Head Office:
Plot 67 – 75
Clement Hill Road
KAMPALA
E-mail:com.met@meteo-uganda.net
Ref: *SCF/JJA/17*

Tel: +256 414 251798
Fax: +256 414 251797
P.O. Box 7025
KAMPALA

UGANDA NATIONAL METEOROLOGICAL AUTHORITY

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THE SEASONAL RAINFALL OUTLOOK FOR JUNE TO AUGUST 2017 OVER UGANDA

1.0 OVERVIEW

The June, July and August forecast period is generally part of the dry season over most parts of south western, central, Lake Victoria basin and some parts of eastern region but a continuation of rainfall season for much of the northern Uganda. It generally marks the end of the first rainfall season for the southern sector of the country and is usually a harvest season for crops.

Following the conclusion of the 46th Climate Outlook Forum for the Greater Horn of Africa held in Khartoum, Republic of Sudan from 15th – 16th May 2017, the national, regional and international climate scientists reviewed the state of the global climate system and its implications on the seasonal rainfall over the East African region. It was observed that the major physical conditions likely to influence the weather conditions over Uganda and the rest of the east African region for the forecast period of June to August 2017 are as follows:

i) The weak positive phase of Indian Ocean Dipole (IOD) that has significant influence on regional climate;
ii) The neutral conditions of Sea Surface Temperatures (SSTs) over the equatorial Pacific Ocean with a heightened likelihood of El Niño episode to start developing during the second half of 2017 with a 60% chance of at least a weak El Niño by the end of the year which calls for close monitoring;
iii) The influence of regional circulation patterns, topographical features and large inland water bodies.

Based on the above considerations as well as details of the climatology of Uganda and scientific tools for climate analysis, Uganda National Meteorological Authority (UNMA) under Ministry of Water and Environment has downscaled the regional forecast and come up with the following detailed forecast:-

Overall, there is an increased likelihood of **near normal tending to above normal rainfall** over the northern and some parts of eastern region, while the rest of the country is expected to experience **below normal rainfall punctuated with occasional light** rainfall conditions as shown by the map below:

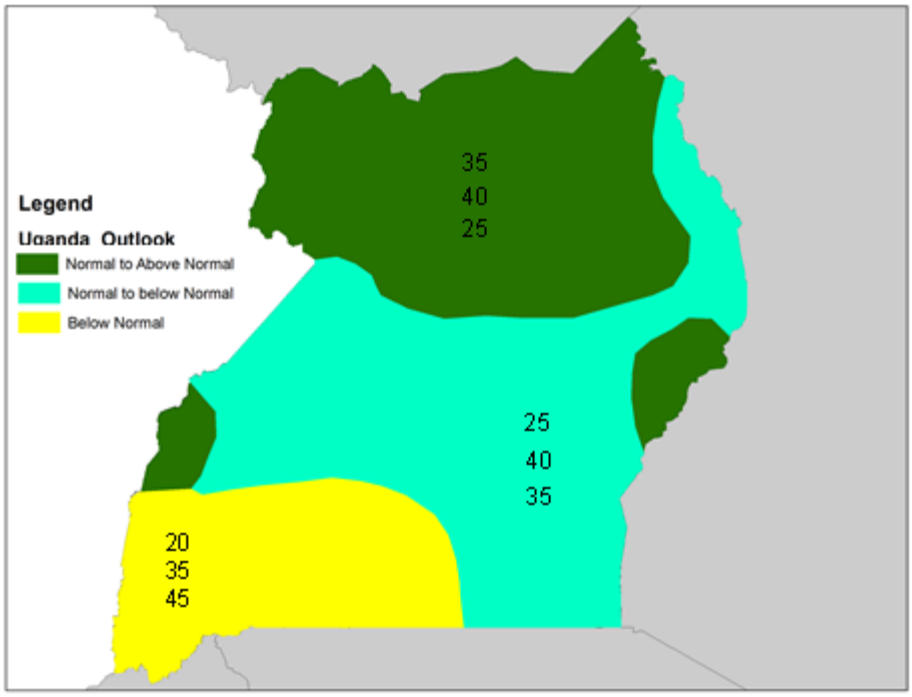

Figure1: JJA 2017 climate Outlook.

2.0 THE BREAKDOWN OF THE FORECAST FOR EACH REGION

2.1.0 WESTERN REGION

2.1.1 Central Western *(Bundibugyo, Ntoroko, Kabarole, Kyenjojo, Kyegegwa, Kamwenge, Masindi, Buliisa, Hoima, Kakumiro, and Kibaale) districts*

This region is experiencing moderate rainfall characterized by dry spells. This condition is expected to persist up to around late June when the dry conditions are expected to begin and continue up to the end of the season. Overall, **near normal** to **below normal** rainfall (**average to suppressed rainfall**) is expected to prevail over most parts of the region.

2.1.2 South Western (*Kasese, Kabale, Kisoro, Rukungiri, Kanungu, Ntungamo, Mbarara, Kiruhura, Isingiro, Ibanda, Bushenyi, Buhweju, Mitooma, Sheema and Rubirizi) districts*

The region is receiving declining intermittent light rains which are likely to persist up to early June. Thereafter, dry conditions are expected to set in and continue up to mid-August when isolated outbreak of light showers is expected to set in and continue up to the end of the season. Overall, **below normal** (**suppressed**) rainfall (dry conditions) is expected to be experienced over most parts of the region.

2.2.0 LAKE VICTORIA BASIN AND CENTRAL REGION

2.2.1 Northern and Southern parts of Central *(Nakasongola, Luwero, Kyankwanzi, Nakaseke Kiboga, Mubende, Kasanda, Sembabule, Lwengo, Lyantonde, and Rakai) districts.*

The seasonal rains being experienced over this region are on a decline although they are expected to continue up to early June when the dry conditions are expected to set in up to mid-August. Thereafter, occasional outbreaks of showers are expected to get established and continue up to the end of the season. Overall, there are high chances of **near normal to below normal** (**average to suppressed**) rainfall over most parts of the region.

2.2.2 Eastern parts of Central (Mukono, Buikwe, Kayunga, Buvuma) districts.

This region is experiencing intermittent rains which are expected to continue up to early June when dry conditions are expected to set in and continue up to early/mid August. Thereafter, steady rains are expected to occur and continue up to the end of the forecast period. There are high chances for dry conditions to dominate during this season punctuated by light showers. Overall, **near normal** (**average**) rainfall with a tendency to **below normal** (**suppressed**) rainfall over most parts of the region.

2.2.3. **Central and Western Lake Victoria Basin** *(Kalangala, Kampala, Wakiso, Masaka, Mpigi, Butambala, Kalungu, Bukomansimbi, Gomba, and Mityana) districts*

The region is experiencing occasional showers and thunderstorms, which are expected to continue up to mid-June. Thereafter, moderate dry conditions are expected to set in and persist up to the end of the season. **Near normal** (**average**) rainfall is expected over this region. Overall dry conditions punctuated with light showers and thunderstorms are expected to prevail over this region during this season.

2.2.4 Eastern Lake Victoria Basin: *(Jinja, Bugiri, Busia, Mayuge, Namayingo and Tororo) districts.*

The region is experiencing some outbreaks of light showers and thunderstorms that are likely to continue up to early June when the dry conditions are expected to set in. This is likely to extend up to late July/early August giving way to occasional rains until the end of the season. Overall, **near normal** (**average**) rainfall is expected over this region.

EASTERN REGION

2.3.1 South Eastern: *(Kamuli, Iganga, Luuka, Namutumba, Buyende, Kaliro, and Butaleja) districts*

The rains which are being experienced over this region are expected to continue up to early June when the dry conditions are expected to begin and prevail up to late July/early August. Thereafter, occasional outbreaks of showers and thunderstorms are likely to prevail up to the end of the forecast period. Overall, there are high chances of **near normal** (**average)** rainfall conditions over this region.

Eastern Central: *(Pallisa, Budaka, Kibuku, Mbale, Sironko, Manafwa, Bududa, Bulambuli, Kapchorwa, Kween, Bukwo, Bukedea, Kumi, Kaberamaido, Serere and Soroti) districts.*

The rains being experienced over this region are expected to continue up to mid-June. Thereafter, a relaxation of the rainfall is likely to extend up to mid- July, when steady rains will set in and continue up to the end of the season. Overall, there are high chances of **near normal** (**average**) rainfall with the tendency to **above normal** (**above average**).

2.3.3 North Eastern: (*Amuria, Katakwi, Moroto, Kotido, Nakapiripirit, Abim, Napak, Amudat, and Kaabong) districts*

The region is experiencing occasional showers and thunderstorms punctuated with some dry spells which are expected to continue up to late July/early August, when a reduction in the rainfall is likely to be experienced until the end of the season. Overall, **near normal** (**average**) rainfall conditions are likely to prevail over most parts of the region during the forecast period.

NORTHERN REGION

2.4.1 North Western (*Moyo, Yumbe, Adjumani, Arua, Maracha, Zombo, Nebbi, Koboko) districts*

The region is experiencing seasonal rains punctuated with short lived dry spells which are expected continue with a relaxation around late July. This condition is expected to persist up to the end of the season. Overall, **normal** (**average**) rainfall is expected to prevail over this region

2.4.2 Eastern Northern Parts: (*Lira, Kitgum, Agago, Lamwo, Otuke, Pader, Alebtong, Kole, and Dokolo) districts*

The region has been experiencing wet conditions since late April. The rainfall is expected to continue up to early July giving way to a slight relaxation. Thereafter, outbreaks of isolated showers are likely to pick up and continue up to the end of the season. Overall, there are high chances for this region receiving **near normal (average) to above normal (above average)** rainfall.

2.4.3 Central Northern Parts : *(Gulu, Apac, Pader, Nwoya, Amuru, Oyam and Kiryandongo) districts*

The period June, July and August (JJA) is normally a rainy season for this region. The region is likely to experience a continuation of the rainfall up to early July when a reduction in the rains is expected. Thereafter, steady rains are expected to set in and to extend up to the end of the season. Overall, there are high chances for this region receiving **near normal** (**average**) with a tendency to **above normal** (**above average**) rains over this forecast period.

3.0 ADVISORIES

3.1 *Sector advisories*

Sectors	**Areas expected to receive near normal to BELOW NORMAL rainfall**	**Areas expected to receive near normal to ABOVE NORMAL rainfall.**
AGRICULTURE AND FOOD SECURITY	**Impacts:**	**Impacts:**
	• Water stress for some crops like bananas and tea; • Shortage of pasture and water for livestock; • Increased incidences of livestock and crop pests and diseases.	• Increased availability of water for production; • Soil erosion from surface runoff; • Silting of dams, valley tanks, fishponds and other water harvesting structures due to erosion.

	Advisories:	**Advisories:**
	• Use the available water for livestock, irrigation and domestic use sparingly; • Farmers should mulch their gardens to conserve moisture available in the soil; • Pasture preservation (hay, silage for livestock); • Encourage farmers to store enough food for household use especially cereals; • Planting of leafy vegetables and drip irrigation should be encouraged; • Use of proper post-harvest handling practices to avoid yield losses e.g. use of super bags, metallic silos, maize cribs, Cacoons, tarpaulins, drying racks; • Early land preparation (towards end of JJA season) to allow for timely planting for SOND; • Observe soil and water conservation practices such as mulching to reduce soil moisture; • Supplementary irrigation to sustain crop growth.	• Observe good soil and water conservation practices; • Dig water trenches and drainage channels to minimize flash floods and water logging; • Encourage proper agronomic practices such as timely weeding and harvesting; • Encourage proper food storage; • Encourage improved high yielding varieties ie cereals, soya, sorghum; • Avoid planting in areas prone to water logging; • Backyard/homestead gardening of vegetables such as nakati, dodo, egg-plants, etc; • Establishment of water harvesting structures at household and communal level; • Soil and water conservation practices e.g. trenches, grass bunds, mulching to enhance soil moisture retention and control erosion.
WATER MANAGEMENT SECTOR	**Impacts:**	**Impacts:**
	• Reduced availability of surface and groundwater resources; • Decline/Drying of streams and other water sources(boreholes, wells); • Drop in the water table.	• Increased availability of surface and groundwater resources; • Water contamination and Increased Sediment loading are Expected; • Bursting of riverbanks may occur.
	Advisories:	**Advisories:**
	• Committees should ensure effective utilization of available water resources; • Farmers who practiced water harvesting and use it sparingly; • Rainfall harvesting is encouraged.	• Open drainage channels to avoid flash floods and water logging; • Local leaders should mobilize communities to clear the possible water drainage areas; • Encourage tree planting along riverbanks and Clearance of water pathways to avoid silting.

HEALTH SECTOR	**Impacts:**	**Impacts:**
	• Upper respiratory infections like flu and colds are expected; • Increase in skin allergies are also expected.	• Malaria upsurges expected to increase. • Increase in livestock diseases and vectors is expected.
	Advisories:	**Advisories:**
	• Carrying out community health education is encouraged; • Stocking of drugs against respiratory diseases is encouraged; • Vaccination against meningitis is encouraged; • Good personal hygiene and sanitation practices are encouraged; • Drinking a lot of clean boiled water to avoid dehydration.	• Carrying out community health education is encouraged; • Distribution of mosquito nets to the communities is encouraged; • The Ministry of Health and the district local government should Intensify disease surveillance; • Stocking of drugs for water borne diseases; • Good personal hygiene and sanitation practices should be encouraged.
DISASTER PREPAREDNESS	**Impacts:**	**Impacts:**
	• Dry conditions in the Southern sector of the country may lead to serious water shortage in the community; • Conflict due to water and food shortage may occur among the communities.	• Lightning and thunderstorms expected to occur in different areas; • Landslides may occur in the mountainous areas of Rwenzori and Elgon.
	Advisories:	**Advisories:**
	• Food security sensitization to communities need to be carried out; • Proper post harvest handling should be encouraged; • Contingent planning to handle any eventualities should be put in place.	• Construct drainage and diversion channels, pathways along the roads in order to avoid flooding; • Tracking the progress and performance of the seasonal climate forecast is encouraged; • Disaster committees in the districts should be on the lookout to report any occurrences of any disaster associated due to above normal rains expected in these regions.

4. ACCURACY

This forecast is up to 78% accurate. It is supported by useful forecast guidance inputs drawn from a wide range of sources including the World Meteorological Organisation's Global Producing Centres (WMO GPCs). These inputs were combined into a regional consensus forecast using deterministic and probabilistic modelling alongside expert analysis and interpretation to obtain the regional rainfall forecast for this season.

The UNMA will continue to monitor the evolution of relevant weather systems particularly the El Niño event and issue appropriate updates and advisories to the users accordingly.

Festus Luboyera
EXECUTIVE DIRECTOR

EXPLANATORY NOTES TO TERMINOLOGY

Above Normal: This is when the total rainfall is above 125% of the long - term -mean (LTM). Impact on socio-economic activities is mostly boosted especially in the modest degrees of above average.

Normal: This is when the total rainfall is in the range of 75% to 125%of the LMT. This range of rainfall is expected to adequately support the normal socio-economic activities for the various areas.

Below Normal: This is when the total rainfall is below 75% of the LTM. Under this range there are high chances for socio-economic activities being stressed, the level of stress increasing with increasing rainfall deficiency.