

### Introduction

The SCP provides essential weather advisories and early warnings to planners, decisionmakers and operators in the various rainfall-sensitive socio-economic sectors. These are aviation, agriculture, water resources, environment, transportation, disaster risk management, health, construction etc.









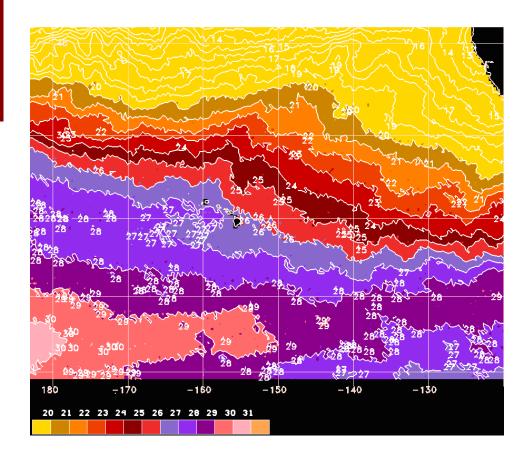


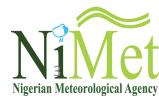
### Introduction

The SCP is therefore an invaluable tool that is capable of ameliorating the unpleasant consequences of extreme weather and climate events.

The proper application of the SCP reduces climate-related risks, enhances production, security and revenue generation.

The use of ENSO phase is adopted because of the strong teleconnection existing between the different phases (warm, cold, or neutral) that defines the state of sea surface temperature in the central Pacific Ocean and rainfall pattern in the country

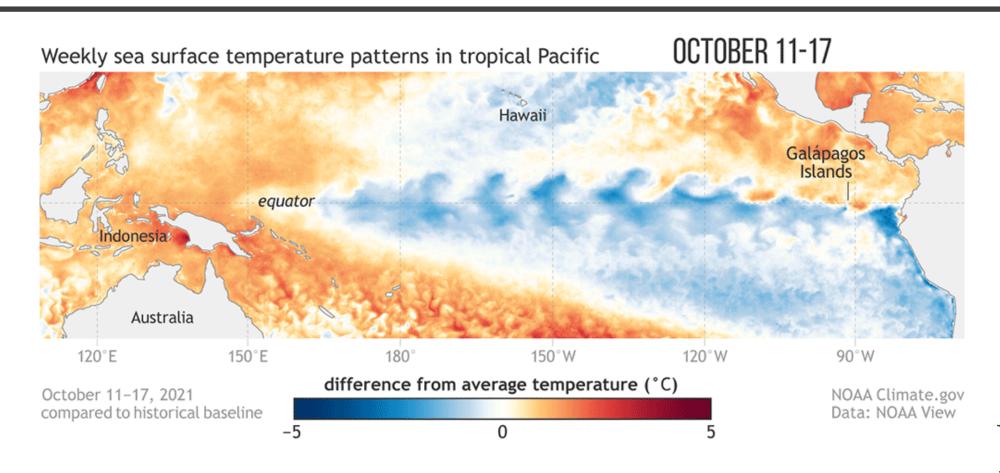




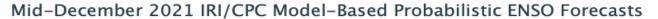
### ENSO SYNOPSIS

- One of the major drivers of the NiMet Seasonal Climate Prediction (SCP) model is the El-Nino Southern Oscillation (ENSO) which describes the condition or state of the sea surface temperature in the Nino 3.4 region of the Pacific Ocean (120W-150W). This is considered, particularly because of the relationship that ENSO has with rainfall characteristics in different parts of the world including Nigeria.
- This view is also supported by predictions from other ENSO prediction centres such as the Bureau of Meteorology (BoM) of Australia ENSO Outlook an alert system for the El Niño—Southern Oscillation (bom.gov.au) and National Oceanic and Atmospheric Administration (NOAA), USA El Niño Forecasts | El Nino Theme Page A comprehensive Resource (noaa.gov).

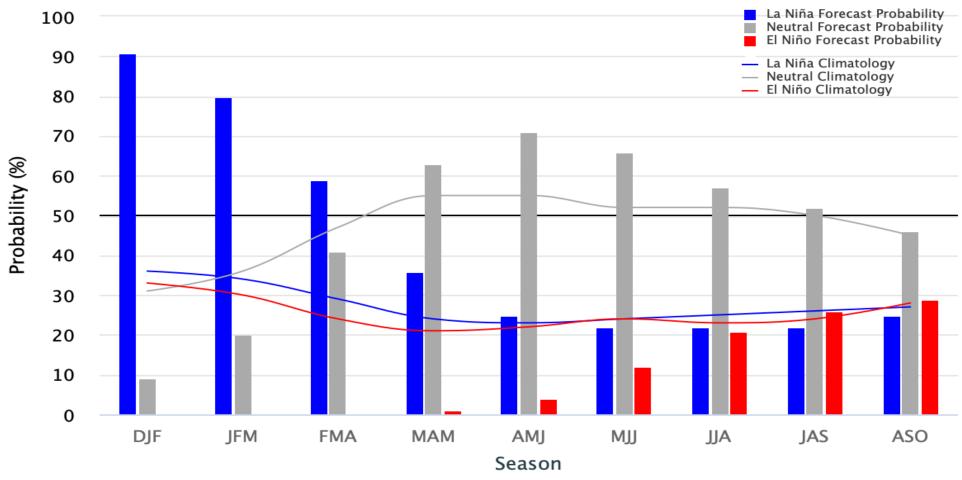
### Weekly SST ANOMALY 2021







ENSO state based on NINO3.4 SST Anomaly Neutral ENSO: -0.5 °C to 0.5 °C





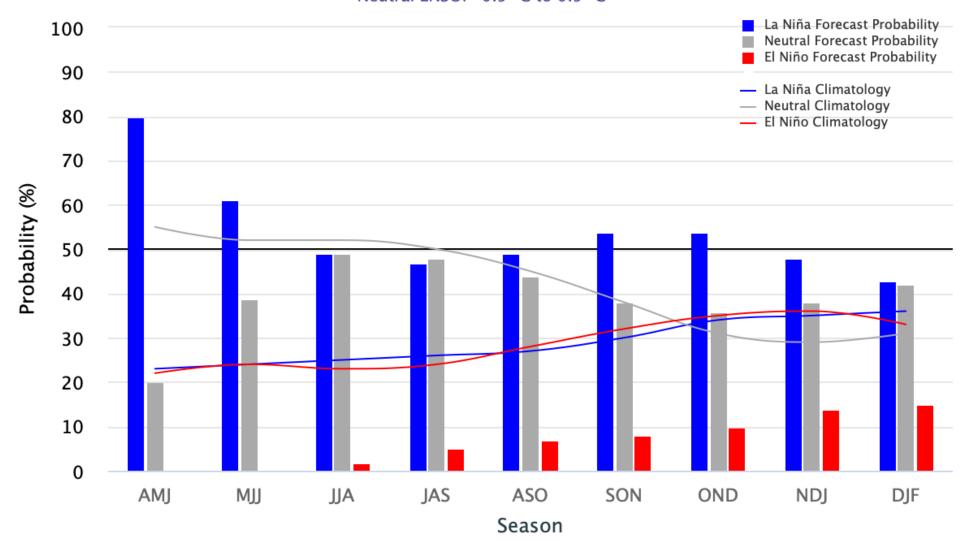
# ENSO PROBABILISTIC FORECAST Mid December 2021

Season	La Niña	Neutral	El Niño
DJF	91	9	0
JFM	80	20	0
FMA	59	41	0
MAM	36	63	1
AMJ	25	71	4
MJJ	22	66	12
JJA	22	57	21
JAS	22	52	26
ASO	25	46	29



#### Mid-April 2022 IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly Neutral ENSO: -0.5 °C to 0.5 °C





### ENSO PROBABILISTIC FORECAST Mid April 2022

Season	La Niña	Neutral	El Niño
AMJ	80	20	0
MJJ	61	39	0
JJA	49	49	2
JAS	47	48	5
ASO	49	44	7
SON	54	38	8
OND	54	36	10
NDJ	48	38	14
DJF	43	42	15 <sub>1</sub>

### BASES OF THE 2022 SCP

The 2022 Seasonal Climate Prediction is therefore predicted based on a cold (La Niña) ENSO phase. This phase has over 80% probability of persisting from the November to February in 2022. The probability of this phase reduces to 58% by March and thereafter, a neutral phase is predicted to prevail from April with about 60% probability. This phase is expected to continue through the rest of the season with decreasing probability towards the end of the season.

The relationships of the La Niña phase to rainfall characteristic within our region are: Early onset dates, late cessation dates, longer length of season, and enhanced precipitation amount



# Pre-Onset Activities (False Onset)

The Mid-latitude wave, the Atlantic Multidecadal Oscillation (AMO) and the Indian Ocean Dipole (IOD) activities will enhance the sudden northward pull of the Inter-tropical Discontinuity (ITD) and incursion of moisture into the country. This will enhance some rainfall events before the establishment of the raining season within the first quarter (January-March) of this year. Its effect could reach as far as the extreme northern states in some cases. They are responsible for most of the early rainfall experienced in the country.



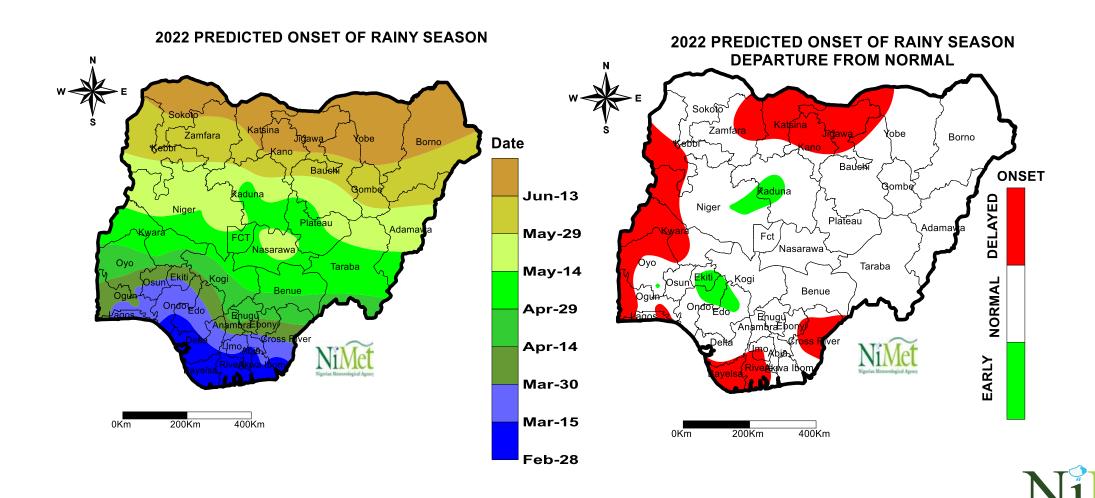
### **COMPONENTS OF THE SCP**

#### *The predictions provide information about:*

- (i) Onset and cessation dates of rainy season;
- (ii) Length of the rainy season;
- (iii) Annual Total amount of rainfall;
- (iv) Dry Spell Occurrence
- (v) Temperature (Day & Night) Forecast
- (vi) Malaria Vigilance
- (vii) Meningitis Vigilance
- (viii) Socio-economic implications of the predictions



### 2022 PREDICTION Onset of Rainy Season

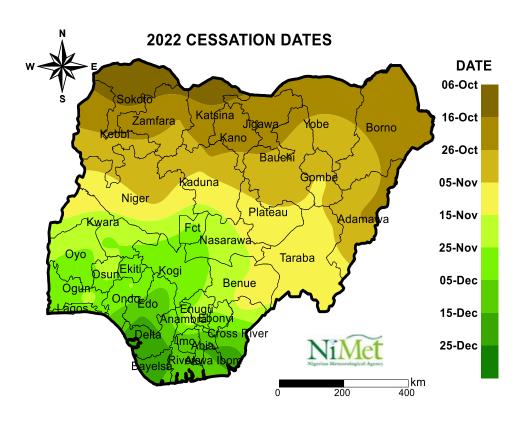


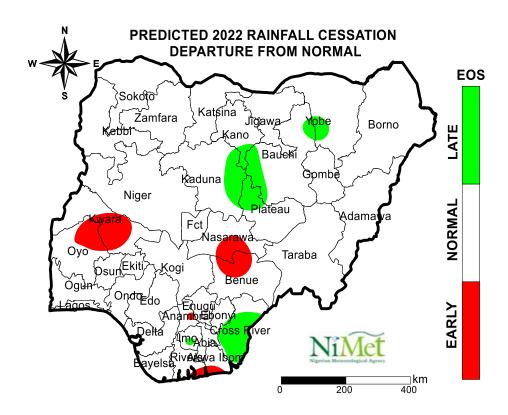
### 2022 ONSET OF RAINY SEASON

- The prediction shows that the earliest onset will occur on the 28<sup>th</sup> of February 2022 in and around the coastal zone of the south-south states of Bayelsa, Rivers and Akwa Ibom. The onset dates are expected to progress latitudinally with the ITD northwards oscillation as the year progresses. Areas around the central states are expected to have their onset between April and May. The extreme northern states are expected to have their onset between June and July, with the northern fringes of Sokoto, Kebbi, Zamfara, Kano, Katsina, Jigawa, Yobe and Borno states predicted to likely have onset of rains between 13<sup>th</sup> June and 4<sup>th</sup> of July 2022.
- The 2022 Onset of rains is predicted to be normal in most parts of the country with parts of Ekiti, Ondo, Edo, Niger and Kaduna that are likely to experience earlier than normal onset when compared to the long-term averages in these locations. However, Zamfara, Katsina, Kano, Jigawa, parts of Kebbi, Niger, Kwara, Oyo, Ogun, Cross River, Bayelsa and Rivers states are predicted to likely experience a delayed onset when compared to their long-term averages



# 2022 PREDICTION Cessation of Rainy Season





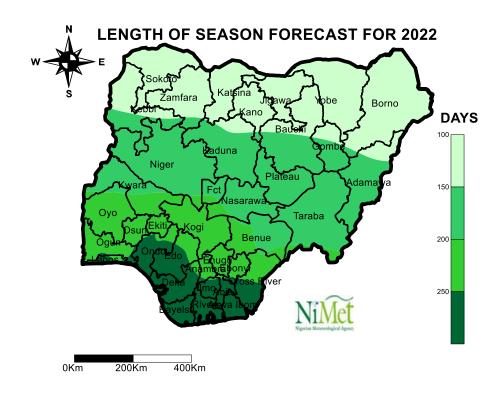


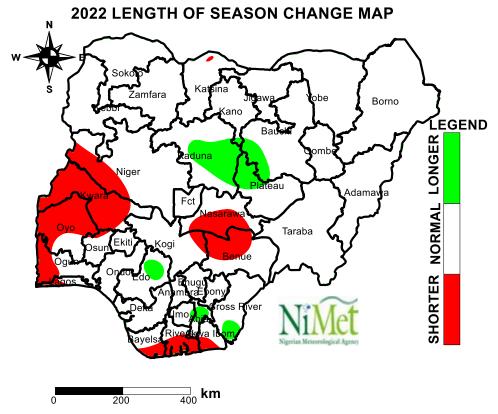
# 2022 PREDICTION Cessation of Rainy Season

- Rainfall cessation is anticipated to begin in the north, from early-October to mid-November. This should gradually progress southward, to begin mid-November in the central states, and finally ceasing around mid-December in the southernmost parts of the country.
- Cessation dates predicted across most parts of Nigeria for 2022 is near long-term average conditions (normal). However, it is expected to be delayed over parts of Cross River, Imo in the south and parts of Plateau, Kaduna, Kano, Bauchi and Yobe in the north. Areas of considerable concern are parts of Nasarawa, Benue, Kwara, Oyo and Anambra where cessation is predicted to occur earlier than the long-term averages.



# 2022 PREDICTION Length of Rainy Season





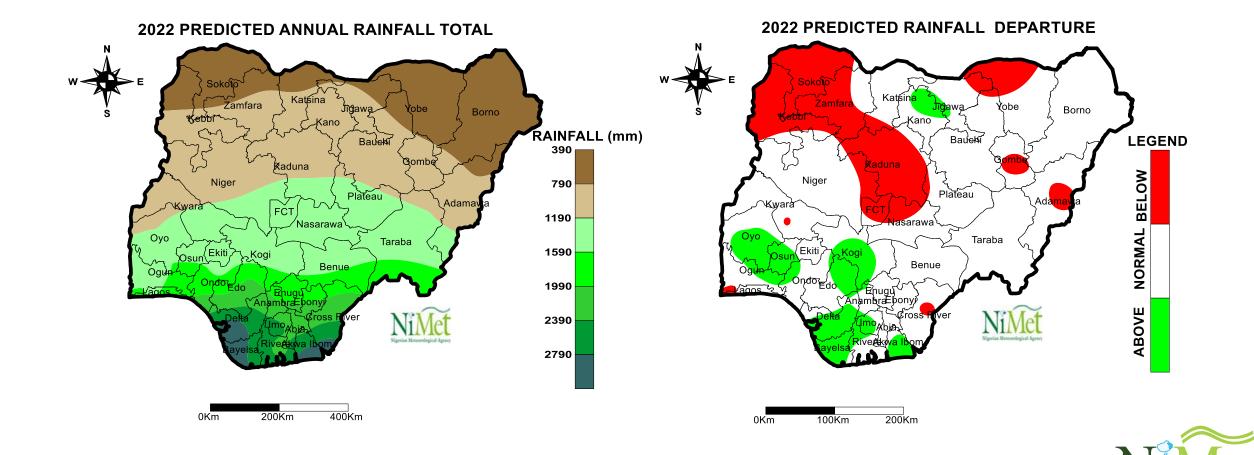


# 2022 PREDICTION Length of Rainy Season

- The length of growing season usually increases southwards from the north, For the year 2022 in the southern states, the length of season is likely to expand above 250 days but not more than 300 days. The Sahelian region is likely to have length of growing season between 90 to 200 days.
- On the other hand, the predicted length of growing season shows a large area of the country is expected to have length of season similar to the long-term average (normal), depicted by white shading in the map. Some areas around the southwestern region of Kwara, Oyo, Lagos, Nasarawa, Benue, Bayelsa, and Rivers are likely to experience length of growing season shorter than the long-term averages for these areas, (portions of the plot denoted in red). However, the areas in green (northern Plateau, southern Kaduna, Edo, Imo) will have longer length of season than the longterm average for these areas



### 2022 PREDICTION Rainfall Amount

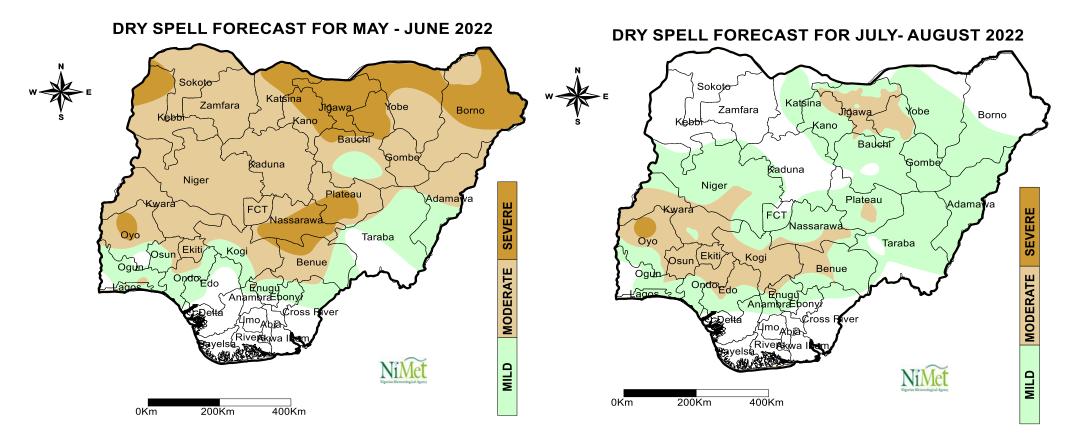


# 2022 PREDICTION Rainfall Amount

- The predicted annual rainfall amount for the year 2022 is likely to range from 390mm in the far north to over 2790mm in the coastal states. Rainfall amount ranging from 390mm-790mm is likely in some parts of Borno, Yobe, Jigawa, Katsina and Sokoto states. The central states such as FCT, Nassarawa, Taraba, Kogi, Benue as well as Ekiti, Osun and Oyo are expected to have 1190mm to 1590mm. However, parts of Bayelsa, Akwa-Ibom, Delta, and Cross River states are predicted to have annual rainfall amounts of 2700mm and above.
- In 2022, as depicted in the departure map, rainfall amount close to the long-term average (normal) is predicted for most parts of the country, with exceptions to areas in and around Yobe, Sokoto, Zamfara, Gombe, Adamawa, Niger, Kebbi, Kaduna and FCT which are predicted to experience rainfall amount below annual long-term rainfall average. However, areas around Katsina, Jigawa, Oyo, Ogun, Osun, Kogi, Delta, Imo, Bayelsa, parts of River and Akwa-ibom are predicted to record rainfall amount above their annual long-term average



# 2022 PREDICTION Dry Spell

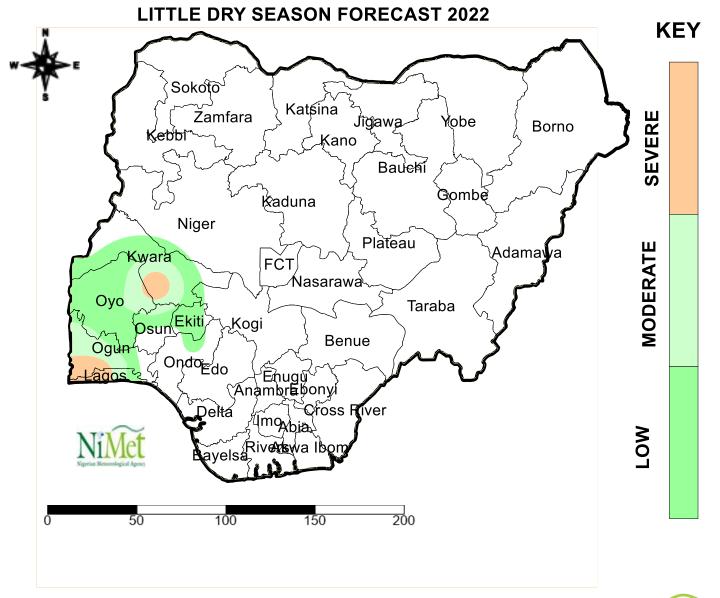




# 2022 PREDICTION Dry Spell

- The predicted 2022 dry spell for the month of May into June indicates a mild dry spell of less than 8 days in Taraba, Nasarawa, parts of Oyo, Niger, Ekiti, Plateau, Ogun, Osun, Edo and Anambra states. Moderate dry spell that is likely to persist for up to 15 days is predicted over parts of Adamawa, Benue, Kogi, Ekiti, Kwara, Niger, FCT, Kaduna, Sokoto, Kebbi and Gombe.
- A severe dry spell is predicted over the following locations (Arewa Dandi, Birnin Kebbi, Argungu, Augie) Kebbi, (Kaita, Mashi, Mai'Adua, Katsina, Dutsi, Daura, Baure, Zango) Katsina, (Gwiwa, Yankwashi, Gumel, Birniwa, Sule-Tankarkar, Guri, Kiri Kasama)Jigawa, (Machina, Nguru, Yusufari, Yunusari, Karasuwa, Barde, Jakusko, Geidam) Yobe, (Abadam, Mobbar, Kukawa, Guzamala, Gubio, Nganzai, Monguno) Borno, (Awe, Toto and Keana) Nasarawa, (Langtang South and Kanke) Plateau state in the month of June that may persist for up to 20 days or more.
- The dry spell prediction for July to August 2022 shows a severe dry spell over northern Oyo (Saki, Iseyin, Orelope, Irepo, Atisbo, Iwajowa, Kajola, Ogbomosho). A moderate dry spell is predicted over Niger, Nasarawa, Gombe, Jigawa, Borno and the FCT and parts of Nasarawa, Kogi, Benue, Osun, Ondo, Ekiti and Kwara state. Mild dry spell is predicted the areas in colored green

PREDICTION
Little Dry
Season (August
Break)





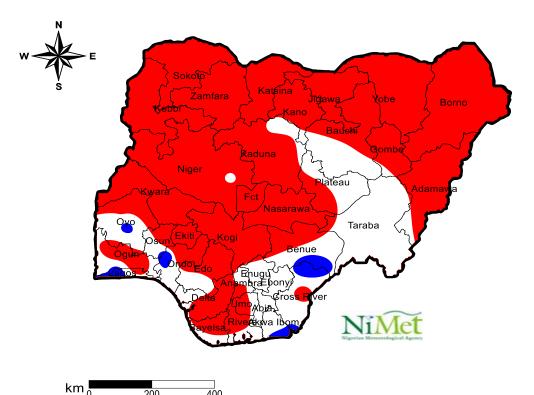
2022 PREDICTION
Little Dry Season
(August Break)

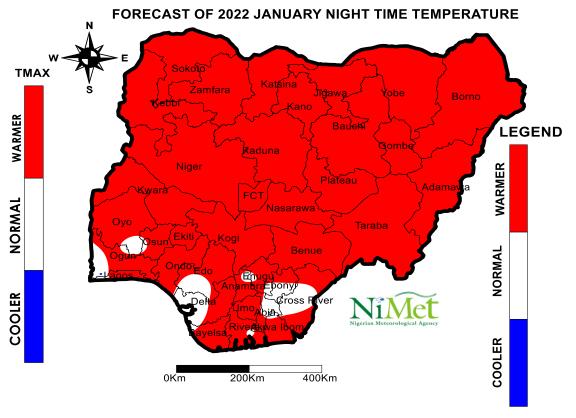
Signs of LDS (Little dry season) will suffice around 27th July to 1st of August in year 2022. Locations in Lagos and Kwara state are likely to experience severe cases of LDS lasting about 25 days or more. Parts of Ogun, Oyo, Osun and Ekiti will experience low to moderate effect that may last between 14-20 days. The event is not expected over Enugu and Edo.



# 2022 PREDICTION January Temperature Forecast

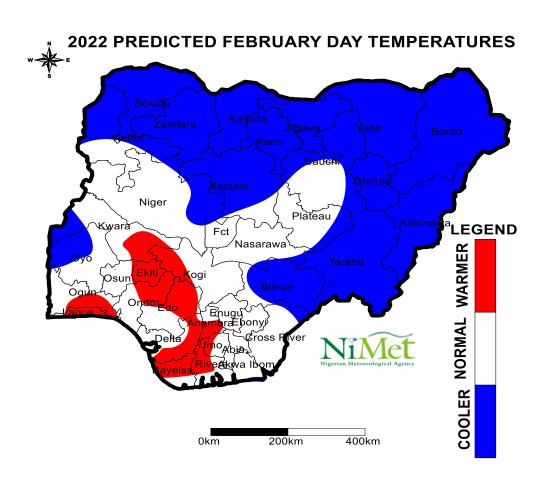
#### JANUARY 2022 DAY TIME TEMPERATURE FORECAST

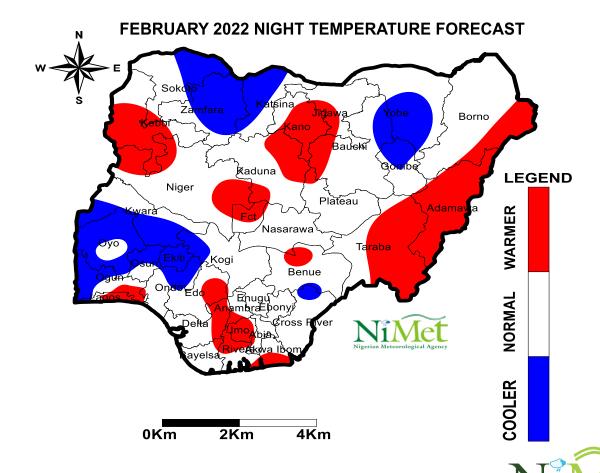




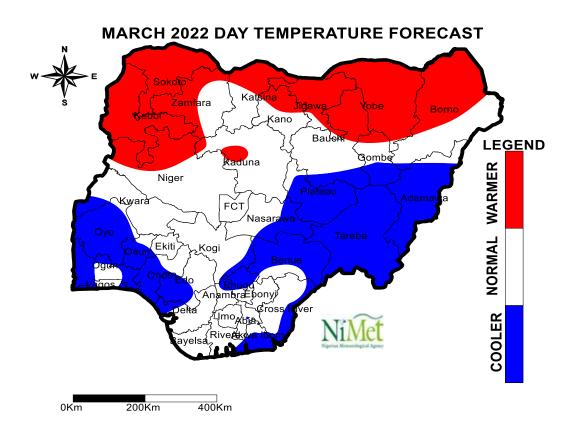


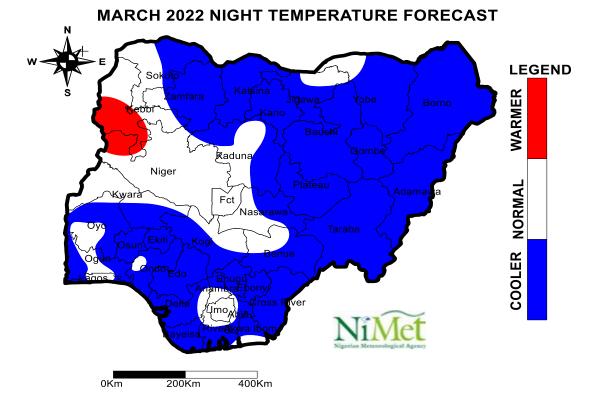
### 2022 PREDICTION February Temperature Forecast





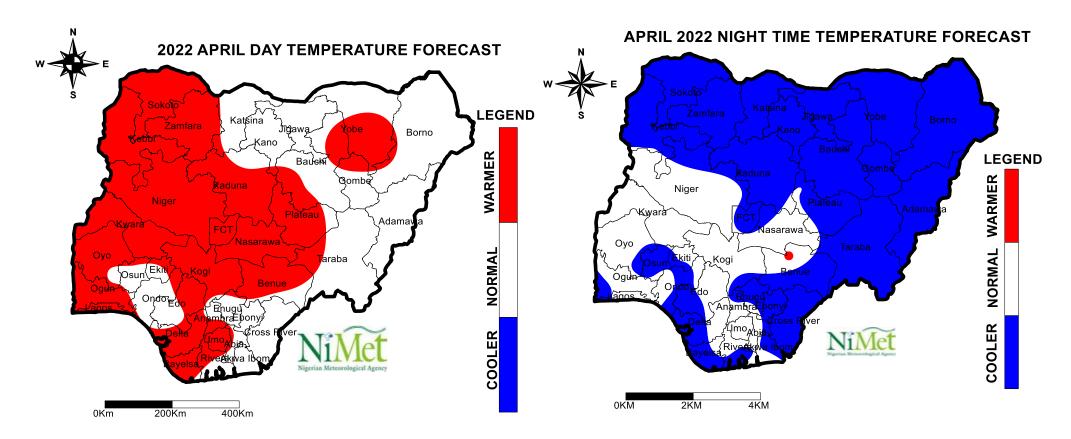
# 2022 PREDICTION March Temperature Forecast



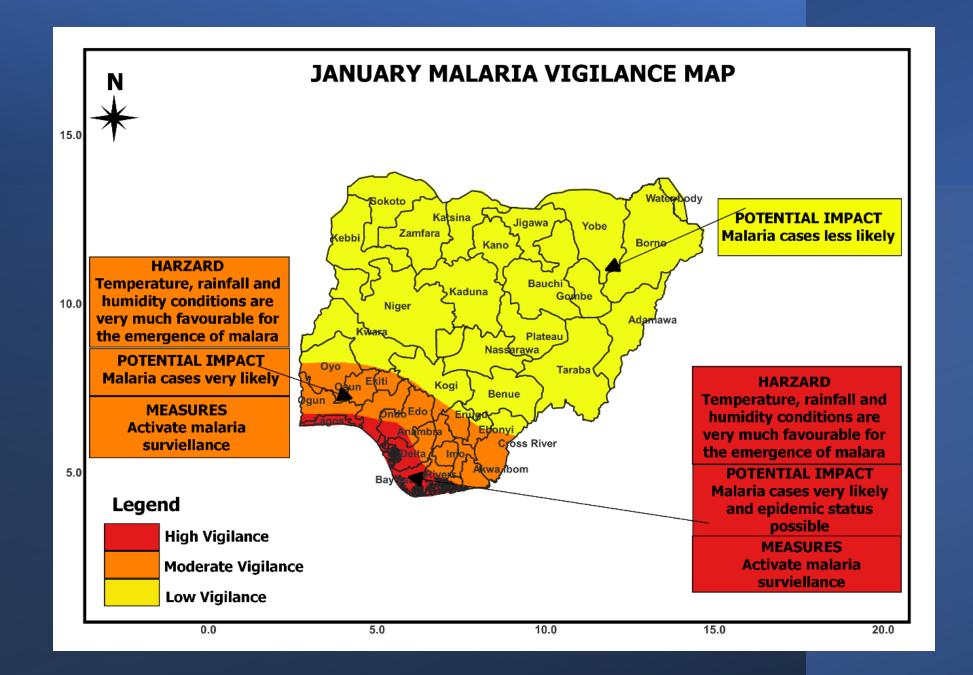




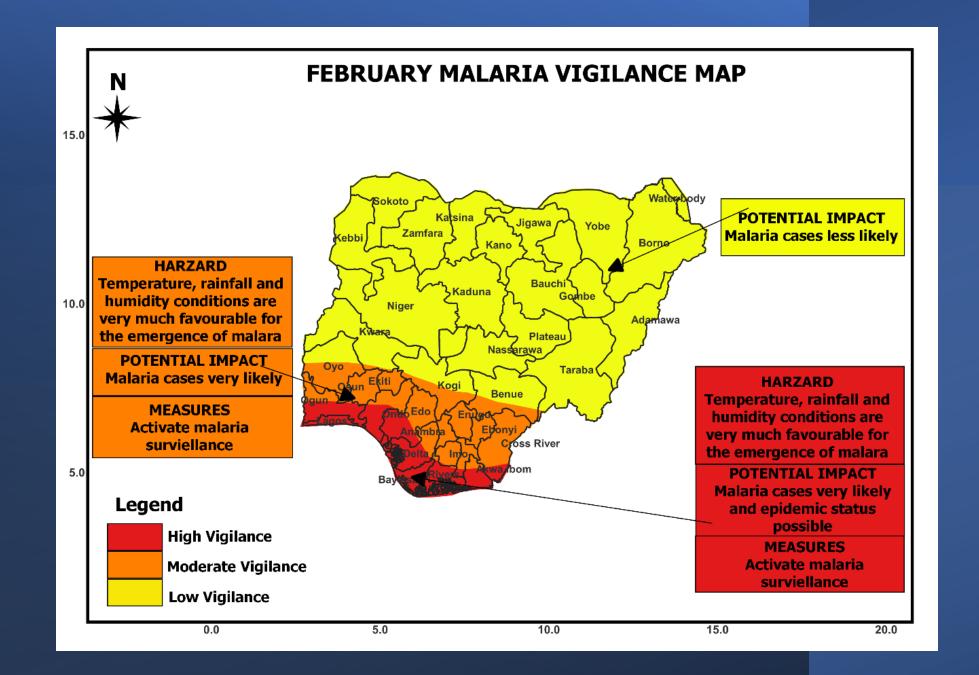
# 2022 PREDICTION April Temperature Forecast



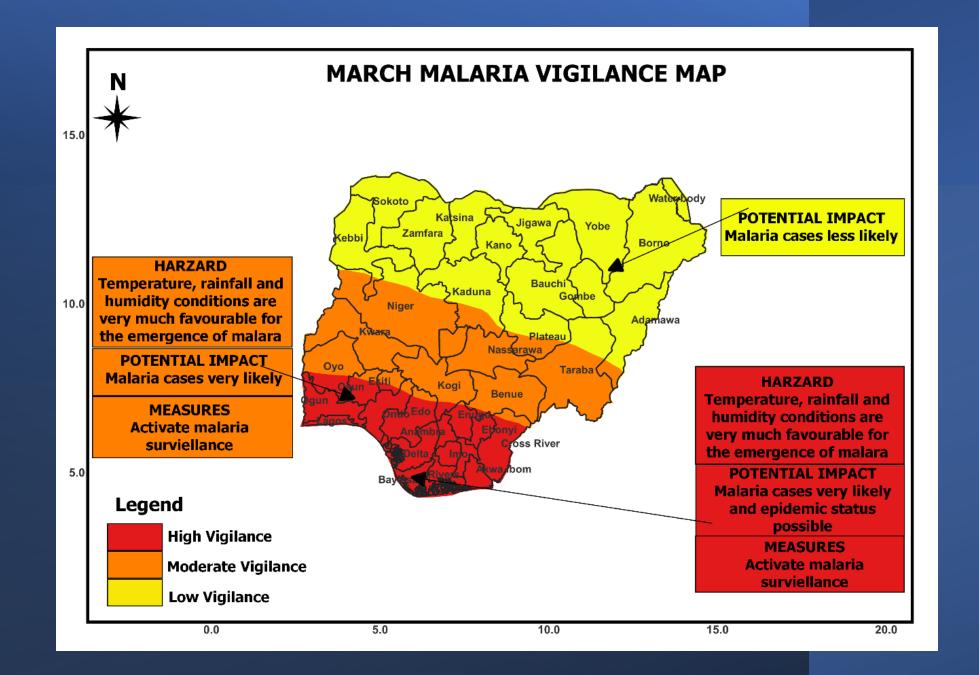




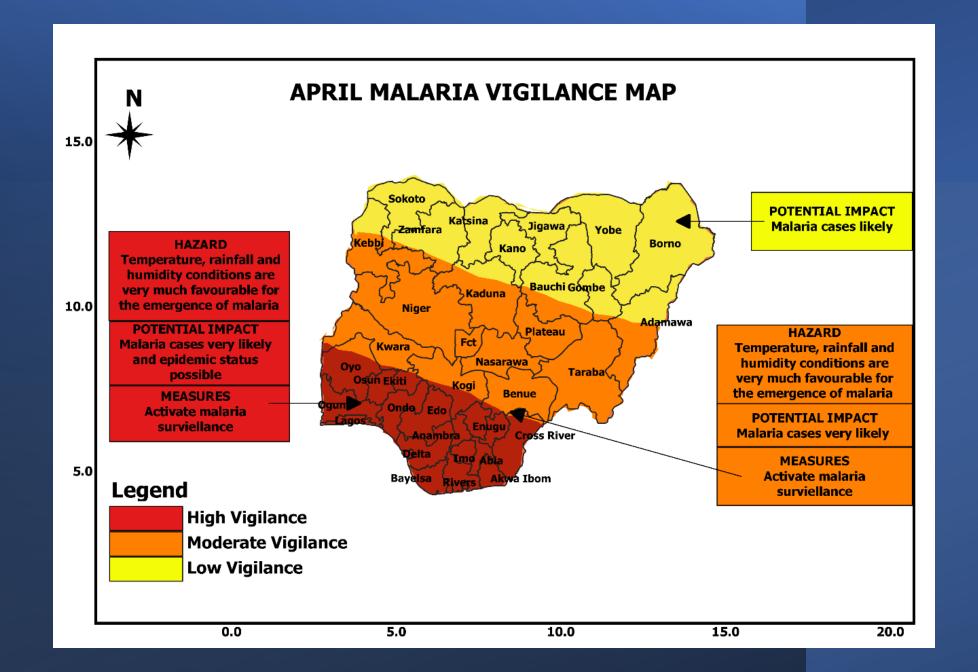




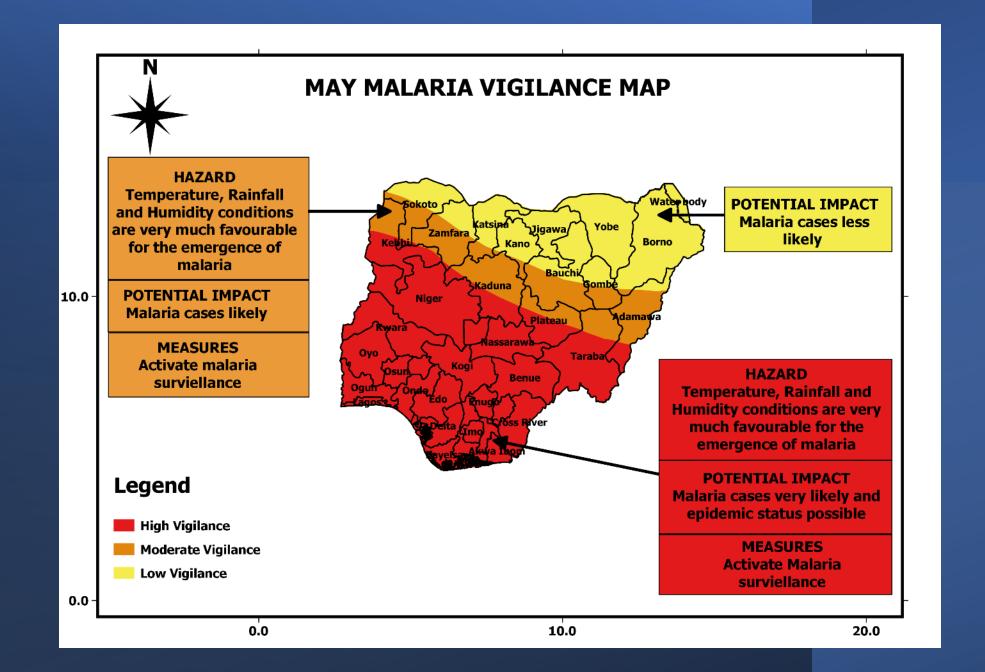




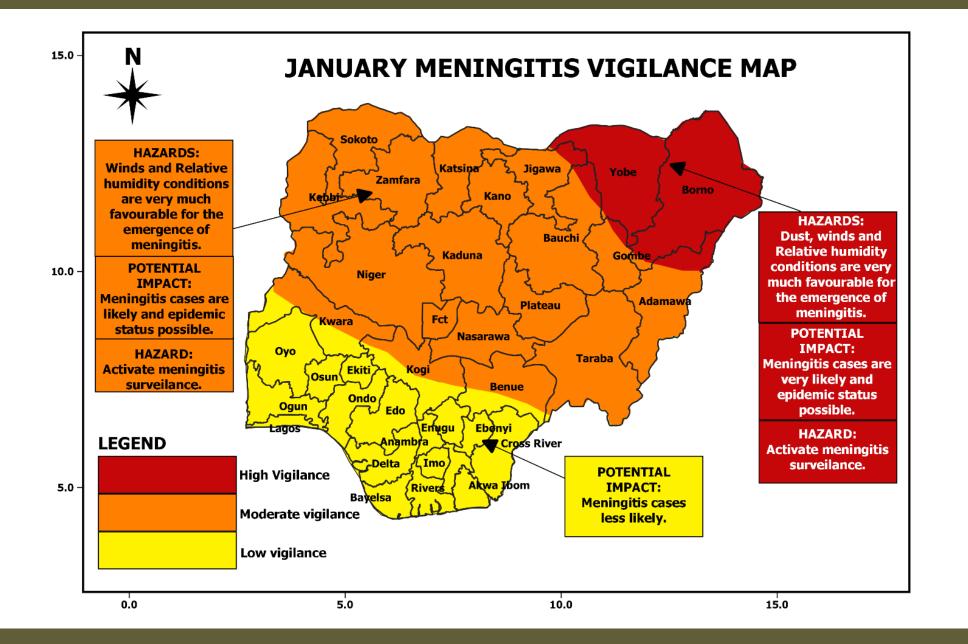


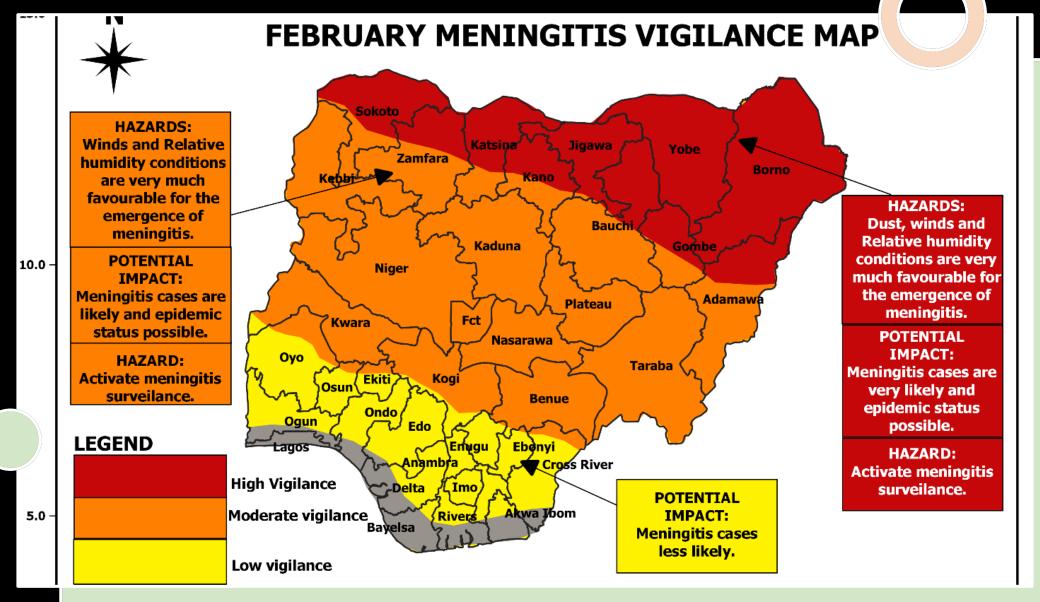




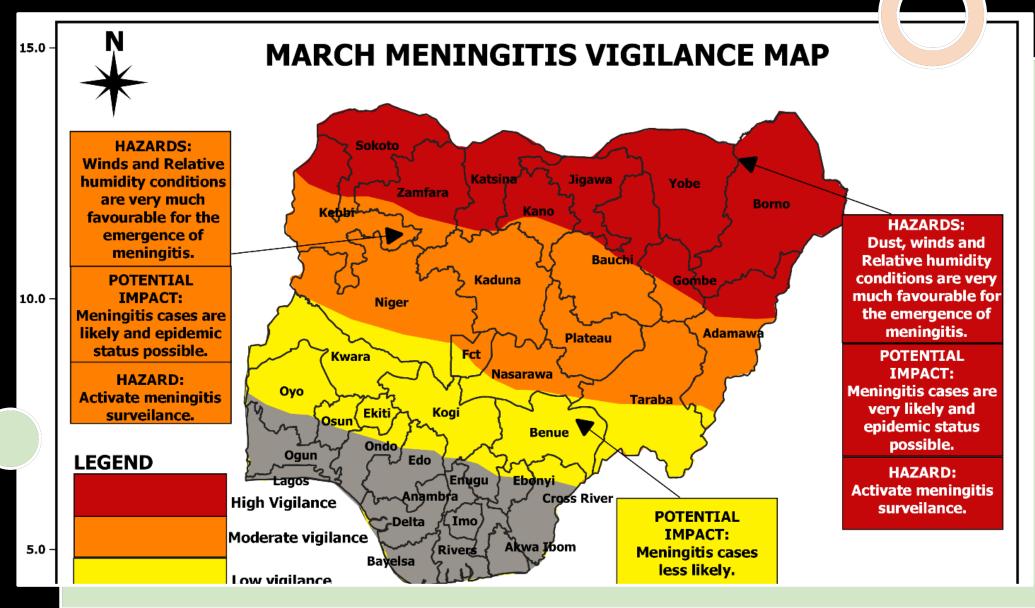




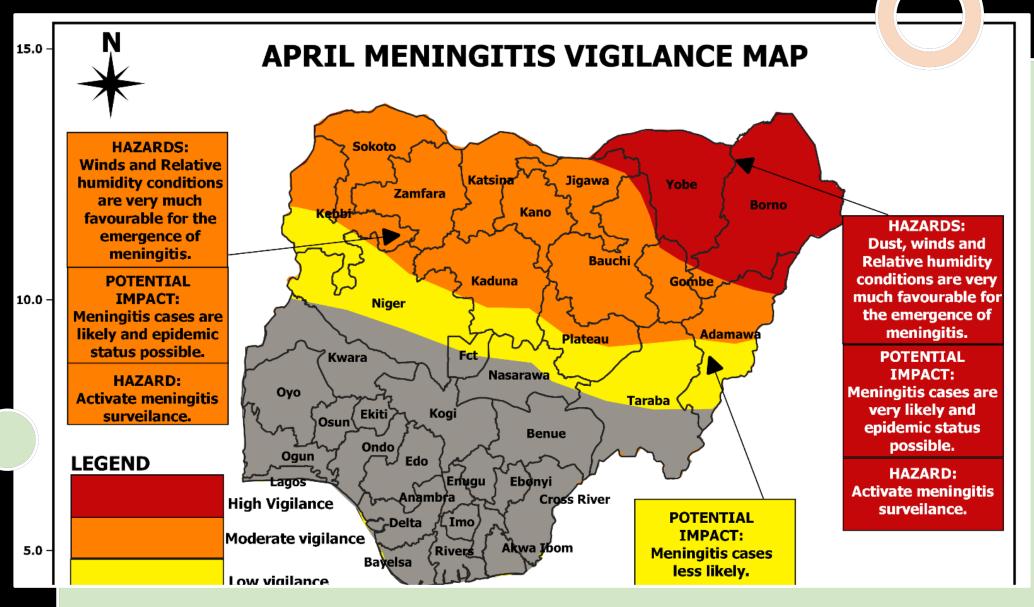




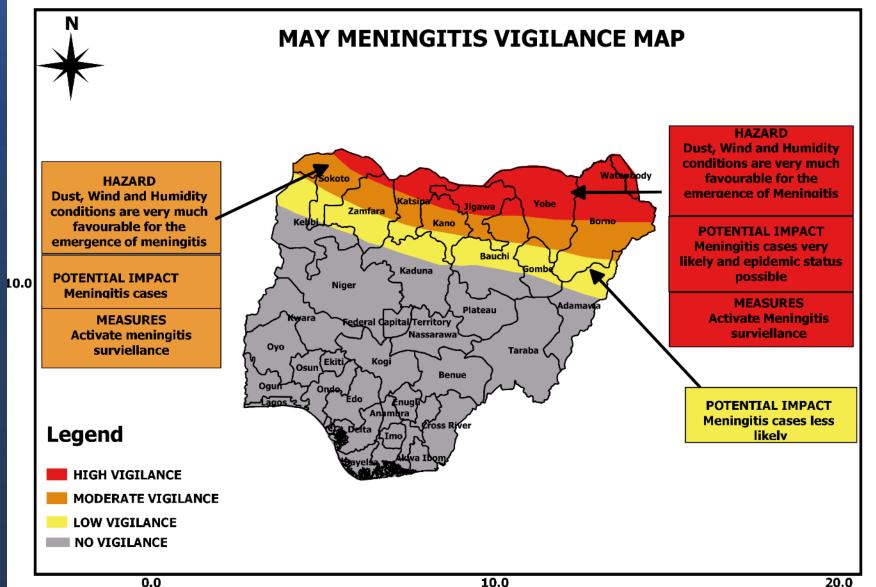
















## Overview of the 2022 Seasonal Climate Prediction Borno State

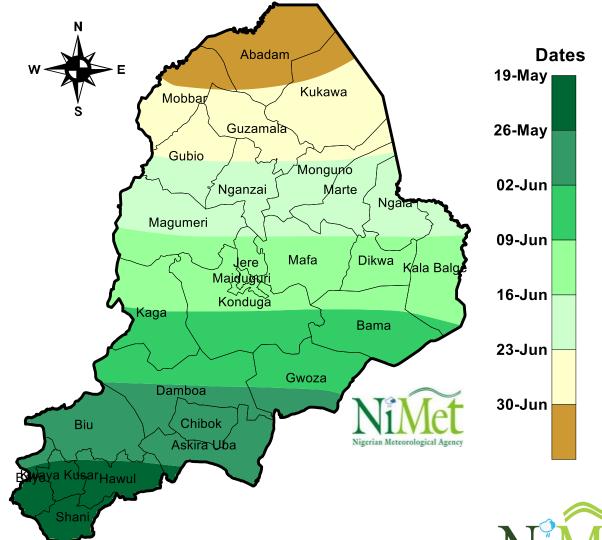
NIGERIAN METEOROLOGICAL AGENCY



### 2022 Onset Growing Season for Borno State

The onset of the growing season is likely to commence from 19<sup>th</sup> May in parts of Shani, Kwaya Kusar, Bayo and Hawul local government areas. Places around Damboa, Gwoza, Bama, Kaga, Konduga, Jere, Maiduguri, Dikwa, Kala-Balge and Mafa to expect their onset between 2<sup>nd</sup> to 15<sup>th</sup> of June. The northern parts of the Borno (parts of Mobar and Abadam) are likely to experience their onset later from 30<sup>th</sup> of June.

#### PREDICTED 2022 ONSET OF THE GROWING SEASON

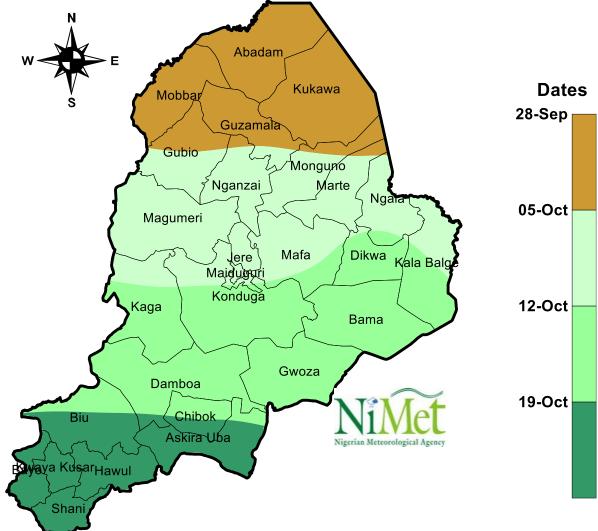


Nigerian Meteorological Agenc

## 2022 Cessation for Borno State

The end of season is expected to begin from the northern parts of the state, from 29<sup>th</sup> September over Abadam, Mobar, Kukawa and Guzamala. Places in and around Monguno, Nganzai, Marte, Ngala, Magumeri, Kala-Balge, Mafa, Dikwa, Maiduguri, Jere, Konduga and Kaga are anticipated to be from 5<sup>th</sup> to 13<sup>th</sup> of October. Askira Uba, Hawul, Bayo, Kwaya-Kusar and Shani in the southern part of Borno is likely to end from 19<sup>th</sup> of October.

#### PREDICTED 2022 END OF THE GROWING SEASON

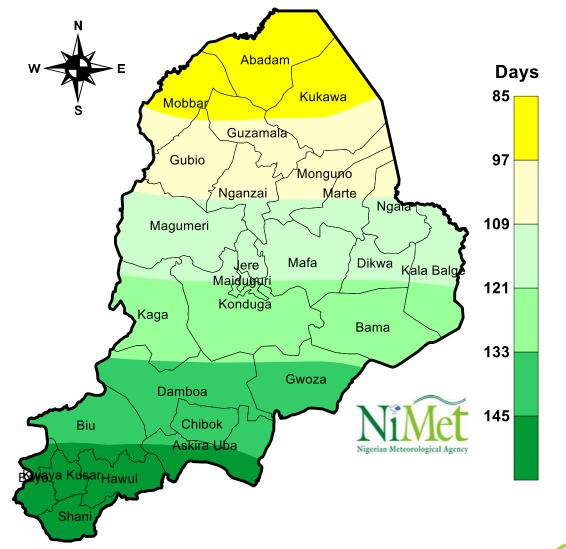




## 2022 LoS for Borno State

The length of the growing season is predicted to be longer in the southern part of the state lasting above 145 days (Askira Uba, Hawul, Bayo, Kwaya Kusar and Shani). The length of season for Marte, Ngala, Magumeri, Jere, Maiduguri is from 109-121 days. Kukawa, Mobar and Abadam in the northern part of the state may likely to have less than 97 days.

#### PREDICTED 2022 LENGTH OF THE GROWING SEASON

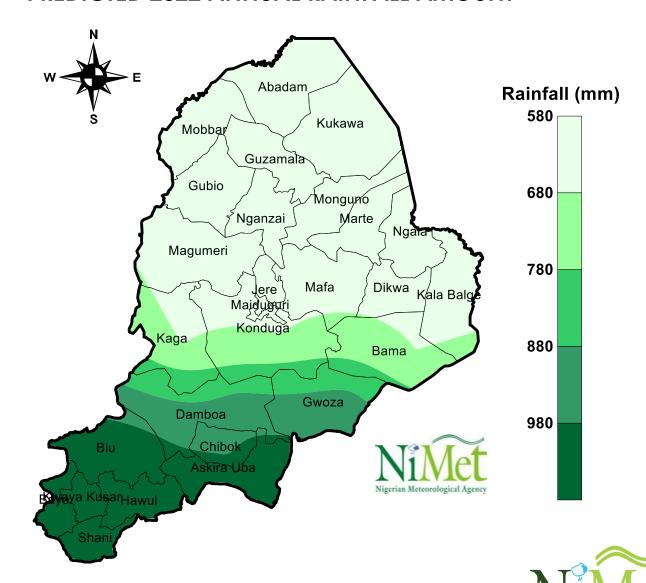




# 2022 Predicted Rainfall Amount for Borno State

The predicted rainfall amount for the southern part of the state may likely to be above **1060mm** (Askira-Uba, Biu, Bayo and Shani). The predicted rainfall amount for Maiduguri, Jere, Konduga, Kaga, Bama, Gwoza, Damboa and Chibok is likely to be **650-960mm**. The northern part of the state such as Mobar, Kukawa and Abadam may experience below **610mm** 

#### PREDICTED 2022 ANNUAL RAINFALL AMOUNT



Nigerian Meteorological Agenc

## PREDICTED ONSET, END OF SEASON, LENGTH OF GROWING SEASON AND ANNUAL RAINFALL AMOUNT FOR BORNO STATE.

Local Government Areas	Onset	End of Season	Length of Season	Annual Rainfall (mm)
Abadam	4-Jul	29-Sep	86	607
Askira/Uba	27-May	20-Oct	145	1083
Bama	7-Jun	14-Oct	128	681
Bayo	24-May	22-Oct	150	1115
Biu	28-May	20-Oct	144	1076
Chibok	29-May	19-Oct	143	964
Damboa	2-Jun	17-Oct	136	923
Dikwa	13-Jun	11-Oct	119	646
Gubio	23-Jun	5-Oct	103	609
Guzamala	25-Jun	4-Oct	100	606
Gwoza	2-Jun	17-Oct	135	920
Hawul	24-May	22-Oct	150	1014
Jere	12-Jun	11-Oct	121	652
Kaga	8-Jun	13-Oct	126	674

Local Government	Onset	End of	Length of	Annual
Areas		Season	Season	Rainfall
				(mm)
Kala/Balge	15-Jun	9-Oct	115	634
Konduga	9-Jun	13-Oct	124	667
Kukawa	27-Jun	3-Oct	97	604
Kwaya Kusar	23-May	22-Oct	151	1024
Mafa	14-Jun	10-Oct	117	639
Magumeri	16-Jun	9-Oct	114	631
Maiduguri	12-Jun	11-Oct	121	652
Marte	19-Jun	7-Oct	109	620
Mobbar	30-Jun	1-Oct	93	603
Monguno	21-Jun	6-Oct	106	614
Ngala	18-Jun	8-Oct	112	625
Nganzai	20-Jun	7-Oct	107	616
Shani	21-May	24-Oct	155	1057





## Overview of the 2022 Seasonal Climate Prediction Adamawa State

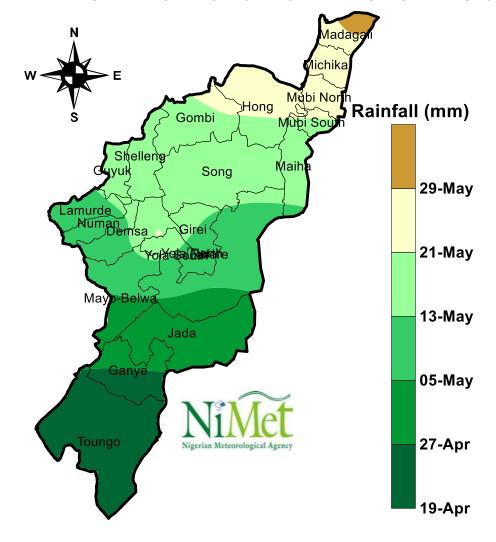
NIGERIAN METEOROLOGICAL AGENCY



### 2022 Onset Growing Season for Adamawa State

The Onset is predicted to begin from 19<sup>th</sup> April in and around Toungo and Ganye. Places around Fufore, Jimeta, Gombi, Numan, Lamurde, Song, Guyok, Maiha, Shellang, Girie and Mubi South their onset is between 6<sup>th</sup> to 20<sup>th</sup> of May. The northern parts of the state (Michika and Madagali) are likely to experience their onset later from 26<sup>th</sup> of May.

#### PREDICTED 2022 ONSET OF THE GROWING SEASON

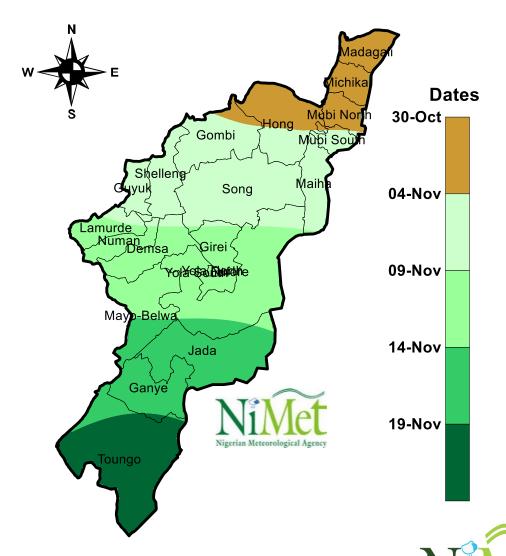




## 2022 Cessation for Adamawa State

The end of season is expected to begin from the northern parts of the state, from 30<sup>th</sup> October around Madagali and Michika axis. Places around parts of Numan, Lamurde, Gombi, Jimeta, Mayo-Belwa and Fufore from 9<sup>th</sup> to 14<sup>th</sup> November. However, the end of season for southern parts of state will likely be from 19<sup>th</sup> November 2022

#### PREDICTED 2022 END OF THE GROWING SEASON

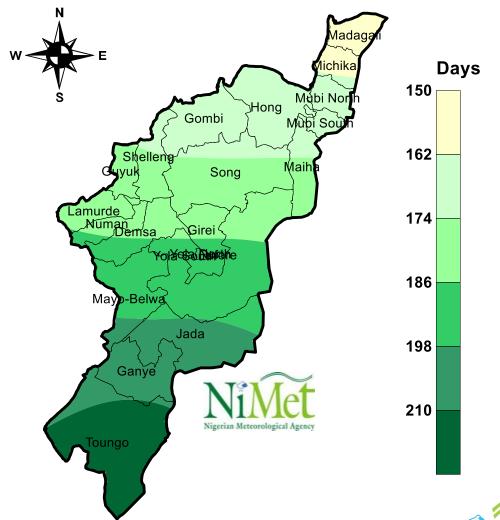


Nigerian Meteorological Agend

### 2022 LoS for Adamawa State

The length of the growing season is anticipated to be longer in the southern part of the state lasting above 200 days (Jada, Ganye and Teungo). The length of season for Shelleng, Maiha, Guyuk, Song, Lamurde, Numan, Gombi and Demsa is expected to be from 174 to 186 days. Michika and Madagali in the northern part of the state may likely to experience about less than 162 days.

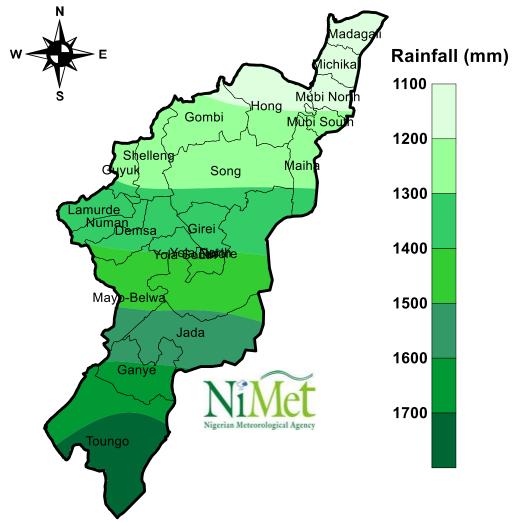
#### PREDICTED 2022 LENGTH OF THE GROWING SEASON



# 2022 Predicted Rainfall Amount for Adamawa State

The anticipated rainfall amount for the northern part of the state may likely to be below 1200 mm (places around Mubi North, Michika and Madagali). The predicted rainfall amount for Lamurde, Numan, Gombi, Demsa, Yola-North, Yola-South, Jimeta, Fufore and Mayo-Belwa is around 1300-1500 mm. The southern part of the state (Teungo), is expected to record above 1700 mm.

#### PREDICTED 2022 ANNUAL RAINFALL AMOUNT





### PREDICTED ONSET, END OF SEASON, LENGTH OF GROWING SEASON AND ANNUAL RAINFALL AMOUNT FOR ADAMAWA STATE.

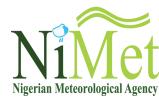
Local Government Areas	Onset	End of Season	Length of Season	Annual Rainfall (mm)
Demsa	10-May	10-Nov	186	1370
Fufore	6-May	12-Nov	190	1422
Ganye	26-Apr	17-Nov	206	1614
Girie	20-May	4-Nov	169	1217
Gombi	10-May	10-Nov	185	1369
Guyuk	15-May	7-Nov	177	1283
Hong	21-May	3-Nov	167	1201
Jada	30-Apr	15-Nov	201	1548
Jimeta	7-May	11-Nov	189	1404
Lamurde	11-May	9-Nov	182	1338
Madagali	29-May	30-Oct	155	1111

Local Government Areas	Onset	End of Season	Length of Season	Annual Rainfall (mm)
Maiha	15-May	7-Nov	176	1278
Mayo-Belwa	2-May	14-Nov	197	1506
Michika	26-May	1-Nov	160	1148
Mubi North	22-May	3-Nov	166	1191
Mubi South	20-May	4-Nov	169	1213
Numan	10-May	9-Nov	184	1356
Shelleng	17-May	6-Nov	174	1260
Song	15-May	7-Nov	177	1284
Toungo	20-Apr	21-Nov	216	1750
Yola North	8-May	11-Nov	188	1401
Yola South	7-May	11-Nov	190	1416



## Overview of the 2022 Seasonal Climate Prediction Yobe State

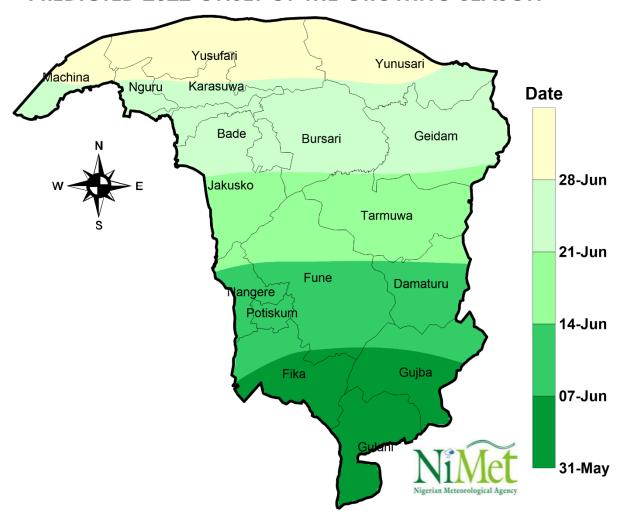
NIGERIAN METEOROLOGICAL AGENCY



### 2022 Onset Growing Season for Yobe State

The onset is expected to begin from 31<sup>st</sup> May in places around Gulani, Gujba and Fika local government areas. Places around Potiskum, Nanagere, Damaturu and Fune are likely between 7<sup>th</sup> to 14<sup>th</sup> of June. The northern parts of the Yobe such as Machina, Yunusari and Yusufari re likely to experience their onset later from 28<sup>th</sup> of June.

#### PREDICTED 2022 ONSET OF THE GROWING SEASON

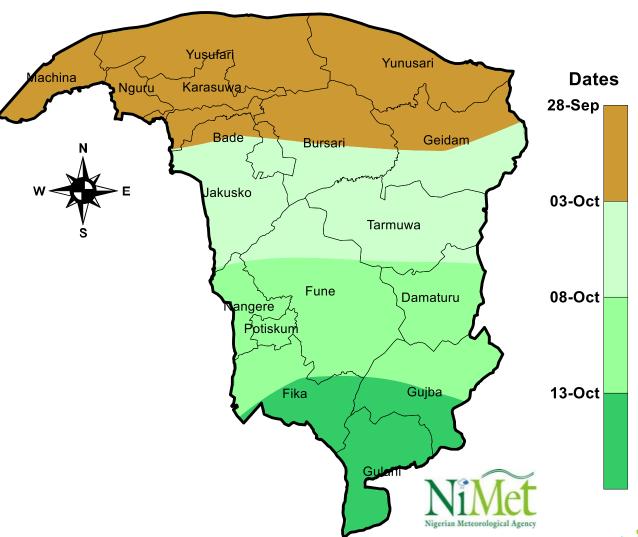




## 2022 Cessation for Yobe State

The end of season is expected to start from the northern parts of the Yobe, from the 28<sup>th</sup> September over Yusufari, Yunusari, Machina, Nguru and Karasuwa. Places in and around Bade, Bursari, Geidam, Jakusko and Tarmua are anticipated to be from 3<sup>rd</sup> to 10<sup>th</sup> of October. Fika, Gujba and Gulani in the southern part of Yobe is likely to end from 16<sup>th</sup> of October.

#### PREDICTED 2022 END OF THE GROWING SEASON

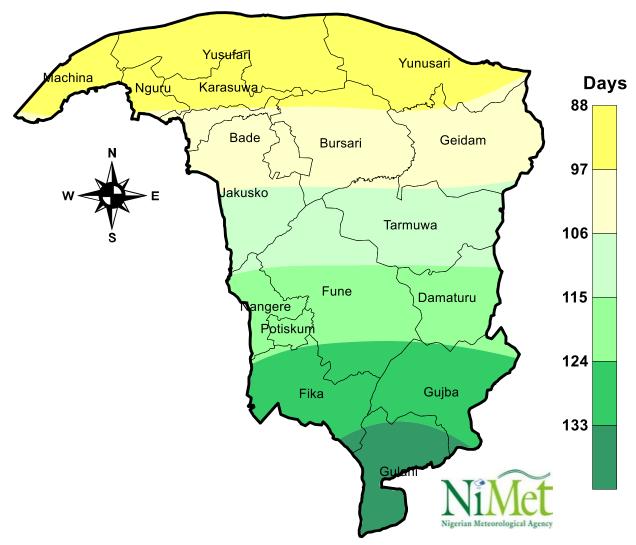


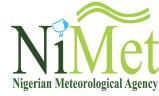
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## 2022 LoS for Yobe State

The length of the growing season is expected to be longer in the southern part of the state lasting above 133 days (Gulani). The length of season for Jakusko, Tarmua, Fune, Damaturu, Nangere and Potiskum may likely from 106-124 days. Karasuwa, Nguru, Machina, Yunusari and Yusufari in the northern part of the state may expected to have less than 97 days.

#### PREDICTED 2022 LENGTH OF THE GROWING SEASON

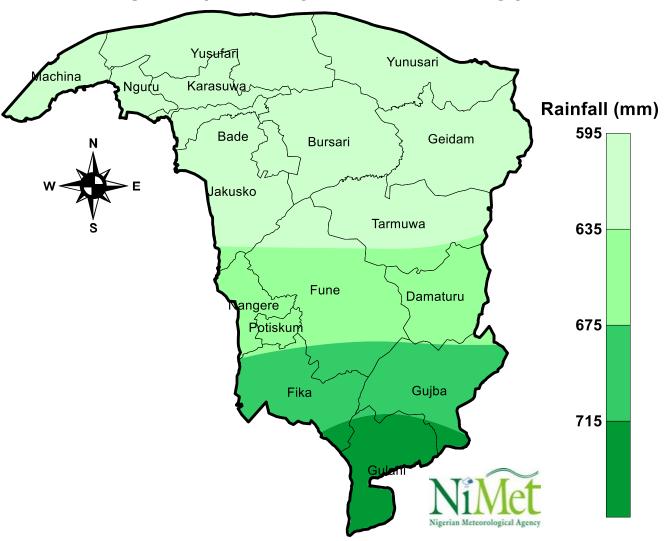




# 2022 Predicted Rainfall Amount for Yobe State

The predicted rainfall amount for the southern part of the state may likely to be above 720mm (Gulani). The predicted rainfall amount for Fune, Damaturu, Nangere, Potiskum and Fika are likely to be from 650-700mm. The northern part of the state such as Nguru, Yusufari, Yunusari and Machina experience below 620mm.

#### PREDICTED 2022 ANNUAL RAINFALL AMOUNT





## PREDICTED ONSET, END OF SEASON, LENGTH OF GROWING SEASON AND ANNUAL RAINFALL AMOUNT FOR Yobe STATE.

RAINI ALL AMOUNT TOR TODE STATE.				
<b>Local Government Areas</b>	Onset	<b>End of Season</b>	Length of	<b>Annual Rainfall</b>
			Season	(mm)
Bade	24-Jun	3-Oct	100	608
Bursari	23-Jun	3-Oct	101	609
Damaturu	11-Jun	10-Oct	119	654
Fika	6-Jun	13-Oct	128	690
Fune	12-Jun	10-Oct	119	654
Geidam	23-Jun	3-Oct	102	610
Gujba	5-Jun	13-Oct	129	698
Gulani	<b>31-May</b>	16-Oct	137	743
Jakusko	20-Jun	5-Oct	106	617
Karasuwa	26-Jun	1-Oct	96	605
Machina	28-Jun	30-Sep	93	603
Nangere	11-Jun	10-Oct	120	656
Nguru	26-Jun	1-Oct	96	604
Potiskum	10-Jun	11-Oct	122	664
Tarmua	17-Jun	6-Oct	110	626
Yunusari	29-Jun	30-Sep	91	603
Yusufari	30-lun	29-Sen	90	603 <sup>i</sup>





Thank you for your attention!!