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## March to May 2017 Climate Outlook for South Sudan – FAO's Key Messages<sup>1</sup>

Based on 45<sup>th</sup> Greater Horn of Africa Climate Outlook Forum (GHACOF 45)

Addis Ababa, Ethiopia, 6 -7 February 2017

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The Forty Fifth Greater Horn of Africa Climate Outlook Forum (GHACOF 45) was convened from 6 to 7 February 2017 in Addis Ababa, Ethiopia by the IGAD Climate Prediction and Applications Centre (ICPAC), the Ethiopia National Meteorological Agency (NMA) and partners to develop a regional consensus climate outlook for the March to May 2017 season over the Greater Horn of Africa region (GHA). The forum workshop was attended by participants from IGAD member states (Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania and Uganda), scientists from regional climate centres and climate information users from agriculture and food security, disaster risk sectors and media.

### Methodology:

During the workshop forum, scientists and climate experts reviewed the state of the global and regional climate systems with consideration of key driving factors such as the observed and predicted sea surface temperatures (SSTs) in the global oceans and their implications on the March to May seasonal rainfall over the region. The key influencing factors were assessed using dynamical and statistical models as well as expert interpretation. Technical guidance and valuable inputs were obtained from National Climate Scientists who participated in the pre-COF 45<sup>th</sup> Capacity Building Workshop hosted by ICPAC from 30 January to 4 February 2017; World Meteorological Organization's Global Producing Centres (WMO-GPCs), UK Met Office, International Research Institute for Climate and Society (IRI) as well as expert interpretation and opinion from regional and international climate scientists. The forecasting capability allows for prediction departures from mean conditions and as a result probability distributions to indicate the likelihood of above, near, or below normal rainfall were established by the climate experts and areas with similar outlook were grouped into zones I, II, III, and IV in Figure 1 and 2 below.

The potential implications of the consensus climate outlooks on agriculture and food security, livestock, water resources, disaster risk management for each forecast zone and mitigation strategies were discussed and developed by users for their respective countries and sectors. The rainfall and temperature outlooks for March to May 2017 for various zones within the GHA region are given in Figures 1 and 2 respectively.

### Consensus Climate Outlook for South Sudan (March to May 2017 rainfall season):

The March to May 2017 consensus climate outlooks for South Sudan:

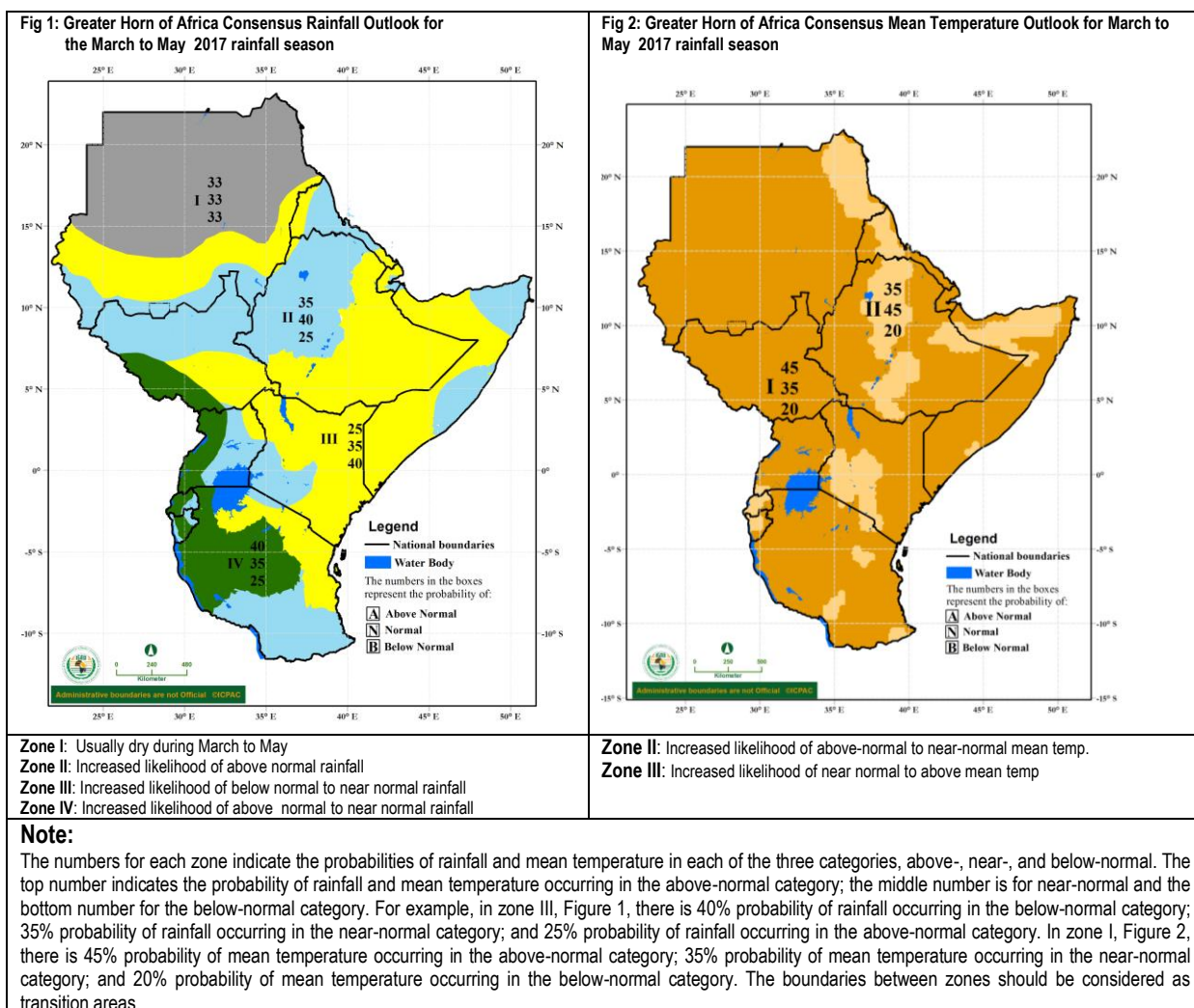
- Generally, the March to May rainfall performance is predicted to be above average over South-Western parts of the Country with timely onset, however dry-spell period of 8 to 15 days may likely occur during the March to May 2017 period.
- In particular, areas in the former Eastern Equatoria State, Pibor, Bor South, Uror, Duk, Former Lakes State, Greater Mundri, Terekeka and Juba have high likelihood of below-normal to normal rainfall during the March to May 2017 rainfall season (Figure 1 Zone III).
- In comparison with the long-term average, most parts of Magwi, Kajo-Keji, Yei, Lainya, Yambio, Nzara, Ezo, Tambura, southern Raga and Wau have a high likelihood of receiving above-normal to normal rainfall during the March to May 2017 (Figure 1 Zone IV).

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- Areas in North-Eastern and North-Western parts of South Sudan (former Upper Nile, Unity, Warrap, Northern and North-Western parts of Western Bahr-el Gazal states) are forecast to receive normal to above-normal rainfall during the March to May 2017 rainfall season (Figure 1 Zone IV).
- There is an increased likelihood of higher than average temperatures over most parts of South Sudan during the March to May 2017 period (Figure 2 Zone I).

**Note:** Although the outlook is relevant for the March to May 2017 period and for relatively large areas, there is possibility for local and month-to-month variations to occur as the season progresses. It is likely that dry spells might occur in areas with an increased likelihood of above normal rainfall, and flash floods may occur in areas with increased likelihood of below normal rainfall. Updates will be provided by the South Sudan Meteorological Department.



### Agriculture and food security sector implications of March to May 2017 rainfall outlook:

#### a) Positive implications of above-normal March to May 2017 rainfall outlook (South-Western areas):

- The above-normal to normal rainfall forecasted is likely to favor production of short maturing crop varieties (especially sorghum, maize, groundnut, cassava), if security conditions permit access to farming, in the Greenbelt areas of Magwi, Yei, Morobo, Kajo-keji, Maridi, Yambio, Nzara and parts Ezo and Tambura,.
- The increased water discharge to the Nile and its tributaries is likely to increase fish volumes and present an opportunity for fishing in and along the Nile Basin, thus improving household protein consumption.

**b) Positive implications of normal to above-normal March to May 2017 rainfall outlook (North-Eastern and North-Western areas):**

- Timely onset of rains and normal to above-normal rainfall performance forecasted in Agro-Pastoral areas in North-East, North-West and Central Agro-Pastoral areas is likely to promote rejuvenation of pasture; improve availability of water for both livestock and domestic use; and favor vegetables production. This will ensure availability of milk, livestock products and vegetables for household food consumption.

**c) Negative implications of above normal March to May 2017 rainfall outlook (South-Western areas):**

- Warmer than average temperatures and enhanced rainfall forecast in most parts of the Greenbelt (Equatorial Maize and Cassava zone) is likely to favour incidences of fungal disease and pest proliferation and infestation, thus affecting crop productivity.
- Physical access to remote areas and markets is likely to be constrained by impassable feeder road conditions. This will more likely increase the cost of transportation and lead to higher food prices in the local markets.

**d) Negative implications of below normal March to May 2017 rainfall outlook (hills and mountains, pastoral areas):**

- The below-normal rainfall amount forecasted in mountains and hills and pastoral zones during the March to May 2017 period is likely to delay pasture establishment and recharge of water hafirs as well as surface watering points. This will further delay returns of livestock from distant grazing areas to their homesteads.
- Conflict over pasture and watering points are more likely to intensify as more herds of livestock crowd in the few pasture-rich areas. This is likely to result in outbreaks of diseases and increased treatment costs.
- There is also high likelihood of transmitting trans-boundary diseases as pastoralists cross from one country to another in search of pasture and water.

**Recommended mitigation actions:**

- Urgent need for a political solution to the ongoing violent conflict, in order to allow farming households to return to their farms and emergency livelihoods support provided. If the security of farmers is not guaranteed and humanitarian livelihoods support not provided, the country is likely to face a larger gap in the national cereal production next year.
- Activation of livestock surveillance systems for early detection, identification and reporting of any animal health risks for timely intervention.
- Farmers are encouraged to embrace good agronomic practices such as early land preparation and planting; timely weeding and observation of good field sanitary measures to minimize losses due to pests and diseases and take full advantage of the short rainy season.
- Farmers in areas where depressed rainfall is projected are encouraged to diversify their livelihoods by engaging in alternative income generating activities such as small-scale livestock rearing, and production of vegetables supplemented with irrigation to improve household food security.
- Ensure continuous crop monitoring in order to provide early warnings and timely intervention.
- Formalize cross border agreements with neighboring countries to allow access to pasture and water for affected pastoral communities.
- Timely repositioning of agriculture inputs (seeds and tools) is recommended to enable farmers to take advantage of favorable weather conditions in the South-Western and North-Eastern/Western of the country.