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**March to May 2018 Climate Outlook for South Sudan – FAO’s Key Messages**  
**Based on the 48<sup>th</sup> Greater Horn of Africa Climate Outlook Forum (GHACOF 48)**  
**Mombasa, Kenya, 12<sup>th</sup> – 13<sup>th</sup> February 2018**

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## Introduction

The Forty Eighth Greater Horn of Africa Climate Outlook Forum (GHACOF 48) was convened from 12<sup>th</sup> to 13<sup>th</sup> February 2018 in Mombasa, Kenya. Organized by the IGAD Climate Prediction and Applications Centre (ICPAC), the Kenya Meteorological Department (KMD) and other partners, the forum developed the regional consensus climate outlook for March to May 2018. The Greater Horn of Africa (GHA) region comprises of Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania and Uganda. Approximately 140 participants from the region attended the forum.

## Methodology

The forum brought together climate scientists, researchers, users from key socio-economic sectors, governmental and non-governmental organizations, development partners, decision-makers, and civil society stakeholders among others. During the workshop, the participants from the Greater Horn of Africa (GHA) examined the prevailing and predicted sea surface temperatures (SSTs) over the Pacific, Indian and Atlantic Oceans and other global, regional and local climate factors that influence the GHA rainfall during the March to May season. These factors were assessed using dynamical and statistical models as well as expert interpretation.

## Consensus outlook for South Sudan (March-May 2018 rainfall season)

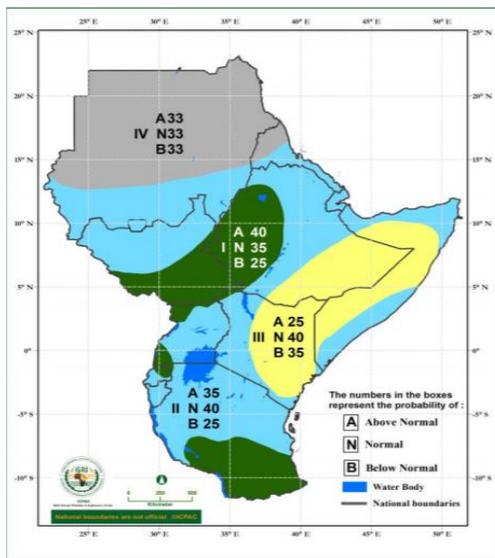
The March to May 2018 period constitutes an important rainfall season over the equatorial parts of the Greater Horn of Africa (GHA) region. For South Sudan, this period represents the onset of the rain and agricultural season in the green belt. The following are the key highlights of the South Sudan March to May (MAM) 2018 consensus climate outlook:-

- Areas of greater Equatoria and southern Jonglei<sup>1</sup> (Fig. 1, Zone I) are predicted to receive above normal to normal rainfall. However, there is a likelihood of dry spells during the season.
- Areas of Greater Bahr el Ghazal, most of Upper Nile and Unity (Fig. 1, Zone II) are forecast to receive normal to above normal rainfall. However, episodic heavy rainfall events leading to flash floods might also occur in these areas.
- Areas of Greater Bahr el Ghazal, Unity, Western Equatoria, Central Equatoria, Upper Nile, most of Jonglei and parts of Eastern Equatoria (Ikotos, Torit and Magwi) are forecast to experience below normal (cooler) to normal mean temperatures (Fig 2., Zone III and Zone II).
- Consensus climate outlook also indicates an increased likelihood of early to timely onset of the March to May 2018 rains over much of the eastern sector and delayed onset and early withdrawal of rainfall in much of the GHA region.

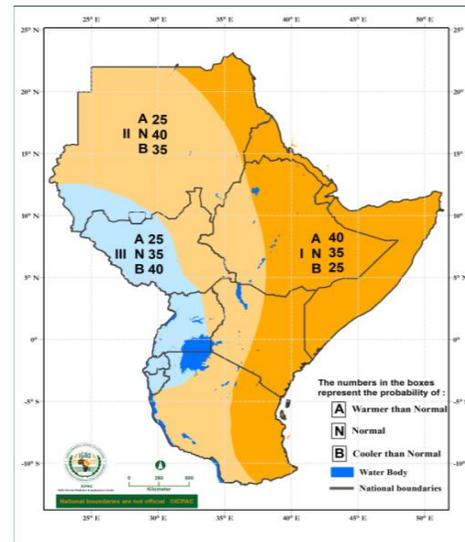
The rainfall and mean temperature outlooks for March to May 2018 for various zones within the GHA region are given in Figure 1 and Figure 2 respectively.

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<sup>1</sup> Areas in Jonglei that are predicted to experience an increased likelihood of above normal to normal rainfall are Bor South, Pibor, Pochalla and the southern parts of Akobo, Uror and Twic East.



**Figure 1:** Greater Horn of Africa Consensus Rainfall Outlook for March to May 2018 season



**Figure 2:** Greater Horn of Africa Consensus Mean Temperature Outlook for March to May 2018 season

**Zone I:** Increased likelihood of above normal-to-normal rainfall.

**Zone II:** Increased likelihood of normal to above normal rainfall.

**Zone II:** Increased likelihood of normal to below normal (cooler) mean temperatures.

**Zone III:** Increased likelihood of below normal (cooler) to normal mean temperatures.

**Note:** The numbers for each zone indicate the probabilities of rainfall and mean temperature in each of the three categories, above-, near-, and below normal. The top number indicates the probability of rainfall and mean temperature occurring in the above-normal category; the middle number is for near normal and the bottom number for the below-normal category. For example in zone II, Figure 1, there is 35% probability of rainfall occurring in the above-normal category; 40% probability of rainfall occurring in the near-normal category; and 25% probability of rainfall occurring in the below-normal category. In zone III, Figure 2, there is 25% probability of mean temperature occurring in the above-normal category; 35% probability of mean temperature occurring in the near-normal category; and 40% probability of mean temperature occurring in the below-normal category. The boundaries between zones should be considered as transition areas.

### Implications of the March to May 2018 rainfall outlook on agriculture and food security in South Sudan

#### Likely impacts of above normal to normal March-May 2018 rainfall outlook (Fig. 1, Zone I)

- The above normal to normal rainfall (Fig. 1, Zone I) areas which include greater Equatoria and southern Jonglei are likely to favor early cultivation and establishment of fast maturing crop varieties of sorghum and maize as well as other crops, such as, groundnuts, cassava and production of leafy vegetables.
- As the onset of rainfall is expected to be early or timely, pasture and water regeneration during the season will be favorable. This will encourage the early return of livestock to homesteads thus making milk and livestock products available at household level.

#### Likely impacts of normal to above normal March-May 2018 rainfall outlook (Fig. 1, Zone II)

- The normal to above normal rainfall which covers areas of greater Bahr-El-Ghazal, Northern Upper Nile and Unity is likely to favor production of leafy vegetables, short maturing sorghums and early planting of long maturing sorghum and maize which is expected to be harvested early before infestation of the destructive *quelea* birds in October-November.
- Pasture and water availability will encourage the early return of livestock to homesteads, thus making milk available for children and the elderly, thereby improving their nutritional status.

#### Negative implications of above normal to normal March-May 2018 rainfall outlook (Fig.1, Zone I and II)

- The above normal rainfall in these zones is likely to cause flooding in lowlands resulting in the washing away of seeds, e.g. smaller seeds of sesame and millet, thus resulting in poor crop stand.
- In addition, there is a likelihood of waterlogging leading to poor production, especially for vegetables and cassava tubers, and increase of incidences of pests and diseases.

- In areas where there is likely to be flash floods, there will be destruction of young crops if the timing coincides with the early stage of planting due to the waterlogging.
- The above normal rainfall will also increase the likelihood of pests and diseases affecting crops e.g. Fusarium root rot in tomatoes and other vegetables grown in the green belt zone.

***Recommended mitigation measures***

- There is an urgent need for a political solution to the ongoing conflict in-order to allow farming households to return to farms and emergency livelihoods support delivered. Security of farmers and delivery of humanitarian livelihoods support is required; otherwise, the country is likely to face a larger gap in the national cereal production next year.
- Early and timely repositioning and distribution of agricultural inputs (seeds, tools etc.) is critical to enable farmers take advantage of the early onset of rainfall.
- Dissemination of extension messages and trainings to farmers on better agronomic practices with support of the government extension workers to enable them to understand the expected implications of above normal rainfall and to cultivate on high ground as to avoid areas prone to flooding.

