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1. HIGHLIGHTS/ ACTUALITES

- Rainfall activities were mainly observed over south eastern parts of southern sector as well as western parts of equatorial sectors of the Greater Horn of Africa (GHA) during the month of March 2015;
- During May 2015 the western and eastern parts of equatorial sector as well as southern parts of the northern sector are likely to receive near to above normal rainfall;
- The socio-economic impacts associated with the observed rainfall over the GHA during the month of March 2015 resulted in improved crop, pasture and foliage conditions, increase in water related diseases; improvement in water resources and localised flooding over parts of southern sectors.

2. INTRODUCTION

In this bulletin, the climatic conditions observed over the GHA region in the month of March 2015 is reviewed and the climate outlook for May 2015 is provided. The socio-economic impacts associated with both the observed conditions and the outlook is finally highlighted.

There are seven sections in this bulletin. In section 1, the major highlights from both the observed and expected climate conditions are outlined. Section 3 provides an overall summary. The climate patterns that prevailed in the month of March 2015 are discussed under section 4, while the dominant weather systems are discussed in the section that follows. The climate outlook over the GHA for the month of May 2015 is presented in section 6. The socio-economic impacts associated with the observed climatic conditions and those expected from the climate outlook are outlined in the final section.

3. SUMMARY

The three main components of this bulletin are summarised in this section. These components are: the climatic conditions observed during the month of March 2015 over GHA, the climate outlook for May 2015, and the impacts associated with both the observed climate conditions and the climate outlook.

Rainfall activities were mainly observed over south-eastern parts of the southern sector and western parts of the equatorial sector of the GHA region during the month of March 2015. The observed rainfall conditions over parts of the Greater Horn of Africa during March resulted in improved crop, pasture and foliage conditions, replenishment of water resources and cases of flooding leading to disruption of livelihood.

The regional climate outlook for May 2015 indicates near normal to above normal rainfall is likely to be experienced over western and eastern parts of equatorial sector as well as southern parts of the northern sector of the Greater Horn of Africa (Figure 8).

4. CLIMATE PATTERNS IN MARCH 2015

The climatological summary for the rainfall amounts and rainfall severity indices over the GHA in the month of March 2015 are provided in this section. The rainfall severity indices are derived only for those areas in the GHA region where March is not a dry month.

4.1 Rainfall amounts and performance during March 2015

During the month of February 2015, south western Tanzania received between 100mm to above 200mm of rainfall, parts of Burundi Rwanda; southern Uganda, western Kenya and north western Tanzania received between 100 mm to 200 mm of rainfall. During the same period central parts of Kenya; western Ethiopia western and central Uganda; western and central Tanzania received between 50mm and 100mm of rainfall while the rest of the GHA receiving less that 50mm (Figure 1).

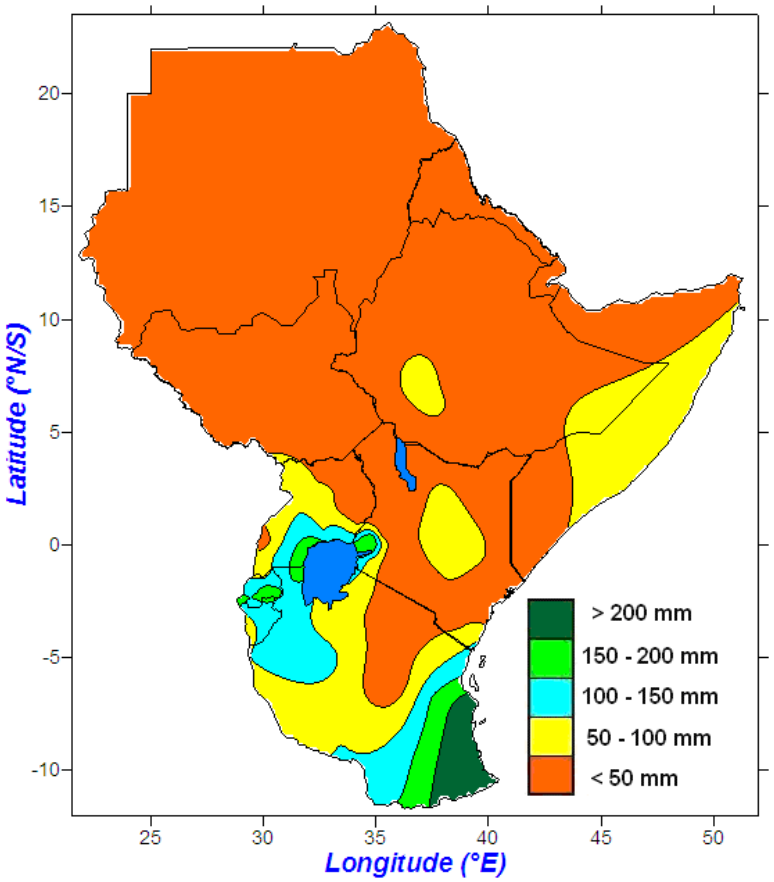

Figure 1: Spatial distribution of rainfall during the month of March 2015

4.2 Climate severity

Rainfall severity indices are derived by considering all observations which are less than 25% (first quartile) of the ranked historical records to be dry while those which are more than 75% (third quartile) are considered wet.

During March 2015, near-normal to wet conditions were recorded over Eastern and south eastern Tanzania; western central and south eastern Kenya; Rwanda; southern Uganda; Burundi; central parts of Ethiopia; (Figure 2). Dry conditions were recorded over northern

eastern parts of Uganda; parts of western, northern and eastern Kenya; northern, central and southern western Tanzania; and part of central Ethiopia (Figure 2). The rest of the GHA recorded generally dry conditions.

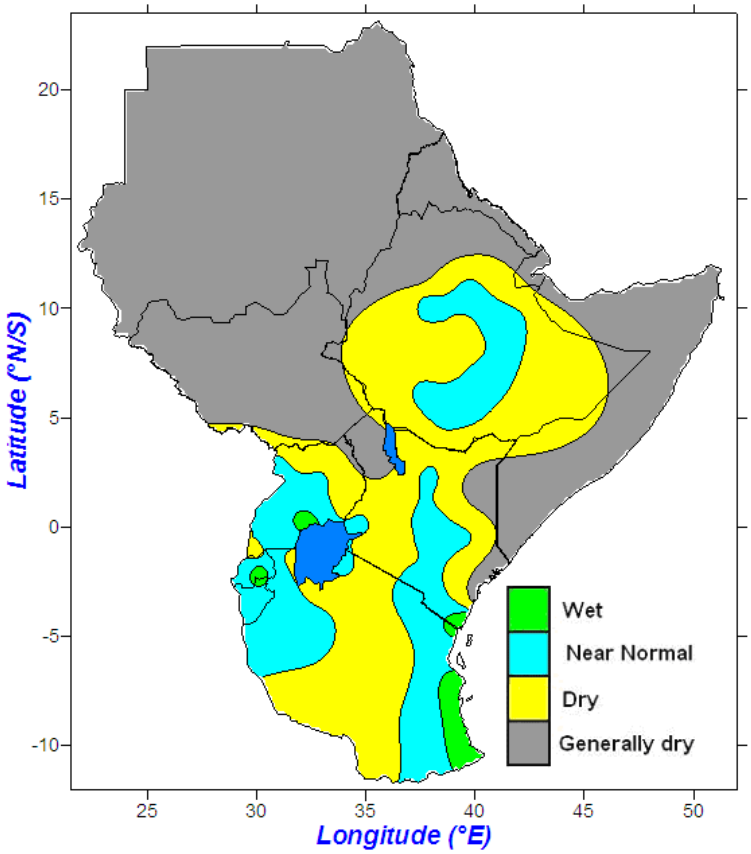

Figure 2: Rainfall severity index for the month of March 2015

4.2.1 Cumulative climate stress severity monitoring

The extent of climate-related impacts on any particular system depends on the severity and duration of the climate stress. Direct and indirect severe impacts on health and food security, water resources and livestock, among other socio-economic sectors emanates from cumulative climate stress severity. The indices used to monitor cumulative rainfall severity over GHA are presented in the next section.

4.2.2 Cumulative rainfall performance from June 2014 to March 2015

The cumulative dekadal rainfall was used to evaluate the rain water stress over GHA region. Figure 3 shows the cumulative dekadal rainfall performance since June 2014. Near normal rainfall was observed over western parts of equatorial sector (Figure 3a, and 3b) and central parts of the Southern Sector (Figure 3c).

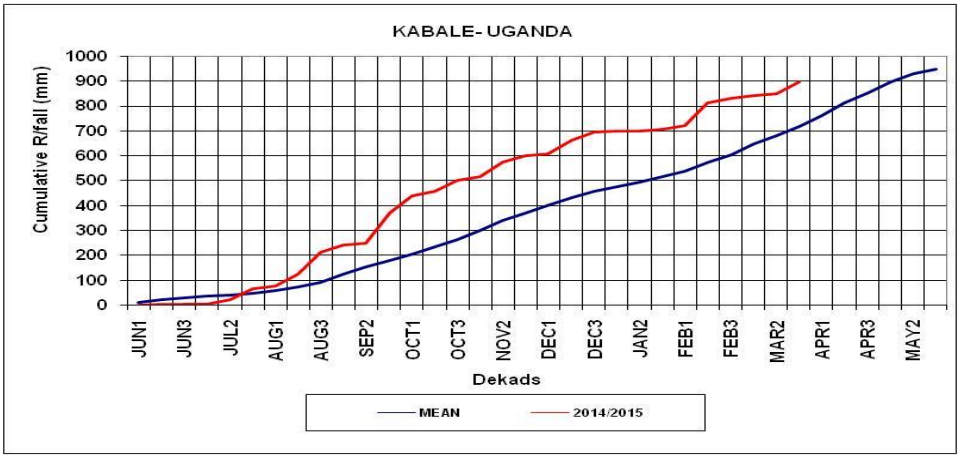

Figure 3a: Cumulative rainfall series for KABALE

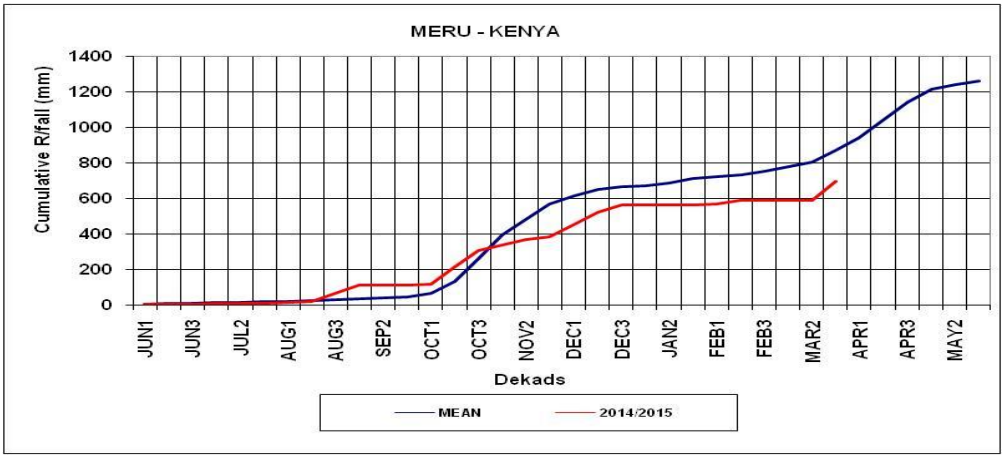

Figure 3b: Cumulative rainfall series MERU

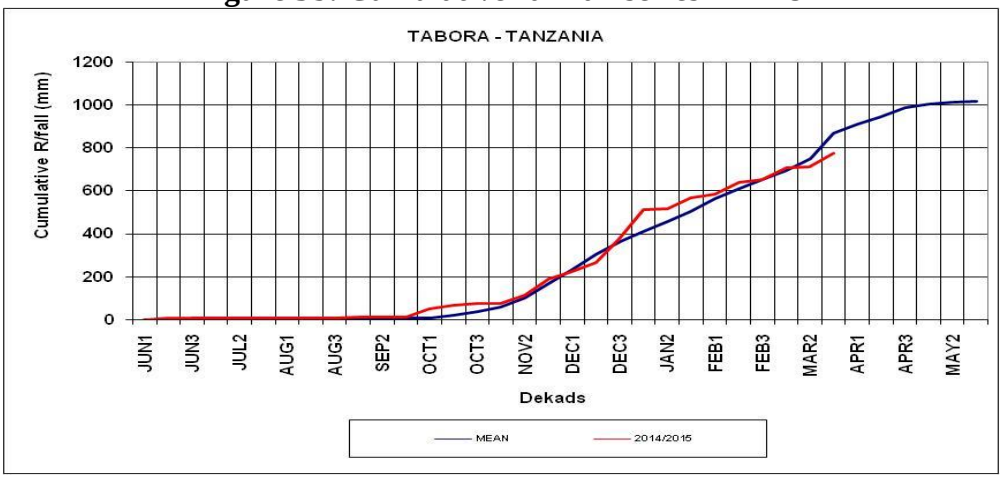

Figure 3c: Cumulative rainfall series for TABORA

4.3 Rainfall anomalies

4.3.1 Rainfall anomalies during January to March 2015 period

During January to March 2015 period, western and south-eastern parts of Tanzania; Rwanda and parts of Burundi received between 75-125% of long term rainfall. Most parts of Sudan; northern Eritrea; Djibouti; northern Somalia; north-eastern Ethiopia; and north eastern Kenya received less than 25%. The rest of the region received between 25-75% of the long-term rainfall except for isolated parts in north western Ethiopia and eastern Kenya which received between 75 %and 175% of the long-term rainfall for the period (Figure 4) for the three-month long-term mean rainfall during the January-March 2015 period (Figure 4).

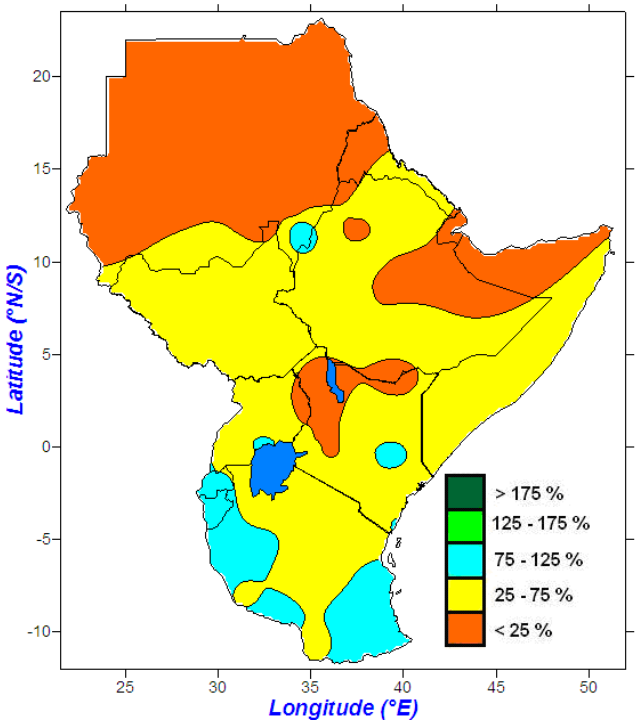

Figure 4: Spatial pattern of rainfall anomalies for January to March 2015 period

4.4 Temperature anomalies

4.4.1 Maximum temperature anomalies

Warmer than average maximum temperatures prevailed over most parts of the Greater Horn of Africa (GHA) region during the month of March 2015 (Figure 5a) except for parts of South Sudan which recorded less than average maximum temperatures and negative maximum temperature anomalies exceeding 2°C. Positive maximum temperature anomalies exceeding 2°C were recorded over central and eastern parts of Sudan; most parts of Uganda; Burundi; western Kenya; central and eastern parts of Ethiopia; eastern parts of Rwanda; north-western parts of Tanzania; and parts of southern Somalia. (Figure 5a).

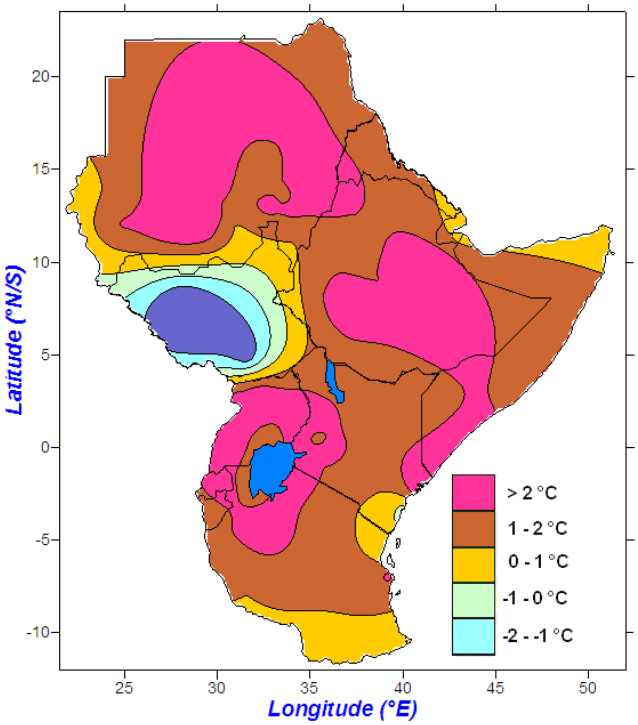

Figure 5a: Maximum temperature anomalies for March 2015

4.4.2 Minimum temperature anomalies

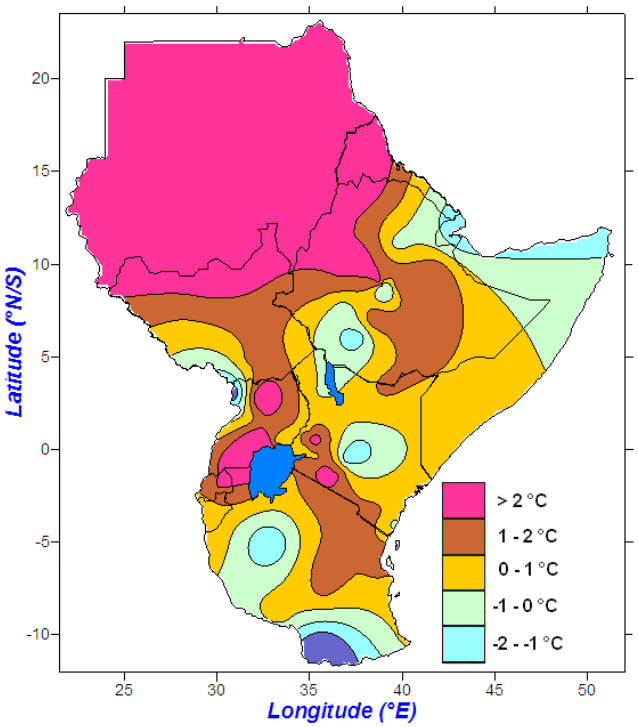

Figure 5b: Minimum temperature anomalies for the month of March 2015

During March 2015, negative anomalies of minimum temperatures were recorded over Djibouti; southern Eritrea; northern Somalia; north-western Uganda; south western parts of South Sudan; central Kenya; south-western Ethiopia; and western and south-western Tanzania (Figure 5b), while the rest of the GHA recording warmer than average minimum

temperature anomalies (Figure 5b). Less than 2°C negative temperature anomaly was observed in south-western Tanzania and north-western Uganda. Positive minimum temperature anomalies greater than 2°C were recorded over much of Sudan north western Ethiopia; northern Eritrea; and isolate parts of north- eastern and south-western Uganda; western Kenya; and north-western Tanzania (Figure 5b).

5. STATUS OF THE CLIMATE SYSTEMS

During the period of February to mid March 2015 above average sea surface temperatures (SSTs) were observed over south-western and eastern parts of the Indian Ocean while cooler than average SSTs were observed over the western parts of the Indian Ocean (Fig.6) resulting in negative Indian Ocean dipole index (Figure.7). Warmer than average SSTs were observed over western equatorial Pacific Ocean (Figure. 6).

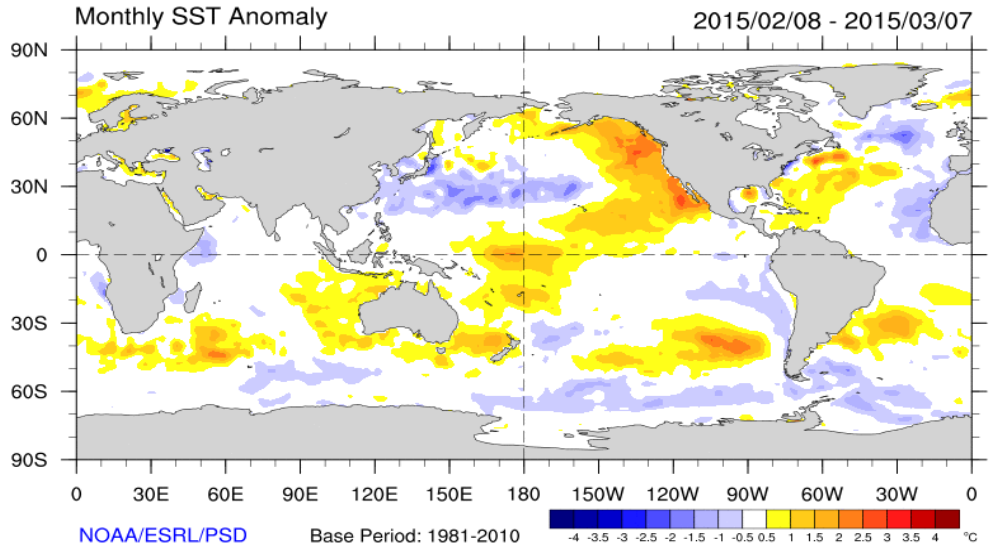

Figure 6: Sea Surface Temperature anomalies for the period 8 February to 7 March 2015 (Courtesy of NOAA)

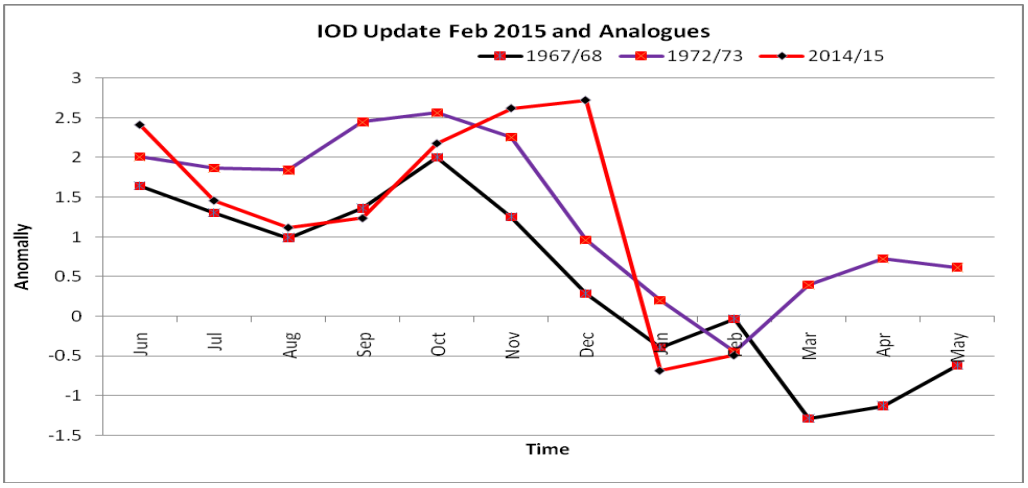

Figure 7: Indian Ocean Dipole (IOD) for 2014 / 2015 and Analogue Years

6.0 CLIMATE OUTLOOK FOR MAY TO JUNE 2015

The outlook for May 2015 indicates likelihood of receiving normal to above normal rainfall over Uganda; western, coastal and central parts of Kenya; parts of South Sudan; northwestern parts of Tanzania; parts of Rwanda; Burundi; southern Somalia; and southern and western Ethiopia (Figure 8). Northern parts of Sudan and most parts of Eritrea are likely to remain generally dry during the May 2015 period while the rest of the GHA region are expected to receive near normal to below rainfall (Figure 8).

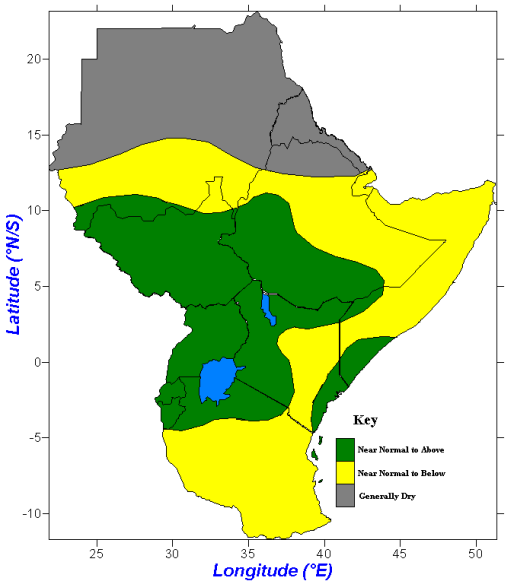

Figure 8: Climate outlook for May 2015 rainfall season

7.0 IMPACTS ON SOCIO-ECONOMIC SECTORS

The socio-economic impacts associated with observed rainfall conditions and those from the climate outlook are provided below.

7.1 Impacts of observed climate conditions during March 2015

The socio-economic impacts associated with the observed rainfall over much of the Greater Horn of Africa during the month of March 2015 were as follows:

- Improved crop, pasture and foliage conditions, and commencement of planting in some parts;
- Replenishment of water reservoirs;
- Localised flooding leading to destruction of property, displacement of people, and disruption of livelihood;
- Increase of water related diseases;

In regions that experienced dry conditions the impacts were:

- Poor pasture and water availability leading to reduced livestock productivity;
- The water and food scarcity.
- Increased water related diseases;
- Poor crop performance.
- Delay in commencement of planting season

7.2 Potential impacts for May 2015 climate outlook

The areas expected to receive normal to above normal rainfall are likely to have the following impacts:

- Good prospects for crop and livestock performance;
- Improvement in water resources and replenishment of reservoirs;
- Flooding that may lead to disruption of livelihood of people, and destruction of property;
- Outbreaks of water related diseases.

The areas expected to receive near normal to below normal rainfall are likely to have the following impacts:

- Poor prospects for crop and pasture performance;
- Outbreaks of water related diseases.