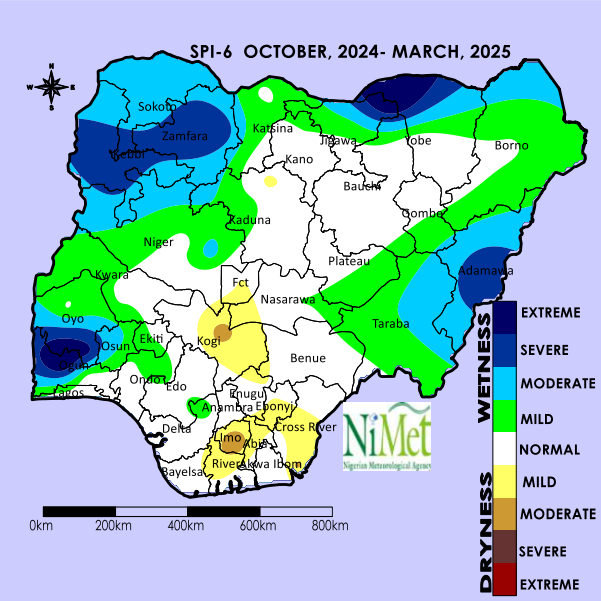


Figure 16(a): 6-Month SPI (Groundwater Drought Monitoring)

Observed Features

The 6-month (October 2024 to March 2025) SPI analysis indicates that parts of Sokoto, Kebbi, Katsina, Zamfara, Borno, Adamawa, Niger, Kwara, Kano, Taraba, Oyo, Osun, Ekiti, Ondo, and Ogun states experienced mild to extreme wetness during the period under review. Conversely, areas within Kogi, Ebonyi, Imo, Abia, Rivers, and Akwa Ibom states recorded mild to moderate dryness. The remaining parts of the country maintained normal soil moisture conditions

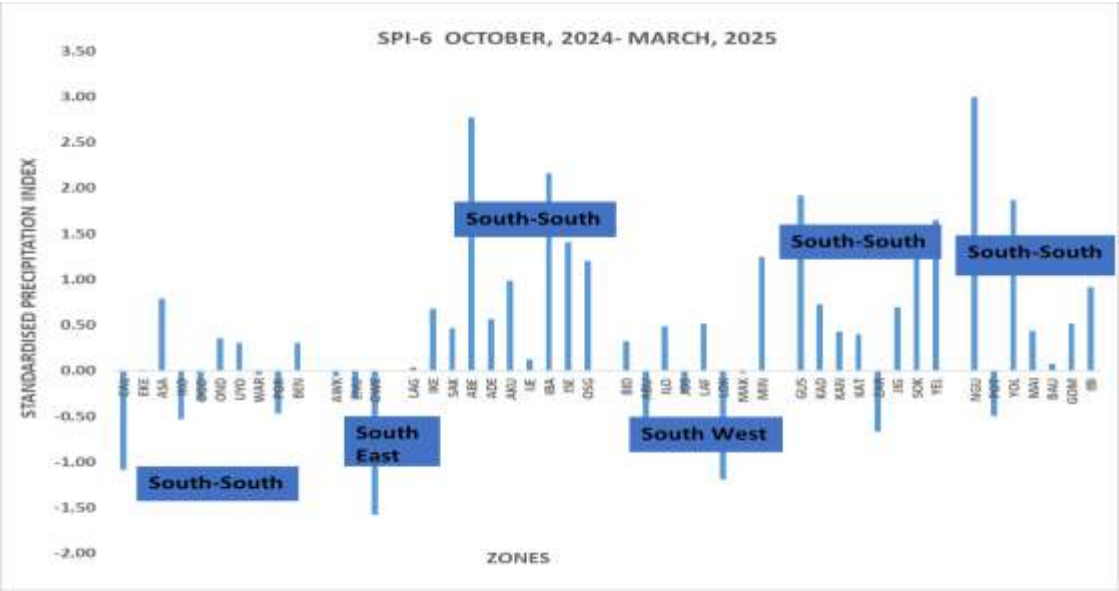


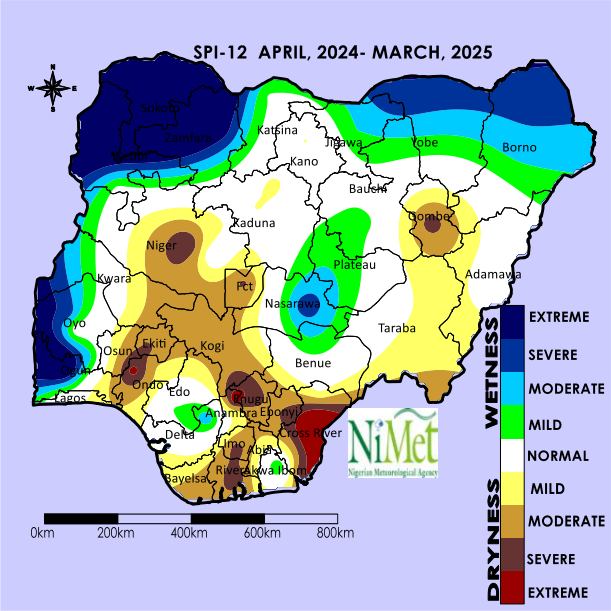
Figure 16(b): 6-month SPI for Groundwater Drought Monitoring by zones across Nigeria in March 2025

Observed Features

The 6-month SPI analysis across the zones reveals obvious dryness (mild-to-extreme) over most parts of the South-East and South-South, while other regions of the country experienced varying degrees of wetness. This suggests a deficit in groundwater recharge within the South-East zone and South-South, contrasted by a surplus across the other zones.

4.5: 12-MONTH SPI FOR JANUARY 2025

The 12-month March 2025 SPI analysis is based on the rainfall data over Nigeria for the period, 1st April 2024 to 31st March 2025



Observed Features

TThe 12-month analysis of streamflow and lake storage monitoring indicates wet conditions in Sokoto, Zamfara, Kebbi, Jigawa, Yobe, Adamawa, Kwara, Oyo, Ogun, Plateau, Nasarawa, Anambra, and Akwa Ibom states. However, most parts of the central and southern states experienced mild-to-extreme dryness.

Figure 17(a): 12-Month SPI (Streamflow and lake storage Drought Monitoring)

Figure 17(b): 12-Month SPI (Streamflow and lake storage Drought Monitoring) by zones across Nigeria in January 2025

Observed Features

As shown in Figure 17(b) as analyzed, several states in the northern zones reveals favorable conditions for streamflow and lake storage recharge, while only a few states in the southern region show similar prospects as a result of recorded mild-to-extreme wet conditions

4.6: Rainfall Forecast and Outlook Across Nigeria for April, 2025

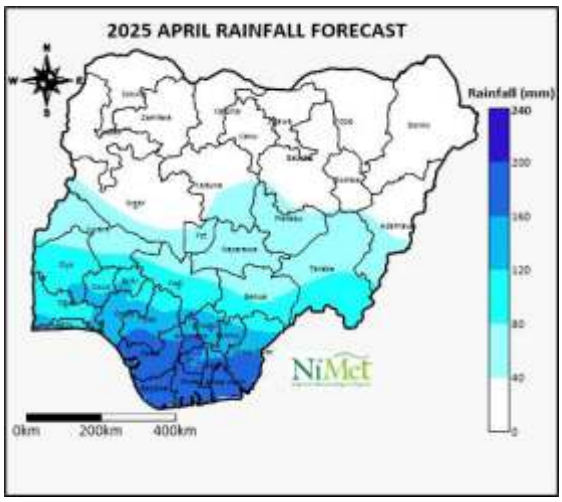
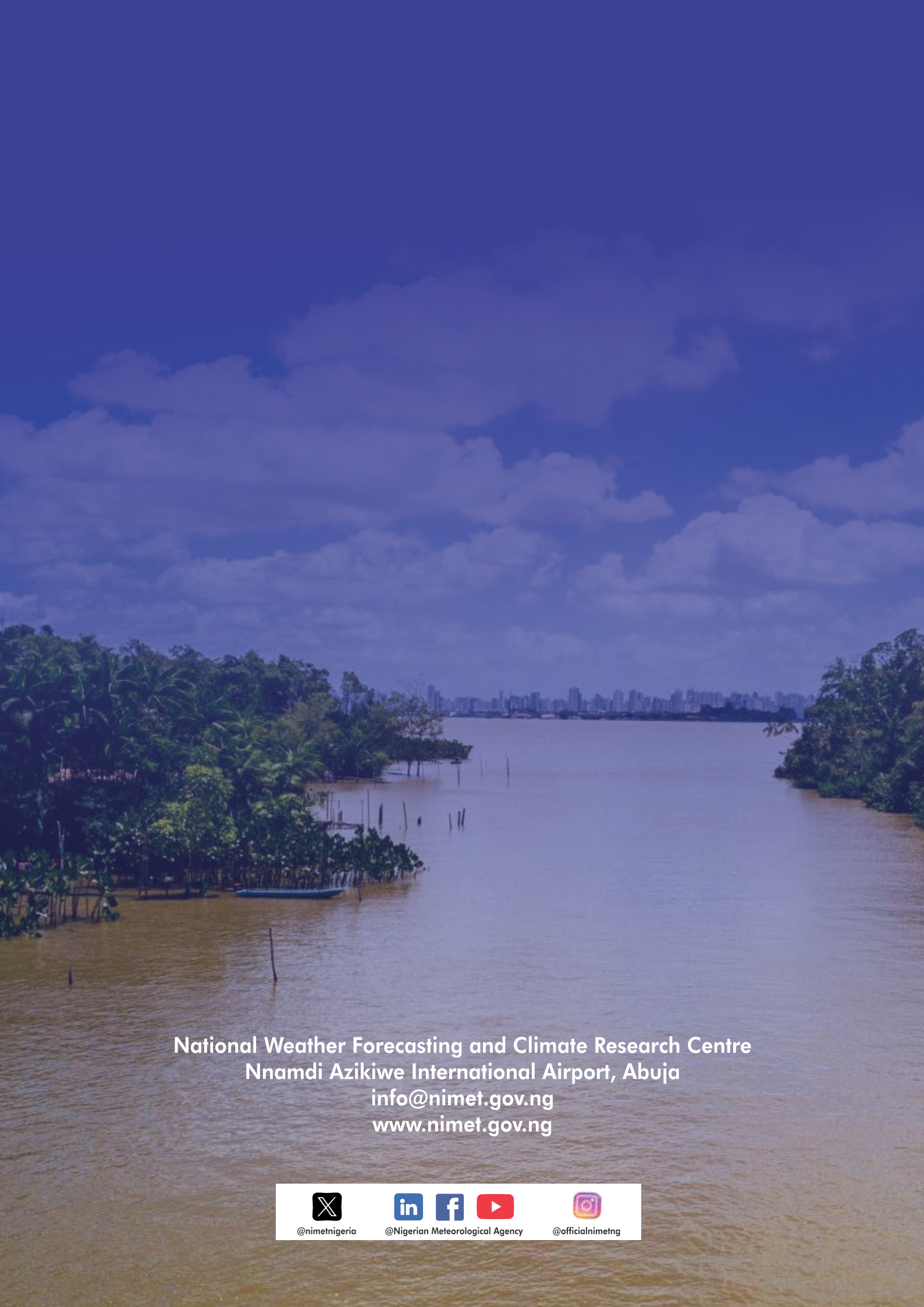


Figure 18: Model Probability Forecast for April 2025 Precipitation

OUTLOOK FOR APRIL 2025

In April 2025, between 40mm and over 240mm of rainfall are expected in various parts of the country. The establishment of the rainy season within the month as predicted in NiMet's 2025 Seasonal Climate Prediction is expected to positively impact activities across the water value chain.



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