Ministry of Irrigation and Water Resources

Sudan Meteorological Authority

Seasonal Rainfall and Temperature Forecasts

(June - September) 2025

May 2025

Summary

Seasonal forecasts for the June–September rainy season of this year were prepared based on statistical and numerical models that rely on sea surface temperatures and historical rainfall data for Sudan. Estimated rainfall data obtained using satellites were enhanced with surface rain gauge data for the climate period 1991-2020.

Currently, the sea surface temperatures over the equatorial Pacific Ocean are near average, with the World Meteorological Organization and major global production centers stating that a neutral El Niño–La Niña condition is expected to continue throughout the June to September 2025 season, with a probability of approximately 75% from June to August and over 60% from July to September 2025.

Above-average temperatures prevail in the equatorial Indian Ocean, while the Indian Ocean Dipole (IOD) is currently neutral and is expected to remain so until July, with the possibility of negative conditions emerging from August 2025.

The rainy season from June to September is vital for agriculture, water resources, and community livelihoods. With the increasing frequency of extreme climate phenomena, such as floods and droughts, due to climate change, there is a growing need to bridge the early warning gap and work with an integrated and proactive approach to risk reduction. This requires coordination among various sectors to protect communities, especially vulnerable groups.

This publication includes overall forecasts for the June–September season and detailed monthly forecasts. These are probabilistic forecasts that help with overall seasonal planning. The General Meteorological Authority urges all users to obtain the monthly updates it will issue to ensure greater accuracy and maximize the benefits of this information.

Seasonal Rainfall Forecasts in Sudan (June-September 2025)

A seasonal forecast is a probabilistic estimate that indicates the likelihood of rainfall during a season at varying percentages. For example, it can be expressed as rainfall exceeding the climate averages by ranges such as (40:35:25). "Climate averages" refer to the average rainfall in the relevant area over a 30-year period. In this report, climate averages are based on data from 1990 to 2020 (see the Appendix).

Map (Figure 1) shows increased chances of above-average rainfall during June to September 2025 in the following regions:

- (80-60%): South Red Sea State, central and southern River Nile State, most of Northern State, most of Kassala State, western Al Qadarif State, north and northwest Sennar State, extreme north of Khartoum State, south and southwest Al Jazirah State, central White Nile State, most of North Kordofan State, extreme north of West Kordofan State, most of North Darfur State, northeast East Darfur State, east South Darfur State, and extreme north of Central and West Darfur States.
- (50-40%): Most of the Red Sea State, north and extreme south of the River Nile State, central Northern State, parts of the northeast, south-central, and extreme west of the Kassala State, east and central of the Al Gadarif State, east and south of Sennar, Blue Nile, most of Khartoum and Al Gezira States, north and south of the White Nile State, east and extreme south of the North Kordofan State, north and extreme south of the South Kordofan State, most of the West Kordofan State,

north and extreme south of the North Darfur State, and most of the East, South, Central, and West Darfur States.

Conversely, the forecasts indicate decreased chances of rainfall (below the climate averages) ranging from (50-40%) in the following areas:

- North-central Red Sea State
- Central and west South Kordofan State
- East and extreme south of West Kordofan State
- Southwest East Darfur and Central Darfur States

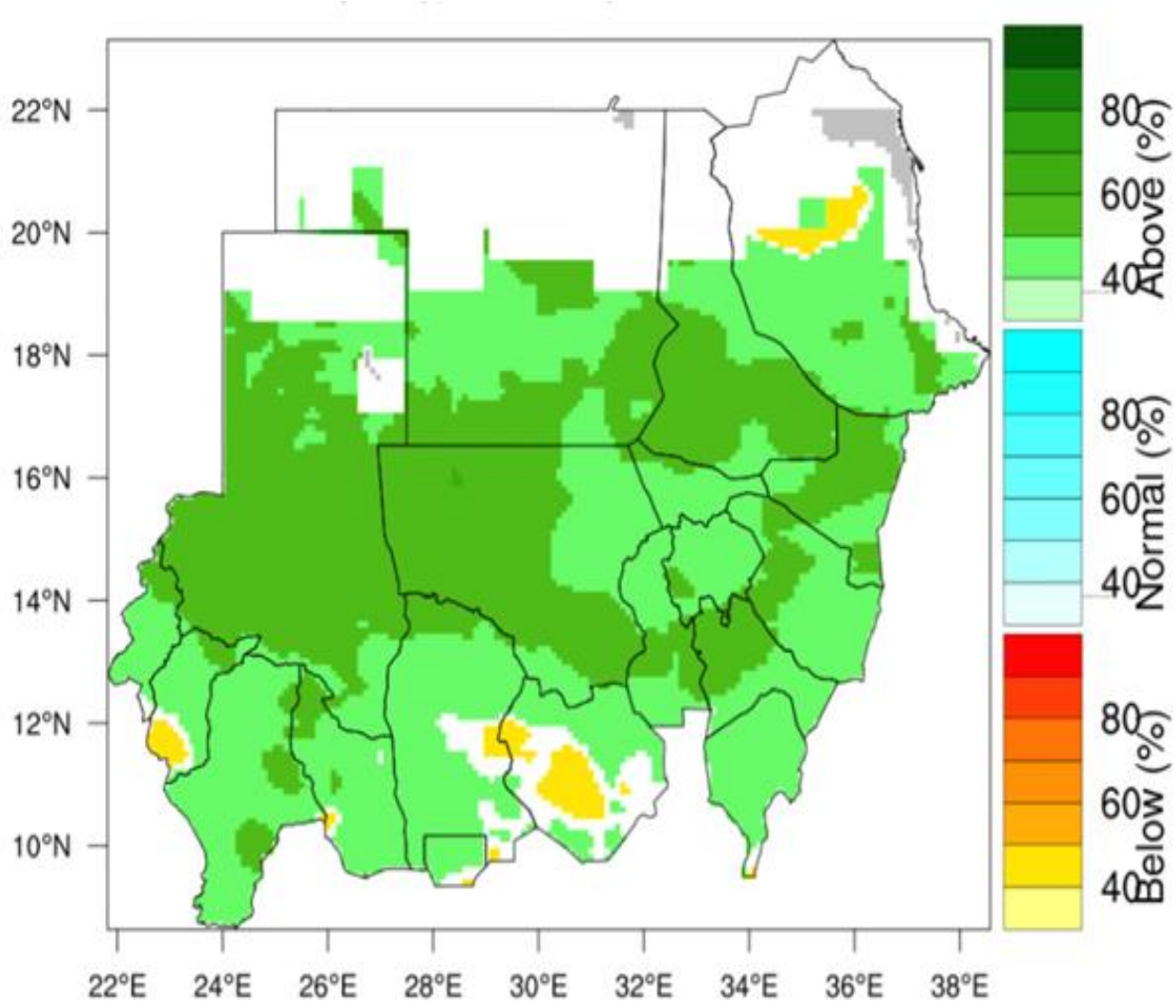


Figure (1): Seasonal Rainfall Forecast (June – September 2025)

Monthly Forecasts

June 2025:

Forecasts (Figure 2) indicate an increased chance of rainfall above the climate averages in the following areas:

- **(80-60%):** South and Southeast Gedaref State, East and Southeast Sennar State, and Northeast Blue Nile State.

- **(50-40%):** North and East Blue Nile State, far south and northwest East Darfur State, central and south South Darfur State, and south-central Darfur State.

In contrast, forecasts suggest decreased chances of rainfall (below the climate averages) ranging from **(50-40%)** in these regions.

- South and west South Kordofan State
- Southeast West Kordofan State

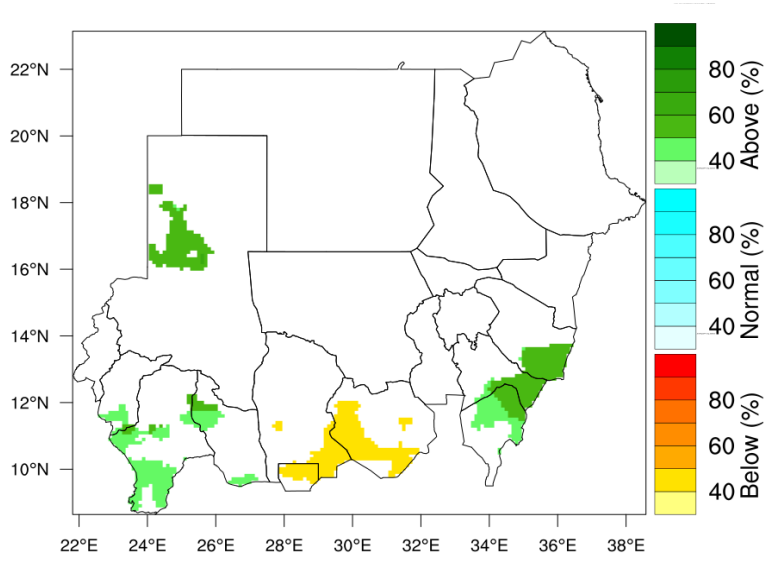


Figure (2): Rainfall Forecast (June 2025)

July 2025

Forecasts (Figure 3) indicate an increased chance of above normal rainfall in the following areas:

- **(80-60%):** The extreme east of Sennar State, south-central North Darfur State, south of East Darfur State, and scattered parts of East Central Darfur State.

- **(50-40%):** South and southwest Red Sea State, north and west Kassala State, east Gedaref State, east Sennar State, north and west Blue Nile State, east River Nile State and scattered parts of its central area, north and west Khartoum State, south and west Al Gezira State, north and west White Nile State, most of North Kordofan State, northwest South Kordofan State, north and west West Kordofan State, south and southwest North Darfur State, most of East Darfur and South Darfur States, and the southern parts of Central Darfur State.

Conversely, forecasts suggest decreased chances of rainfall (below the climate averages) ranging from (50-40%) in these areas.

- Central Gedaref State
- South of Sennar State
- Scattered parts of central Northern State
- East Khartoum State
- Southwest South Kordofan State
- Southeast West Kordofan State

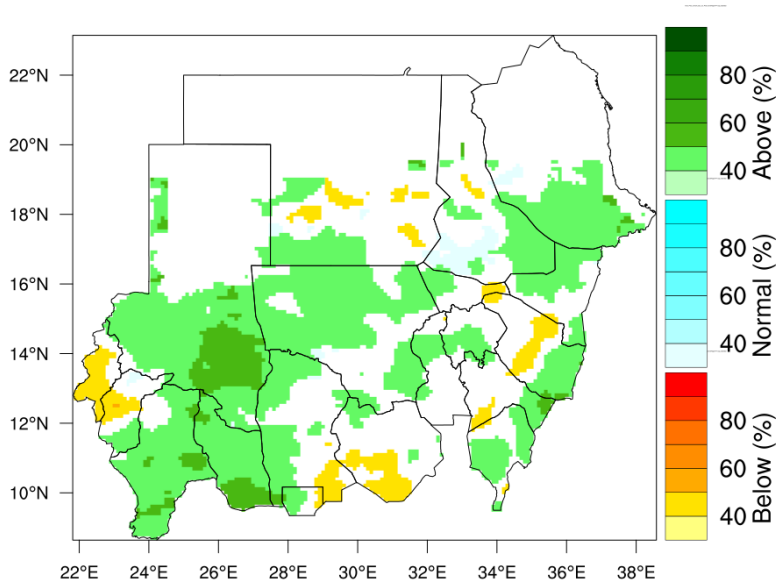


Figure (3): Rainfall Forecast (July 2025)

- Central and west Central Darfur State
- West Darfur State

August 2025:

Forecasts (Figure 4) indicate an increased chance of rainfall in the following areas:

- **(80-60%):** South and South-Central Red Sea State, Kassala State, most of Gedaref and Sennar States, North and Central Blue Nile State, South and Central River Nile State, South and Southeast Northern State, Khartoum State, Al Gezira State, North White Nile State, North Kordofan State, North and Central West Kordofan State, Far North-Western South Kordofan State, most of North Darfur State, North and Central East Darfur State, and most of South Darfur State.
- **(50-40%):** East, West, and North Red Sea State; North Nile State; North and Central Northern State; Far Southwest and Southeast Sennar State; South White Nile State; East and South Blue Nile State; scattered parts of Central South Kordofan State; Southwest Kordofan State; Far Southwest North Darfur State; Southeast Darfur State; Far North South Darfur State; and Far North-central and West Darfur States.
- In contrast, forecasts suggest decreased chances of rainfall (below the climate averages) ranging from **(50-40%)** in these regions.
- North-central Red Sea State

- South and east South Kordofan State
- far southwest Kordofan State
- central and west central Darfur State
- southwest Darfur State

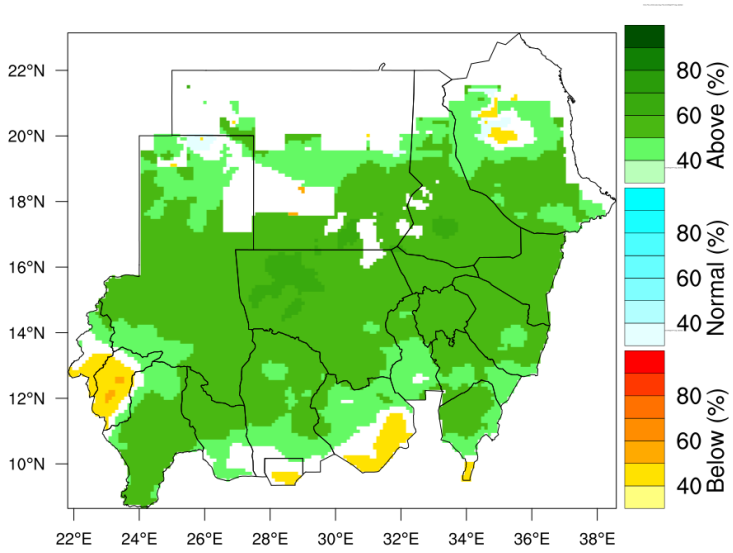


Figure (4): Rainfall Forecast (August

September 2025:

Forecasts (Figure 5) indicate an increased chance of rainfall in the following regions:

- **(80-60%):** Scattered parts of the south and south-central Red Sea State, scattered areas of the north and south Kassala State, south and south-central Gedaref State, most of Sennar and Blue Nile States, the extreme south of River Nile State, most of Khartoum State, scattered parts of the north and east Al Gezira State, south White Nile State, scattered areas of east and central North Kordofan State, north North Darfur State, most of South Darfur State, and the western parts of East Darfur State.
- **(50-40%):** Central and East Kassala State, North Gedaref State, North and East South Kordofan State, North and Southwest Kordofan State, East and Southeast Darfur State, and Southern Parts of Central and West Darfur States.
- Conversely, forecasts suggest decreased chances of rainfall (below climate averages) ranging from (50-40%) in these areas.

- North of Red Sea State
- Southwest South Kordofan State
- scattered parts of central and west West Kordofan State

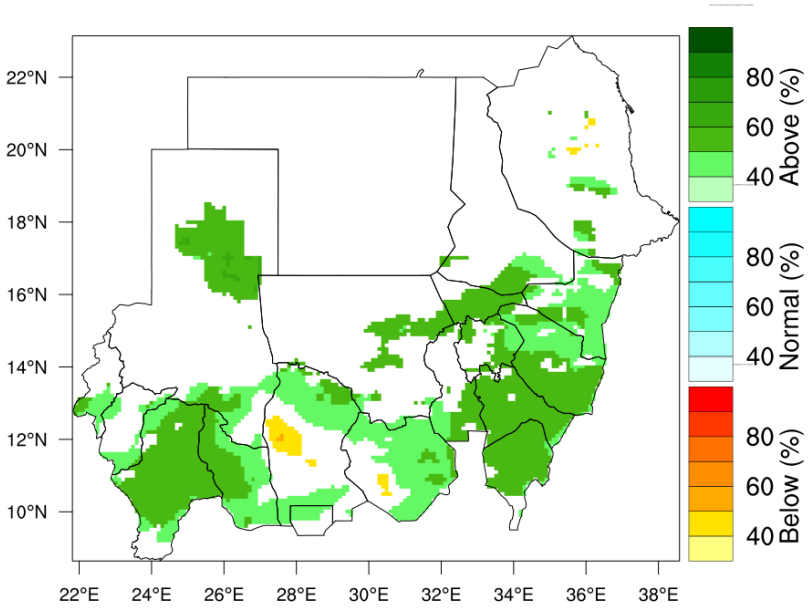


Figure (5): Rainfall Forecast (September 2025)

Start of the Season

Regarding the start of the season (Figure 6), forecasts indicate that the rainy season will begin relatively late in most areas of Sudan.

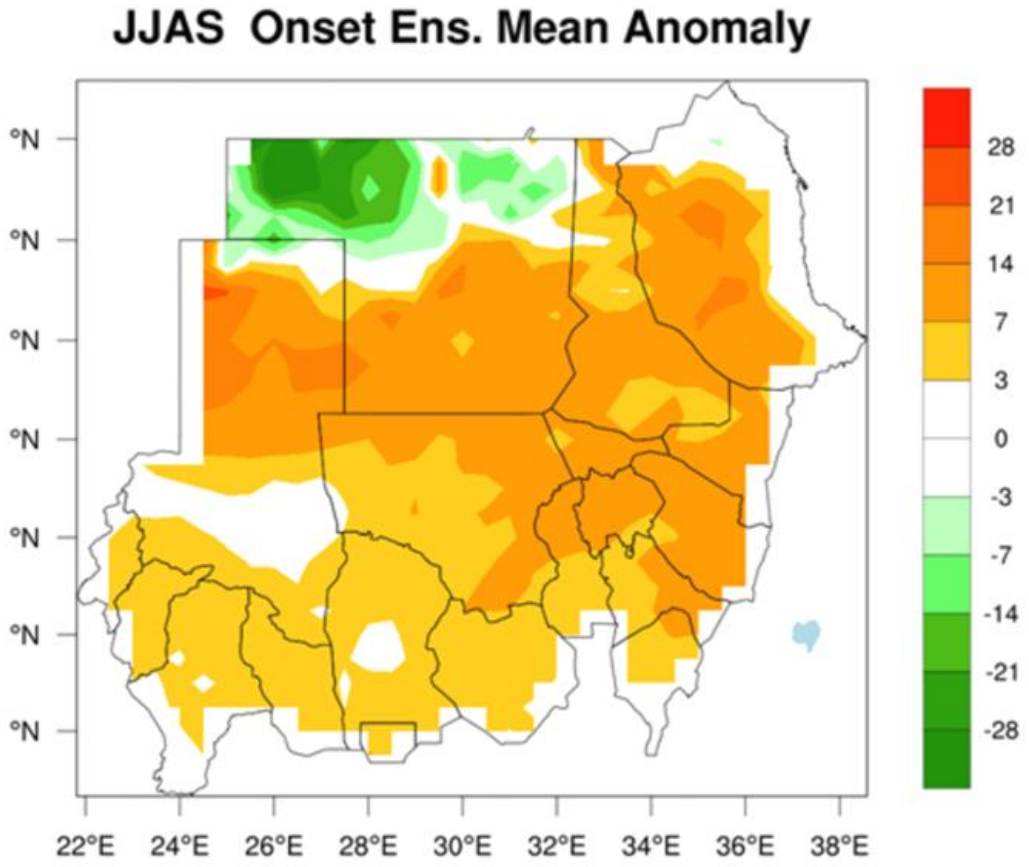


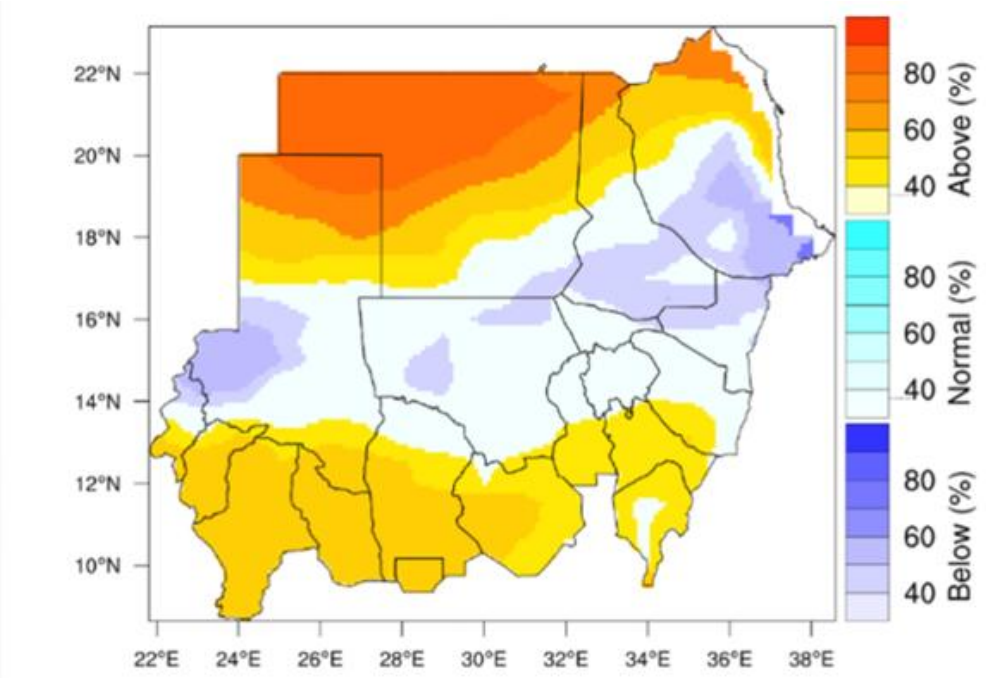
Figure (6): Predicted Start of the Season (June – September 2025)

Seasonal Temperature Outlook: (June - September) 2025

Forecasts (Figure 7) indicate that the average temperatures during the June-September 2025 season will be

- It is higher than the climate averages by (40-70%) in most northern states, the northern Nile state, the northern Red Sea state, and the northern Darfur state.
- It was higher than the climate averages by (40-50%) in southern Gedaref, Sennar State, southern White Nile State, Blue Nile State, South Kordofan, central and southern West Kordofan, southeast East Darfur, and most of East, South, and Central Darfur, as well as southern West Darfur.

Rainfall was lower than the climate averages by (40-60%) in the central and southern Red Sea State, southern Nile State, southeast Northern State, Khartoum State, Kassala State, Gezira State, most of Gedaref, North Kordofan, central North Darfur, northeast West Darfur, and northwest Darfur.



شكل (7): التوقع الموسمي لدرجات الحرارة (يونيو – سبتمبر 2025)

Monthly Average Temperature Forecasts

First, June 2025:

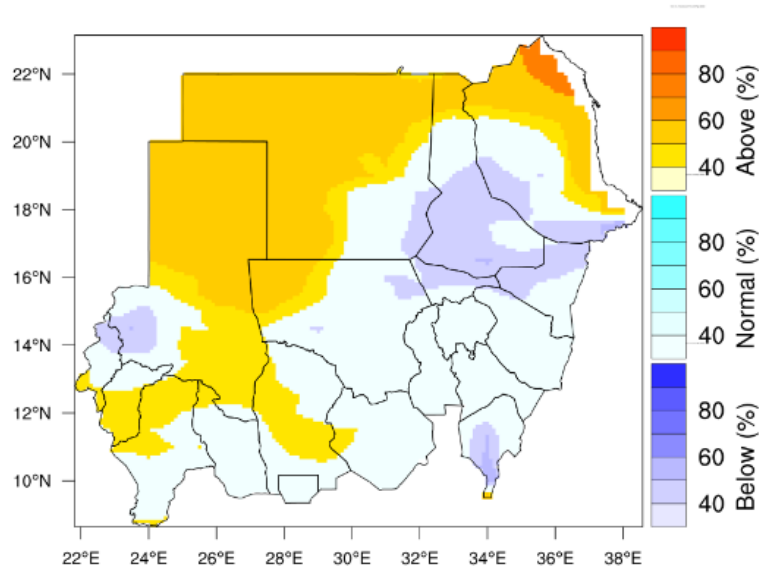


Figure (8): Expected Average Temperatures (June 2025)

The forecasts (Figure 8) indicate the following:

- Temperatures higher than the climate averages with a probability of 40-60% in the following regions: North and East Red Sea State, North and Northwest Northern State, most of North Darfur State, Northwest North Kordofan State, parts of Central West Kordofan State, Northwest and far south of South Darfur State, far northwest of East Darfur State, south of Central Darfur, and the far south of West Darfur State.

- Temperatures within or slightly below the climate averages in: West and south Red Sea State, south Nile State, southeast Northern State, and in Kassala, Khartoum, Gezira, Gedaref, White Nile, Blue Nile States, most of North and South Kordofan States, north and southwest Kordofan States, northwest South Darfur, northwest North Darfur, north-central Darfur, and most of West Darfur State.

July 2025:

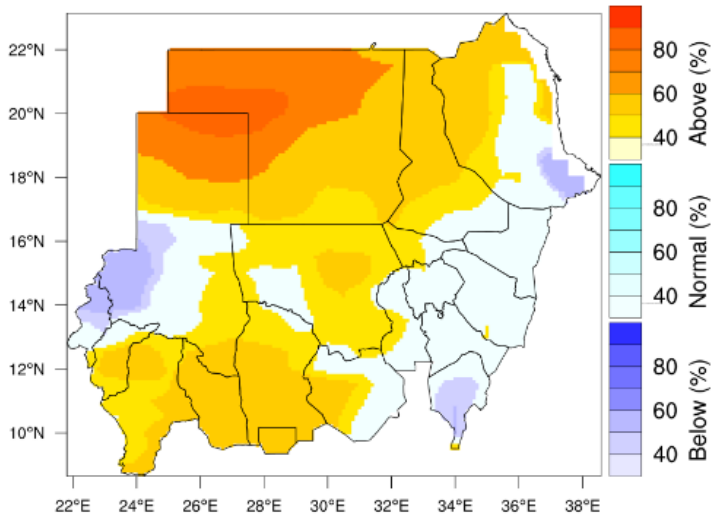


Figure (9): Expected Average Temperatures (July 2025)

The forecasts (Figure 9) indicate the following:

- Temperatures higher than the climate averages with a probability of 60-80% in the northwest of the Northern State and the far north of the North Darfur State.
- Temperatures higher than the climate averages with a probability of 40-60% in the northwest of the Red Sea State, most of the Northern State, most of the Nile State, west of the Khartoum State, the extreme west of the White Nile State, most of the

North Kordofan, west of the South Kordofan, the West Kordofan State, east of the North Darfur State, the East and South Darfur States, most of the Central Darfur, and the far south of the West Darfur State.

- Temperatures around or slightly below the climate averages are expected in the south and east of the Red Sea State, southeast Nile State, Kassala, Gedaref, Sennar, Gezira, Blue Nile States, east of Khartoum State, the far southwest of North Kordofan, most of White Nile State, north and east of South Kordofan, central and west of North Darfur, and most of West Darfur State.

August 2025:

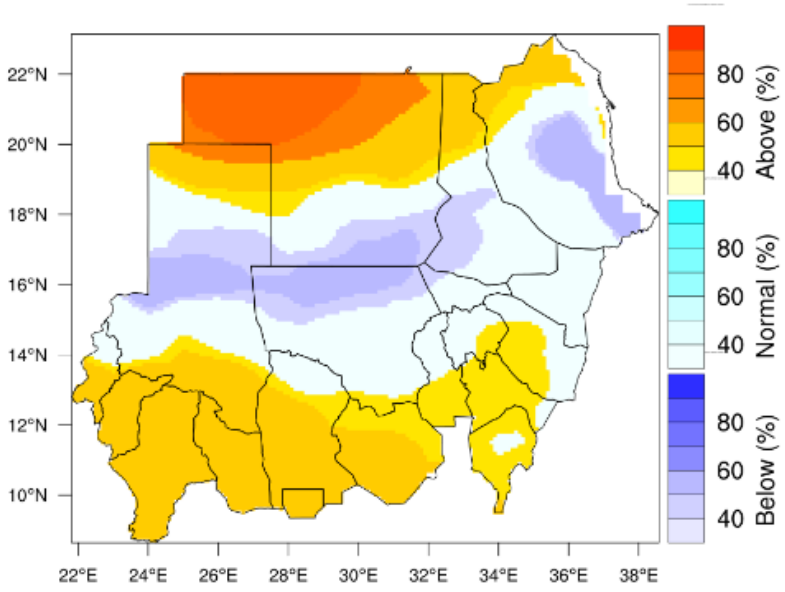


Figure (10): Expected Average Temperatures (August 2025)

The forecasts (Figure 10) indicate the following:

- Temperatures higher than the climate averages with a probability of 60-70% in the far north-western part of Northern State and the far north of North Darfur State.
- Temperatures higher than the climate averages with a probability of 40-60% in the northern Red Sea State, northern Nile State, central Northern State, north and south North Darfur State, far east of Gezira State, southwest Gedaref, most of Sennar State, Blue Nile State, southern White Nile State, the far south of North Kordofan State, South Kordofan State, most of West Darfur State, and the eastern, southern, central, and western Darfur States.
- Temperatures around or slightly below the climate averages are predicted in most of the Red Sea State, central and south Nile State, the southern part of Northern State, Kassala and Khartoum States, most of Gezira State, east and northwest Gedaref, the far east of Sennar State, north White Nile State, most of North Kordofan, the far north of West Kordofan, central North Darfur State, and the north of West Darfur State.

September 2025:

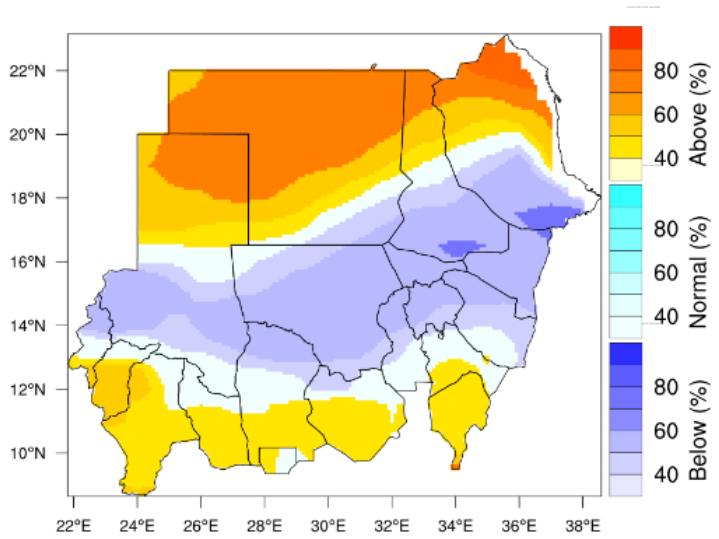


Figure (11): Expected Average Temperatures (September 2025)

The forecasts (Figure 11) indicate the following:

- Temperatures higher than the climate averages with a probability of 60-80% in the northern part of the Red Sea State, the far north of the Nile State, the northern state, and the northeast of the North Darfur State.
- Temperatures higher than the climate averages with a probability of 40-60% in the central north of the Red Sea State, north of the Nile State, central Northern State, north-central of North Darfur, southwest Sennar State, Blue Nile State, central and southern parts of South and West Kordofan States, southern East Darfur State, most of South Darfur State, most of Central Darfur State, and the far south of West Darfur State.
- Temperatures around or slightly below the climate averages are expected in the south of Red Sea State, south of Nile State, southeast of Northern State, and in Kassala,

Khartoum, Gedaref, Gezira, east and northwest Sennar, White Nile State, North Kordofan, the north and west of South and West Kordofan, central and south North Darfur, north of East Darfur State, northeast of South and Central Darfur States, and most of West Darfur State.

Sudan Meteorological Authority

Seasonal Forecast (June - September) 2025

Detailed Report for Sudan's states

May 2025

Rainy Season Forecast (June - September) 2025

Detailed Report for the Sudanese States

Introduction

In recognition of the importance of seasonal forecasts for various sectors within the country, the Sudan Meteorological Authority prepared this detailed report. It highlights seasonal forecasts (June – September) and monthly predictions at the state level. This report aims to support efforts to reduce disaster risks through proactive measures based on early alerts.

As is well known, a seasonal forecast reflects the average atmospheric conditions during the relevant climatic period and provides probabilistic rainfall estimates for that season. The authority updates seasonal forecasts monthly to share the latest developments regarding atmospheric conditions. We encourage users to contact the authority for regular updates throughout the season and to benefit from other products that assist in scheduling various field operations.

Forecast Summary

The seasonal forecasts for the rainy season (June – September) were developed based on statistical and numerical models that rely on sea surface temperature data along with

historical rainfall data for Sudan. Estimated rainfall data obtained from satellites, enhanced with surface rainfall measurements for the climate period (1991–2020) were used.

Currently, the sea surface temperatures over the tropical Pacific Ocean are close to normal. The World Meteorological Organization and major global production centers have indicated that neutral El Niño-Southern Oscillation (ENSO) conditions are expected to persist during the June to September 2025 season, with approximately a 75% probability from June to August and over 60% from July to September.

Higher-than-normal temperatures forecasted in the tropical Indian Ocean, whereas the Indian Ocean Dipole (IOD) remained neutral and is expected to remain neutral until July, with the potential for negative values from August 2025.

The rainy season, from June to September, is vital for sectors such as agriculture, water resources, and community livelihoods. With the increasing frequency of extreme climate phenomena, such as floods and droughts, due to climate change, there is an increased need to bridge the gap in early warning systems and work through an integrated, proactive approach to risk reduction. This requires coordination across various sectors to protect communities, especially vulnerable groups.

This publication contains overall seasonal forecasts (June–September) and detailed monthly forecasts. These probabilistic predictions aim to facilitate planning for the entire growing season. The Sudan Meteorological Authority urges all users to rely on the monthly updates provided by the authority to ensure greater accuracy and maximum benefit from this product.

Overview of State-Level Forecasts

Below is a summary of the most prominent forecasts for each state.

Northern State: Forecasts indicate increased chances of above-normal rainfall in the southeast of the state, whereas other parts are expected to remain near-normal. Temperatures are forecasted to be above the average.

Red Sea State: Above-normal rainfall is expected in the south and southwest, with other regions near normal. The central parts are expected to experience below-normal rainfall. Temperatures are forecasted to be higher than the average in the north and lower in the central and southern regions.

River Nile State: Most parts are expected to experience above-normal rainfall, with some eastern areas near the northern central parts forecasted to have near-normal conditions. Temperatures are expected to be higher than the average in the north and lower in the central and southern regions.

Kassala State: Above-normal rainfall is anticipated across most parts. Temperatures are expected to be within normal levels, but lower than average in the north.

Al Gadarif State: Rainfall is forecasted to be above average across the entire state, with temperatures mostly near normal but higher in the southwest.

Khartoum State: Above-normal rainfall is expected, with temperatures at normal levels.

Al Jazeera State: Expected to have above-normal rainfall in most parts, with higher temperatures across the majority.

Sinnar State: Rainfall is forecasted to be above normal in most parts, with temperatures higher than usual in the region.

White Nile State: Most areas are expected to have above-normal rainfall, except for the southern parts, where near-normal rainfall is predicted. Temperatures are expected to be within or above the normal range.

Blue Nile State: Above-normal rainfall is expected throughout the state. Temperatures are anticipated to be higher than normal in most parts, except in the central and southwestern regions, where they will likely remain near normal.

North Kordofan State: Increased chances of above-normal rainfall forecasted in the west; other parts are expected to be near or above normal, with temperatures below average across the entire state.

South Kordofan State: Above-normal rainfall is expected in the north and far south. Below-normal rainfall was predicted in the central and western regions. The eastern region is expected to experience near-normal rainfall this year. Temperatures are forecasted to be higher than the average.

West Kordofan State: Most parts are expected to receive above-normal rainfall, except some eastern and southwestern parts where below-normal rainfall may occur.

Temperatures are forecasted to be above average across most of the state, except in the far north, where they may remain near normal.

East Darfur State:

Rainfall is expected to vary from below normal to above normal across different areas. Temperatures were forecasted to be above the normal range.

North Darfur State:

Most areas are expected to have an increased likelihood of above-normal rainfall, with the northernmost parts remaining near-normal. Temperatures are anticipated to be below average in the central, western, and southern areas but above normal in the north.

West Darfur State:

Rainfall may vary between above and below normal levels, generally within the seasonal range. Temperatures are expected to be higher than normal.

Central Darfur State:

Rainfall is forecasted to be above normal in the northern, eastern, and southern parts, whereas other regions are expected to be near normal. Temperatures are predicted to be higher than normal.

South Darfur State:

Forecasts indicate above-normal rainfall across the state, with temperatures expected to be higher than usual.

Detailed forecasts per state

Northern State:

June–September: Increased chances of above-normal rainfall in the southeast, with other regions near normal. Temperatures are expected to be above the usual levels.

June: Less rainfall than normal in most regions.

July: Near-normal rainfall in most areas, with some parts slightly below the average.

August: Above-normal rainfall in the southeast, with other areas close to normal.

September: Near-normal rainfall.

Start of season: A normal start is expected across most states.

Red Sea State:

June–September: Above-normal rainfall was predicted in the south and southwest, with other parts at normal levels and the central parts below normal. Temperatures were higher in the north and lower in the south and center.

June: Normal rainfall in most areas, with higher-than-usual rainfall in the far south.

July: Above-normal rainfall in the south and south-central parts, with other areas near normal.

August: High rainfall is expected across most areas, except in the north and center.

September: Near-normal rainfall in most regions, with higher rainfall in the south and southwest.

Start of season: Normal, with a delayed start in the far south of the country.

River Nile State:

June–September: Above-normal rainfall in most areas; some eastern parts near normal, northern parts hotter, and southern and central parts cooler.

June: Most areas received above-normal rainfall.

July: Near-normal in most regions and higher in the north and south.

August: Above-normal rainfall, with some near- or below-normal rainfall.

September: Rainfall across most regions, with many areas exceeding normal levels.

Start of season: Generally normal, with minor delays in some of the eastern regions.

Kassala State:

June–September: Above-normal rainfall in most parts; temperatures mostly normal, cooler in the north.

June: Increased rainfall in most regions.

July: Near-normal rainfall, with higher levels in the north and south.

August: High rainfall is expected.

September: Above-normal rainfall across the state.

Khartoum State:

June–September: Above-normal rainfall was forecast, and temperatures were at normal levels.

June: Normal to above-normal rainfall.

July: Below-normal rainfall.

August: Near to above-normal rainfall.

September: Above-normal rainfall.

Start of season: A normal start is expected, with some delays in the east.

Al Jazeera State:

June–September: Above-normal rainfall is anticipated with higher temperatures.

June: Near-normal rainfall.

July: Slightly above-normal rainfall.

August: Increased rainfall is expected.

September: Elevated rainfall predicted.

Sinnar State:

June–September: Above-normal rainfall is likely, with higher temperatures.

June: Near-normal, with some wetter areas.

July: Near-normal to above-normal.

August: Higher than the usual.

September: Expecting above-normal rainfall in September.

White Nile State:

Season (June – September):

Rainfall is expected to be above the climate normal in most parts of the state, except in the southern areas, where rainfall is forecasted to be within the normal range. Temperatures are expected to be within normal levels in the north and above normal in other parts of the state.

June: *Rainfall is expected to be above the climate norms in most parts of the state, except in the southern parts, where rainfall is forecasted to be within the normal range.*

July: *Rainfall is expected to be within the climate norms in most areas, with some parts of the central region experiencing above-normal rainfall.*

August: *Rainfall is expected to be above the climate norms in most parts of the state and within normal ranges in the southern areas.*

September: *Rainfall is forecasted to be above the climate norms throughout the state.*

Start of the season: *A normal start is anticipated, possibly slightly earlier than usual in most parts of the state.*

Blue Nile State:

Season (June – September): Rainfall is expected to be above the climate normal across the entire state. Temperatures are forecasted to rise above normal levels in most areas, except in the central and southwestern regions, where they are expected to remain near normal.

June: Rainfall is expected to be above the climate norms in most parts of the state, except in the far west and southernmost areas, where rainfall should be within the normal range.

July: Rainfall is forecasted to be within normal levels in most areas, with higher-than-normal rainfall expected in the easternmost and westernmost regions of the state.

August: Most areas are expected to receive above-normal rainfall, except for the far south, where rainfall may be near or below normal.

September: Rainfall is anticipated to be above the climate normal throughout the entire state.

Start of the season: A typical start is expected, possibly slightly earlier in most parts of the state.

North Kordofan State:

Season (June – September): Forecasts indicate an increased likelihood of above-normal rainfall in the western parts of the state, with other areas experiencing near-or slightly above-normal rainfall, whereas temperatures are expected to be below normal across all parts.

June: Most areas are expected to receive rainfall within the normal range.

July: Most areas are forecasted to receive rainfall within or slightly above the normal range.

August: Above-normal rainfall is expected in most parts, with some areas remaining near normal, and the western parts may experience below-normal rainfall.

September: Most areas are expected to receive above-normal rainfall, with the remainder remaining near normal.

Start of the season: A normal start is expected in most parts of the state.

South Kordofan State:

Season (June – September): *Above-normal rainfall was forecasted in the northern and far southern regions. Below-normal rainfall is expected in the central and western regions. The eastern regions are expected to receive near-normal rainfall. Temperatures are forecasted to be higher than the seasonal averages.*

June: *Most areas are expected to receive rainfall within the normal range, except in the west and some southern areas, where rainfall may be below normal.*

July: *Above-normal rainfall is predicted in the north-western region. Most other areas are expected to have near-normal rainfall, although some central and southern parts may experience below-normal rainfall.*

August: *Most parts of the state are expected to receive above-normal rainfall, except in the far south, where the rainfall may be near or below normal. Temperatures are forecasted to be higher than the average.*

September: *Above-normal rainfall is expected in most parts, with below-normal rainfall in the southwestern region. Temperatures are forecasted to be higher than the normal levels.*

Start of the season: *A normal to slightly early start is anticipated across most parts of the state this year.*

West Kordofan State:

Season (June – September): *Most areas are expected to receive above-normal rainfall, with some eastern and southeastern regions experiencing below-normal rainfall. Temperatures are forecasted to be above the usual levels most of the time.*

June: *Most areas are expected to experience rainfall above the climate norms, except in the southeast and southern regions, where below-normal rainfall may occur.*

July: *Below-normal rainfall was expected in most parts, especially in the south and west. The northern and central areas are expected to have near-normal rainfall, with the northernmost parts remaining near normal or slightly above.*

August: *Most of the state should experience above-normal rainfall, with some areas in the east and southeast possibly receiving less than normal rainfall. Temperatures are likely to be above the average.*

September: *Rainfall was forecasted to be above normal in most areas, especially in the western and central parts, with other areas remaining near normal. Temperatures are expected to be higher than the average.*

Start of the season: *Most areas are expected to experience a normal start, except for the northern regions, where a delayed start is anticipated.*

East Darfur State:

Season (June – September):

Rainfall varies from below, within, and above the normal range, depending on the area. Temperatures were forecasted to be above the normal range.

June: *In the northern parts of the state, rainfall is expected to be above normal, whereas other parts will likely have rainfall within the normal range.*

July: *Most areas recorded rainfall above normal levels, particularly in the southwest.*

August: *Rainfall is expected to be within the normal range in the southern and southeastern regions, with above-normal rainfall in the central and northern regions.*

September: *Rainfall is forecasted to be within the normal range in the eastern and southern edges, with above-normal rainfall in the western part and the northern and southern fringes.*

Start of the season: *Most areas are expected to have a normal start, except for some small parts of the southern-central region, where an early start is anticipated; the southern fringes may experience a delayed start.*

North Darfur State:

Season (June – September): *Increased likelihood of above-normal rainfall in most parts of the state. The northernmost regions are expected to experience near-normal rainfall. Temperatures are predicted to be below the normal range in most central, western, and southern areas but above normal in the north.*

June: *Most areas are expected to receive rainfall within or slightly above normal levels, especially in the south and west.*

July: *Most areas will likely experience rainfall within or slightly above normal, particularly in the southern, central, and western regions.*

August: *Most parts are expected to have above-normal rainfall, except for the northernmost parts, where rainfall will probably be near normal.*

September: *Most areas are forecasted to receive rainfall within or above the normal range.*

Start of the season: *An early start is expected in most parts of the south, west, and some central areas, while the rest will start at a normal time.*

West Darfur State:

Season (June – September): *Most parts are expected to receive rainfall that ranges from above to below normal, generally within seasonal norms. Temperatures are forecasted to be higher than usual in most regions.*

June: *Most parts of the state are expected to experience above-normal rainfall, except for some southern and eastern areas where rainfall may be below normal. Temperatures are forecasted to be above the average.*

July: *Below-normal rainfall is expected in most regions, particularly in the south and west. The northern and central regions are expected to remain near-normal or slightly above.*

August: *Rainfall will vary; the northern areas are expected to have above-normal rainfall, whereas the central and eastern parts will remain near normal. The south and southeast may experience below-normal rainfall, with temperatures likely to be above average.*

September: *Most areas will experience above-normal rainfall, especially in the western regions of the state. The southern and southeastern regions are expected to remain near normal, with temperatures remaining higher than usual.*

Start of the season: *Most areas are expected to have a normal start, except for the northern parts, where a delayed onset is likely.*

Central Darfur State:

Season (June – September): *Most areas are forecasted to experience above-normal rainfall, especially the northern, eastern, and southern regions, with other areas near normal. Temperatures are expected to be higher than the seasonal averages.*

June: *Rainfall is expected to be above normal in the northern, eastern, and southern parts. The remaining areas of the state may experience near-normal rainfall.*

July: *Most parts are expected to record rainfall near or above normal, with some central and southwestern areas slightly below the normal.*

August: *Rainfall was forecasted to be above normal across most of the state, especially in the northern and central regions.*

September: *Most areas are expected to experience above-normal rainfall, particularly in the northern, eastern, and southern regions.*

Start of the season: *A normal to slightly early start is anticipated in most parts, especially in the northern and central areas.*

South Darfur State:

Season (June – September): *Most regions are expected to experience above-normal rainfall, with temperatures forecasted to be higher than usual.*

June: *Rainfall is expected to be above the seasonal norm across most parts of the state.*

July: *Most areas will likely experience above-normal rainfall, except in the northwest, where rainfall may be near normal.*

August: *Above-normal rainfall is expected throughout the month, except in the far south, where rainfall may be within normal limits.*

September: *Most parts of the state are forecasted to receive above-normal rainfall, with the southernmost areas expected to receive near-normal rainfall.*

Start of the season: An *overall normal start is anticipated in all regions.*

This concludes the detailed forecast overview for the various states across Sudan for the 2025 June–September season. These predictions are probabilistic and intended to assist in planning and risk management to mitigate the adverse impacts of climate variability and change. Users are encouraged to stay updated with the monthly forecasts from the authority for the most accurate and timely information.

Potential Impacts of Rainfall and Temperature Forecasts for the (June – September 2025) Season and Proposed Response Strategies for Various Sectors

Introduction

The importance of applying seasonal forecast projections to different sectors lies in understanding their impacts, known as impact-based forecasting, a global approach advocated by all specialized regional and international climate and weather centers. Recognizing the implications of expected weather conditions during the season enables decision-makers to undertake early responses and sound planning aimed at maximizing the benefits of these conditions. This, in turn, supports sustainable development objectives and mitigates the risks and disasters caused by extreme weather phenomena.

Implications of the Seasonal Forecast on Sectors

Energy Sector:

- *Positive:* Potential increase in hydropower production due to abundant water in rivers and reservoirs.
- *Negative:* Risk of station outages caused by floods and flash floods due to heavy rain.

Water Resources Sector:

- *Positive:* Increased water storage in reservoirs and rivers enhances water security.

- *Negative:* Risk of floods and rapid flow causing infrastructure damage and water source contamination.

Agriculture Sector:

- *Positive:* Improved irrigation water supply and reduced production costs.
- *Negative:* Spread of pests, weeds, and crop diseases related to above-average rainfall and high temperatures.

Humanitarian Situation:

- Above-normal rainfall may lead to flooding in vulnerable areas, thereby increasing the risk of waterborne diseases.
- Displaced communities living in camps or informal settlements that lack sanitation facilities are especially susceptible to disease outbreaks.
- Heavy rains can cause structural damage to temporary shelters and infrastructure in displacement camps, possibly leading to displacement and disruption of essential services in the camps.
- Excessive rainfall may also impact agricultural activities and food production in Sudan, affecting food security for both internally displaced persons and the host communities.

Proposed Response Strategies

Sector-specific Responses:

- **Energy:** Improve planning for hydropower operations, increase awareness of flood risks, and strengthen communication to ensure sustainable dam management during the flood season.
- **Agriculture:** Farmers and relevant agricultural agencies nationwide should carefully select suitable crops/seeds for the expected conditions. Integrated strategies for pest and disease management should be adopted.
- **Water Resources:** Enhance early warning systems for floods, maintain water infrastructure, and implement flood and rapid-flow management plans.

Humanitarian Response:

- Strengthening emergency preparedness and response mechanisms.
- Early warning and emergency planning systems should be developed.
- Improving infrastructure and preparedness to tackle overlapping challenges from conflict and climate risks.
- Ensure that humanitarian assistance reaches displaced communities in remote areas.

General Recommendations

- Strengthen and expand early warning systems: Improve the accuracy of climate predictions, ensure timely dissemination to relevant authorities, and develop effective warning dissemination mechanisms across the media.

- Enhance inter-sectoral coordination: Foster greater cooperation among government agencies, NGOs, and the private sector for an integrated climate response.
- Support sustainable strategies for food security and natural resource management: Develop resilient agricultural policies adapted to climate change and improve water management using modern conservation technologies.
- Promote community awareness and media engagement: Launch awareness campaigns on climate change risks and the importance of early responses.
- Monitor the implementation of recommendations and ensure the sustainability of efforts: Establish clear mechanisms to follow up on the implementation and evaluate the impacts on communities and sectors.

Early preparedness and effective multisectoral cooperation are essential to mitigate the potential negative impacts of the 2025 rainy season and to capitalize on opportunities for sustainable development in Sudan. Efforts should focus on protecting vulnerable communities, ensuring food and water security, and enhancing resilience to climate change effects.

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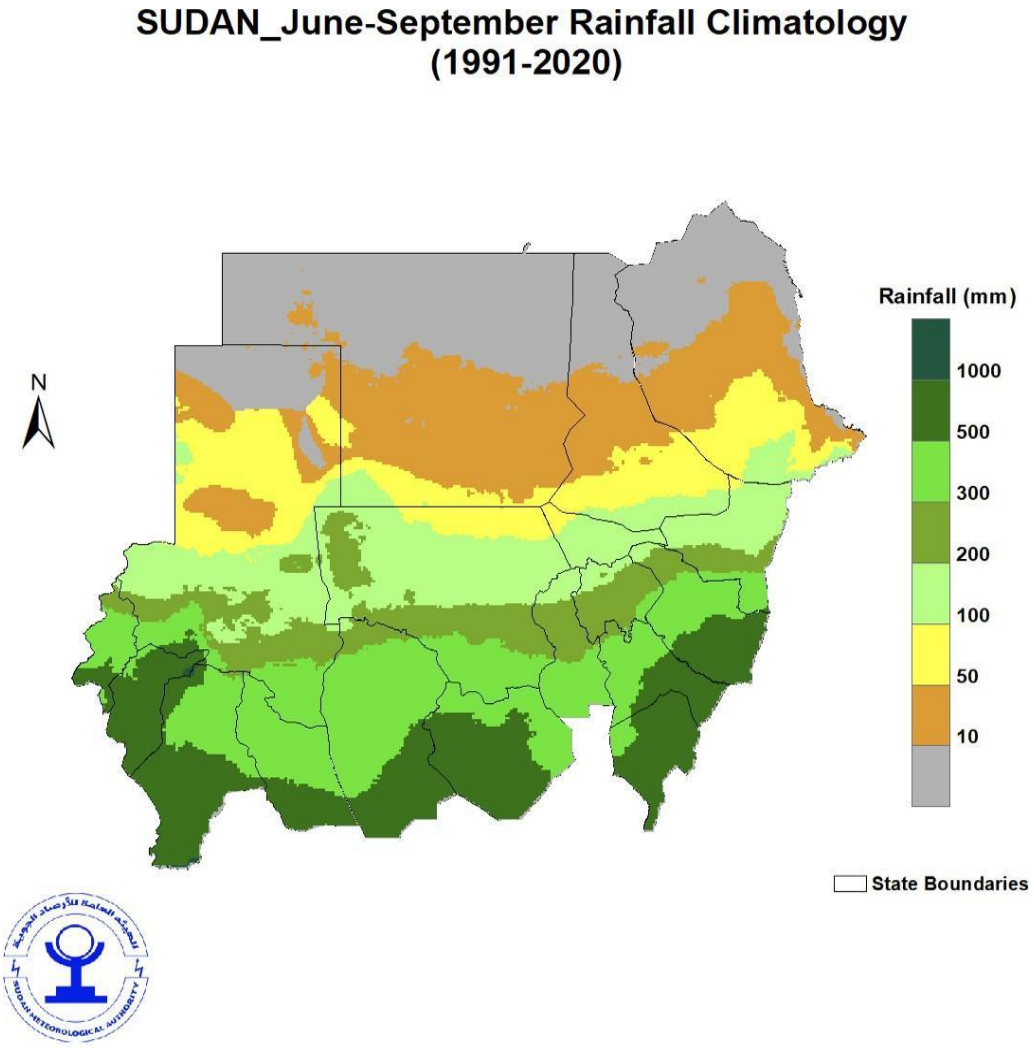
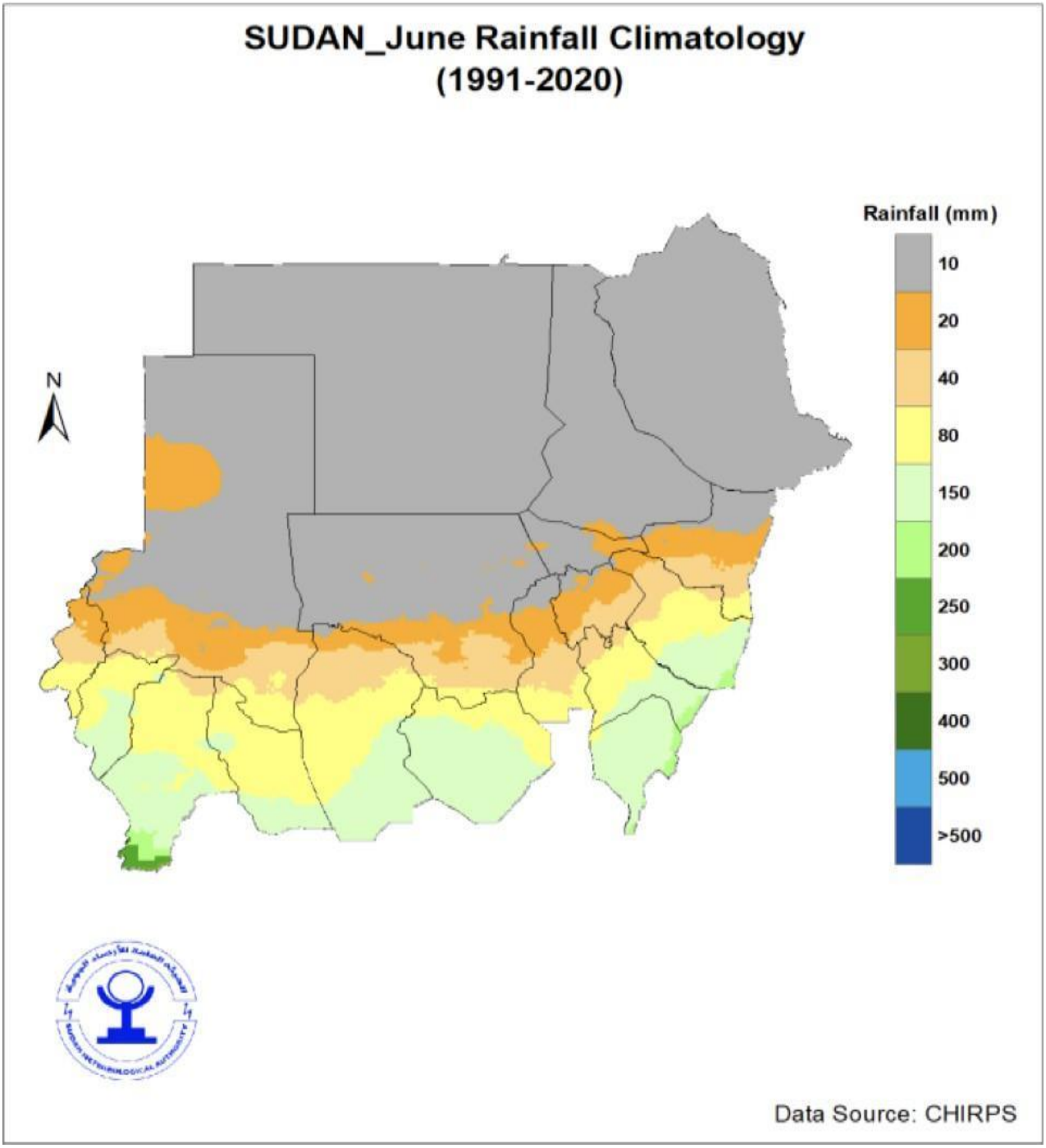
Annex

Average Climate Norms for the June – September Season

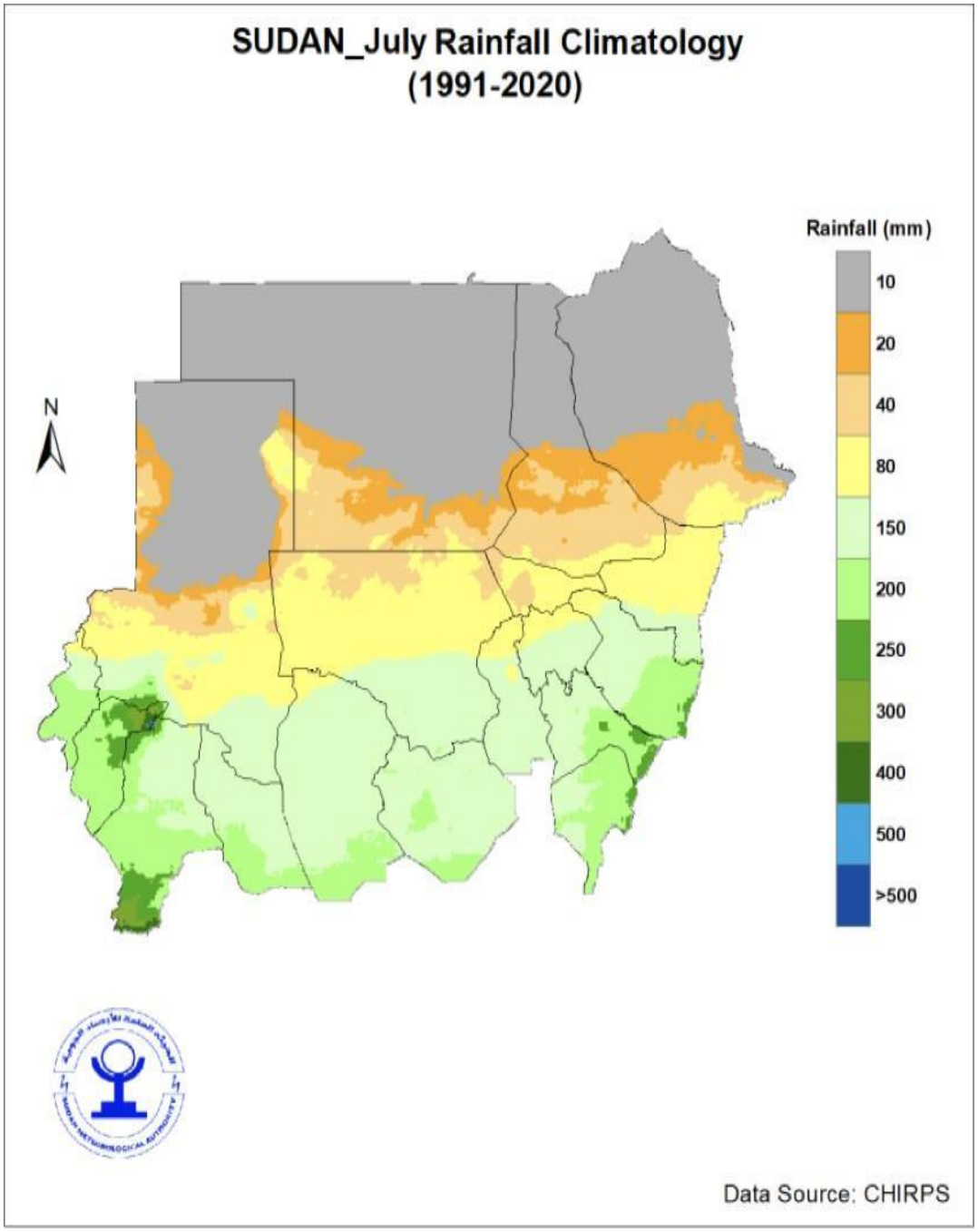


Data Source: CHIRPS

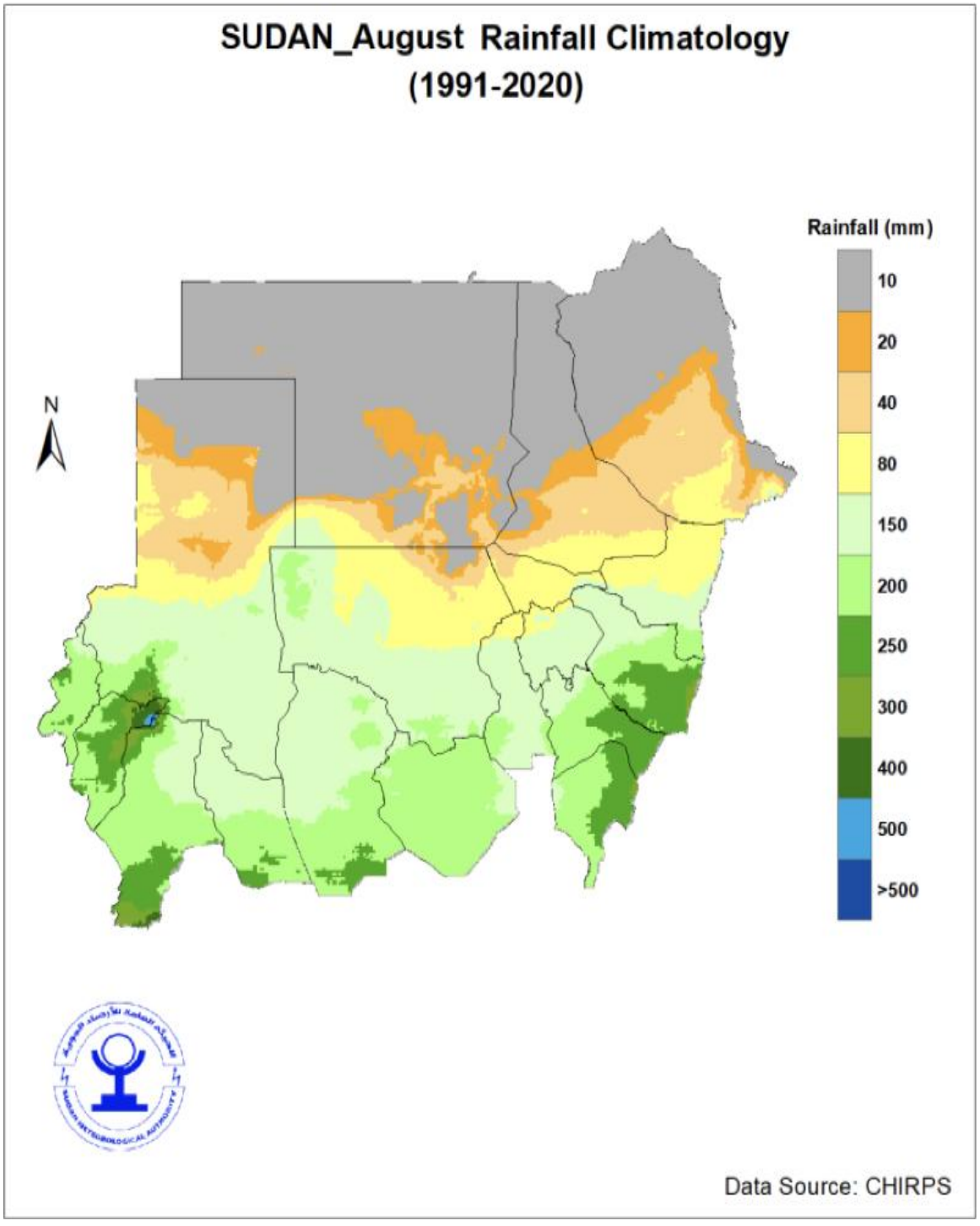
Climate Normal for June



Climate Normal for July



Climate Normal for August



Climate Normal for September