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PROGRESS OF THE MAM 2025 SEASON AND OBJECTIVE SEASONAL CLIMATE OUTLOOK FOR JJAS 2025

IGAD Climate Prediction and Applications Centre (ICPAC)

NINETEENTH AFRICAN CONTINENTAL CLIMATE OUTLOOK FORUM (ACCOF-19), 30 May 2025

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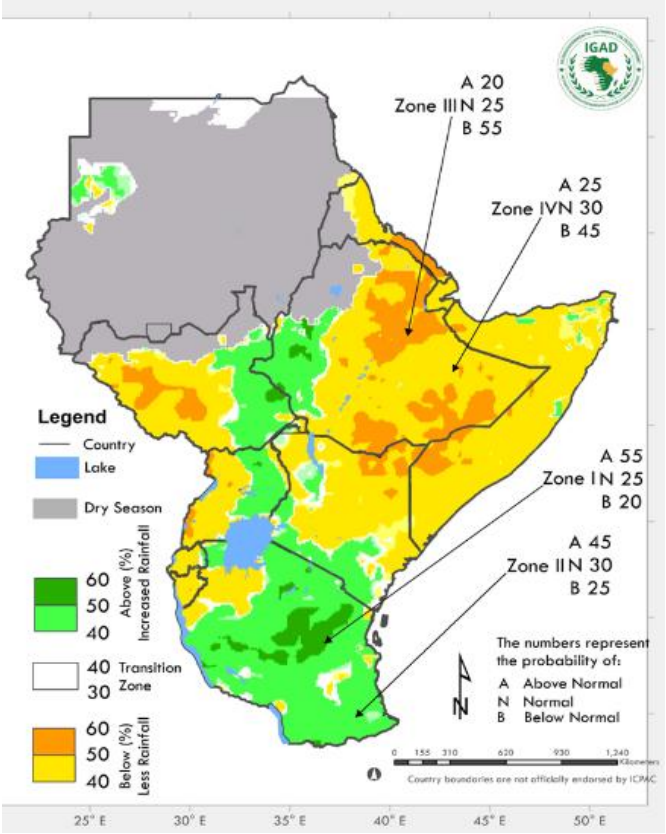
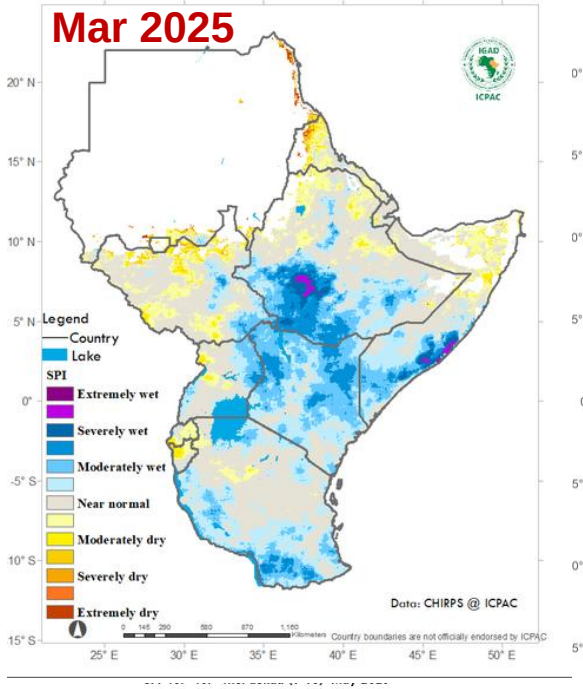
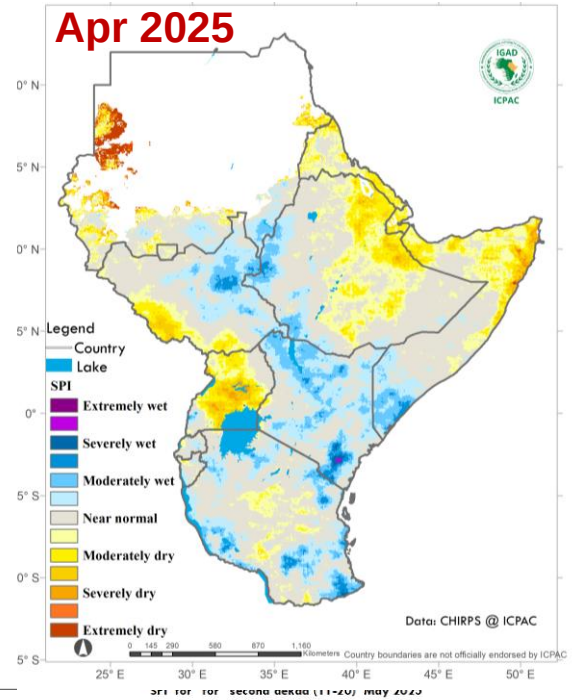
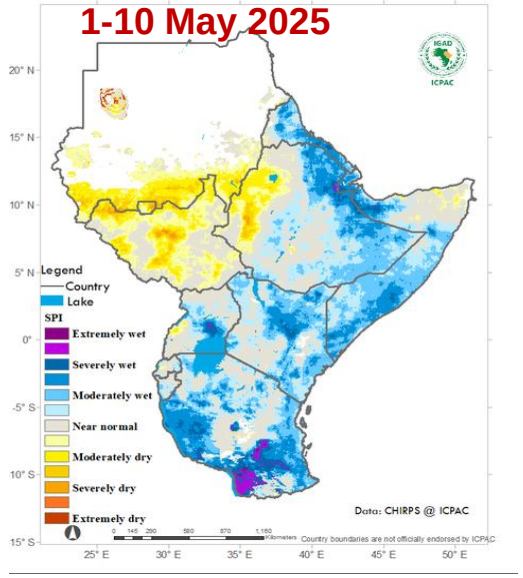
SEASONAL PERFORMANCE - RAINFALL

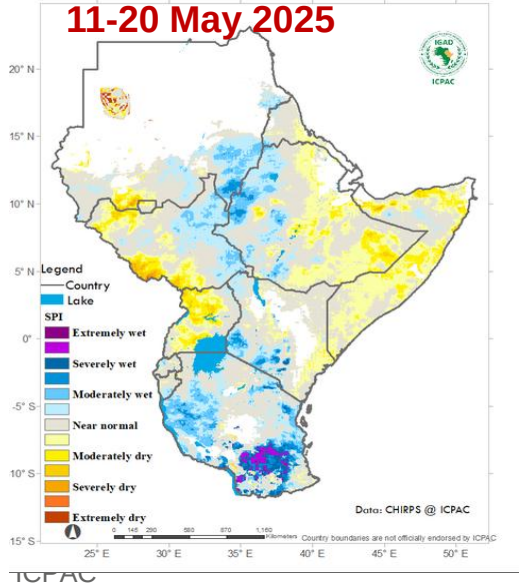
MAM 2025 Rainfall Outlook









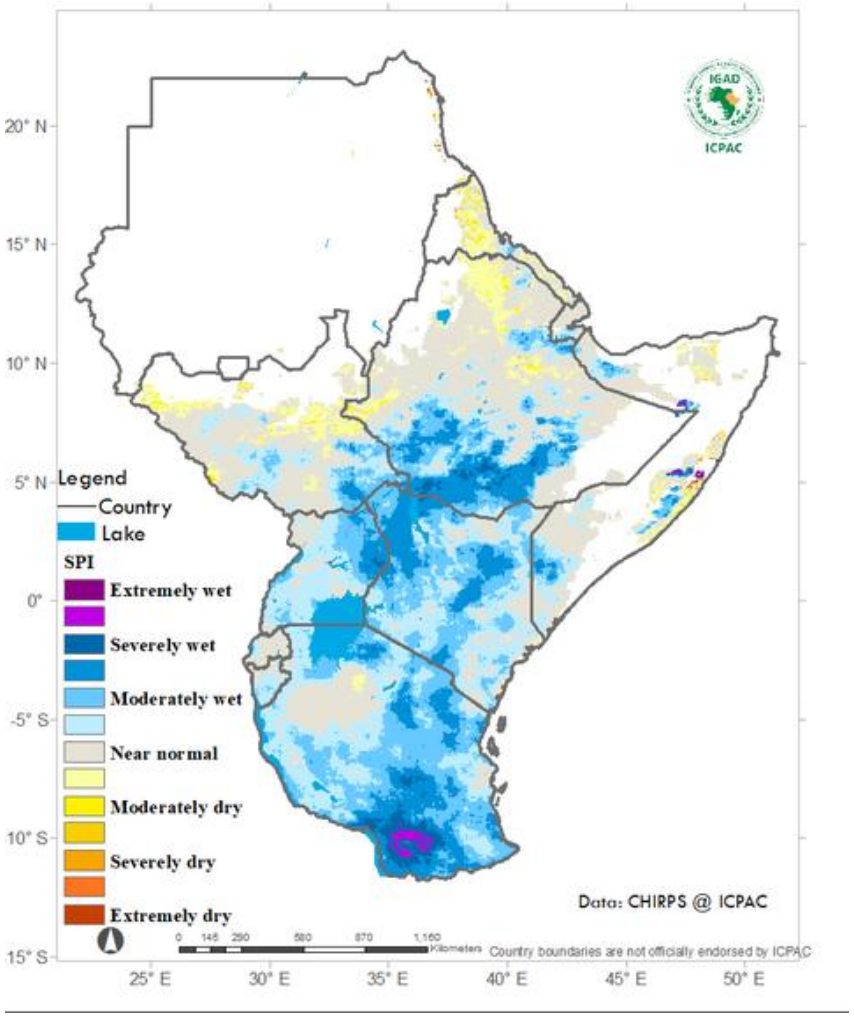


- ✓ In March, moderate to severely wet conditions were recorded in Kenya, southern Ethiopia, southern Somalia and Tanzania
- ✓ In April, much of Uganda, western South Sudan northern Somalia, and central to north-eastern Ethiopia were moderately dry

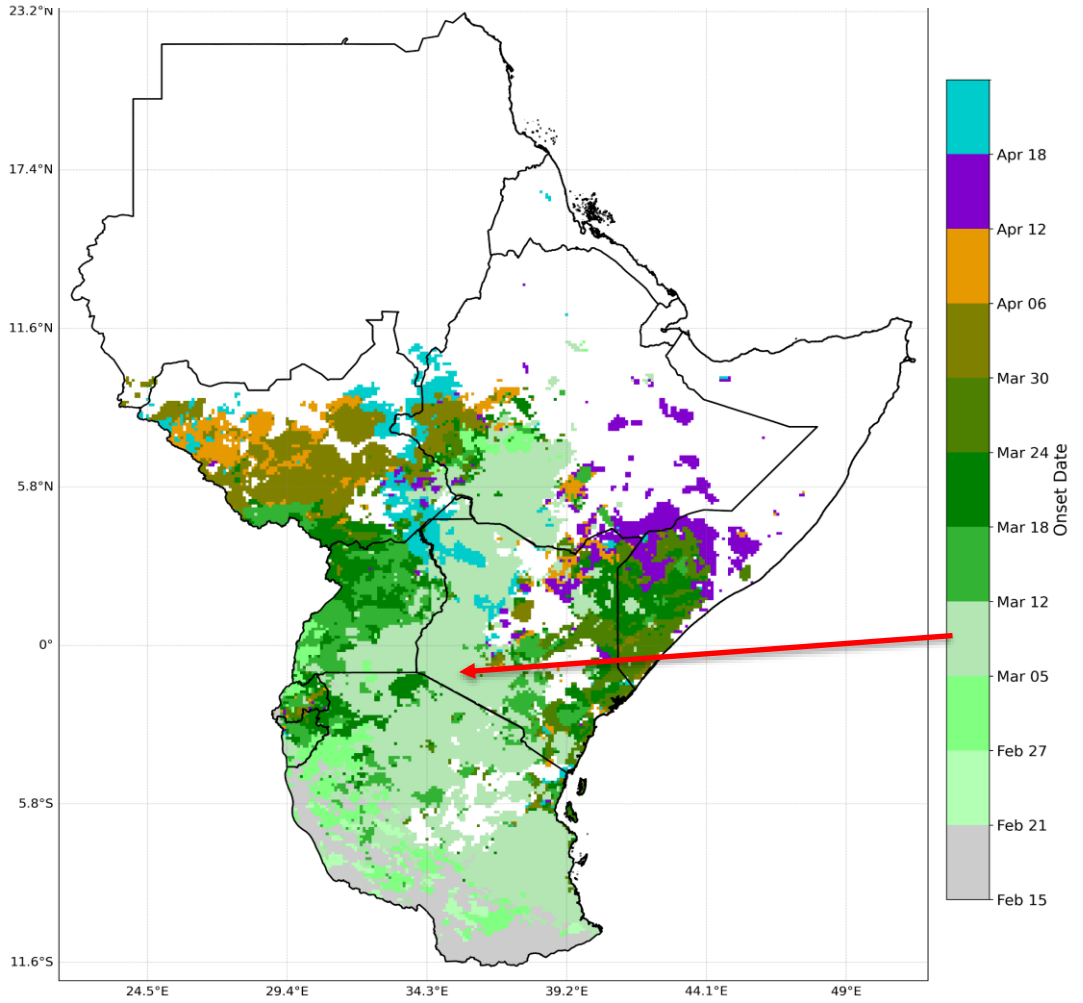
- ✓ 1st dekad of May was moderate to severely wet in most part except western Ethiopia and South Sudan
- ✓ 2nd dekad recorded dry conditions over eastern and western parts of the region.

START OF THE SEASON

11-20 March

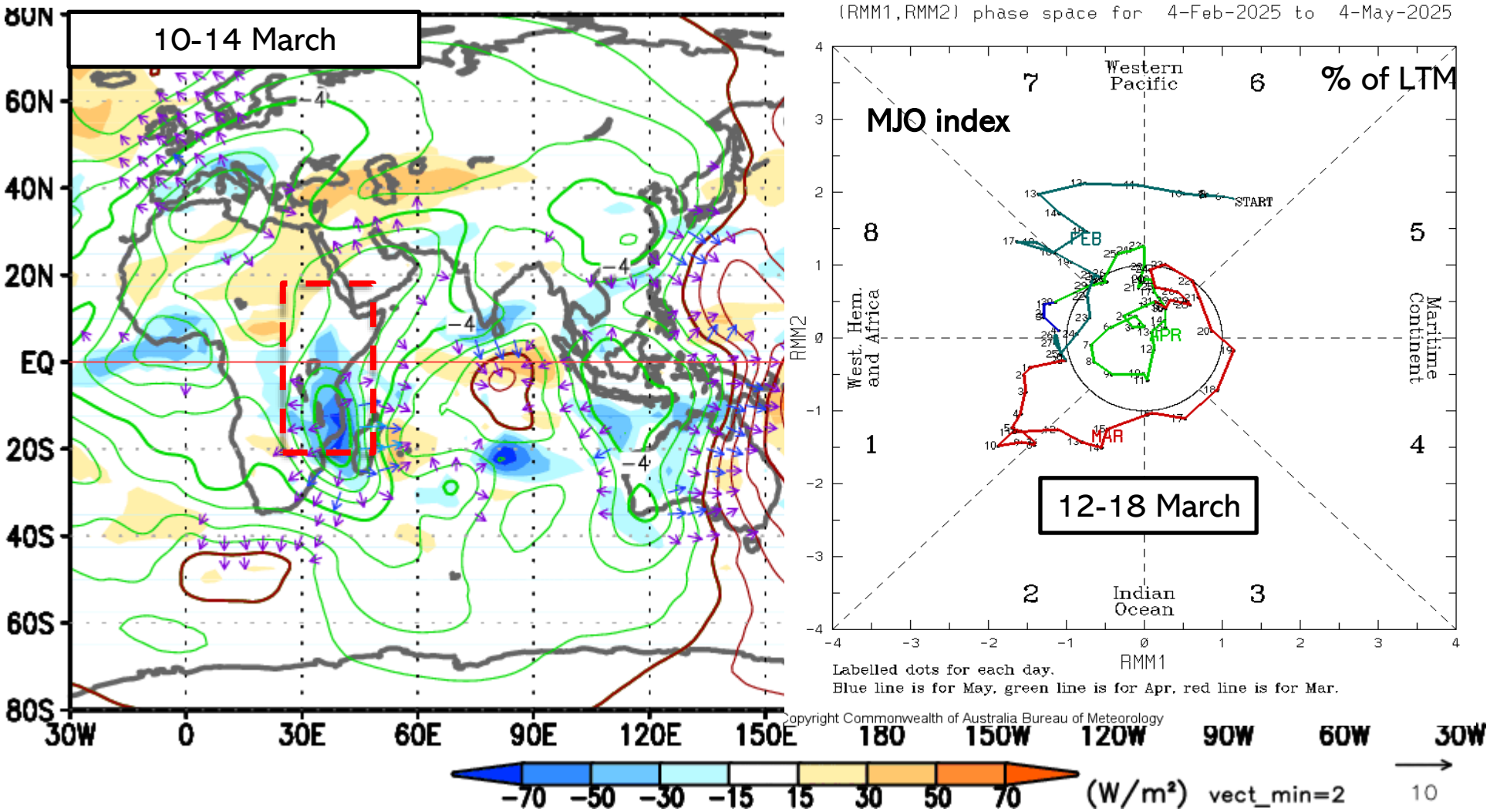


Rainfall Onset



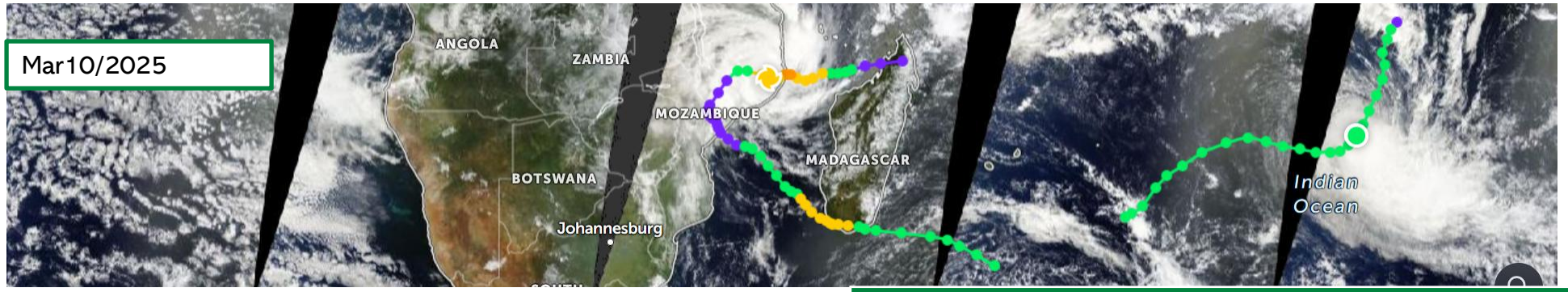
- ✓ Onset was achieved in several parts of the region within the period 11-20 March, and in some places by March 24

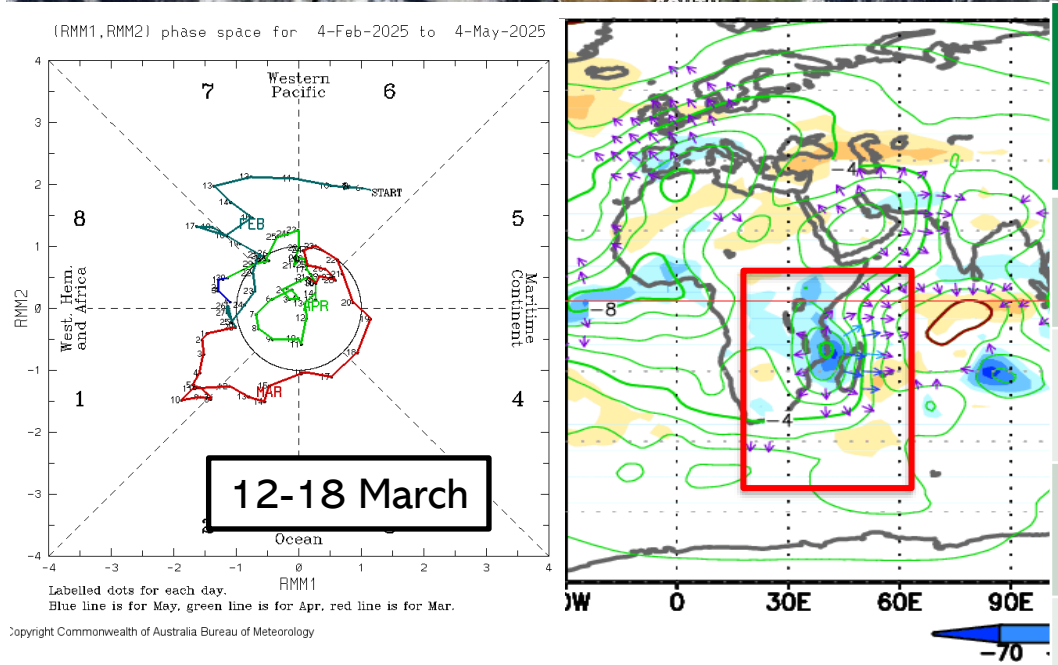
START OF THE SEASON



✓ The Madden Julian Oscillation (MJO) was the major driver that triggered the rainfall onset. It's important to follow up with sub-seasonal updates

TROPICAL CYCLONES

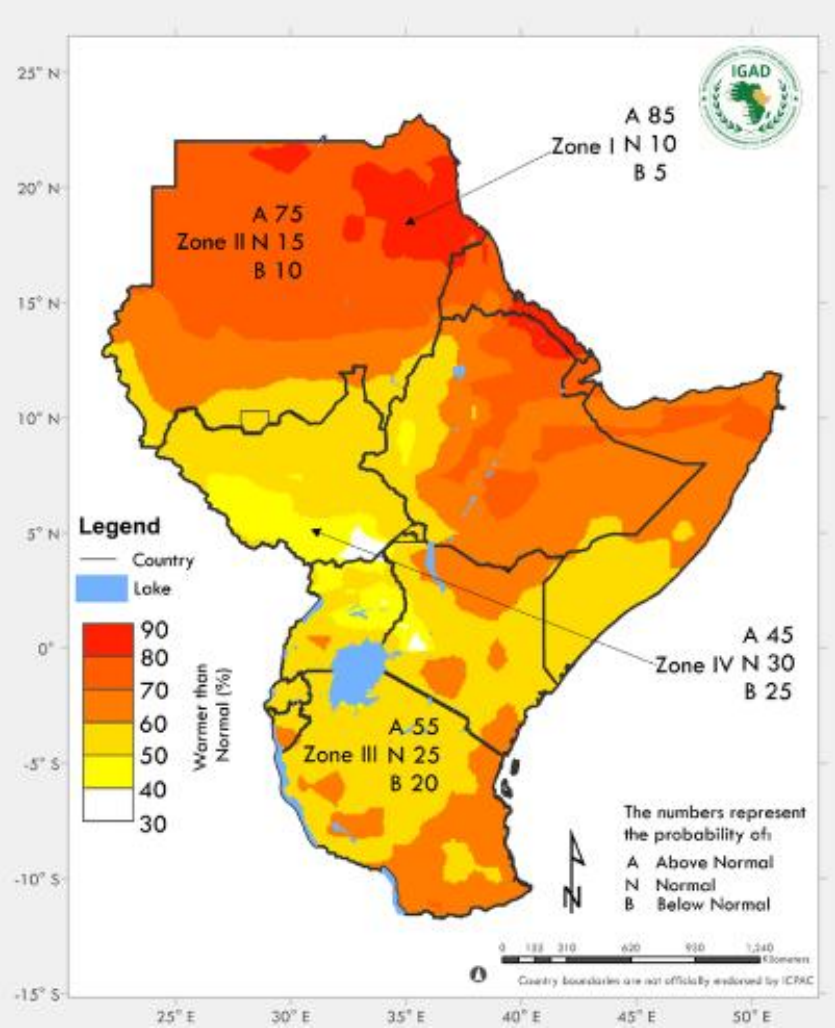




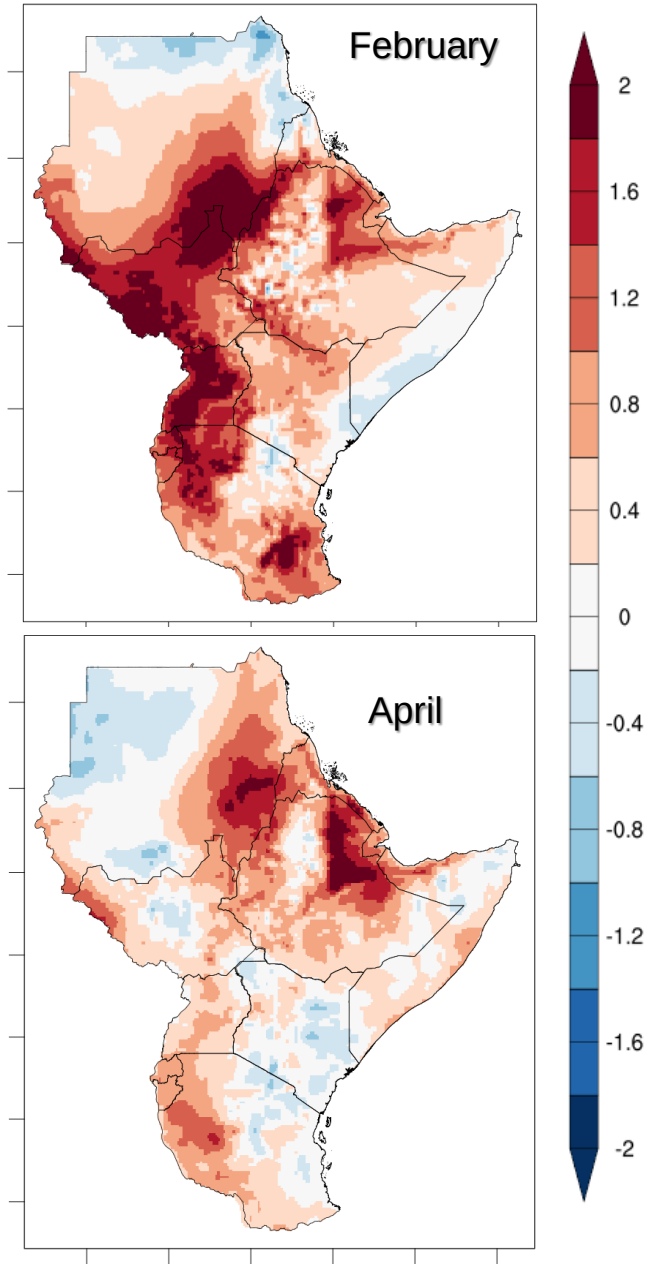
SW Indian Ocean Tropical Storms/Cyclones - 2025	
Dikeledi	09.01.2025 – 17.01.2025
Faida	28.01.2025 – 05.02.2025
Elvis	29.01.2025 – 31.01.2025
Garance	25.02.2025 – 02.03.2025
Honde	25.02.2025 – 05.03.2025
Jude	08.03.2025 – 16.03.2025

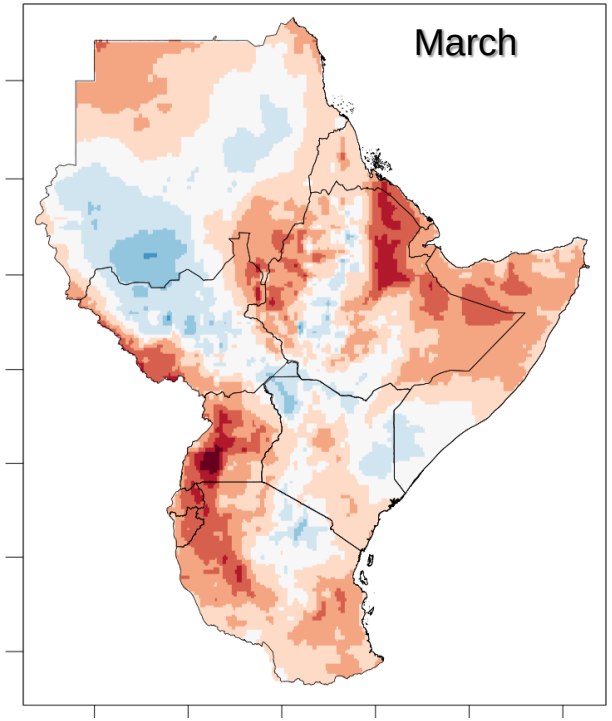
- ✓ Co-existence of MJO, with South West Ind
  triggered rainfall onset in most regions, a
  EA

SEASONAL PROGRESSION - TEMPERATURE



- ✓ Warmer than average temperature predicted over most parts of the region



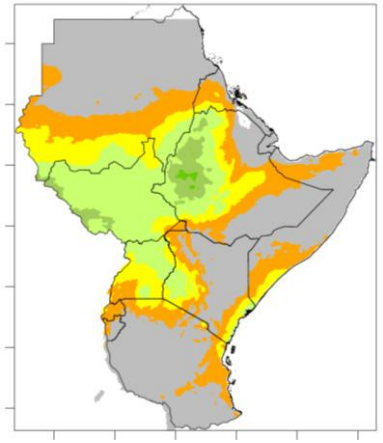


- ✓ The region was largely warmer than average, with higher than normal minimum temperatures

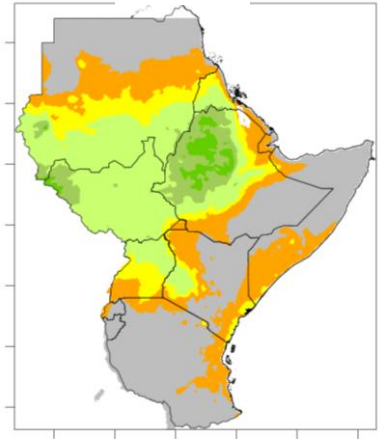
JUNE TO SEPTEMBER (JJAS) 2025 CONSOLIDATED OBJECTIVE SEASONAL CLIMATE OUTLOOK

RAINFALL CLIMATOLOGY DISTRIBUTION DURING JJAS FOR 1991-2020

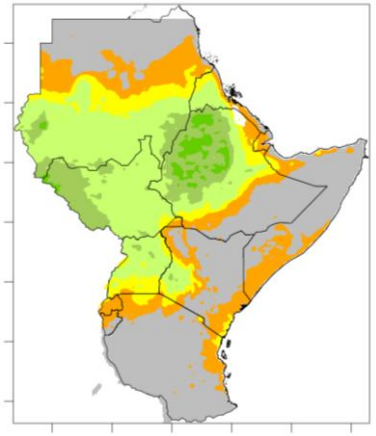
June



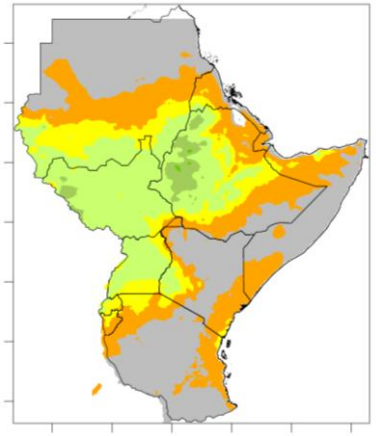
July



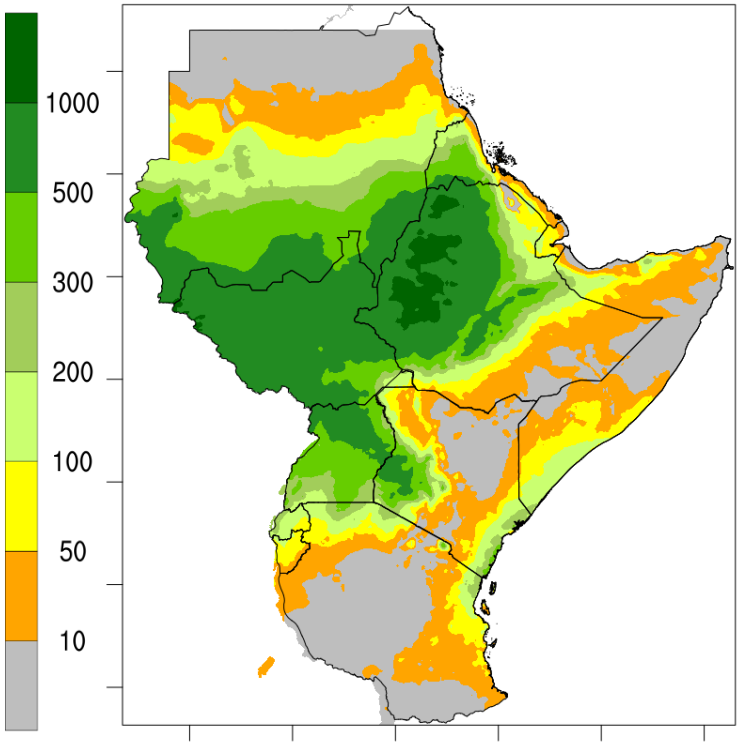
August



September

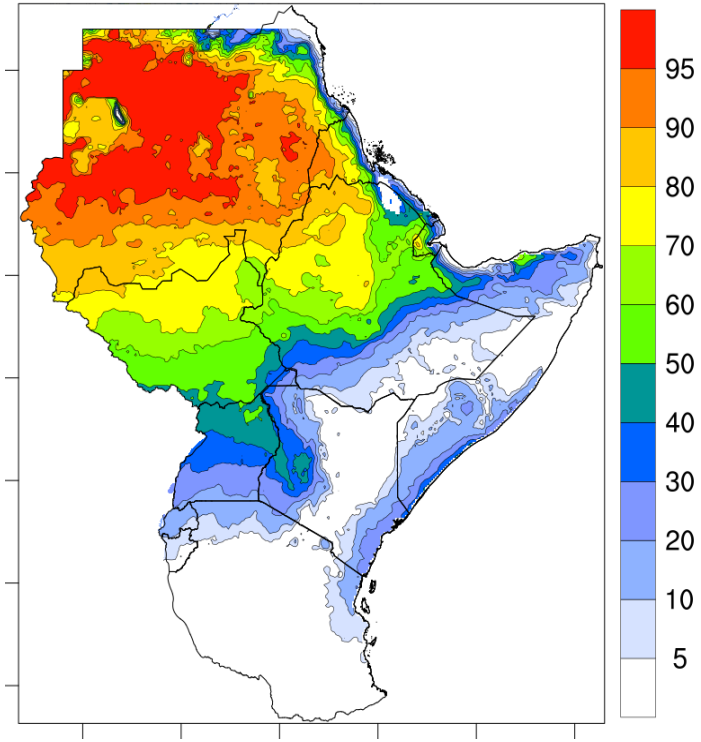


JJAS Total Rainfall (mm)



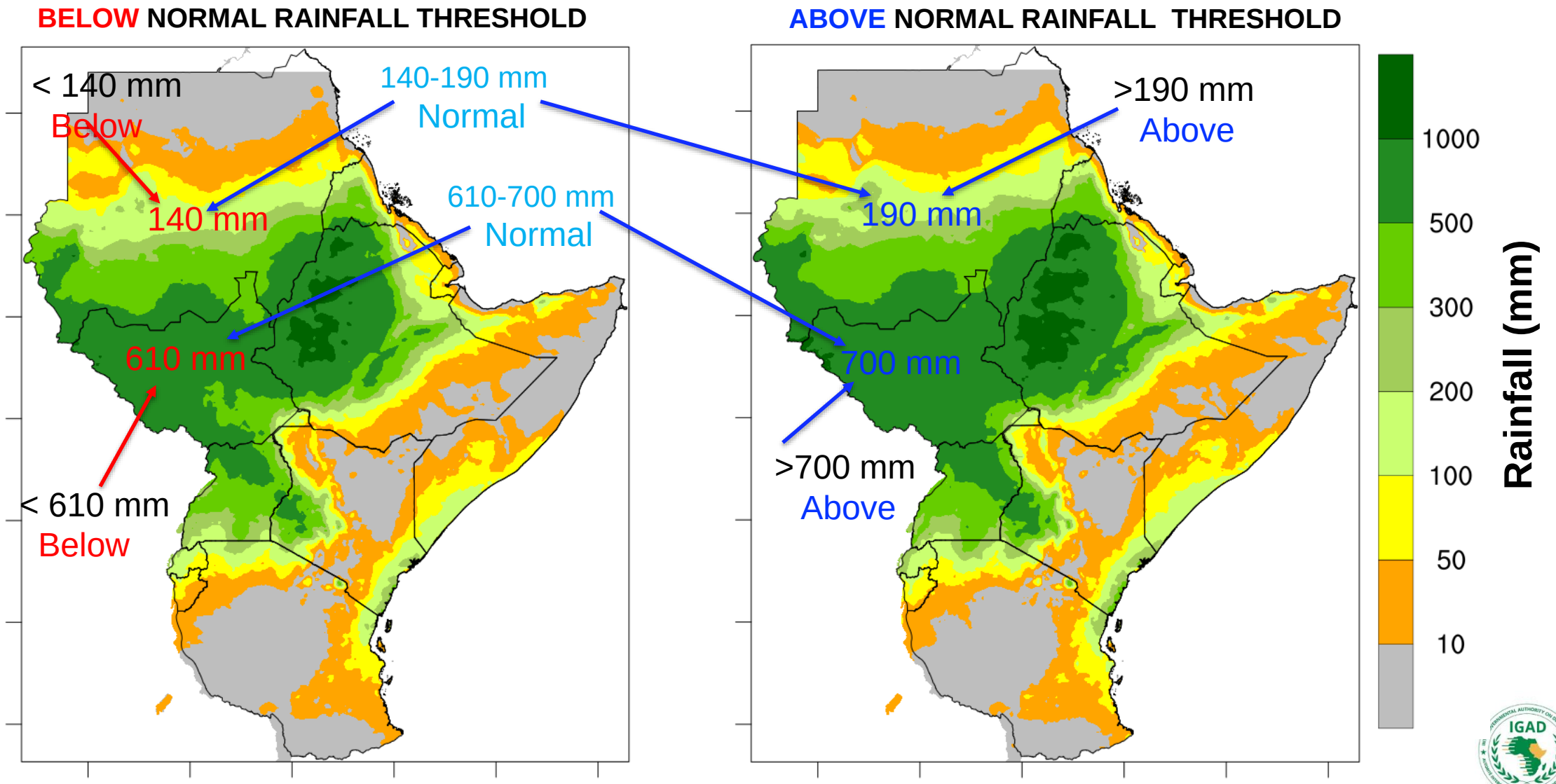
JJAS is an important rainfall season for the northern parts of the region

JJAS Contribution (%)



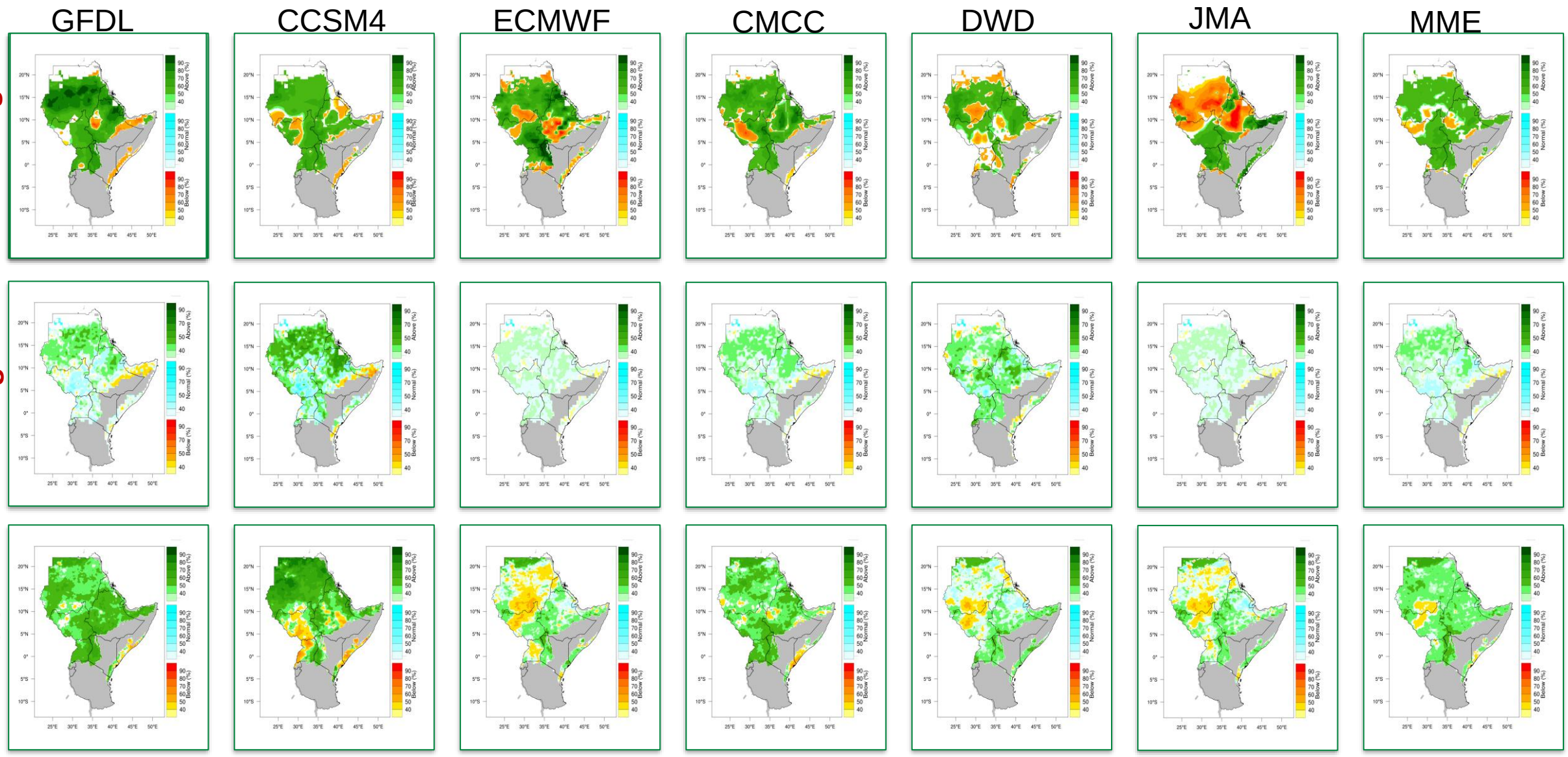
It contributes more than **50%** of the annual rainfall over the northern GHA.

LONG-TERM (1991–2020) JJAS RAINFALL THRESHOLDS FOR BELOW AND ABOVE NORMAL CATEGORIES



INPUTS FOR OBJECTIVE JJAS 2025 SEASONAL RAINFALL FORECASTS

May 2025 initialized global forecasts from 6 GPCs were processed using three calibration methods to produce JJAS 2025 Seasonal climate outlook over GHA



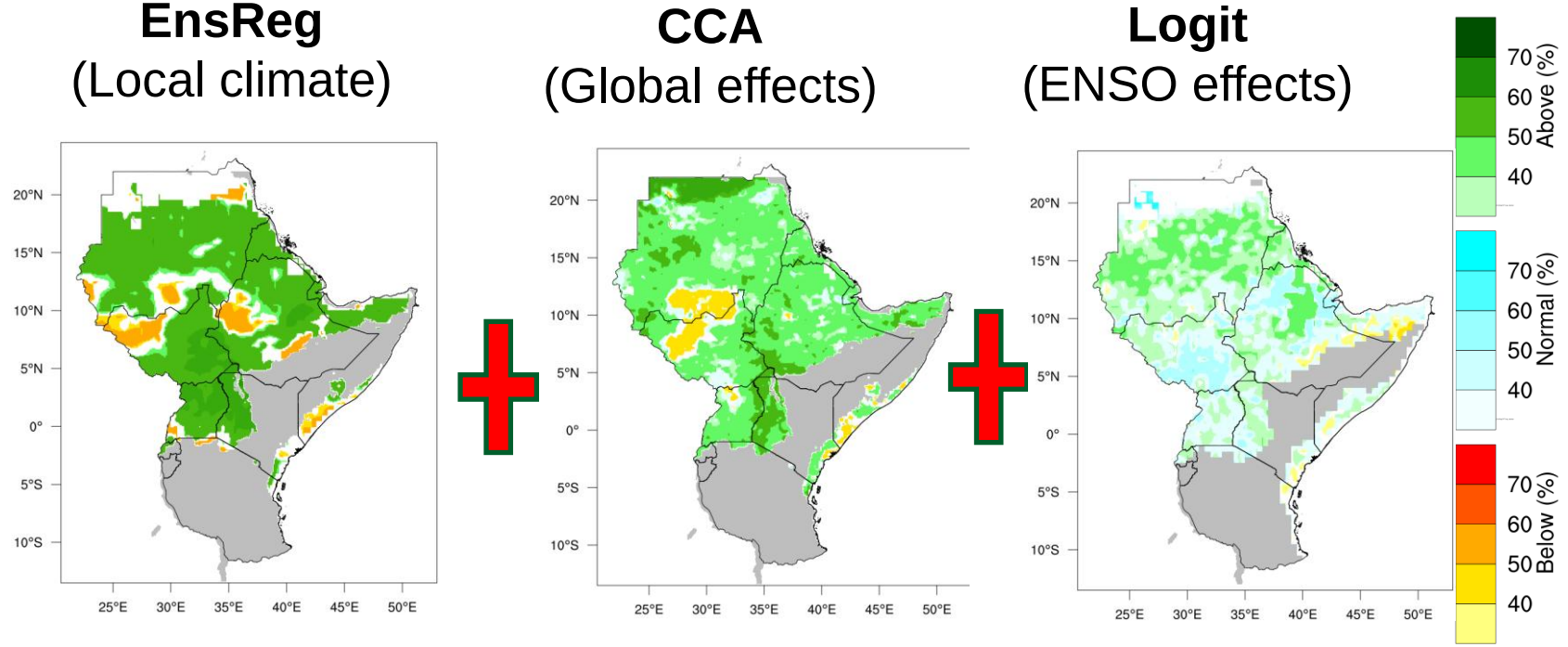
INPUTS FOR OBJECTIVE JJAS 2025 FORECASTS

The consolidated forecast is obtained by averaging the forecasts from three calibration methods: **EnsReg**, **CCA**, and **Logit**

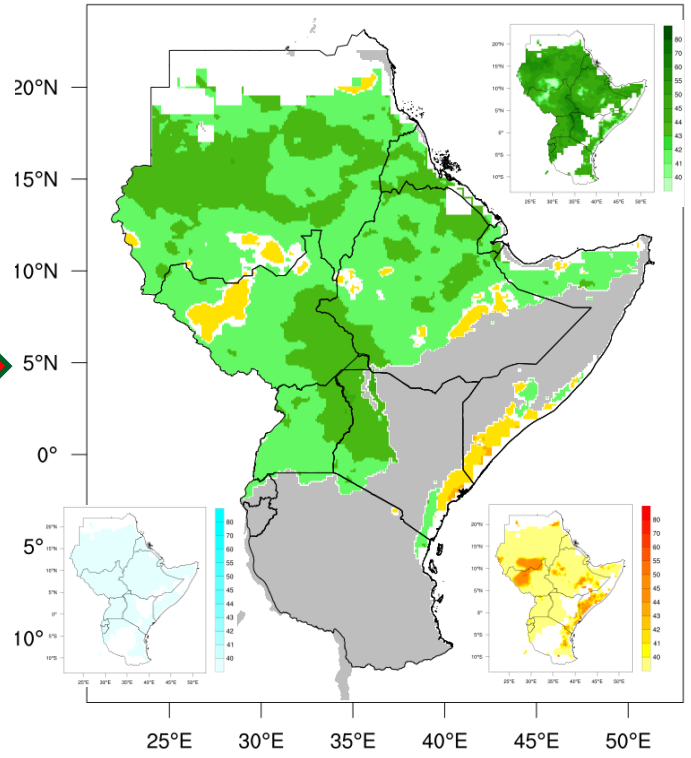
EnsReg
(Local climate)

CCA
(Global effects)

Logit
(ENSO effects)



Final: Multi-model and Method Average



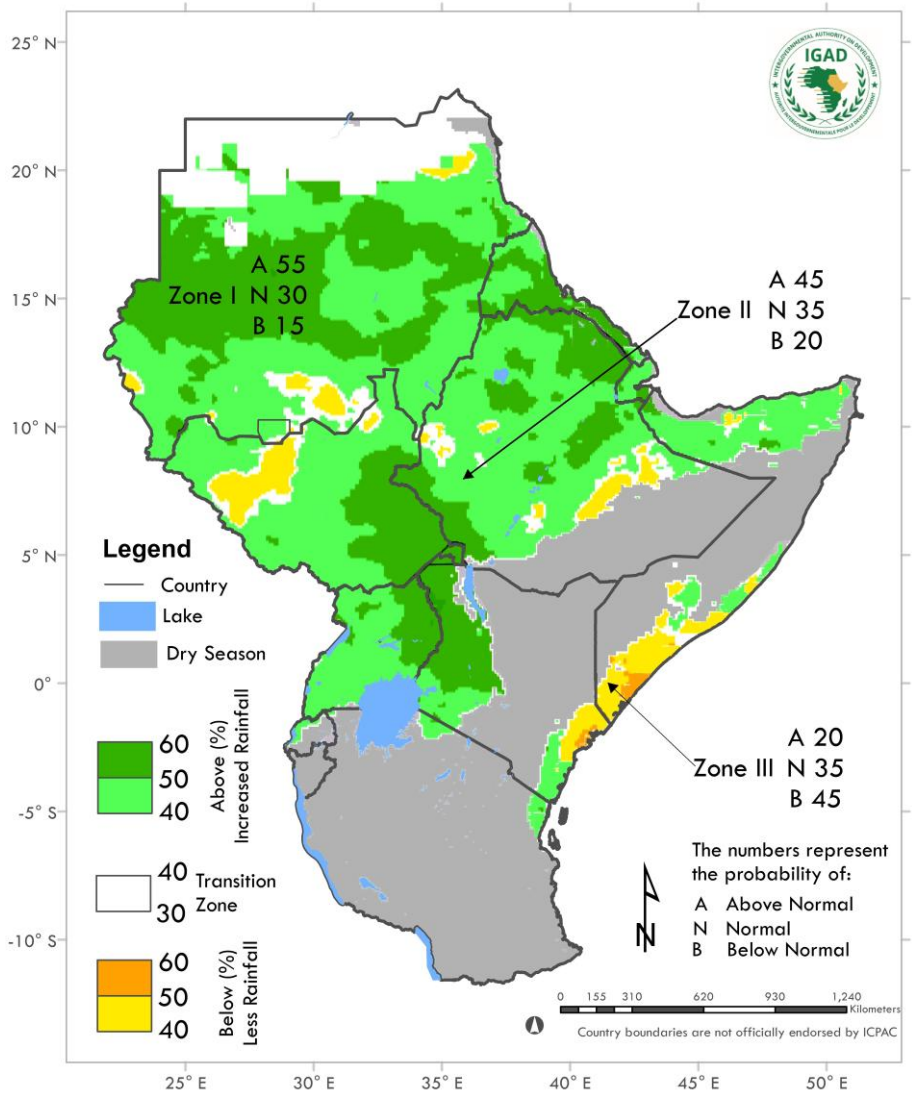
Objective Forecast = (EnsReg + CCA+Logit)/3

JJAS 2025 RAINFALL OUTLOOK

- The ICPAC seasonal rainfall forecasts, based on 6 GPCs MME initialized May 2025, indicate an increased likelihood of **above-normal rainfall** over much of the northern GHA, including western Kenya, Uganda, South Sudan, Sudan, Eritrea, Djibouti, Ethiopia, and the north coastal area of Somalia.

- There are **high chances of drier-than-normal** conditions over parts of coastal Somalia and Kenya, northern South Sudan, southern Sudan and Ethiopia.

- The southern regions and parts of the equatorial sector are climatologically dry during the JJAS season.



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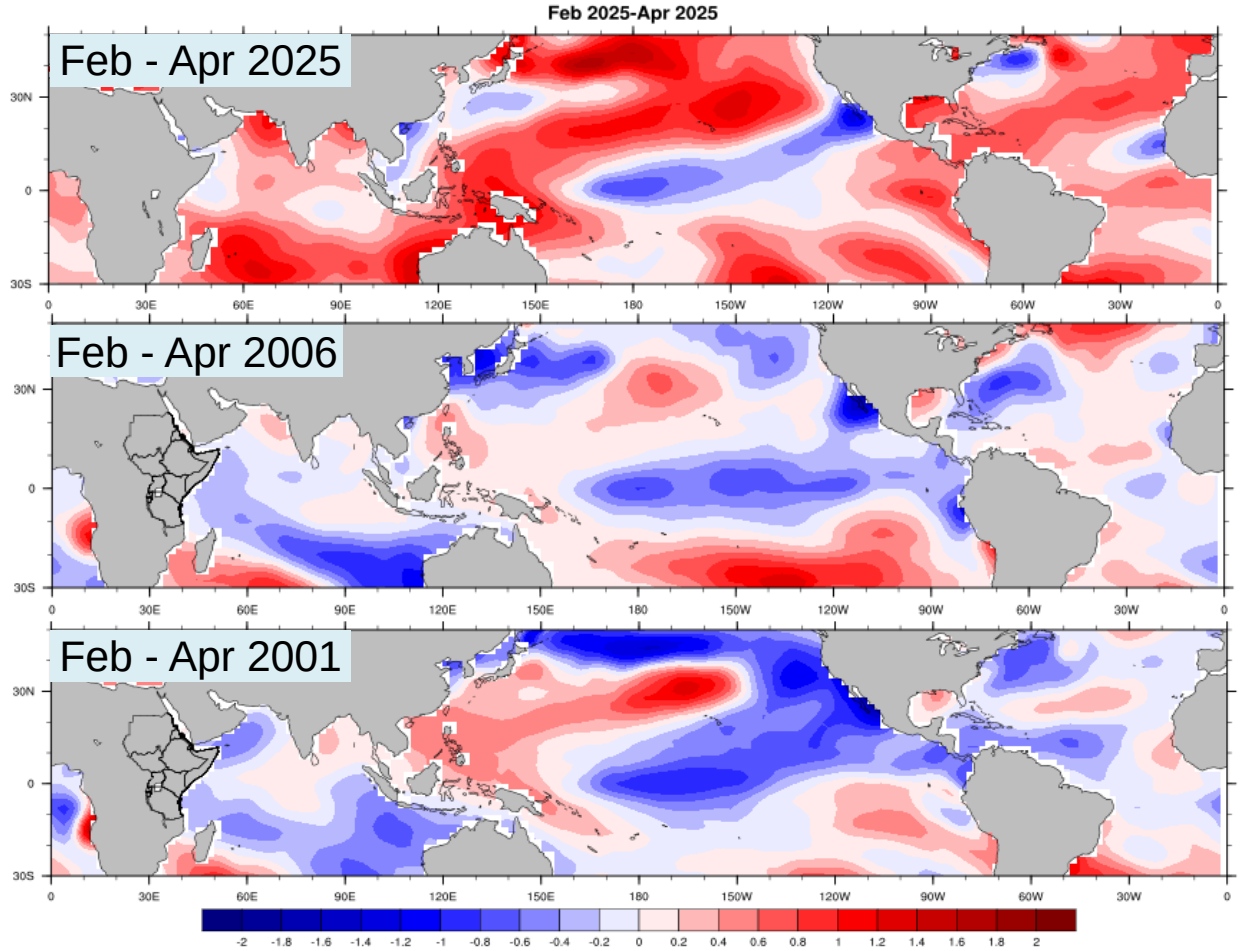
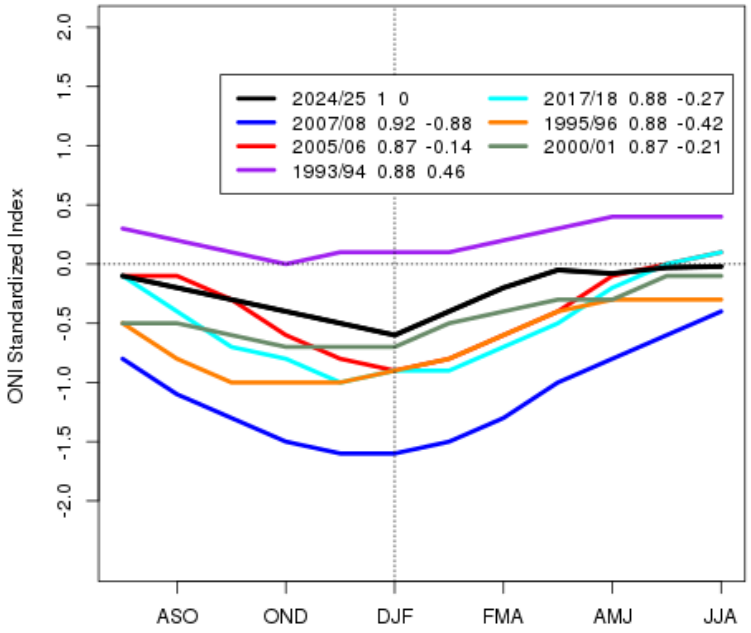
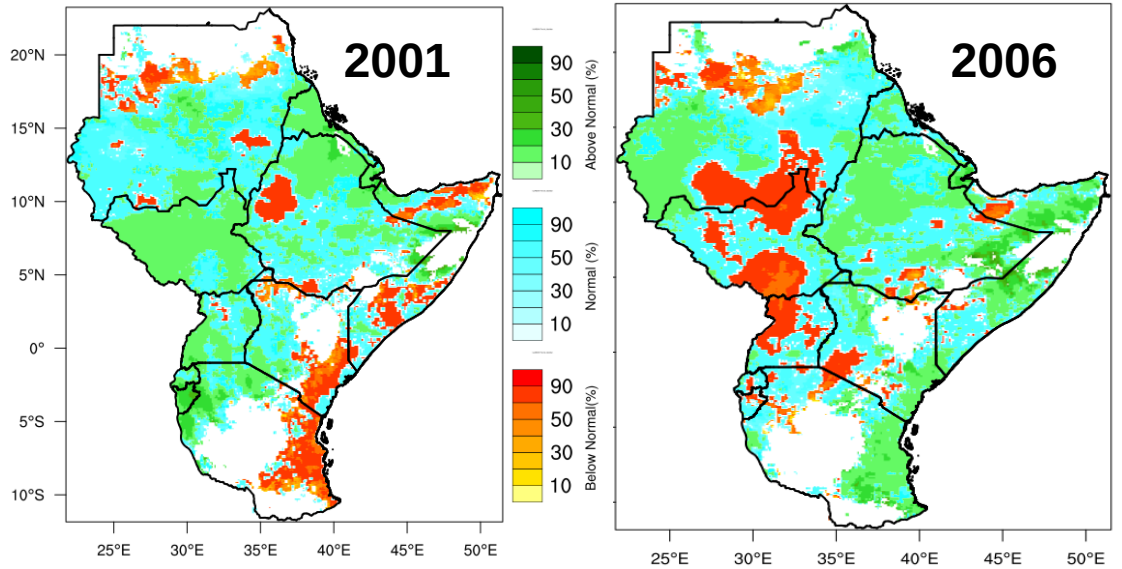
ANALOGUE YEARS BASED ON SSTA PATTERN AND NINO-3.4

- Approach to seasonal climate forecasting, by comparing current atmospheric and oceanic conditions to similar patterns from the past.

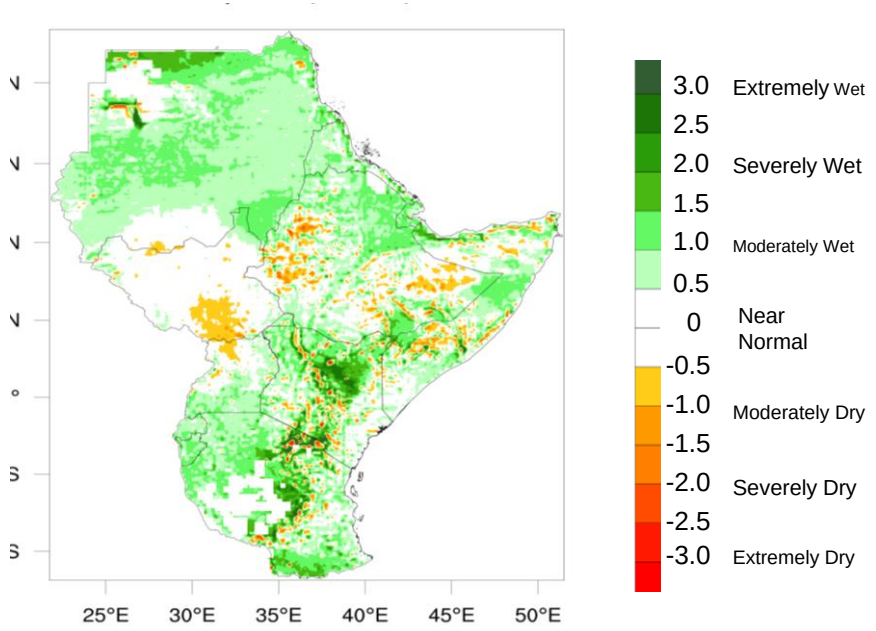


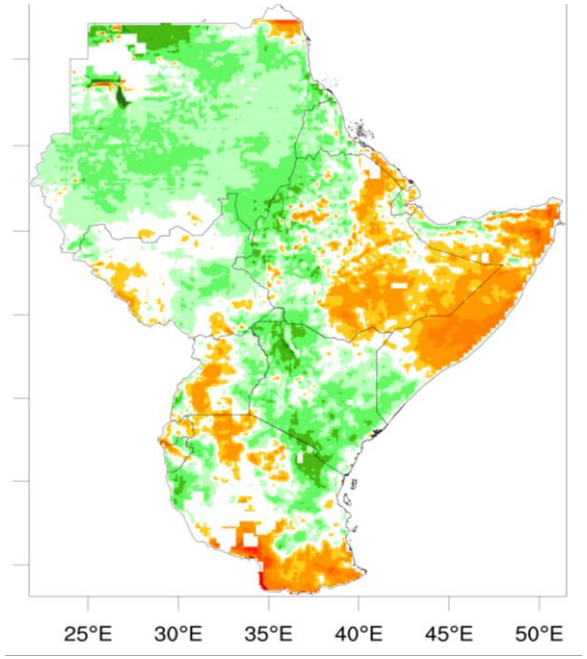




STANDARDIZED PRECIPITATION INDEX (SPI) FORECAST ENDING ON 30 SEP 2025

4-Month SPI
(Jun-Sep 2025)



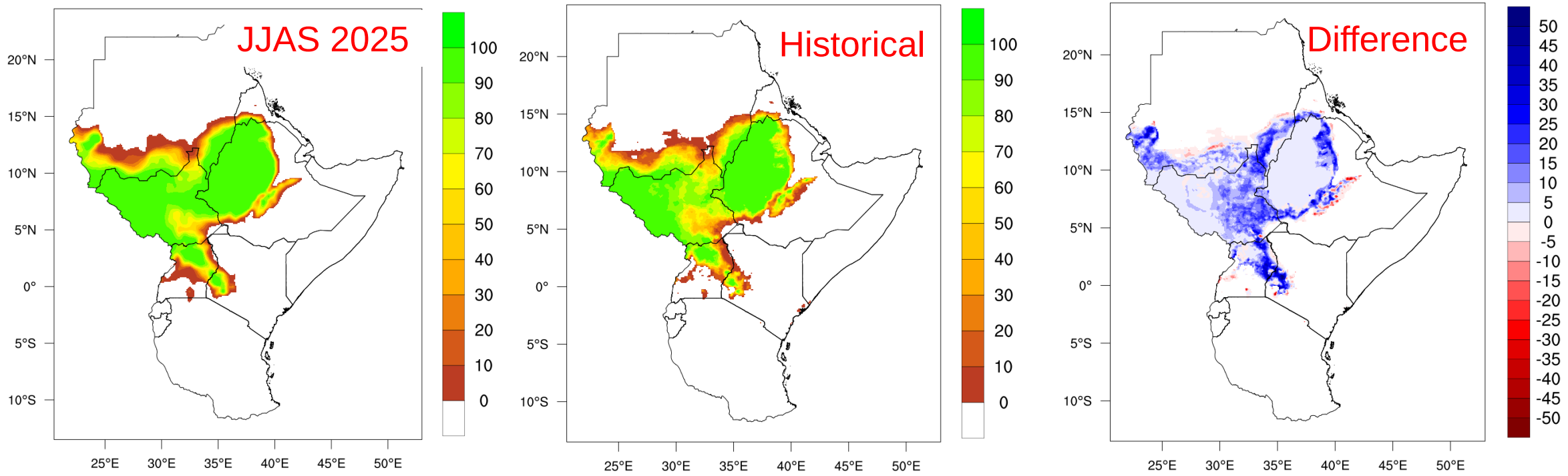


12-Month SPI
(Oct 2024-Sep 2025)

- **4-month SPI**: reflects short to medium-term moisture status
- **12-month SPI**: indicate cumulative trend of droughts/wetness and can be tied to stream flows and reservoir levels;
- Long-term wet conditions are expected, with sustained streamflow and water availability in reservoirs across most parts of Kenya, southern Somalia, and much of Sudan, western Ethiopia.

CHANCES OF JJAS 2025 RAINFALL EXCEEDING 500 MM

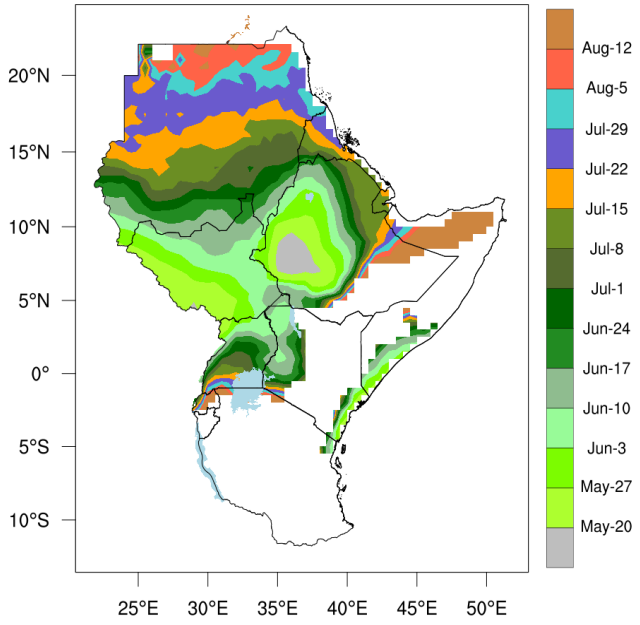
- High chances of receiving 500 mm over central to western Ethiopia, South Sudan, southern areas of Sudan, and northern Uganda



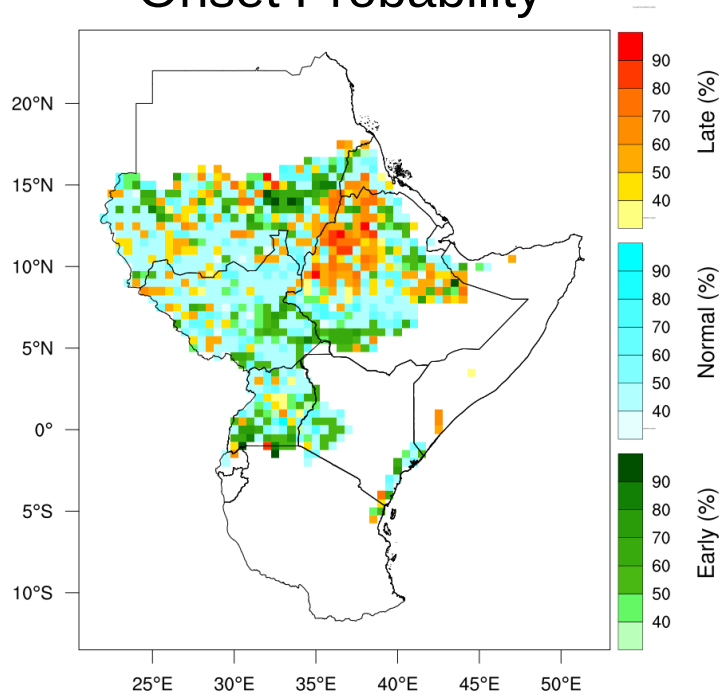
👉Higher chance (up to 30%) of recording 500 mm expected compared to historical over southern Sudan as well as in parts of Ethiopia, South Sudan, Uganda and western Kenya.

ONSET OF JUNE TO SEPTEMBER (JJAS) 2025 SEASON

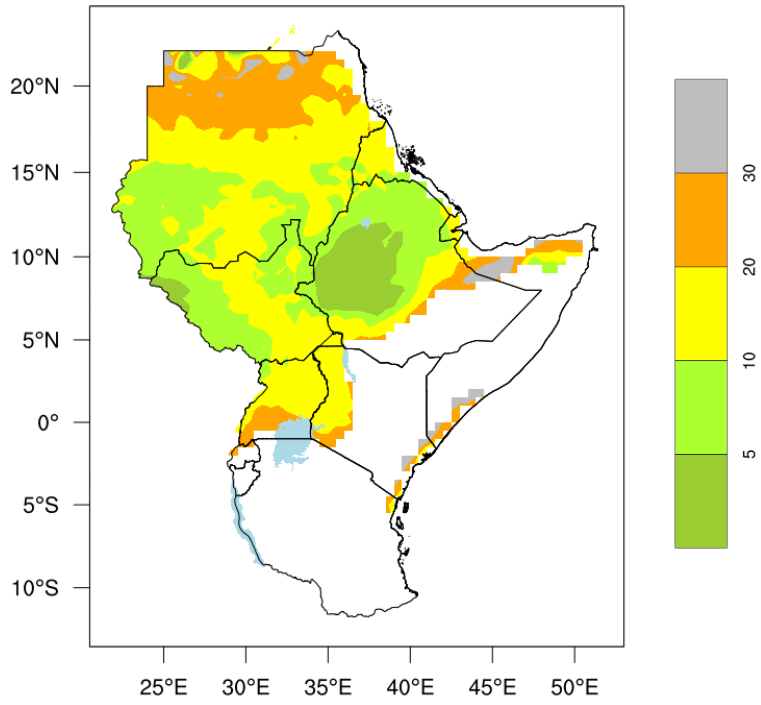
JJAS 2025 Onset Date



Onset Probability



Standard Dev.



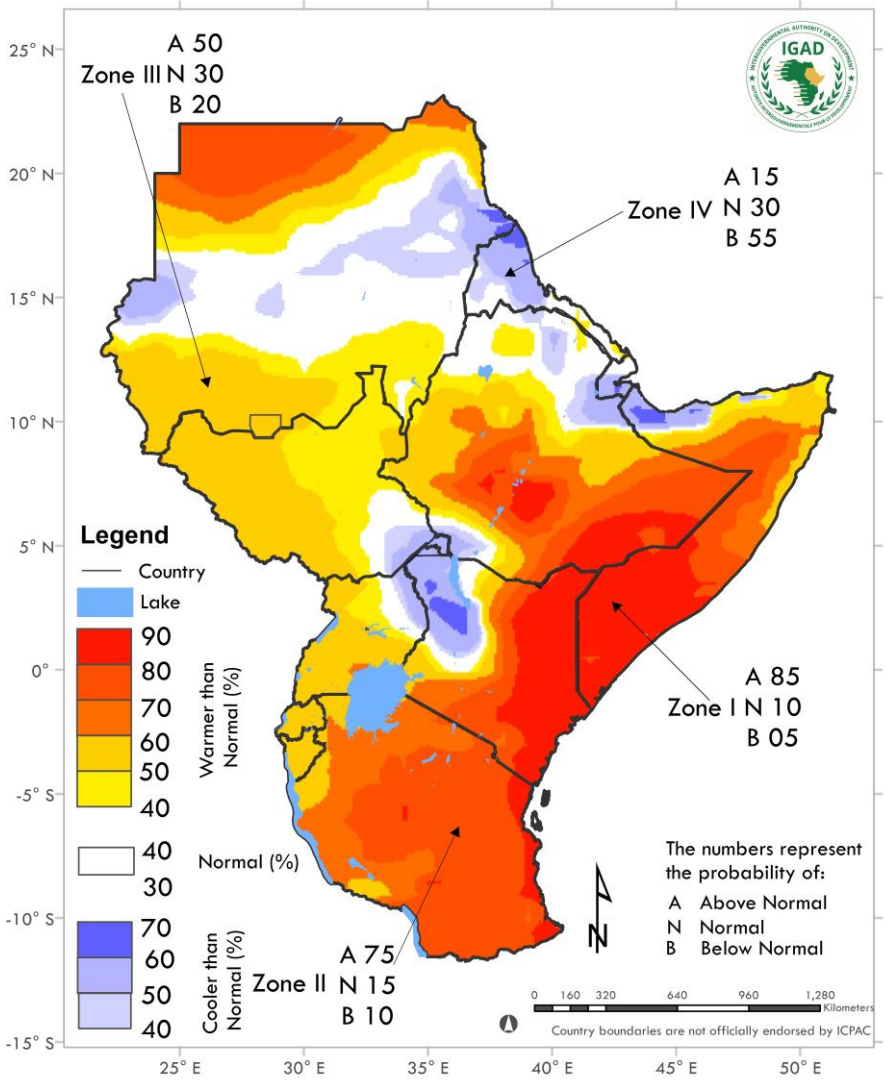
The onset of rainfall, as predicted by the MME forecast from 6 GCMs (212 members) shows a progression from south to north

Normal to early onset forecasted over most parts of the region; delayed onset indicated in localized areas and north western ETH.

Significant variation in predicting onset dates among various ensemble members over Sudan, Eritrea, Djibouti and eastern Ethiopia.

JJAS 2025 TEMPERATURE OUTLOOK

- Warmer-than-average temperatures are expected over most parts of the region.
- Significantly higher likelihood of experiencing **above-normal temperatures** are indicated over southern Ethiopia and Somalia, Eastern Kenya, and northern Sudan.
- There is a likelihood of **normal to below-normal temperatures** over northwestern Kenya, northeastern Uganda, southeastern South Sudan, Djibouti, Eritrea, central Sudan, and northeastern Ethiopia.



SUMMARY

- The Major climate drivers such as ENSO & IOD do not have significant influence on the MAM season. Tropical cyclones & MJO, though prevailing in the sub-seasonal timescales significantly influence the MAM season

- The JJAS 2025 seasonal forecast, based on May-initialized GPCs MME, indicates an increased likelihood of above-normal rainfall across much of northern GHA

- Higher chance of recording **500 mm** expected compared to historical over southern Sudan as well as in parts of Ethiopia, South Sudan, Uganda and western Kenya.

- A **normal to early onset** is forecasted for most parts of the region, while a **delayed onset** is expected in central to northwestern Ethiopia and isolated areas of Sudan, South Sudan, and Uganda.

- Temperature is expected to be **warmer than average** over much of the region with higher probabilities over southern Ethiopia and Somalia, Eastern Kenya, and northern Sudan.

THANK YOU!

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