Aerometeorological Bulletin

April - June 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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Executive Summary

The Nigerian Meteorological Agency (NiMet) as part of its mandates provides weather data and information for safe air navigation in line with the Standard and Recommended Practices (SARPs) prescribed by the International Civil Aviation Organization (ICAO) and World Meteorological Organisation (WMO), and in compliance with the Nigerian Civil Aviation Regulations. The strategic importance of weather and climate information to national security and aviation safety underscores their utilisation from siting of Airfields, Aerodromes and Airports where wind rose is critical to the orientation of the runway and other critical assets. Take-off, landing, on-ground, and enroute operations of aircraft depends on the prevailing weather phenomenon. Aircraft designs take into consideration climatology of weather information.

This bulletin covers the analysis of the weather events that characterised the second quarter of 2025 (April, May, and June) and how they affected flight operations at the five (5) major international airports namely:

- Nnamdi Azikiwe International Airport, Abuja.
- Murtala Muhammed International Airport, Lagos.
- Mallam Aminu Kano International Airport, Kano. ·
- Port Harcourt International Airport, Omagwa Port Harcourt. ·
- Akanu Ibiam International Airport, Enugu

Generally, dusty and hazy conditions brought about by the northeast trade winds prevailed during the period under review. The predominant northeasterly winds, which sweep across the Sahara Desert characteristically push cold, dry and dusty air into locations north of the Inter-Tropical Discontinuity (ITD) while south of the ITD reported isolated cases of showers, thunderstorms, mist and fog. During this period, low temperatures were recorded, and horizontal visibility was reduced significantly. While the former favoured aircraft performance, the latter caused disruptions to f light operation due to visibility reduction below various aerodrome minima as influenced by dust haze.

Professor Charles Anosike
(Director-General/Chief Executive Officer,
Nigerian Meteorological Agency (NiMet)

Introduction

The Nigeria Meteorological Agency NiMet was established under the Nigeria Meteorological Agency Act of 2003. The act provided the legal framework for the formation of the agency, marking a significant step in enhancing meteorological services in the country. The Agency (NiMet) is vested with the responsibility of providing weather data and information for safe air navigation in line with the Standard and Recommended Practices (SARPs) prescribed by the International Civil Aviation Organization (ICAO) and World Meteorological Organization (WMO), and in compliance with the Nigerian Civil Aviation Regulations.

Pursuant to the above, NiMet provides quality, accurate, and timely weather observations, forecasts, and warnings to the Aviation industry for the safety of air navigation. The Aeronautical Meteorology (AEROMET) products and services (or weather information for aviation) produced by NiMet for flight operations in the Nigerian airspace include the following:

- METAR
- SPECI
- Terminal Aerodrome Forecast (TAF)
- Trend forecast
- Aerodrome warning
- Windshear warning
- SIGMET
- Area forecast (for low level flights)
- Flight documentation
- Pilot and crew briefing services

This bulletin covers the analysis of the weather events that characterized the second quarter of 2025: April, May and June as reported at the five (5) major international airports, namely:

- Mallam Aminu Kano International Airport, Kano.
- Murtala Muhammed International Airport, Lagos.
- Nnamdi Azikiwe International Airport, Abuja.
- Port Harcourt International Airport, Omagwa Port Harcourt.
- Akanu Ibiam International Airport, Enugu.

1.1 . Weather Parameters and Aviation

Aviation is one of the most weather-sensitive sectors of the economy and human endeavor. Weather exerts a significant influence on aviation safety, with adverse conditions such as thunderstorms, fog, and heavy rainfall posing major risks to aircraft operations and passenger safety. Consequently, accurate and timely weather forecasting is crucial for pilots and air traffic controllers, enabling informed decisions on flight planning, routing, and execution, thereby enhancing both safety and economic development in Nigeria.

Extreme weather conditions remain major hazards to flight operations worldwide and account for a significant proportion of aviation-related incidents. The frequency and intensity of such extreme events have been increasing globally due to climate change, making the provision of reliable weather information even more critical to aviation safety.

The Nigerian Meteorological Agency (NiMet) continuously observes, measures and collates weather data across the country to generate aeronautical meteorological products that support the aviation industry. This bulletin provides a review of key weather parameters observed at five (5) airport weather stations in Nigeria during the second quarter of 2025. The weather parameters reviewed in this bulletin include thunderstorm, precipitation, maximum and minimum temperatures, mean temperature, and minimum visibility (from 5,000 m and below). In addition, the analysis covers the monthly position of the Inter-Tropical Discontinuity (ITD) as well as aerodrome warnings.

1.2. The Inter-Tropical Discontinuity (ITD) and Its Influence on Nigerian Weather

The Inter-Tropical Discontinuity (ITD) is a key driver of seasonal weather patterns across Nigeria and West Africa. It represents the boundary zone where dry, dusty northeasterly trade winds from the Sahara converge with moist southwesterly winds from the Atlantic Ocean. The position of the ITD is not fixed but shifts seasonally: it moves northward between March and October, allowing the influx of moisture, resulting in rainfall across Nigeria. Between November and March, the ITD moves southwards, allowing dry dusty continental winds to dominate all over the country.

The oscillatory movement of the ITD determines the onset and cessation of the rainy season, the distribution of rainfall, and the occurrence of the harmattan dust haze. To the north of the ITD, conditions are generally hot and dry, while to the south, humid maritime air prevails. Its convergence zone is often marked by intense weather activity, including thunderstorms, heavy rainfall, and periods of poor visibility. Thus, the ITD plays a crucial role in aviation safety.

1.3. Overview of Weather Conditions in Nigeria During the Second Quarter (April, May and June) of 2025

The second quarter of 2025 marked the progressive establishment of the rainy season across Nigeria, driven by the northward migration of the Intertropical Discontinuity (ITD) and increasing atmospheric moisture influx from the Gulf of Guinea. Rainfall activities became firmly established in the southern and central zones of the country from April

strengthening through May and reaching peak intensity in June. Coastal and inland cities in the south, particularly Lagos, Port Harcourt, as well as Enugu, recorded frequent episodes of heavy and persistent rainfall in June 2025, accompanied by elevated relative humidity and reduced diurnal temperature ranges. The central states of the country experienced a well-defined onset of the rainy season by the middle of the quarter, with widespread convective activities and periodic thunderstorms. In contrast, the northern states experienced a delayed onset of the rainy season. However, rainfall became more pronounced towards the end of June 2025 as the ITD advanced further northward.

Air temperatures remained generally high across the country during the quarter. However, increased cloud cover and enhanced precipitation over the southern and central regions moderated daytime temperatures, while nighttime conditions were relatively cooler and more comfortable. Relative humidity increased significantly across the coastal zones in response to the persistent moist south-westerly flow.

The quarter was also characterized by notable hydrometeorological hazards. Severe flooding occurred in Mokwa, Niger State, in late May, following intense rainfall that resulted in one of the region's most significant flood events in recent decades. The incident caused extensive damage to infrastructure, population displacement, and considerable loss of life. Additional cases of flash flooding and storm-related impacts were reported in parts of the northern and central states during episodic high-intensity rainfall events.

Despite the overall northward progression of the rainy season, some places, particularly in the southwestern states, experienced intermittent dry spells lasting more than two weeks after the onset, temporarily suppressing soil moisture replenishment and agricultural activities.

1.3.0 Summary of Temperature Fluctuations in the Second Quarter (April to June) of 2025

Air temperature is a critical meteorological variable that directly affects aircraft performance during take-off, landing, and cruise operations. Temperature variations affect air density. This, in turn, affects engine thrust, aerodynamic lift, and take-off distance requirements. Elevated temperatures reduce air density, leading to longer take-off rolls and diminished engine efficiency, whereas lower temperatures increase air density, generally enhancing aircraft performance. During the second quarter of 2025, temperature patterns across Nigeria exhibited pronounced spatial variability due to differences in diurnal heating, cloud cover, atmospheric moisture, and seasonal transitions from dry to wet conditions.

1.3.1 Monthly Highlights in the second quarter of 2025 April 2025

Maximum Temperature: Kano recorded the highest maximum of 42.4°C, while Port Harcourt recorded the lowest at 28.5°C.

Minimum Temperature: Kano experienced the highest minimum of 31.0°C, while Enugu had the lowest at 18.0°C.

Mean Temperature: Kano recorded the highest mean temperature of 33.9°C, while the lowest, 24.4°C, was observed in Port Harcourt during the quarter.

There was intense late dry season hot weather over the northern states, while the southern and coastal stations recorded moderate temperatures due to early rainfall activity.

1.3.2 Monthly Highlights in the second quarter of 2025 May 2025

Maximum Temperature: Kano recorded 45.5°C, the highest in the quarter, whereas Enugu recorded the lowest at 25.5°C.

Minimum Temperature: Port Harcourt observed the highest minimum of 35.0°C, while Abuja recorded the lowest at 18.2°C.

Mean Temperature: Kano had the highest mean temperature of 33.9°C, and Port Harcourt had the lowest at 24.3°C.

Temperature distribution reflected strong north–south contrasts, influenced by cloud cover, humidity, and the onset of monsoonal air masses.

1.3.2 Monthly Highlights in the second quarter of 2025 June 2025

Maximum Temperature: Kano recorded the highest maximum of 42.3°C, while Enugu had the lowest at 26.1°C.

Minimum Temperature: Abuja recorded the highest and lowest minimum temperatures of 28.0°C and 18.4°C, respectively, reflecting variable nighttime conditions.

Mean Temperature: Kano recorded the highest mean temperature of 31.3°C. The lowest mean temperature of 23.2°C was also observed in Kano. This was influenced by episodic rainfall and increased cloudiness.

A clear north–south thermal gradient was evident in the second quarter of 2025, with the northern cities experiencing elevated daytime and nocturnal temperatures, while the southern and coastal regions observed moderate conditions influenced by increased cloud cover, rainfall, and monsoonal air masses. These patterns highlight the seasonal transition from late dry-season hot weather in the north to peak rainy-season effects in the south.

1.4. Summary of NiMet's AEROMET Products Disseminated in the Second Quarter of 2025

NiMet produced a total of 7,697 Flight Documentation folders during the quarter under review. 5,117 of these, representing 66.4%, were collected by the airlines. The Agency produced and transmitted a total of 21,840 METAR during the quarter under review. Furthermore, NiMet produced and transmitted a total of 1,456 TAF during the quarter under review, and all transmitted, representing 100%, were collected by the airlines. A total of 259 aerodrome warnings were issued and transmitted to users during the period under review.

April 2025

2.1. REVIEW OF POSITION OF THE INTER-TROPICAL DISCONTINUITY (ITD) OVER NIGERIA IN APRIL 2025

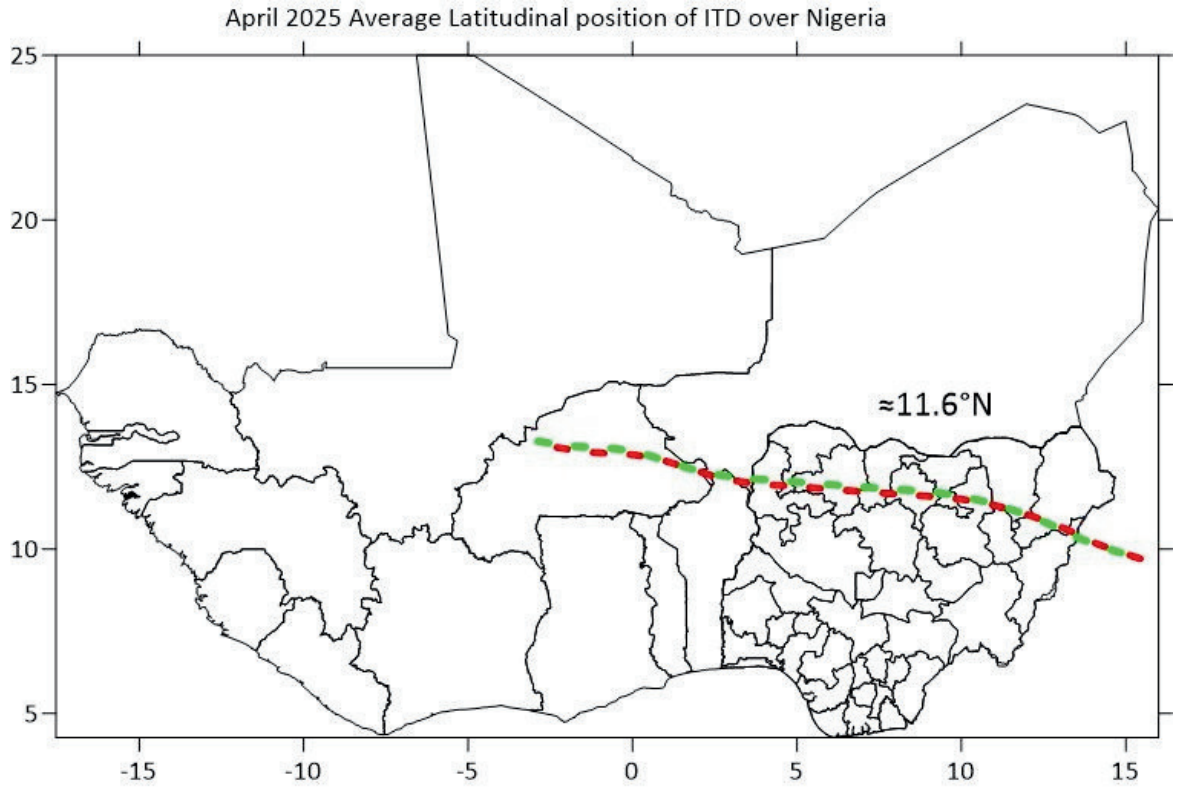


Figure 1: Mean Position of the Intertropical Discontinuity (ITD) in April 2025

In April 2025, the Intertropical Discontinuity (ITD) exhibited a steady and climatologically consistent northward migration in response to increasing solar heating over the West African sub-region. By the end of the month, the mean ITD position had advanced to approximately 11.6°N, reflecting the gradual strengthening of the monsoonal flow.

This northward displacement enhanced the inland penetration of the moist southwesterly maritime air mass, resulting in increased moisture availability and the onset of early-season rainfall across the southern and parts of the central states.

Conversely, the northern parts of the country remained predominantly dry for most of the month, with only limited pre-monsoon activity observed prior to the ITD's late-April advancement. The ITD dynamics in April 2025 signified the transition phase from the dry season to the early wet season across Nigeria, consistent with established climatological patterns.

2.0.2. TEMPERATURE CHARACTERISTICS IN THE SECOND QUARTER (APRIL–JUNE) OF 2025

Air temperature is a key meteorological parameter that significantly affects aircraft engine performance. Temperature fluctuations directly affect air density, and consequently, engine thrust output, aerodynamic lift, and aircraft fuel efficiency. The transition from late dry-season to early and mid-rainy-season conditions across Nigeria was observed in the second quarter of 2025. This resulted in distinct month-to-month and regional variations in temperature across the five monitored airport stations.

In April 2025, notable spatial temperature variations were observed across the five airports weather stations, reflecting contrasting regional thermal regimes. The northern parts of the country experienced very hot weather, typical of the late dry season, while the southern and coastal cities observed moderate temperatures due to increased cloud cover and the onset of early rainfall activities.

2.1. OBSERVED MEAN DAILY TEMPERATURE (T_{MEAN}) °C AT VARIOUS AIRPORTS IN APRIL 2025.

Abuja Airport

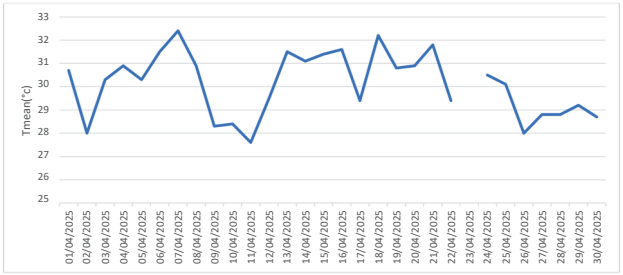


Figure 2: Daily Mean Temperature at Nnamdi Azikiwe International Airport, Abuja in April, 2025.

In April 2025, the highest mean temperature of 32.4°C was recorded at the airport on the 7th, while the lowest, 27.6°C, occurred on the 11th of the same month. (See Figure 2).

Kano Airport

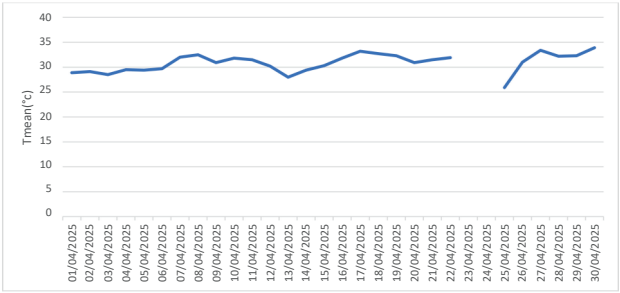


Figure 3: Daily Mean Temperature at Mallam Aminu Kano International Airport Kano in April 2025

In April 2025, the highest mean temperature of 33.9°C was recorded at the airport on the 30th, while the lowest, 25.9°C, occurred on the 25th of the same month. (See Figure 3).

Enugu Airport

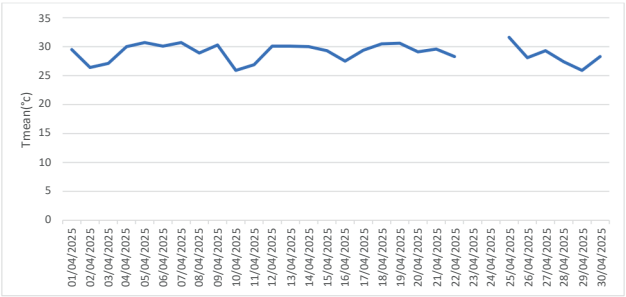


Figure 4: Mean Daily Temperature at Akanu Ibiam International Airport in April, 2025.

In April 2025, the highest mean temperature of 31.6°C was recorded at the airport on the 25th, while the lowest, 25.9°C, occurred on the 10th of the same month. (See Figure 4).

Lagos Airport

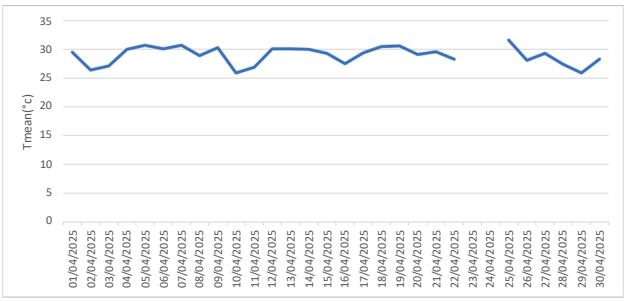


Figure 5: Mean Daily Temperature at Murtala Muhammed International Airport Lagos in April, 2025.

In April 2025, the highest mean temperature of 30.3°C was recorded at the airport on the 6th while the lowest, 25.0°C, occurred on the 29th of the same month. (See Figure 5).

Port Harcourt Airport

Figure 6: Daily Mean Temperature at Port Harcourt International Airport in April, 2025.

In April 2025, the highest mean temperature of 38.6°C was recorded at the airport on the 6th, while the lowest, 32.3°C, occurred on the 25th of the same month.

2.2. OBSERVED MAXIMUM TEMPERATURE (T_{MAX}) °C AT THE AIRPORTS IN APRIL 2025

Abuja Airport

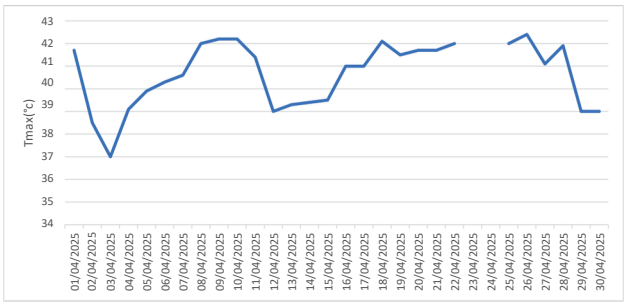


Figure7: Daily Maximum Temperature at Nnamdi Azikiwe International Airport, Abuja in April, 2025

As depicted in Figure 7, the highest maximum temperature recorded at Abuja airport in April 2025 was 42.4°C, observed on the 26th, while the lowest, 37.0°C, was recorded on the 3rd of the same month.

Kano Airport

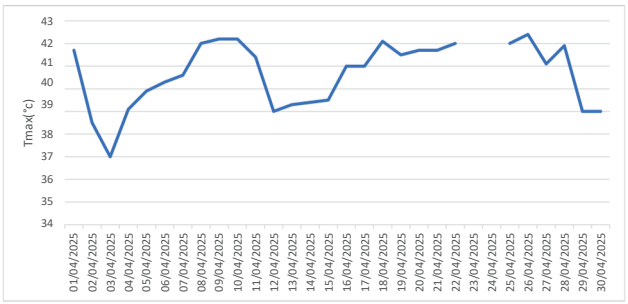


Figure 8: Daily Maximum Temperature at Mallam Aminu Kano International Airport Kano in April, 2025.

As depicted in Figure 8, the highest maximum temperature recorded at Kano airport in April 2025 was 42.4°C, observed on the 26th, while the lowest, 37.0°C, was recorded on the 3rd of the same month.

Enugu Airport

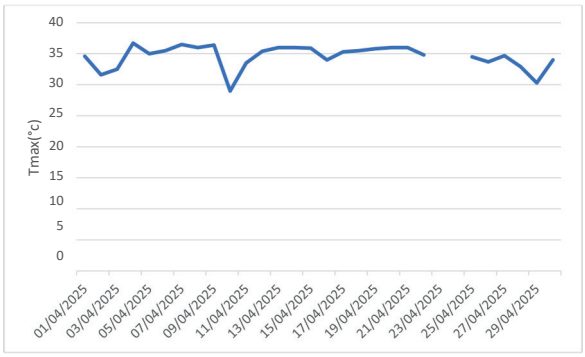


Figure 9: Daily Maximum Temperature at Akanu Ibiam International Airport, Enugu in April, 2025.

As depicted in Figure 9, the highest maximum temperature recorded at Enugu airport in April 2025 was 36.7°C, observed on the 4th, while the lowest, 29.0°C, was recorded on the 10th of the same month.

Lagos Airport

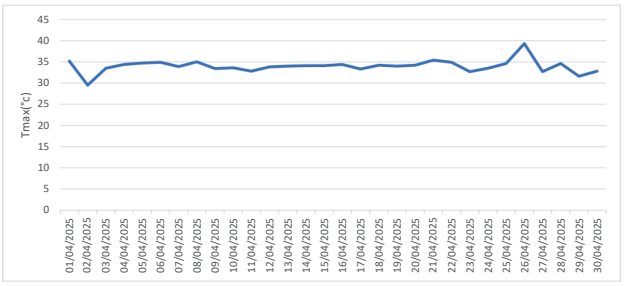


Figure 10: Daily Maximum Temperature at Murtala Muhammed International Airport, Lagos in April, 2025.

As shown in Figure 10, the highest maximum temperature recorded at Lagos airport in April 2025 was 39.3°C, observed on the 26th, while the lowest, 29.5°C, was recorded on the 2nd of the same month.

Port Harcourt Airport

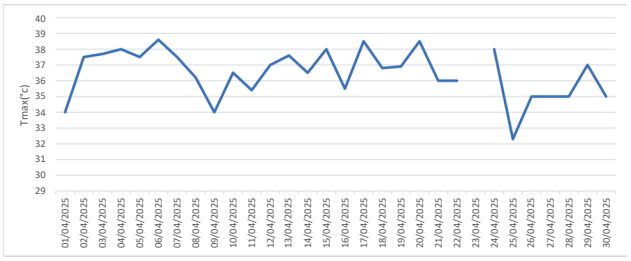


Figure11: Daily Maximum Temperature at Port Harcourt International Airport in April, 2025.

As depicted in Figure 40, the highest maximum temperature recorded at Port Harcourt International Airport in April 2025 was 38.6°C, observed on the 6th, while the lowest, 32.3°C, was recorded on the 25th of the same month.

2.3. OBSERVED MINIMUM TEMPERATURE (TMIN) °C AT THE AIRPORTS IN APRIL 2025.

Abuja Airport

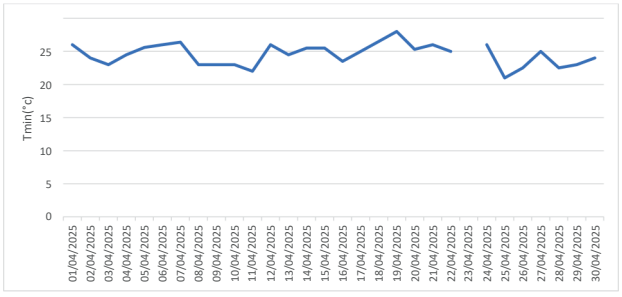


Figure12: Daily Minimum Temperature at Nnamdi Azikiwe International Airport, Abuja in April, 2025.

The highest minimum temperature of 28.0°C was recorded at the airport on the 19th of April, 2025, while the lowest, 21.0°C, was observed on the 25th of the same month.

Kano Airport

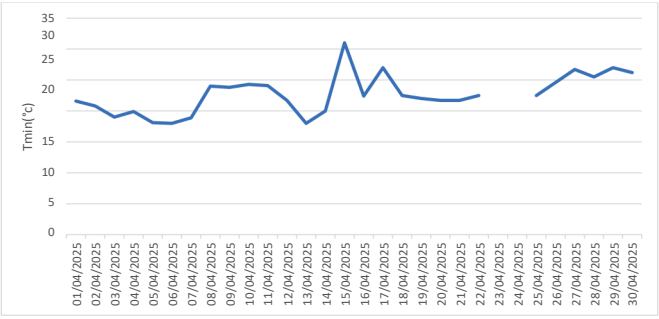


Figure 13: Daily Minimum Temperature at Mallam Aminu Kano International Airport Kano in April, 2025.

The highest minimum temperature of 31.0°C was recorded at the airport on the 15th of April, 2025, while the lowest, 18.0°C, was observed on the 13th of the same month.

Enugu Airport

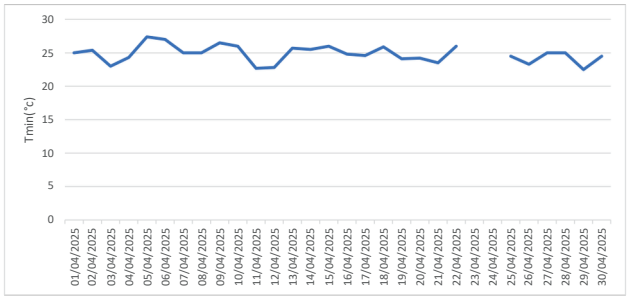


Figure 14: Daily Minimum Temperature at Akanu Ibiam International Airport, Enugu in April, 2025.

The highest minimum temperature of 27.4°C was recorded at the airport on the 5th of April, 2025, while the lowest, 22.5°C, was observed on the 29th of the same month.

Lagos Airport

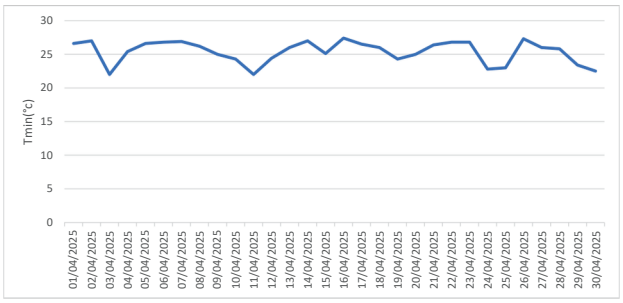


Figure 15: Daily Minimum Temperature at Murtala Muhammed International Airport, Lagos in April, 2025.

The highest minimum temperature of 27.4°C was recorded at the airport on the 16th of April, 2025, while the lowest, 22.0°C, was observed on the 3rd and 11th of the same month.

Port Harcourt Airport

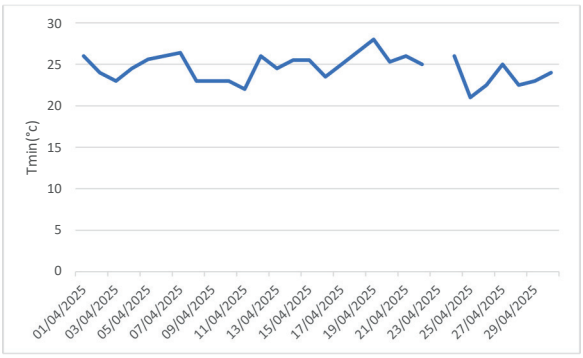


Figure 16: Daily Minimum Temperature at Port Harcourt International Airport in April 2025.

The highest minimum temperature of 28.0°C was recorded at the Port Harcourt airport on the 19th of April, 2025, while the lowest, 21.0°C, was observed on the 25th of the same month

2.4. OBSERVED VISIBILITY AT THE FIVE INTERNATIONAL AIRPORTS IN APRIL 2025

Abuja Airport

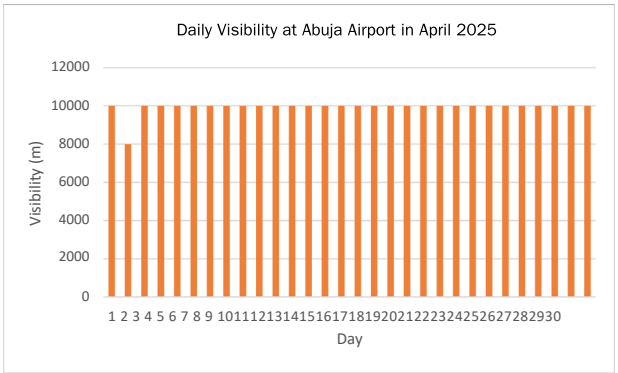


Figure 17: Daily Visibility at Nnamdi Azikiwe Airport, Abuja in April 2025

In April 2025, Nnamdi Azikiwe Airport, Abuja recorded visibility above 5000m for 30 non-consecutive days and the lowest was 8000m, recorded on the 2nd of the month. (See Figure 17).

Enugu Airport

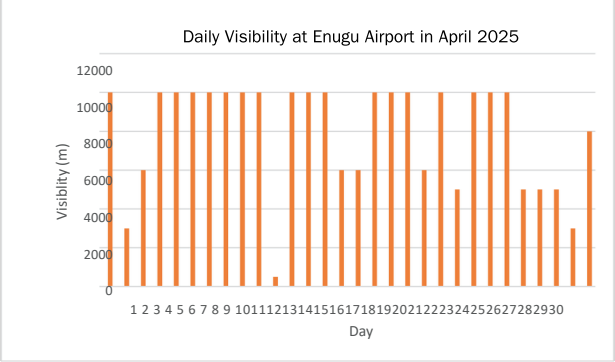


Figure 18: Daily Visibility at Akanu Ibiam International Airport, Enugu in April 2025

In April 2025, visibility of 5000m or less was recorded for 7 non-consecutive days at Enugu airport; the lowest was 500m on the 11th of April 2025. (See Figure 18).

Lagos Airport

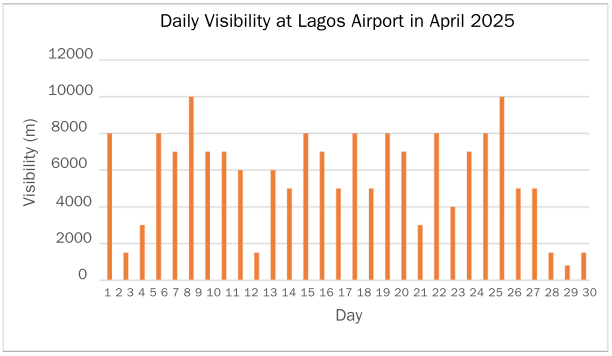


Figure 19: Daily Visibility at Murtala Muhammed International Airport, Lagos in April 2025

Visibility of 5000m or less was recorded for 22 non-consecutive days at Lagos airport in April 2025; the lowest was 800m recorded on the 29th of the month. (See Figure 19).

Port Harcourt Airport

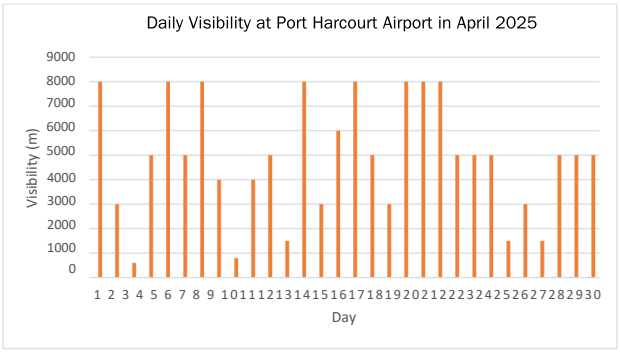


Figure 20: Visibility at Port-Harcourt International Airport in April 2025

As shown in Figure 20, visibility of 5000m or less was recorded for 21 non-consecutive days at Port Harcourt airport in April 2025; the lowest visibility of 600m was recorded on the 3rd of the month.

Kano Airport

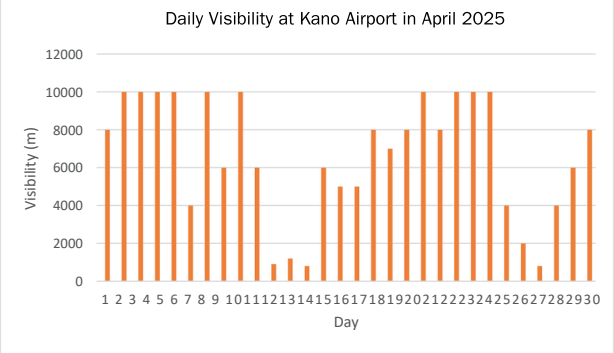


Figure 21: Daily Visibility at Mallam Aminu Kano International Airport, Kano in April 2025

Visibility of 5000m or less was recorded at Mallam Aminu Kano International Airport, Kano for 10 non-consecutive days in April 2025. The lowest visibility of 800m was recorded on the 13th and 27th of the month. (See Figure 21).

3.0. DAILY RAINFALL AMOUNT AT VARIOUS AIRPORTS IN NIGERIA IN APRIL 2025

Lagos Airport

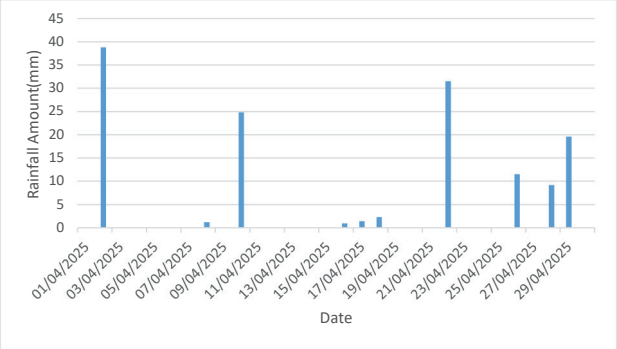


Figure 22: Daily Rainfall at Murtala Muhammed International Airport, Lagos in April 2025

The highest rainfall recorded at the Lagos airport in April 2025 was 38.8mm. This was recorded on the 2nd of the month, while the lowest recorded during the period was 0.9mm on the 16th of the month. The total amount of rainfall for the month was 141.2mm (see Figure 22)

Port Harcourt Airport

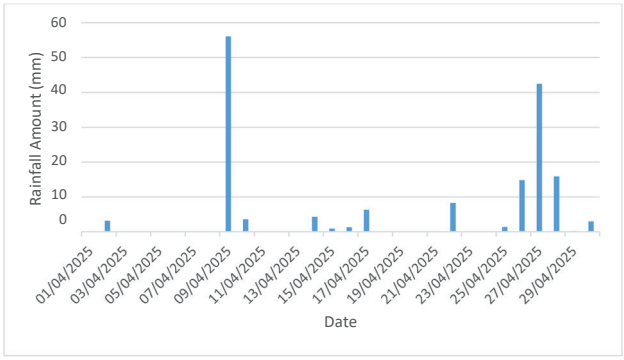


Figure 23: Daily Rainfall at Port Harcourt International Airport in April 2025

The highest rainfall recorded at the Port Harcourt airport in April 2025 was 56.1 mm. This was recorded on the 9th of the month, while the lowest recorded during the period was 0.1mm on the 6th and 8th of the month, respectively. The total amount of rainfall for the month was 162mm (see Figure 23)

Enugu Airport

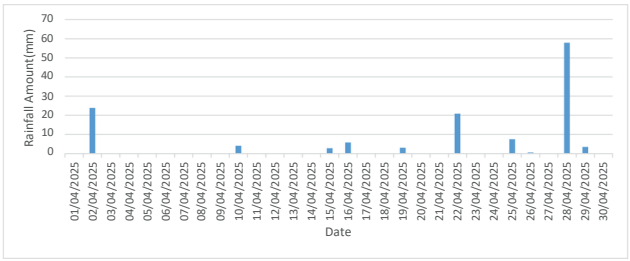


Figure 24: Daily Rainfall at Akanu Ibiam International Airport in April 2025

The highest rainfall recorded at Akanu Ibiam International Enugu in April 2025 was 57.9mm. This was recorded on the 28th of the month, while the lowest recorded during the period was 0.6mm on the 27th of the month. The total amount of rainfall for the month was 130.1mm (see Figure 24)

Abuja Airport

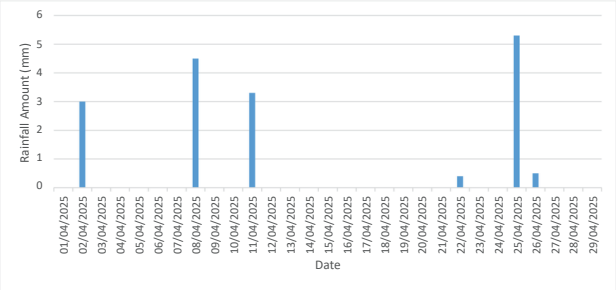


Figure 25: Daily Rainfall at Abuja International Airport in April, 2025

The highest rainfall recorded at the Abuja airport in April 2025 was 5.3 mm. This was recorded on the 25th of the month, while the lowest recorded during the period was 0.4mm on the 22nd of the month. The total amount of rainfall for the month was 16.5mm (see FIgure 25).

Kano Airport

There was no rainfall recorded in April 2025 at Kano Airport.

3.1 DAILY OBSERVED THUNDERSTORM OCCURRENCE AT THE FIVE INTERNATIONAL AIRPORTS IN APRIL 2025

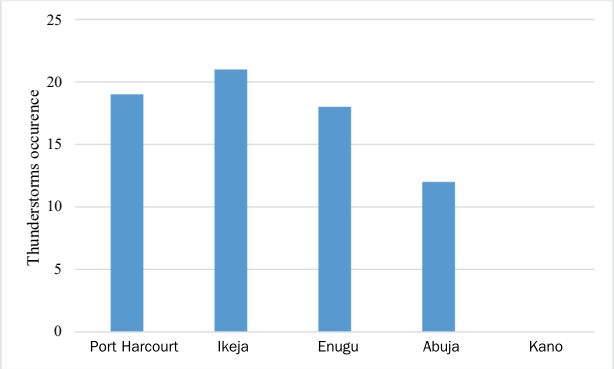


Figure 26: Thunderstorm occurrence at the Five International Airport in April 2025

As illustrated in Figure 26, Murtala Muhammed International Airport, Lagos, recorded the highest frequency of thunderstorm occurrences in April 2025, with a total of twenty-one (21) events. This was followed by Port Harcourt International Airport, which experienced nineteen (19) occurrences, while Akanu Ibiam International Airport, Enugu, reported eighteen (18) events. Nnamdi Azikiwe International Airport, Abuja, observed twelve (12) thunderstorm occurrences during the same period. In contrast, no thunderstorm activity was recorded at Mallam Aminu Kano International Airport, Kano, indicating a relatively stable convective environment over the northwestern sector of the country during the period under review.

The spatial distribution of thunderstorm activity corresponds with the prevailing position of the Intertropical Discontinuity (ITD) during April, which was located around 11.6°N. This positioning favored enhanced moisture advection and convective development over the southern and central regions, while the northern sector remained predominantly under the influence of dry, stable northeasterly winds, thereby suppressing convective activities.

3.2: PRODUCTION AND COLLECTION OF FLIGHT DOCUMENTATION IN APRIL, 2025

Flight documentation comprises a structured set of meteorological information compiled by the Nigerian Meteorological Agency (NiMet) and disseminated to aircraft operators and flight crew prior to departure. The documentation package includes time-sensitive meteorological information relevant to the planned operation, encompassing departure, alternate, en-route, and destination aerodromes. It covers weather conditions from the surface up to the assigned cruising flight levels. This service is provided by NiMet at four designated Aerodrome Meteorological Offices in Nigeria, located in Kano, Abuja, Lagos, and Enugu.

Abuja Airport

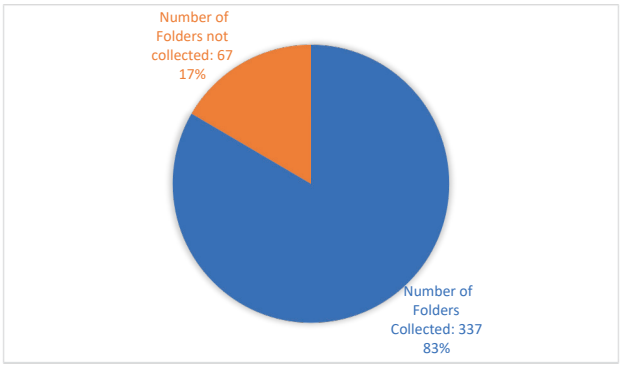


Figure 27: Flight Documentation analysis for Nnamdi Azikiwe International Airport, for April 2025.

The total number of flight documentation folders prepared in April 2025 was 404, out of which 337 were collected, representing an 83% collection rate; while 67 were not collected, which represents 17% of the total. (See Figure 27).

Lagos Airport

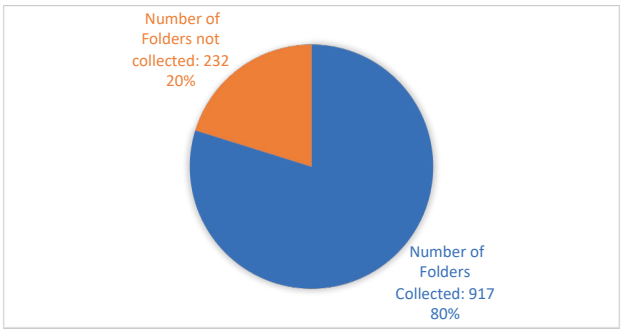


Figure 28: Flight Documentation analysis for Murtala Mohammed International Airport, Lagos

The total number of flight documentation prepared in April 2025 was 1,147 out of which 917 were collected, representing an 80% collection rate, while 232 were not collected, which represents 20% of the total. (See Figure 28)

Kano Airport

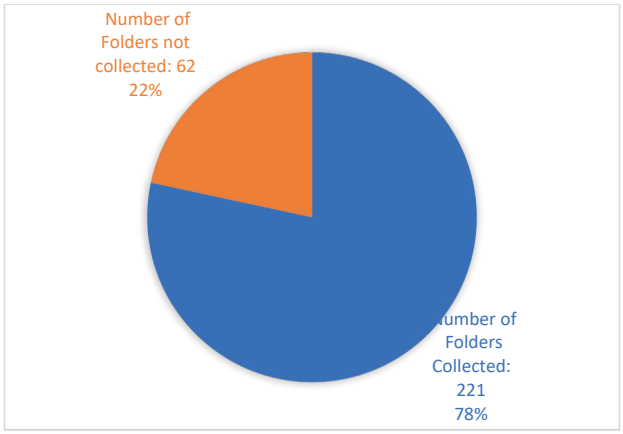


Figure 29: Flight Documentation analysis for Mallam Aminu Kano International Airport, Kano

In April 2025, a total of 283 flight documentation folders were prepared, out of which 221 were collected, representing a 78% collection rate, while 62 were not collected, which represents 22% of the total. (See Figure 29).

Port Harcourt Airport

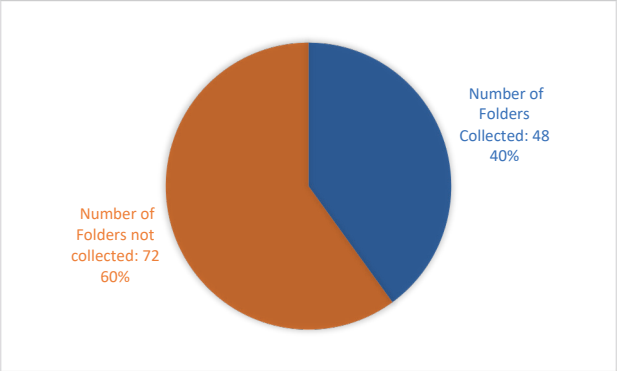


Figure 30 Flight Documentation analysis for Port Harcourt International Airport

In April 2025, 120 flight documentation folders were prepared at this airport. 48 of these were collected, representing a 40 % collection rate, while 72 were not collected, which represents 60% of the total. (See Figure 30).

Enugu Airport

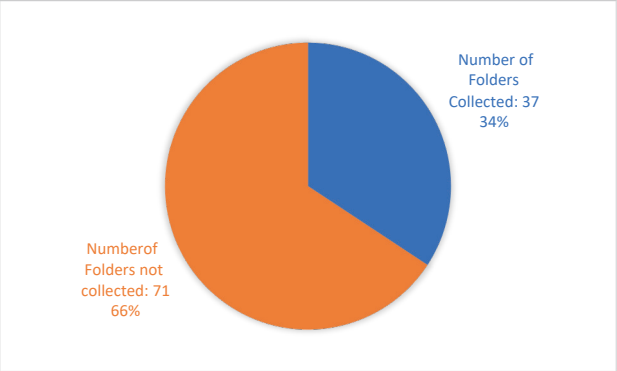


Figure 31 Flight Documentation analysis for Akanu Ibiam International Airport, Enugu

In April 2025, 108 flight documentation folders were prepared at Akanu Ibiam International Airport, Enugu. 37 of these were collected, representing a 34% collection rate, while 71 were not collected, which represents 66% of the total. (See Figure 31).

TABLE 1: SUMMARY OF FLIGHT DOCUMENTATION FOLDER COLLECTION FOR APRIL 2025

Airport (Station)	*Number of Folders Prepared*	*Number of Folders Collected*	*Number of Folders not Collected*	*Collection Rate (%)*
Nnamdi Azikiwe, Abuja	404	337	67	83
Murtala Muhammed, Lagos	1149	917	233	80
Mallam Aminu Kano, Kano	283	221	62	78
Port Harcourt International Airport	120	48	72	40
Akanu Ibiam Airport, Enugu	108	37	71	34

Table 1 above shows that Nnamdi Azikiwe International Airport recorded the highest collection rate of 83% in April 2025, while Akanu Ibiam International Airport, Enugu recorded the lowest collection rate of 34% for the month.

3.3 AERODROME WARNING ISSUED AT THE FIVE INTERNATIONAL AIRPORTS IN APRIL 2025

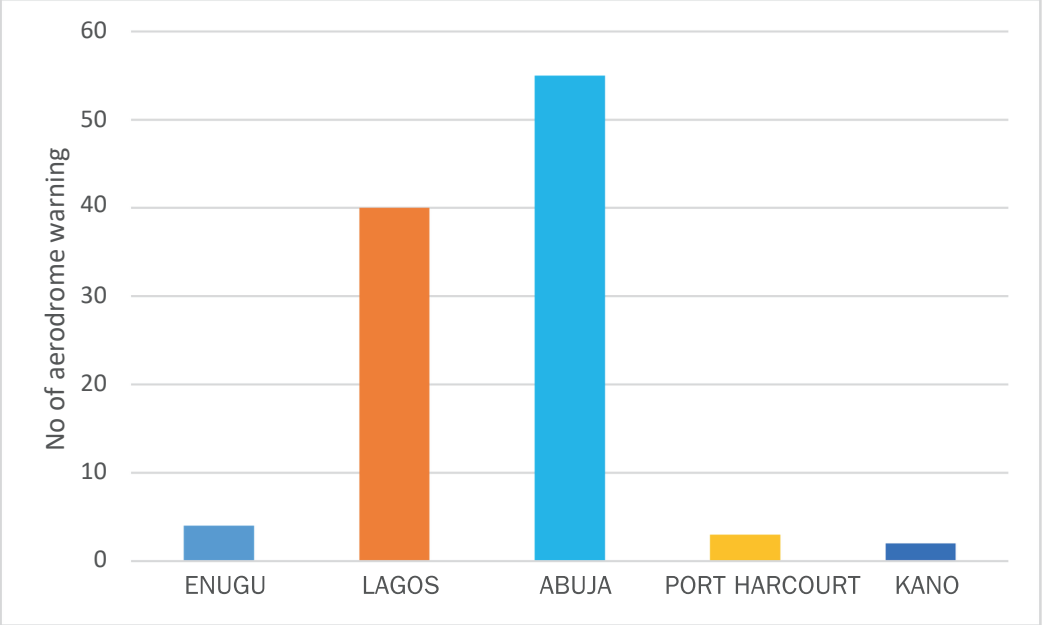


Figure 32: Aerodrome warning issued at the five international Airports in April 2025

As shown in Figure 32, Nnamdi Azikiwe International Airport, Abuja, issued the highest number of aerodrome warnings for the month of April 2025, with a total number of fifty-five (55). This was followed by Muritala International Airport, Lagos, with forty (40), Akanu Ibiam International Airport, Enugu issued four (4) warnings, Port Harcourt International Airport, issued three (3), while Mallam Aminu Kano International Airport issued two (2) being the lowest number of aerodrome warnings during the month.

MAY 2025

4.01. REVIEW OF POSITION OF THE INTER-TROPICAL DISCONTINUITY (ITD) OVER NIGERIA IN MAY 2025

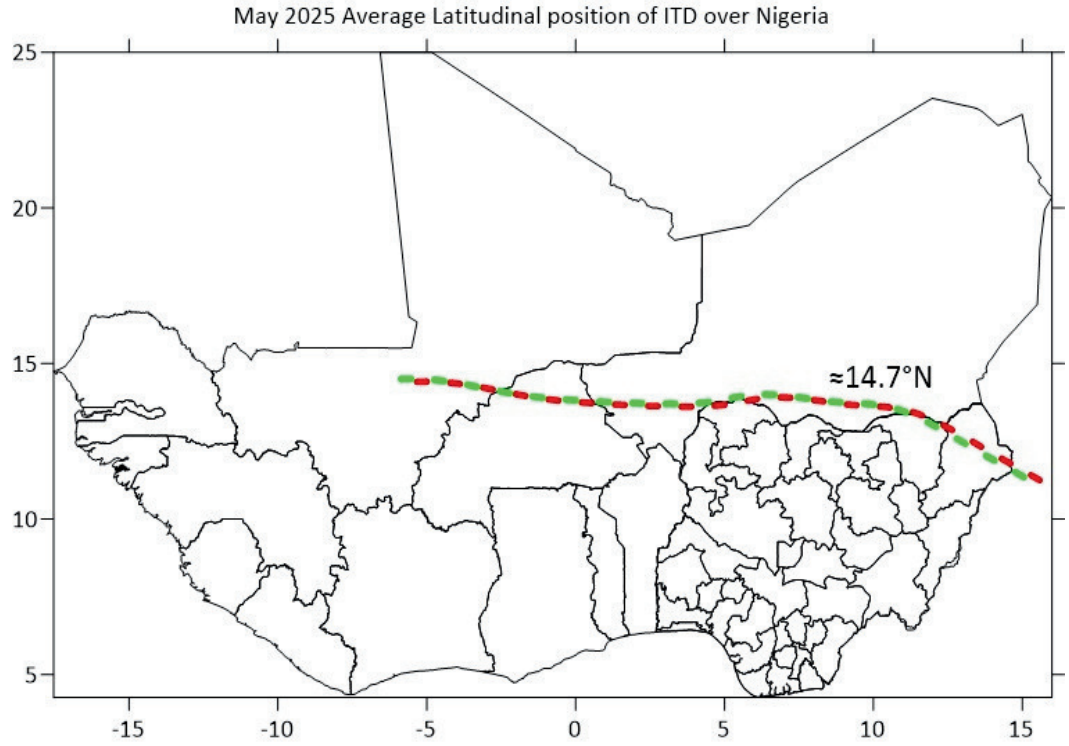


Figure 33:Mean Position of the ITD in May, 2025.

In May 2025, the Intertropical Discontinuity (ITD) moved northward across Nigeria, responding to increased solar radiation and surface heating over the Northern Hemisphere. The boundary between the moist southwesterly maritime air mass and the dry northeasterly continental air mass shifted from about 11.6°N in April to around 14.7°N by the end of the month.

This northward shift of the ITD enhanced the monsoonal circulation, allowing moist southwesterly winds to penetrate further inland. Consequently, southern and central states of Nigeria experienced increased rainfall and humidity, while the northern states observed pre-monsoon thunderstorms and a gradual decline in Harmattan influence.

Overall, the ITD's behavior reflected a typical seasonal transition, marked by intensified convection, moisture influx, and a shift from dry to wet season conditions across much of the country.

4.0.2 TEMPERATURE FLUCTUATIONS IN MAY 2025

Air temperature is a critical meteorological variable with direct implications for aircraft performance during take-off, landing, and cruise operations. Variations in temperature influence air density and, consequently, affect engine thrust, aerodynamic lift, and take-off roll requirements. Elevated temperatures reduce air density, resulting in longer take-off distances and reduced engine efficiency, while lower temperatures enhance density and

generally improve aircraft performance. In May 2025, notable spatial temperature variability was observed across the monitored stations:

Maximum Temperature:
Kano recorded the highest maximum temperature of 45.5°C, indicative of intense diurnal heating characteristic of the late dry-to-wet season transition in the far north. In contrast, Enugu experienced the lowest maximum temperature of 25.5°C, reflecting increased cloud cover and enhanced moisture associated with monsoonal influx.

Minimum Temperature:
The highest minimum temperature of 35.0°C was recorded in Port Harcourt in May 2025, demonstrating the strong nocturnal heat retention linked to high humidity and persistent cloudiness over the coastal region. Meanwhile, Abuja recorded the lowest minimum temperature at 18.2°C, consistent with enhanced radiative cooling under clearer nighttime sky conditions.

Mean Temperature:
Kano also registered the highest mean temperature of 33.9°C, driven by persistent daytime heating and relatively low moisture content. Conversely, Port Harcourt recorded the lowest mean temperature of 24.3°C, reflecting moderated daytime temperatures and increased atmospheric moisture over the Niger Delta region.

The temperature pattern across Nigeria in May 2025 highlights pronounced regional contrasts, driven by variations in solar radiation, cloud cover, and atmospheric moisture. The northern parts of the country experienced extreme daytime heating, , while the southern and coastal areas exhibited moderated temperatures with high nocturnal heat retention. These variations are consistent with the seasonal transition from the dry to wet period across Nigeria.

4.1 OBSERVED MEAN DAILY TEMPERATURE (T_{MEAN}°C) AT THE AIRPORTS IN MAY 2025.

Abuja Airport

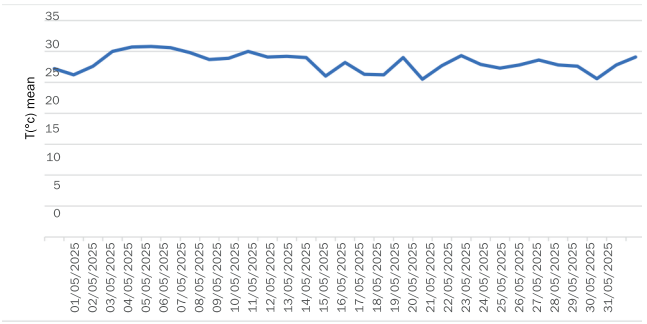


Figure 34: Daily Mean Temperature at Nnamdi Azikiwe International Airport, Abuja in May 2025.

In May 2025, the highest mean temperature of 30.8°C was recorded at the airport on the 6th, while the lowest, 25.5°C, occurred on the 20th of the same month.

Kano Airport

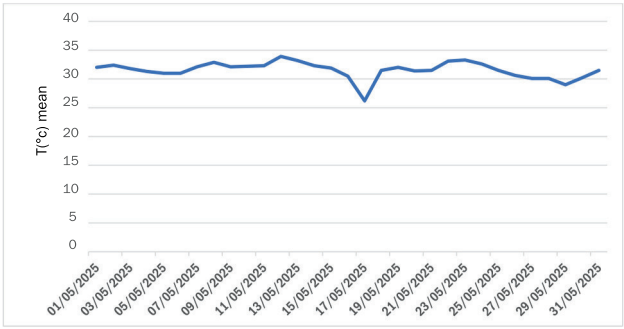


Figure 35: Daily mean Temperature at Mallam Aminu Kano International Airport Kano in May, 2025.

In May 2025, the highest mean temperature of 33.9°C was recorded at Mallam Aminu Kano International Airport, Kano airport on the 12th and 21st, while the lowest, 26.2°C, occurred on the 17th of the same month.

Enugu Airport

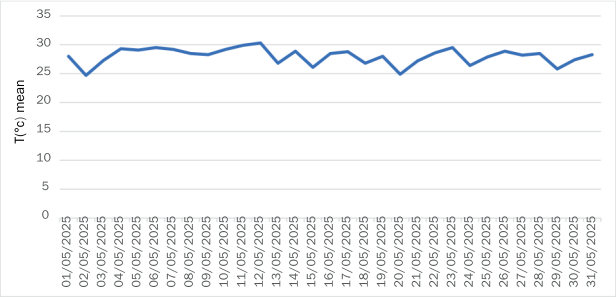


Figure 36: Mean Daily Temperature at Akanu Ibiam International Airport Enugu in May, 2025

In May 2025, the highest mean temperature of 30.3°C was recorded at the Akanu Ibiam International Airport, Enugu on the 12th while the lowest, 24.7°C occurred on the 2nd of the same month.

Lagos Airport

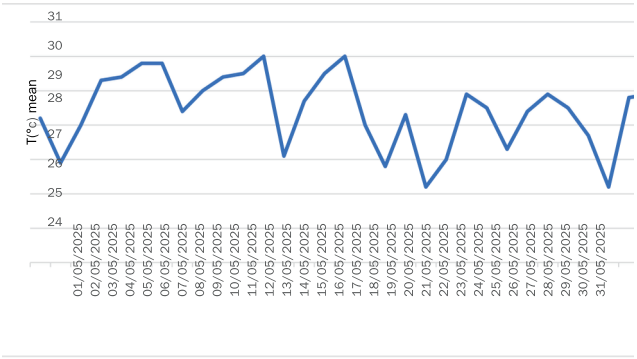


Figure 37: Mean Daily Temperature at Murtala Muhammed International Airport Lagos in May, 2025.

In May 2025, the highest mean temperature of 30.3°C was recorded at the Akanu Ibiam International Airport, Enugu on the 12th while the lowest, 24.7°C occurred on the 2nd of the same month.

Port Harcourt Airport

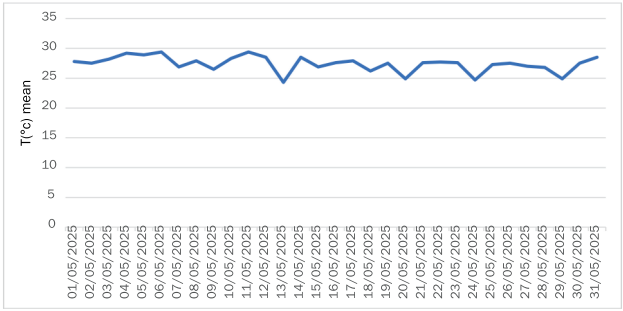


Figure 38: Daily Mean Temperature at Port Harcourt International Airport in May, 2025.

In May 2025, the highest mean temperature of 29.4°C was recorded at the airport on the 6th and 11th, while the lowest, 24.3°C, occurred on the 13th of the same month.

4.2 OBSERVED MAXIMUM TEMPERATURE (T_{MAX}) °C AT THE AIRPORTS IN MAY 2025.

Abuja Airport

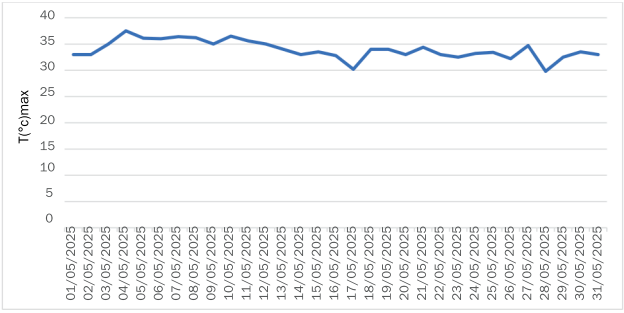


Figure 39: Daily Maximum Temperature at Nnamdi Azikiwe International Airport, Abuja in May, 2025.

As depicted in Figure 39, the highest maximum temperature recorded at the Abuja airport in May 2025 was 37.5°C, observed on the 4th, while the lowest, 29.8°C, was recorded on the 28th of the same month.

Kano Airport

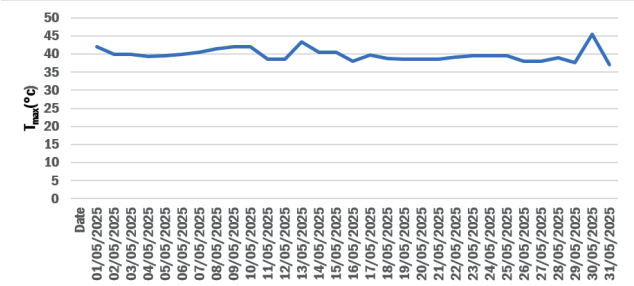


Figure 40: Daily Maximum Temperature at Mallam Aminu Kano International Airport Kano in May, 2025

As depicted in Figure 40, the highest maximum temperature recorded at the Kano airport in May 2025 was 45.5°C, observed on the 30th, while the lowest, 37.0°C, was recorded on the 31st of the same month.

Enugu Airport

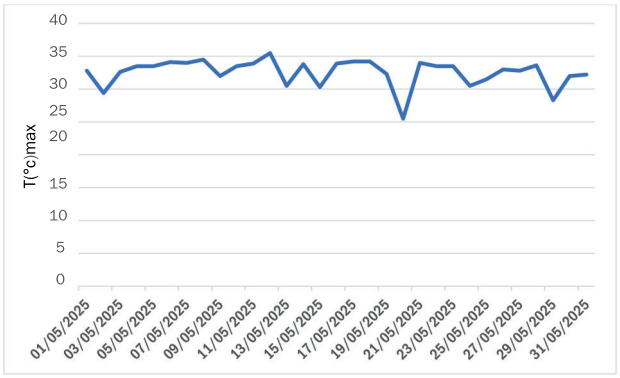


Figure 41: Daily Maximum Temperature at Akanu Ibiam International Airport, Enugu in May, 2025.

As depicted in Figure 41, the highest maximum temperature recorded at the Enugu airport in May 2025 was 35.5°C, observed on the 12th, while the lowest, 25.5°C, was recorded on the 20th of the same month.

Lagos Airport

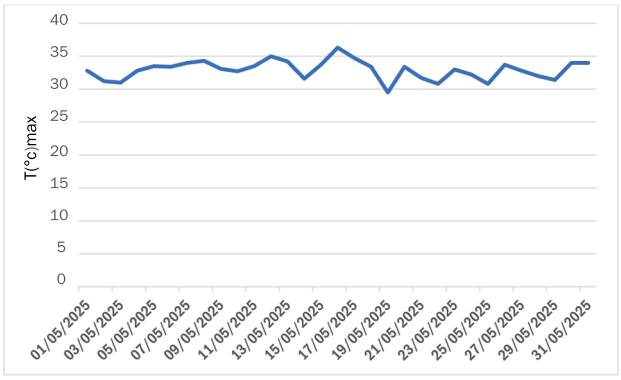


Figure 42: Daily Maximum Temperature at Murtala Muhammed International Airport, Lagos in May, 2025.

As depicted in Figure 42, the highest maximum temperature recorded at the Lagos airport in May 2025 was 36.3°C, observed on the 16th, while the lowest, 29.5°C, was recorded on the 19th of the same month.

Port Harcourt Airport

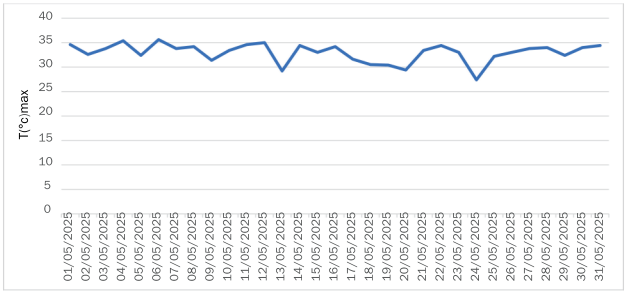


Figure 43: Daily Maximum Temperature at Port Harcourt International Airport in May, 2025.

As depicted in Figure 43, the highest maximum temperature recorded at the Port Harcourt airport in May 2025 was 35.6°C, observed on the 6th, while the lowest, 27.4°C, was recorded on the 24th of the same month.

4.3 OBSERVED MINIMUM TEMPERATURE (T_{MIN}) °C AT THE AIRPORTS IN MAY,2025.

Abuja Airport

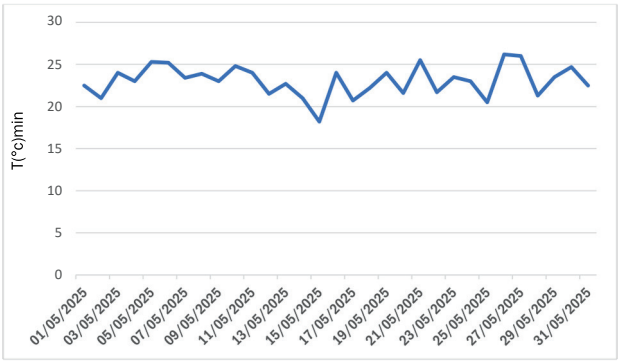


Figure 44: Daily Minimum Temperature at Nnamdi Azikiwe International Airport, Abuja in May, 2025.

The highest minimum temperature of 26.2°C was recorded at Nnamdi Azikiwe International Airport, Abuja on the 26th of May, 2025, while the lowest, 18.2°C, was observed on the 15th of the same month.

Kano Airport

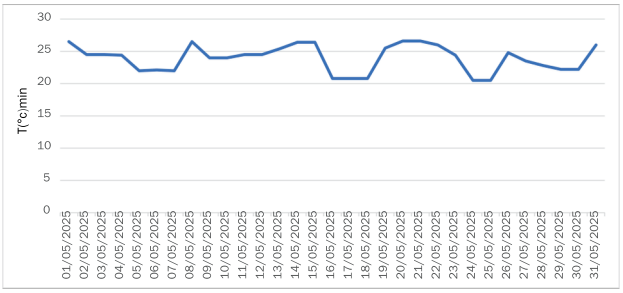


Figure 45: Daily Minimum Temperature at Mallam Aminu Kano International Airport Kano in May, 2025.

The highest minimum temperature of 26.6°C was recorded at the airport on the 20th and 21st of May, 2025, while the lowest, 20.5°C, was observed on the 24th and 25th of the same month.

Enugu Airport

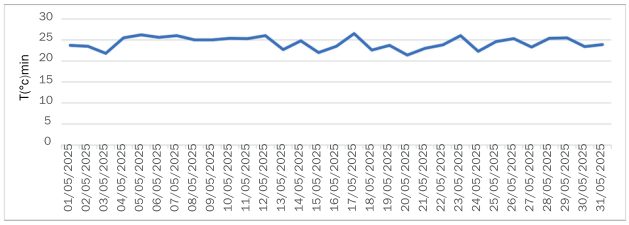


Figure 46: Daily Minimum Temperature at Akanu Ibiam International Airport, Enugu in May, 2025.

The highest minimum temperature of 26.6°C was recorded at the airport on the 20th and 21st of May, 2025, while the lowest, 20.5°C, was observed on the 24th and 25th of the same month.

Lagos Airport

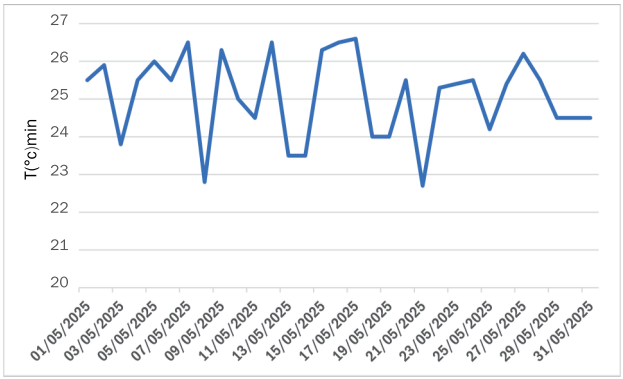


Figure 47: Daily Minimum Temperature at Murtala Muhammed International Airport, Lagos, in May 2025

The highest minimum temperature of 26.6°C was recorded at Murtala Muhammed International Airport, Lagos, on the 17th of May, 2025, while the lowest, 22.7°C, was observed on the 21st of the same month.

Port Harcourt Airport

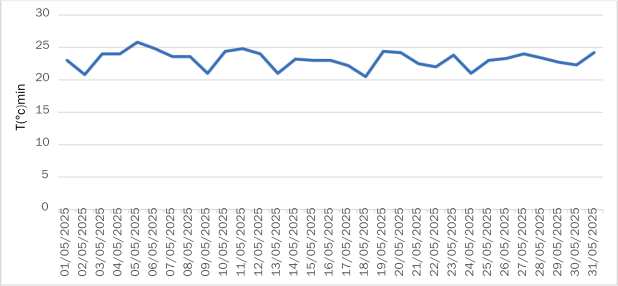


Figure 48: Daily Minimum Temperature at Port Harcourt International Airport in May, 2025

The highest minimum temperature recorded at Port Harcourt airport in May 2025 was 25.8°C, observed on the 5th while the lowest, 20.5°C, was recorded on the 18th of the same month.

4.4 OBSERVED VISIBILITY AT THE FIVE INTERNATIONAL AIRPORTS IN MAY 2025

Abuja Airport

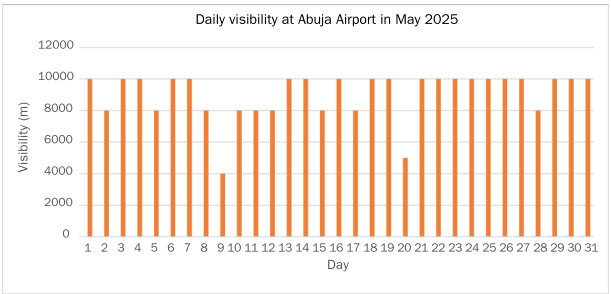


Figure 49: Daily Visibility at Nnamdi Azikiwe Airport, Abuja in May 2025

As shown in Figure 49, horizontal visibility of 5000m or less were recorded at Nnamdi Azikiwe International Airport, Abuja, on two (2) non-consecutive days in May 2025. The lowest recorded visibility was 4000m, observed on the 9th of the month.

Enugu Airport

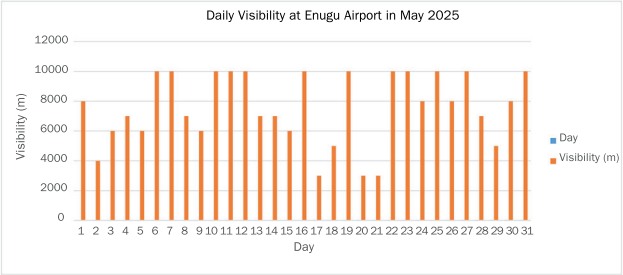


Figure 50: Daily Visibility at Akanu Ibiam Airport, Enugu

Horizontal visibility of 5000m or less were recorded at Akanu Ibiam Airport, Enugu, on six (6) non-consecutive days during May 2025. The lowest recorded visibility was 300m, observed on the 17th, 20th and 21st of the month. (See Figure 50).

Lagos Airport

Figure 51: Daily Visibility at Murtala Muhammed International Airport, Lagos

As shown in Figure 51, horizontal visibility of 5000m or less were observed at Murtala Muhammed International Airport, Lagos, on twelve (12) non-consecutive days in May 2025. The lowest recorded visibility was 1000m observed on the 24th and 29th of the month.

Port Harcourt Airport

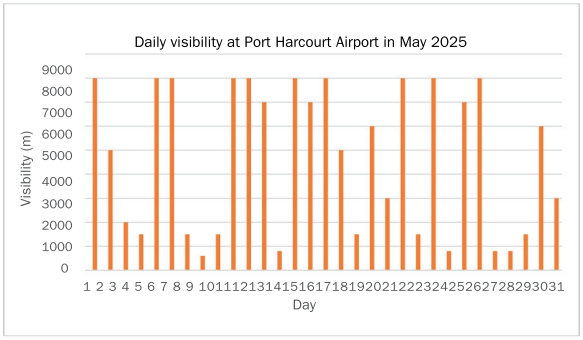


Figure 52: Daily Visibility at Port Harcourt International Airport

In May 2025, visibility of 5000m or less were recorded for sixteen (16) non-consecutive days at Port Harcourt International Airport, and the lowest was 600m on the 8th of the month. (See Figure 52).

Kano Airport

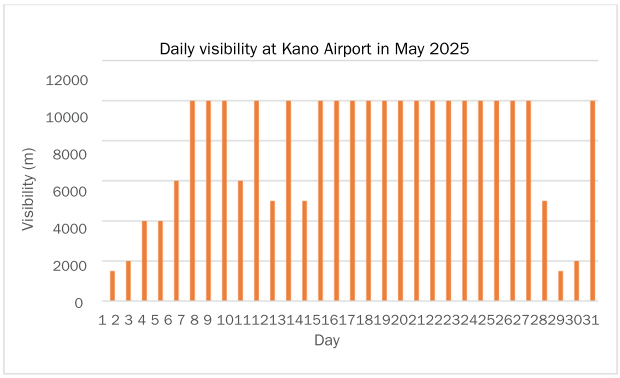


Figure 53: Daily Visibility at Mallam Aminu Kano International Airport, Kano

As shown in Figure 53, horizontal visibility of 5000m or less were observed at Mallam Aminu Kano International Airport, Kano, for nine (9) non-consecutive days in May 2025. The lowest recorded visibility was 1500m, observed on the 1st and 29th of the month.

5.0 OBSERVED DAILY RAINFALL AT VARIOUS AIRPORTS IN NIGERIA IN MAY 2025

Lagos Airport

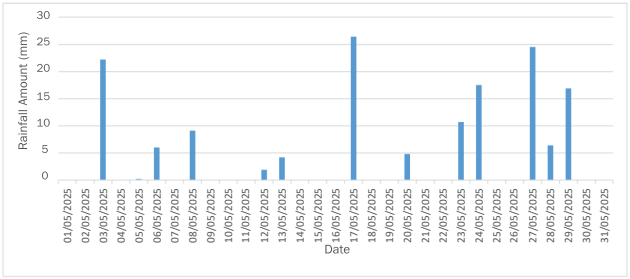


Figure 54: Daily Rainfall at Murtala Muhammed International Airport, Lagos

The highest rainfall recorded at the Lagos airport in May 2025 was 26.4mm. This was recorded on the 17th of the month, while the lowest recorded during the period was 0.2mm on the 5th of the month. The total amount of rainfall in the month was 150.8mm (see figure 54)

Port Harcourt Airport

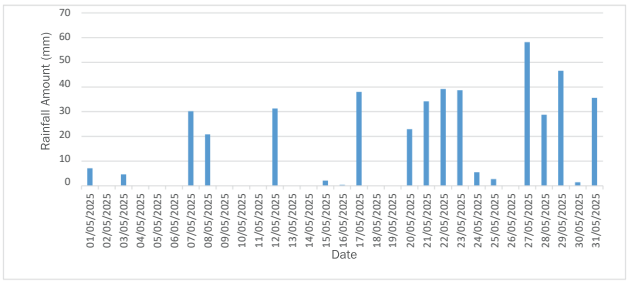


Figure 55: Daily Rainfall at Port Harcourt International Airport

The highest rainfall recorded at the Port Harcourt airport in May 2025 was 58.2 mm. This was recorded on the 27th of the month, while the lowest recorded during the period was 1.4mm on the 30th of the month, respectively. The total amount of rainfall for the month was 448.3mm (see Figure 55).

Abuja Airport

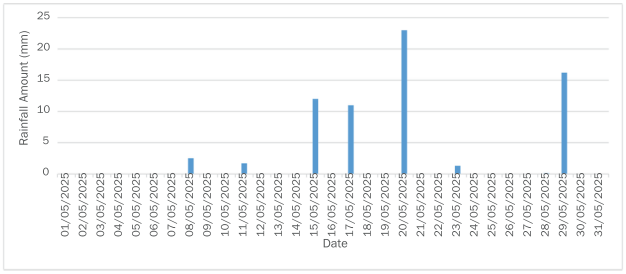


Figure 56: Daily Rainfall at Abuja airport in May 2025

The highest rainfall recorded at the Abuja airport in May 2025 was 23.0 mm. This was recorded on the 20th of the month, while the lowest recorded during the period was 0.1mm on 28th of the month. The total amount of rainfall for the month was 67.8mm

Enugu Airport

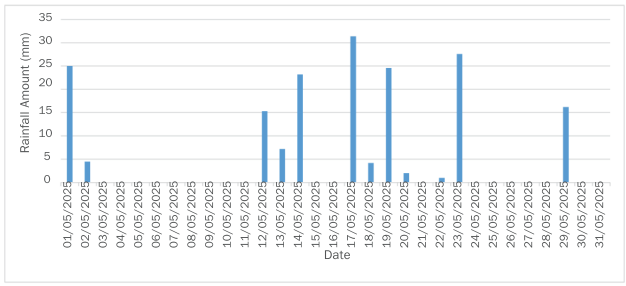


Figure 57: Daily Rainfall at Akanu Ibiam International Airport, Enugu

The highest rainfall recorded at the Enugu airport in May 2025 was 31.4mm. This was recorded on the 17th of the month, while the lowest recorded during the period was 0.1mm on the 26th of the month. The total amount of rainfall for the month was 182.3mm (see Figure 57)

5.1 DAILY OBSERVED THUNDERSTORM OCCURRENCES AT THE FIVE INTERNATIONAL AIRPORTS IN MAY 2025

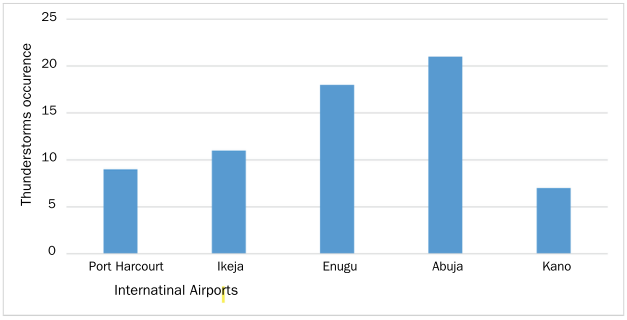


Figure 58: Thunderstorm occurrence at the Five International Airport in May 2025

As illustrated in Figure 58, the frequency of thunderstorm occurrences across selected aerodromes in May 2025 showed significant spatial variability. Nnamdi Azikiwe International Airport (Abuja) recorded the highest frequency, with a total of twenty-one (21) thunderstorm events. This was followed by Akanu Ibiam International Airport (Enugu) with eighteen (18) occurrences, Murtala Muhammed International Airport (Lagos) with eleven (11), and Port Harcourt International Airport with nine (9) events. The lowest frequency was observed at Mallam Aminu Kano International Airport (Kano), where seven (7) thunderstorm events were recorded during the month.

The spatial distribution of these events indicates enhanced convective activity over the central and southeastern parts of the country. This pattern aligns with the northward advancement of the Intertropical Discontinuity (ITD) and the associated intensification of moist southwesterly maritime air, which favored the development of deep convective systems over the inland and coastal regions. The relatively lower frequency observed over northern

locations reflects the delayed northward progression of the ITD during the early stages of the rainy season.

5.2 PRODUCTION AND COLLECTION OF FLIGHT DOCUMENTATION FOLDERS IN MAY 2025

Abuja Airport

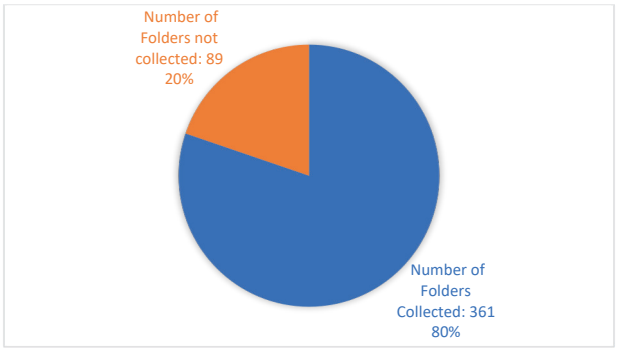


Figure 59: Flight Documentation analysis for Nnamdi Azikiwe International Airport, for May 2025.

The total number of flight documentation folders prepared at Abuja airport in May 2025 was 450, out of which 361 were collected, representing an 80% collection rate; while 89 were not collected, which represents 20% of the total. (See Figure 59).

Enugu Airport

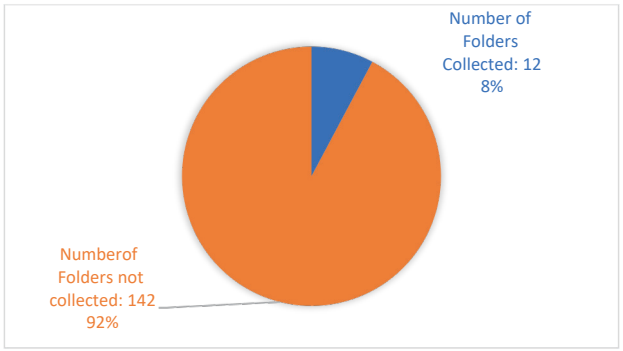


Figure 60: Flight Documentation analysis for Akanu Ibiam International Airport, Enugu,

The total number of flight documentation folders prepared in May 2025 was 154, out of which 12 were collected, representing 8% collection rate; while 142 were not collected, which represents 92% of the total. (See Figure 60).

Lagos Airport

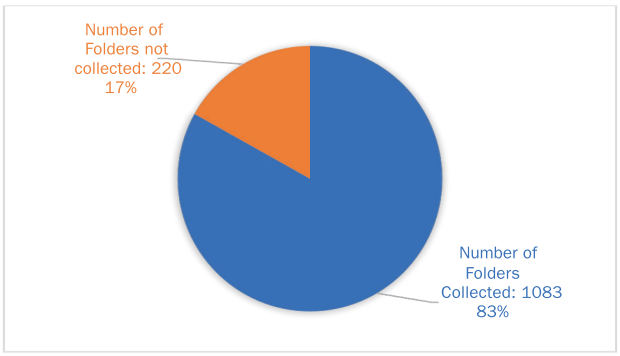


Figure 61: Flight Documentation analysis for Murtala Muhammed International Airport, Lagos

The total number of flight documentation folders prepared in May 2025 at Murtala Muhammed International Airport, Lagos was 1303, out of which 1083 were collected, representing an 83% collection rate; while 220 were not collected, which represents 17% of the total. (See Figure 61).

Port Harcourt Airport

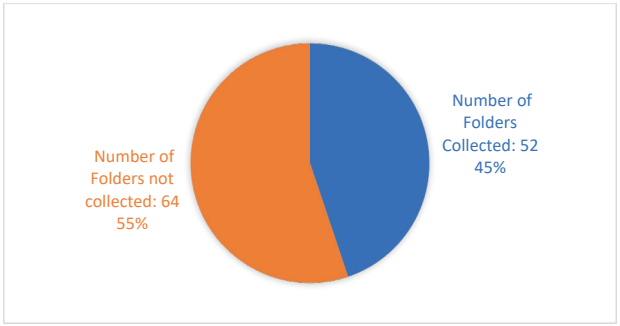


Figure 62: Flight Documentation analysis for Port Harcourt International Airport

The total number of flight documentation folders prepared in May 2025 at Port Harcourt International Airport was 116, out of which 52 were collected, representing a 45% collection rate; while 64 were not collected, which represents 55% of the total. (See Figure 62)

Kano Airport

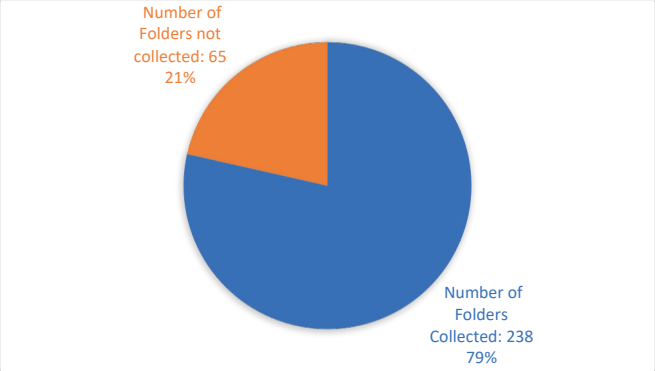


Figure 63: Flight Documentation analysis for Mallam Aminu Kano International Airport, Kano

The total number of flight documentation folders prepared at Mallam Aminu Kano International Airport, Kano, in May 2025 was 303, out of which 238 were collected, representing a 79% collection rate; while 65 were not collected, which represents 21% of the total. (See Figure 63)

Table 2: Summary of Flight Documentation Folder Collection for May 2025

Airport (Station)	*Number of Folders Prepared*	*Number of Folders Collected*	*Number of Folders not Collected*	*Collection Rate (%)*
Murtala Muhammed International Airport, Lagos	1303	1083	220	83
Nnamdi Azikiwe, International Airport, Abuja	450	361	89	80
Mallam Aminu Kano International Airport, Kano	303	238	28	73
Port Harcourt International Airport	116	52	64	45
Akanu Ibiam International Airport Enugu	154	12	142	8

5.2 PRODUCTION AND COLLECTION OF FLIGHT DOCUMENTATION FOLDERS IN MAY 2025

An Aerodrome Warning is a critical safety alert issued by Nigeria Meteorological agency (NiMet) to notify airport operators, airlines, ground handlers, and other aviation stakeholders of expected or occurring meteorological conditions at an aerodrome that may pose a hazard to ground operations or airport infrastructure.

Aerodrome Warnings typically cover hazardous weather phenomena on or near the aerodrome, such as:

- Thunderstorms and lightning
- Strong surface winds / wind gusts
- Heavy rain or hail
- Sandstorms or dust storms
- Fog formation affecting ground visibility

- Extreme temperatures
- Snow or ice (in regions where applicable)

These phenomena may not directly affect aircraft in flight, but significantly impact ground activities and airport safety.

5.3.1 SIGNIFICANCE OF AERODROME WARNINGS TO AVIATION SAFETY

Aerodrome Warnings are essential for maintaining safe and efficient airport operations. Their importance includes:

1. Protection of Ground Personnel and Equipment
Alerts enable ground staff to suspend fueling, loading, de-icing, and maintenance activities during hazardous conditions. Prevents accidents caused by lightning strikes, falling objects in high winds, or poor visibility.

2. Safety of Aircraft on the Ground
Aircraft parked on the apron or taxiing may be at risk from strong winds, hail, debris, or low visibility. Warnings support decisions to secure aircraft, adjust pushback/taxi operations, or delay departures.

3. Efficient Airport Management
Airport authorities use warnings for resource planning, including closing ramps, adjusting staffing, or activating emergency procedures. Helps mitigate operational disruptions and reduces financial losses.

4. Prevention of Equipment and Infrastructure Damage
Protects critical assets such as: Ground power units (GPUs), Jet bridges, Navigation aids (NAVAIDs), Radars and communication equipment

5. Enhanced Situational Awareness
Provides timely meteorological awareness to all airport stakeholders.
Supports decision-making for air traffic control (ATC), airlines, and airport emergency units.

6. Compliance With ICAO Standards

5.3.2 AERODROME WARNINGS ISSUED AT THE FIVE INTERNATIONAL AIRPORTS IN MAY 2025

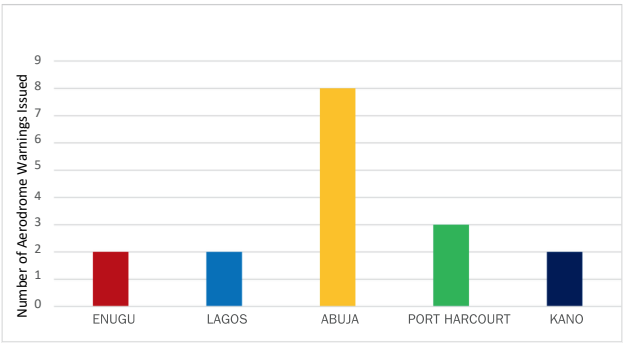


Figure 64: Aerodrome warning issued at the five international Airports in May, 2025

As shown in Figure 64, Nnamdi Azikiwe International Airport, Abuja, issued the highest number of aerodrome warnings in May 2025, with a total of eight (8) reports. This was followed by Port Harcourt International Airport, with three (3) while Akanu Ibiam International Airport, Enugu, Mallam Aminu Kano International Airport, Kano, and Murtala Muhammed International Airport, Lagos, each issued two (2) warnings during the review period.

JUNE 2025

5.0.1 REVIEW OF THE POSITION OF THE INTER-TROPICAL DISCONTINUITY (ITD) OVER NIGERIA IN JUNE 2025

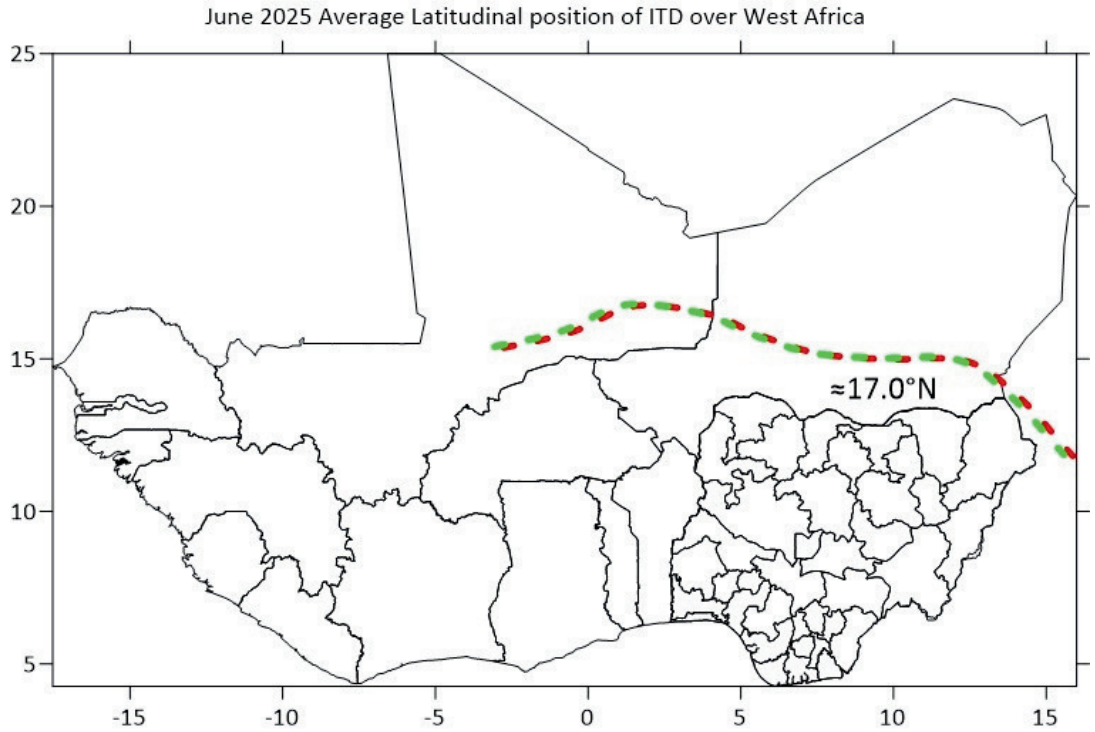


Figure 65: Mean Position of the ITD in June 2025.

In June 2025, the Intertropical Discontinuity (ITD) continued its northward movement across Nigeria, reaching its farthest seasonal position as the monsoonal circulation became fully established. The ITD advanced from its May mean position of approximately 14.7°N to around 17.0°N, oscillating slightly in response to synoptic-scale disturbances and regional pressure variations.

This northward movement reflected the dominance of moist southwesterly maritime air masses over most parts of the country, extending deep into the northern states. As a result, rainfall activities intensified over the central and northern regions, while the southern parts of the country experienced widespread and frequent rainfall, often accompanied by isolated thunderstorms and gusty winds. Meanwhile, the influence of the dry northeasterly Harmattan winds became confined to the far northeastern fringes, particularly around the Sahelian zone, where conditions remained relatively dry and warmer. Overall, the ITD's behaviors in June 2025 indicated the peak phase of the rainy season, marking the full establishment of monsoonal conditions over the entire country.

5.0.2 TEMPERATURE FLUCTUATIONS IN JUNE 2025

Air temperature is a critical meteorological parameter with direct operational impact on aviation.
Temperature fluctuations influence air density, thereby affecting aircraft performance during take-off, landing,

and cruise phases. Elevated temperatures reduce air density, resulting in increased take-off distances and diminished engine efficiency. On the other hand, lower temperatures enhance air density and generally support optimum aircraft performance. In June 2025, the spatial distribution of temperature across the monitored stations showed a significant variability

Maximum Temperature:
The highest maximum temperature of 42.3°C was recorded in Kano in June 2025, reflecting the residual influence of strong diurnal heating over the northern states despite the progressing rainy season. Conversely, Enugu airport reported the lowest maximum temperature of 26.1°C, attributable to increased cloud cover and enhanced moisture availability associated with active monsoonal circulation.

Minimum Temperature:
The highest minimum temperature of 26.0°C was recorded in Lagos in June 2025, indicating elevated nocturnal humidity and reduced radiational cooling over the central states. The lowest minimum temperature of 18.4°C was also recorded in Abuja, suggesting variable nighttime conditions influenced by intermittent cloud cover and frontal activities.

Mean Temperature:
In June 2025, Kano recorded the highest mean temperature at 31.3°C, consistent with sustained daytime heating and relatively low moisture levels. The lowest mean temperature of 23.2°C was likewise observed in Kano, reflecting variability driven by increased cloudiness and intermittent rainfall associated with the advancing monsoon.

The temperature patterns in June 2025 highlight the influence of varying moisture regimes, cloud cover, and diurnal heating across the country during the peak of the rainy season transition.

5.1 OBSERVED MEAN DAILY TEMPERATURE (T_{MEAN}) °C AT THE AIRPORTS IN JUNE 2025.

Abuja Airport

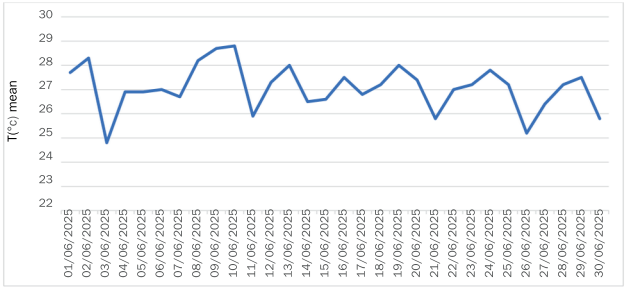


Figure 66:Daily Mean Temperature at Nnamdi Azikiwe International Airport Abuja in June, 2025.

In June 2025, the highest mean temperature of 28.8°C was recorded at the airport on the 10th, while the lowest, 24.8°C, occurred on the 3rd of the same month.

Kano Airport

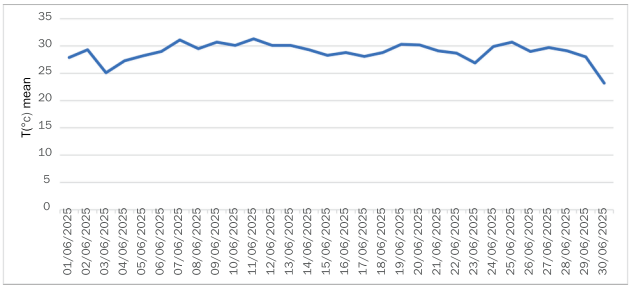


Figure 67: Daily Mean Temperature at Mallam Aminu Kano International Airport Kano in June, 2025.

In June 2025, the highest mean temperature of 31.3°C was recorded at Mallam Aminu Kano International Airport, Kano airport on the 11th, while the lowest, 23.2°C, occurred on the 30th of the same month.

Enugu Airport

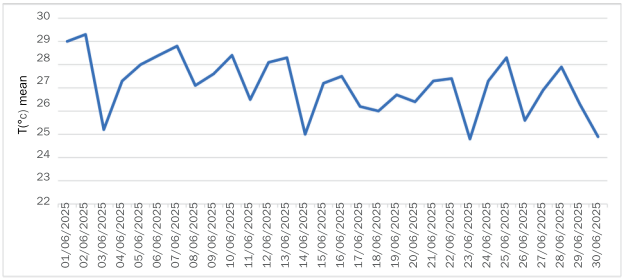


Figure 68: Daily Mean Temperature at Akanu Ibiam International Airport Enugu in June, 2025.

In June 2025, the highest mean temperature of 29.3°C was recorded at Akanu Ibiam International Airport, Enugu on the 2nd, while the lowest, 24.8°C, occurred on the 23rd of the same month.

Lagos Airport

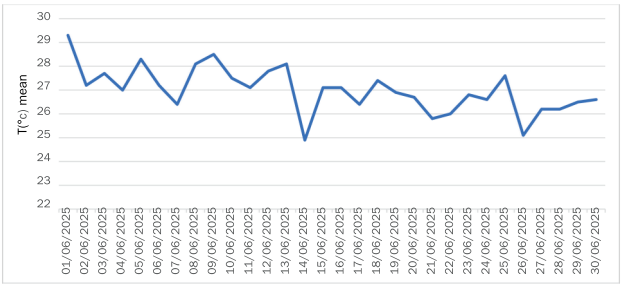


Figure 69: Mean Daily Temperature at Murtala Muhammed International Airport Lagos in June, 2025.

In June 2025, the highest mean temperature of 29.3°C was recorded at Murtala Muhammed International Airport, Lagos, on the 1st, while the lowest, 24.9°C, occurred on the 14th of the same month.

Port Harcourt Airport

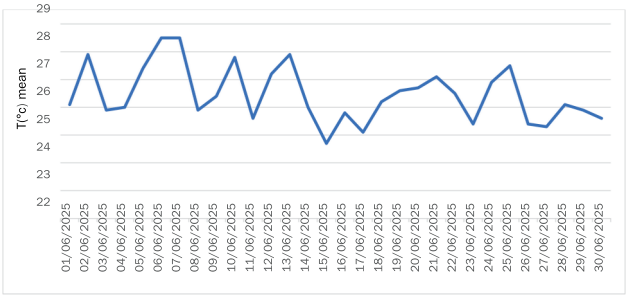


Figure 70: Daily Mean Temperature at Port Harcourt International Airport in June, 2025.

In June 2025, the highest mean temperature of 28.5°C was recorded at Port Harcourt International Airport on the 6th and 7th, while the lowest, 24.7°C, occurred on the 15th of the same month.

5.2 OBSERVED MAXIMUM TEMPERATURE (T_{MAX}) °C AT THE AIRPORTS IN JUNE 2025.

Abuja Airport

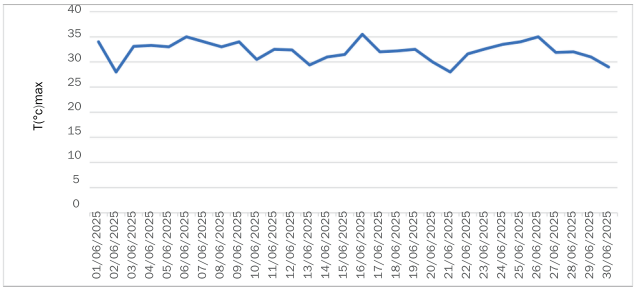


Figure 71: Daily Maximum Temperature at Nnamdi Azikiwe International Airport, Abuja in June, 2025.

As depicted in Figure 71, the highest maximum temperature recorded at Abuja airport in June 2025 was 35.5°C, observed on the 16th, while the lowest, 28.0°C, was recorded on the 2nd and 21st of the same month.

Kano Airport

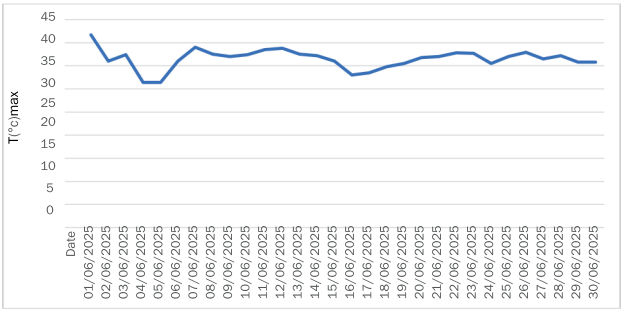


Figure 72: Daily Maximum Temperature at Mallam Aminu Kano International Airport, Kano in June, 2025.

As depicted in Figure 72, the highest maximum temperature recorded at Kano airport in June 2025 was 41.7°C, observed on the 1st, while the lowest, 31.4°C, was recorded on the 4th and 5th of the same month.

Enugu Airport

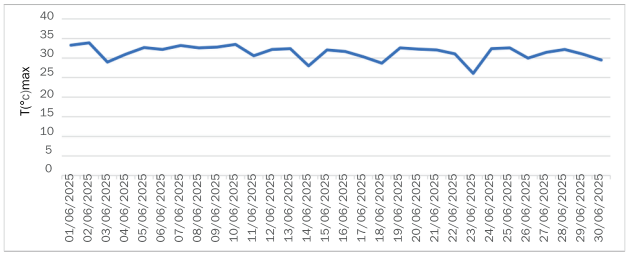


Figure 73: Daily Maximum Temperature at Akanu Ibiam International Airport, Enugu in June, 2025.

As depicted in Figure 73, the highest maximum temperature recorded at Enugu airport in June 2025 was 33.9°C, observed on the, 2nd while the lowest, 26.1°C, was recorded on the 23rd of the same month.

Lagos Airport

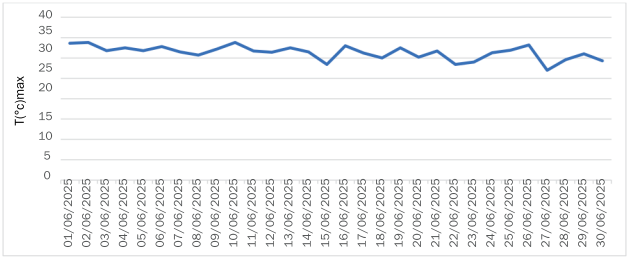


Figure 74: Daily Maximum Temperature at Murtala Muhammed International Airport, Lagos in June, 2025.

As depicted in Figure 74, the highest maximum temperature recorded at Lagos airport in June 2025 was 33.8°C, observed on the 2nd and 10th, while the lowest, 27.0°C, was recorded on the 27th of the same month.

Port Harcourt Airport

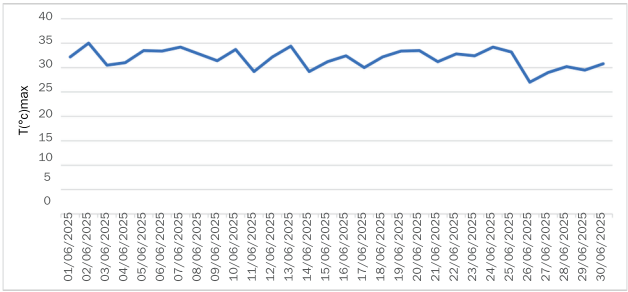


Figure 75: Daily Maximum Temperature at Port Harcourt International Airport in June, 2025.

The highest maximum temperature recorded at Port Harcourt airport in June 2025 was 35.0°C, observed on the 2nd, while the lowest, 27.0°C, was recorded on the 26th of the same month (See Figure 75).

5.3 OBSERVED MINIMUM TEMPERATURE (T_{MIN}) °C AT THE AIRPORTS IN JUNE 2025.

Abuja Airport

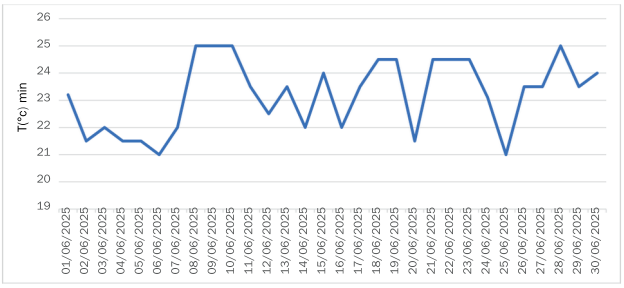


Figure 76: Daily Minimum Temperature at Nnamdi Azikiwe International Airport, Abuja in June, 2025.

The highest minimum temperature of 25.0°C was recorded at Nnamdi Azikiwe International Airport, Abuja, on the 8th, 9th, 10th and 28th of June, 2025, while the lowest, 21.0°C, was observed on the 6th and 25th of the same month.

Kano Airport

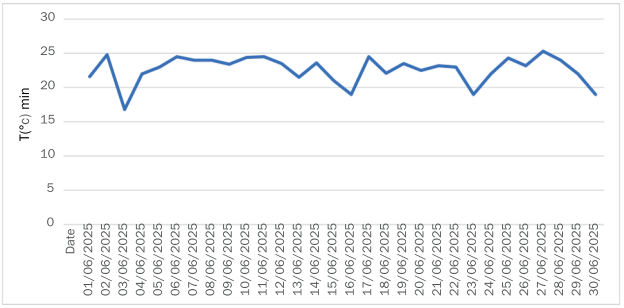


Figure 77: Daily Minimum Temperature at Mallam Aminu Kano International Airport, Kano in June, 2025.

As depicted in Figure 77, the highest minimum temperature of 25.3°C was recorded at the airport on the 27th of June, 2025, while the lowest, 16.8°C, was observed on the 3rd of the same month.

Enugu Airport

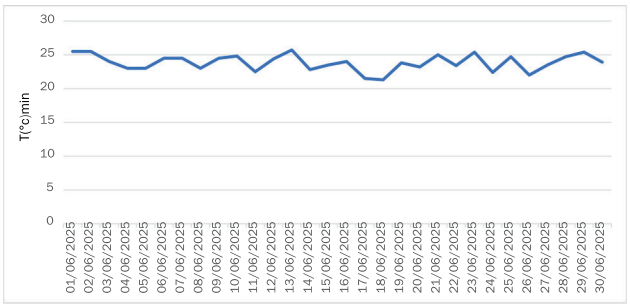


Figure 78: Daily Minimum Temperature at Akanu Ibiam International Airport, Enugu in June, 2025.

The highest minimum temperature of 25.7°C was recorded at Akanu Ibiam International Airport, Enugu, on the 13th of June, 2025, while the lowest, 21.3°C, was observed on the 18th of the same month.

Lagos Airport

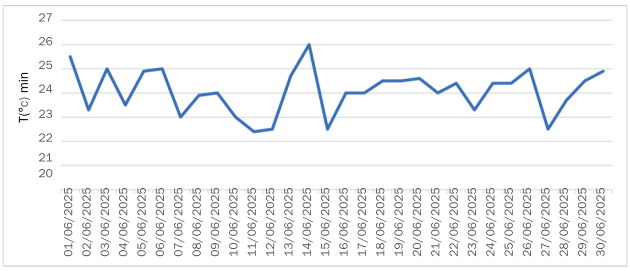


Figure 79: Daily Minimum Temperature at Murtala Muhammed International Airport, Lagos, in June, 2025.

The highest minimum temperature of 26.0°C was recorded at Murtala Muhammed International Airport, Lagos, on the 14th of June, 2025, while the lowest, 22.4°C, was observed on the 11th of the same month.

Port Harcourt Airport

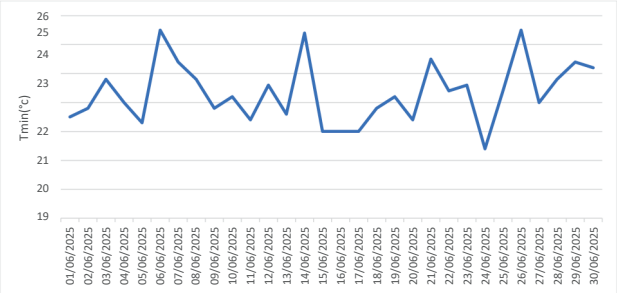


Figure 80: Daily Minimum Temperature at Port Harcourt International Airport in June, 2025.

The highest minimum temperature of 25.5°C was recorded at Port Harcourt International Airport on the 6th and 26th, of June, 2025, while the lowest, 21.4°C, was observed on the 24th of the same month.

5.4 OBSERVED VISIBILITY AT THE FIVE INTERNATIONAL AIRPORTS IN JUNE 2025

Abuja Airport

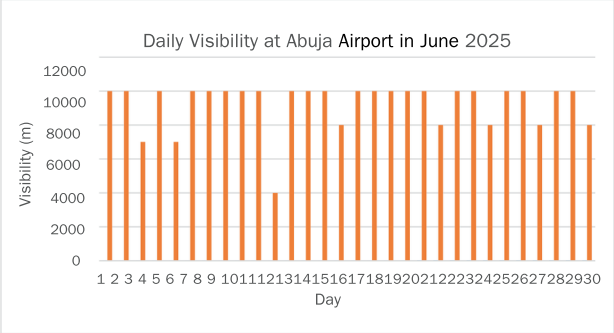


Figure 81: Daily Visibility at Nnamdi Azikiwe Airport, Abuja in June 2025

As shown in Figure 81, visibility of 5000m and below was recorded at Abuja airport for only one (1) day in June 2025, and the lowest was 4000m, recorded on the 11th of the month.

Enugu Airport

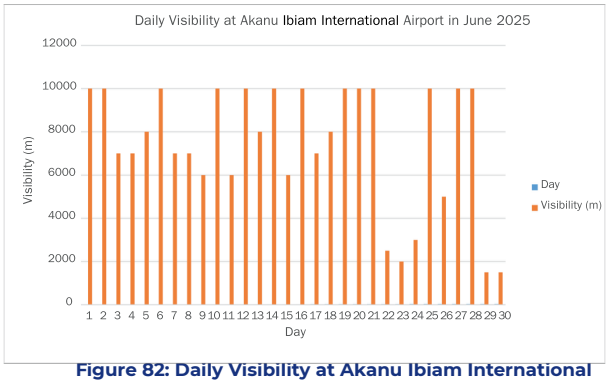


Figure 82: Daily Visibility at Akanu Ibiam International Airport, Enugu in June 2025

As shown in Figure 82, visibility of 5000m and below were recorded at Akanu Ibiam International Airport, Enugu on 6 non-consecutive days in June 2025, and the lowest was 1500m, recorded on 29th and 30th of the month.

Lagos Airport

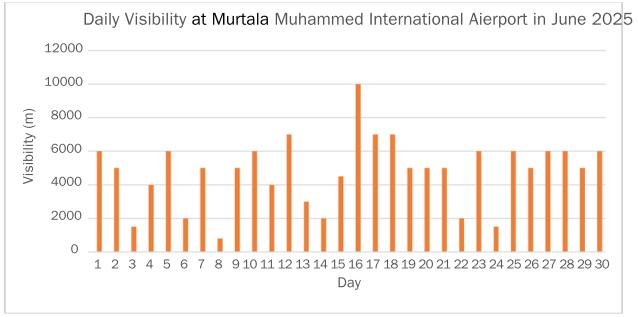


Figure 83: Daily Visibility at Murtala Muhammed International Airport, Lagos in June 2025

As shown in Figure 83, visibility of 5000m and below were recorded at Lagos airport on Eighteen (18) non-consecutive days in June 2025, and the lowest was 800m, recorded on 8th of the month.

Port Harcourt Airport

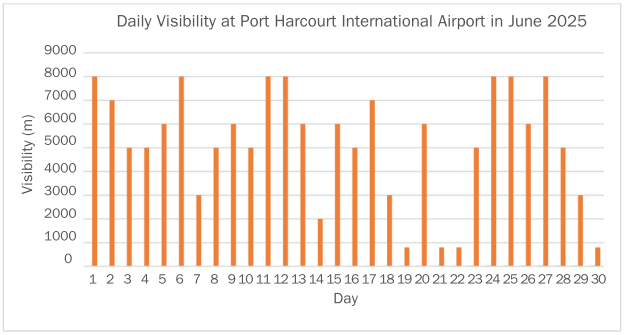


Figure 84: Daily Visibility at Port Harcourt International Airport in June 2025

As shown in Figure 84, visibility of 5000m and below were recorded at Port Harcourt airport for fifteen (15) non-consecutive days in June 2025, and the lowest was 800m, recorded on 19th, 21st, 22nd and 30th of the month.

Kano Airport

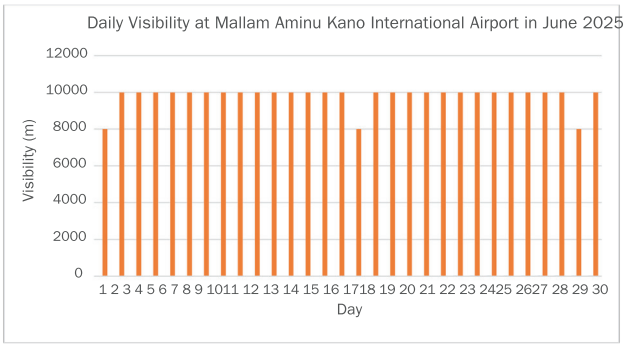


Figure 85: Daily Visibility at Mallam Aminu Kano International Airport in June 2025

As shown in Figure 85, visibility above 5000m were recorded at Mallam Aminu Kano International Airport for Thirty days (30) days in June 2025, and the lowest was 8000m, recorded on 1st, 16th and 29th of the month.

6.0 OBSERVED DAILY RAINFALL AT VARIOUS AIRPORTS IN NIGERIA IN JUNE 2025

Abuja Airport

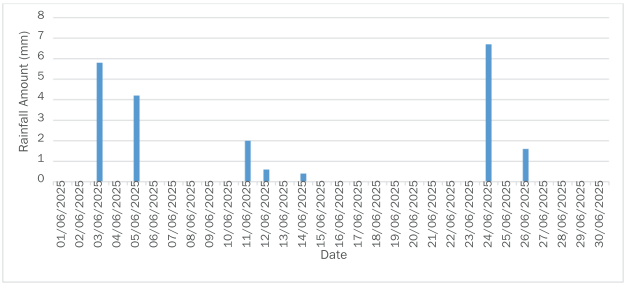


Figure 86: Daily Rainfall at Nnamdi Azikiwe International Airport Abuja

The highest rainfall recorded at the Abuja airport in June 2025 was 6.7 mm. This was recorded on the 24th of the month, while the lowest recorded during the period was 0.4mm on the 14th of the month. The total amount of rainfall for the month was 21.3mm (see figure 86).

Lagos Airport

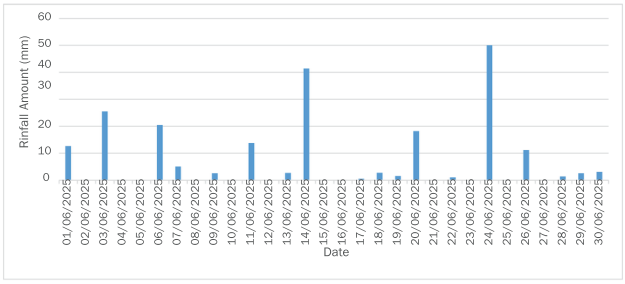


Figure 87: Daily Rainfall at Murtala Muhammed International Airport, Lagos in June, 2025

The highest rainfall recorded at the Lagos airport in June 2025 was 50.0mm. This was recorded on the 24th of the month, while the lowest recorded during the period was 0.6mm on the 17th of the month. The total amount of rainfall for the month was 216.9mm (see Figure 87)

Enugu Airport

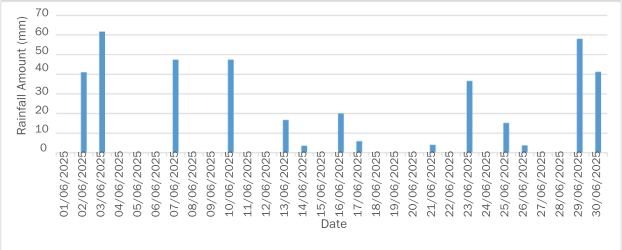


Figure 88: Daily Rainfall at Akanu Ibiam International Airport, Enugu in June, 2025

The highest rainfall recorded at the Enugu airport in June 2025 was 61.7mm. This was recorded on the 3rd of the month, while the lowest recorded during the period was 3.6mm on the 14th of the month. The total amount of rainfall for the month was 402.4mm (see Figure 88)

Port Harcourt Airport

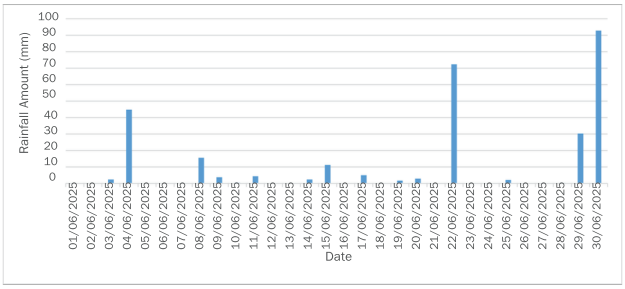


Figure 89: Daily Rainfall at Port Harcourt International Airport in June, 2025

The highest rainfall recorded at the Port Harcourt airport in June 2025 was 92.8 mm. This was recorded on the 30th of the month, while the lowest recorded during the period was 0.2mm on the 28th of the month. The total amount of rainfall for the month was 292.2mm (see Figure 89).

Kano Airport

There was no rainfall recorded in the month of June 2025 at Mallam Aminu Kano International Airport, Kano.

6.1 DAILY OBSERVED THUNDERSTORM OCCURRENCES AT THE FIVE INTERNATIONAL AIRPORTS IN JUNE 2025

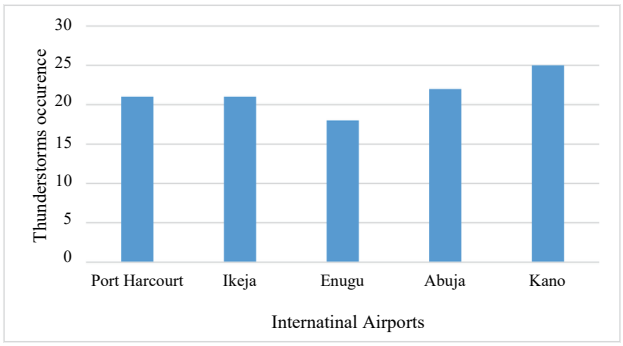


Figure 90: Thunderstorm occurrence at the Five international airport in June 2025

As illustrated in Figure 90, the frequency of thunderstorm occurrence across the selected aerodromes in June 2025 exhibited marked spatial variability. Mallam Aminu Kano International Airport (Kano) recorded the highest frequency, with a total of twenty-five (25) thunderstorm events, followed by Nnamdi Azikiwe International Airport (Abuja) with twenty-two (22) occurrences. Both Murtala Muhammed International Airport (Lagos) and Port Harcourt International Airport reported twenty-one (21) thunderstorm events each, while the lowest frequency was observed at Akanu Ibiam International Airport (Enugu), where eighteen (18) thunderstorm occurrences were recorded during the month.

The spatial distribution reflects the continued northward displacement of the Intertropical Discontinuity (ITD) and the establishment of moist southwesterly flow over much of the country, which favored enhanced convective activities, particularly across the central and northern parts of the country. The slightly lower frequency over the southeastern region may be linked to transient suppressions in local

convective development and variations in mesoscale systems during the period.

6.2 PRODUCTION AND COLLECTION OF FLIGHT DOCUMENTATION FOLDERS IN JUNE 2025

Abuja Airport

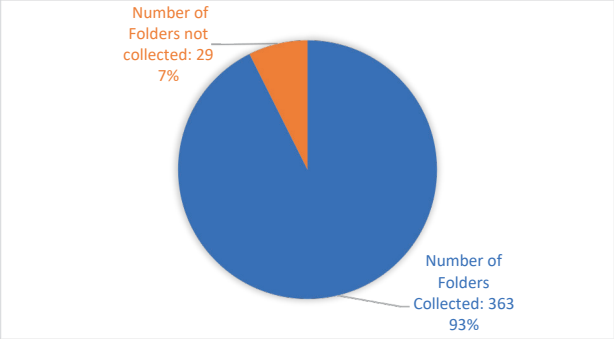


Figure 91: Flight Documentation Analysis for Nnamdi Azikiwe International Airport Abuja in June 2025

The total number of flight documentation (folders) prepared in June 2025 was 450, out of which 361 were collected, representing a 93% collection rate. However, 7% of the folders were not collected. (See Figure 91).

Enugu Airport

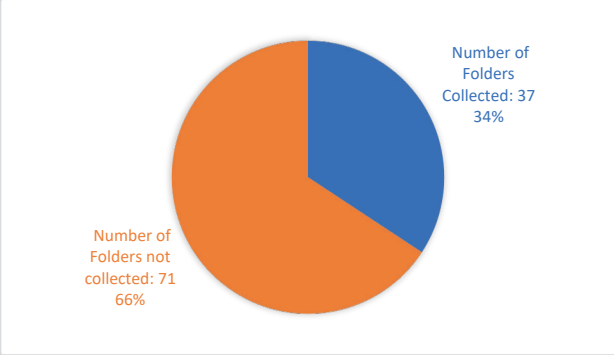


Figure 92: Flight Documentation Analysis for Akanu Ibiam International Airport, Enugu in June 2025

The total number of flight documentation (folders) prepared in June 2025 was 108 out of which 71 were collected, representing a 66% collection rate. However, 34% of the folders were not collected. (See Figure 92).

Lagos Airport

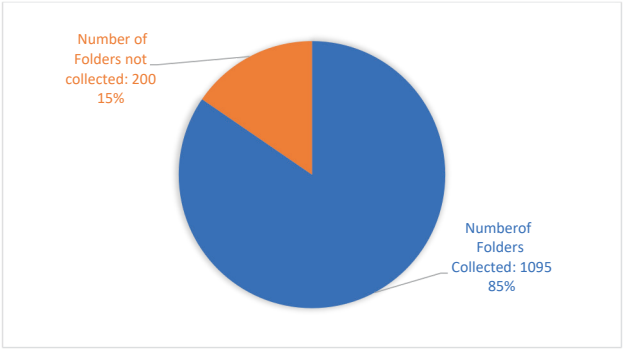


Figure 93: Flight Documentation Analysis for Murtala Muhammed International Airport (MMIA), Lagos in June 2025

The total number of flight documentation (folders) prepared at MMIA Lagos in June was 1,295 out of which 1,095 were collected representing a 85% collection rate. However,15% of the folders were not collected. (See Figure 93).

Port Harcourt Airport

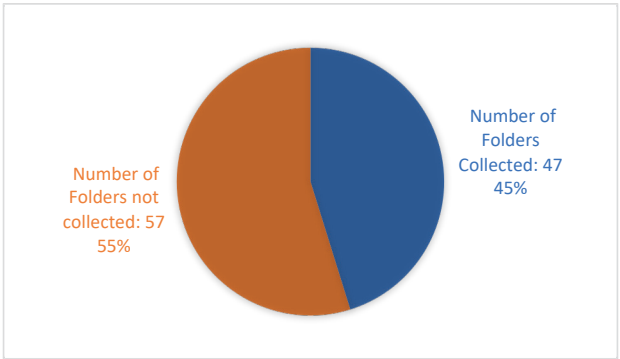


Figure 94: Flight Documentation Analysis for Port Harcourt International Airport In June 2025

The total number of flight documentation (folders) prepared at Port Harcourt International Airport in June 2025 was 104, out of which 47 were collected, representing a 45% collection rate. However, 55% were not collected. (See Figure 94).

Kano Airport

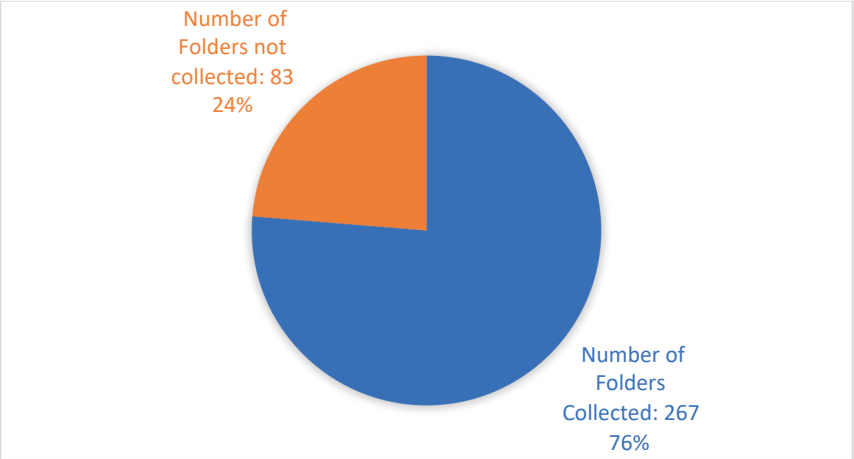


Figure 95: Flight Documentation Analysis for Mallam Aminu Kano International Airport (MAKIA) Kano, in June 2025

The total number of flight documentation (folders) prepared at MAKIA in June was 350, out of which 267 were collected, representing a 76% collection rate. However, 24% were not collected. (See Figure 95).

Table 3: Summary of Flight Documentation Folder Collection for June 2025

Airport (Station)	Number of Folders Prepared	Number of Folders Collected	Number of Folders not Collected	Collection Rate (%)
Murtala Muhammed, International airport Lagos	1295	1095	200	85
Nnamdi Azikiwe, International airport Abuja	450	363	29	93
Mallam Aminu Kano International Airport, Kano	350	267	83	76
Port Harcourt International Airport	104	47	57	45
Akanu Ibiam International Airport Enugu	108	39	71	34

6.3.1 SIGNIFICANCE OF AERODROME WARNINGS TO AVIATION SAFETY

Aerodrome Warnings are essential for maintaining safe and efficient airport operations. Their importance includes:

1. Protection of Ground Personnel and Equipment

Alerts enable ground staff to suspend fueling, loading, de-icing, and maintenance activities during hazardous conditions. Prevents accidents caused by lightning strikes, falling objects in high winds, or poor visibility.

2. Safety of Aircraft on the Ground

Aircraft parked on the apron or taxiing may be at risk from strong winds, hail, debris, or low visibility. Warnings support decisions to secure aircraft, adjust pushback/taxi operations, or delay departures.

3. Efficient Airport Management

Airport authorities use warnings for resource planning, including closing ramps, adjusting staffing, or activating emergency procedures. Helps mitigate operational disruptions and reduces financial losses.

4. Prevention of Equipment and Infrastructure Damage

Protects critical assets such as: Ground power units (GPUs), Jet bridges, Navigation aids (NAVAIDs), Radars and communication equipment

5. Enhanced Situational Awareness

Provides timely meteorological awareness to all airport stakeholders.
Supports decision-making for air traffic control (ATC), airlines, and airport emergency units.

6. Compliance With ICAO Standards

6.3.2 AERODROME WARNINGS ISSUED AT THE FIVE INTERNATIONAL AIRPORTS IN JUNE 2025

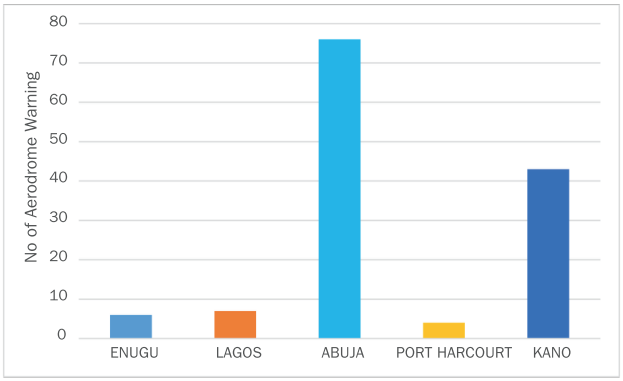
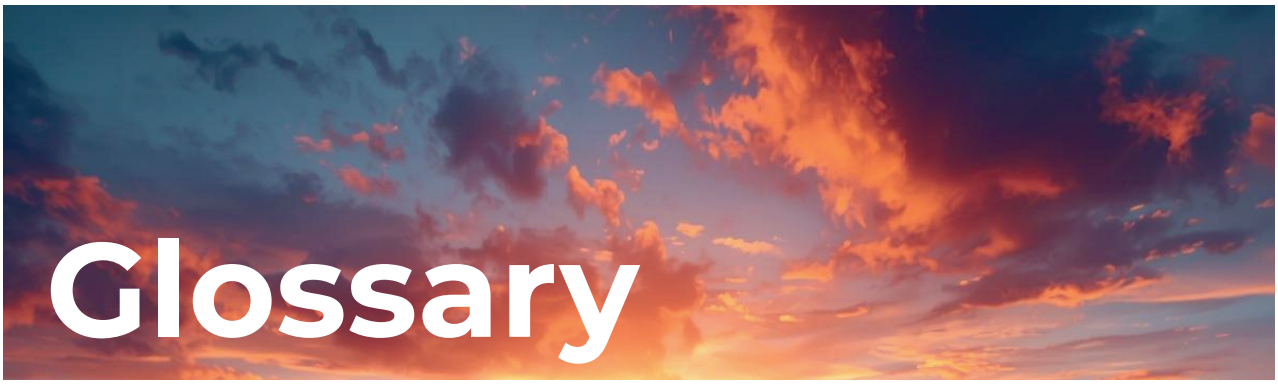


Figure 96: Aerodrome warning issued at the five international Airports in June, 2025

As shown in Figure 96, Nnamdi Azikiwe International Airport, Abuja, issued the highest number of aerodrome warnings in June 2025, with a total number of seventy-six (76). This was followed by Mallam Aminu Kano International Airport, with forty-three (43), Murtala International Airport, Lagos, issued seven (7) warnings, Akanu Ibiam International Airport, Enugu, issued six (6), while Port Harcourt International Airport issued four (4), being the lowest number of aerodrome warnings during the month.



Glossary

Flight Level: A standardized altitude of an aircraft expressed in hundreds of feet. It is usually referenced to the standard atmospheric pressure of 1013.25 hPa (hectopascals).

Flight crew member: A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period. Flight documentation. Written or printed documents, including charts or forms, containing meteorological information for a flight.

Flight information centre (FIC): A unit established to provide flight information service and alerting service.

Flight information region (FIR): An airspace of defined dimensions within which flight information service and alerting service are provided.

Fog: A cloud that forms at ground level, reducing visibility to less than 1,000 meters (3,280 feet). It can significantly impact flight operations.

Haze: A slight obscuration of the air caused by fine particles or water droplets, reducing visibility but not as severely as fog or mist.

Mist: Similar to fog but with visibility of 1000 to 5000m .

METAR: A routine aviation weather report issued at least once an hour, containing data on temperature, dew point, wind speed, visibility, and significant weather phenomena.

Turbulence: Irregular or violent changes in airflow that can cause abrupt changes in altitude or speed, often experienced during f light. It can be caused by various factors, including weather fronts, thunderstorms, and mountainous terrain.

TAF (Terminal Aerodrome Forecast): A weather forecast for a specific airport, usually covering a 30-hour period and updated 6 hourly, detailing expected weather conditions important for flight operations.

Trend Forecast: A trend forecast is a short term weather forecast that indicates expected changes in weather conditions over a specific period, typically covering the next few hours to a day. It highlights trends such as increasing or decreasing temperatures, changes in wind direction, or the likelihood of precipitation. Trend forecasts are often based on current weather observations and short-term numerical weather prediction models.

SPECI report is a special weather report issued when there are significant changes in weather conditions that occur between routine METAR reports. It may include updates on sudden changes in visibility, wind, significant weather events (like thunderstorms), or changes in cloud cover. SPECI reports help ensure that pilots and air traffic controllers have the most up-to-date information.

Squall: A sudden, sharp increase in wind speed lasting for a short period, often associated with thunderstorms or frontal systems. Visibility: The distance at which objects can be clearly seen. In aviation, visibility is crucial for take-off, landing, and navigation.

Temperature: A measure of how hot or cold something is, usually measured in degrees Celsius (°C) or Fahrenheit (°F).

Maximum Temperature: The highest temperature recorded in a specific location during a specified period, typically over a 24 hour day. This value is important for understanding heat extremes and is often used in weather forecasts.

Minimum Temperature: The lowest temperature recorded in a specific location during a specified period, also usually over a 24-hour day. It helps indicate the cooling trends in an area and is crucial for assessing frost risk and other cold-related phenomena. period, calculated by adding together all temperature readings for that period and then dividing by the number of readings. Mean temperature can be computed daily, monthly, or annually and provides a more comprehensive view of temperature trends over time.

Microburst: A small, concentrated downdraft that results in a powerful burst of wind at or near the ground level, capable of causing significant damage and hazards for aviation. Jet Stream: A fast-flowing ribbon of air in the upper atmosphere, typically found at altitudes of 20,000 to 50,000 feet. Jet streams can influence weather patterns and are crucial for aviation.

Tailwind: A wind that blows in the same direction as an aircraft is traveling, which can increase its speed and reduce fuel consumption during flight. Cloud: A visible mass of condensed water vapor floating in the atmosphere, which can vary in type, size, and altitude. Clouds are classified into several types, such as cumulus, stratus, and cirrus.

Crosswind: Wind that blows perpendicular to the direction of an aircraft's flight path, which can affect take-off and landing performance.

Headwind: A wind that blows directly opposite to the direction of an aircraft's travel, which can slow down the aircraft and increase fuel consumption during flight.

Lightning: A sudden electrostatic discharge during a storm, producing a bright flash and a loud sound (thunder). It occurs when electrical charges build up in clouds.

Windshear: A sudden change in wind speed or direction over a short distance, which can be dangerous during take-off and landing due to its potential to disrupt the airflow over an aircraft's wings.

Dust storm: Severe weather events characterized by strong winds lifting large amounts of dust or sand into the air, reducing visibility and air quality.

Extreme Temperature: Temperatures that are significantly above or below the average for a specific region or time of year, which can have profound effects on weather patterns and living conditions.

Cumulonimbus: A type of cloud that indicates thunderstorms and severe weather.

Dew Point: The temperature at which air becomes saturated with moisture and dew forms.

Humidity: The amount of moisture in the air, expressed as a percentage of the maximum amount of moisture the air can hold at that temperature

Thunderstorm: A localized storm characterized by the presence of thunder and lightning, often accompanied by heavy rain, strong winds, and sometimes hail or tornadoes.

Air Pressure: The force exerted by the weight of air above a given point, typically measured in hectopascals (hPa) or millibars (mb). Air pressure influences weather patterns and is a key factor in meteorology.

Ceiling: The height above the ground of the lowest layer of clouds or the vertical visibility into a cloud. It is important for determining whether VFR (Visual Flight Rules) or IFR (Instrument Flight Rules) can be used.

Turbulence: Irregular or violent movements of air, which can cause changes in altitude and speed. Turbulence can be caused by weather phenomena, terrain, or jet streams.

Temperature Inversion: A layer of the atmosphere where temperature increases with altitude, contrary to the usual decrease. It can trap pollutants and create turbulence.

Pressure System: Areas of high or low atmospheric pressure. High-pressure systems generally bring clear skies, while low pressure systems are associated with clouds and precipitation.

Convective Activity: Atmospheric processes that involve the vertical movement of air, often leading to thunderstorms. It can create hazardous flying conditions.

Advection: The horizontal movement of air, often bringing changes in temperature or humidity.

Atmospheric Pressure: The weight of the air above a given point, typically measured in millibars (mb) or inches of mercury (inHg).

Low Pressure System: An area where the atmospheric pressure is lower than that surrounding it, often associated with stormy weather.

Precipitation: Any form of water, liquid or solid, that falls from the atmosphere, including rain, snow, sleet, and hail.

Severe Weather: Weather that poses a significant risk to life or property, including thunderstorms, tornadoes, and hurricanes.