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## MINISTRY OF TRANSPORT
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## PRESS RELEASE

## CLIMATE OUTLOOK FOR OCTOBER – DECEMBER, 2015 RAINFALL SEASON

### A: Introduction

This statement gives a review of rainfall performance for March to May, 2015 and an outlook for October to December, 2015 short rainfall season (*Vuli*) in the country.


### Highlights for October– December, 2015

**1. Outlook for October to December 2015 *Vuli* rainfall season indicates that:**
The October-November-December 2015 rainfall is expected to be above normal and normal (sufficient rainfall) over most parts of bimodal areas and some parts of unimodal areas. However, pockets of below normal rainfall are expected over the southern parts, of the country.
Early onset of rains is expected over the Lake Victoria Basin and few areas of northern coast.

**2. Expected Impacts**
Soil moisture levels are likely to be enhanced due to the expected above normal to normal rainfall and likely to affect the cropping season over bimodal areas.

River flow discharges and water levels in rivers and dams are likely to increase from their current levels during the *Vuli*, 2015 Season because of the expected enhanced rainfall in most river catchment areas.

Short periods of heavy rainfall may cause excessive surface runoff and elevate flood risks during the season.

Outbreak of water borne diseases due to pollution of water sources, water shortage and poor sewage management are likely to occur.

## B: REVIEW OF RAINFALL PERFORMANCE

During the previous long rain season of March to May, 2015, most parts of Bimodal Areas experienced above normal rainfall. However, pockets of normal to below normal rainfall were observed over north-eastern highlands, while few parts especially along the northern coast experienced above normal rainfall.

**Lake Victoria Basin:** Bukoba, Shinyanga and Ukiriguru experienced below normal rains while Musoma and Mwanza received normal rainfall.

**North-Eastern Highland:** Arusha, Same, Lyamungo, Kilimanjaro and Babati received normal rainfall while Moshi Station recorded below normal rainfall.

**Northern Coast including Unguja and Pemba Islands:** Kibaha and Ilonga stations reported above normal rainfall. Zanzibar, Pemba, Handeni,Dar es Salaam (JNIA), Port Dar es Salaam, Morogoro, Tanga, Kizimbani and Matangatuani stations received normal rainfall. However Amani and Mlingano stations received below normal rainfall.

**South-Western Highland:** Sumbawanga, Mahenge, Uyole and Igeri stationsreceived normal rainfall, while Mbeya, Iringa and Tukuyu stations recorded below normal rainfall

**Western:** Kigoma, and Kibondo stations received below normal rainfall while Tumbi and Tabora stations received normal rainfall.

**Southern Coast:** Mtwara, Kilwa and Naliendele stations received normal rainfall.

**Central:** Singida and Hombolo stations received normal rainfall, while Dodoma Station recorded below normal rainfall.

**Southern region:** Songea station measured normal rainfall.

## C: CLIMATE SYSTEMS OUTLOOK

There is enhanced warming over Central eastern Equatorial Pacific Ocean which is likely to persist throughout the October to December, 2015 rainfall season indicating the Presence of El Nino. Warmer Sea Surface Temperature anomaly (SST) is expected over much of the western Indian Ocean, while neutral to cool SST anomaly is expected over the Eastern Indian Ocean (Indonesia). The strong warming over central Indian Ocean implies weak easterly wind anomaly over the coastal strip of the country hence likely to reduce the influence of the anticipated El Nino over some areas.

Expected cooling over Angola coast during the months of October, November and December 2015, is likely to enhance westerly wind flow from Congo Basin towards most parts of the country resulting into enhanced rainfall in the northern sector of the country. Warming across the

South-western Indian Ocean basin during the months of November and December 2015 is likely to trigger occurrence of tropical cyclones, thus influencing theVuli 2015 rainfall season.

## D: SEASONAL RAINFALL OUTLOOK:

Based on current and expected climate systems described above the October to December, 2015 rainfall season is likely to feature as follows:

### (i) *Short Rainfall Season (Vuli) over Bimodal areas*

The October to December, 2015 Short rainfall season (Vuli) is more significant for the Northeastern highlands, Northern coast areas, Lake Victoria Basin and Northern Kigoma. The rains are expected to be above normal to normal over most parts of the bimodal areas.
The onset of the short rainfall season (Vuli) is expected to commence earlier in the last two weeks of September, 2015 over the Lake Victoria basin and few areas of northern coast.

**Lake Victoria Basin: (Kagera, Mara, Mwanza, Geita, Simiyu and Shinyanga regions):**
The rains are expected to commence on the third week of September, 2015 over Kagera and Mara regions spreading to other regions .The rains are expected to be above normal to normal.
**Northern coast areas and hinterlands: (Dar es Salaam, Tanga, and Coast regions, Isles of Unguja and Pemba and northern Morogoro areas):** Rains are expected to commence in the fourth week of September, 2015.The rains are expected to be above normal to normal over most parts except over Dar es Salaam, Pwani and Morogoro regions where normal to above normal rains are expected.

**North-eastern highlands: (Kilimanjaro, Arusha and Manyara regions):** Rains are expected to start in the first week of October, 2015 in Arusha region spreading to other regions. The rains are expected to be above normal to normal.

### (ii) Seasonal Rainfall (November to April) over Unimodal areas:

Seasonal rains are more significant for unimodal areas (Western, Central, Southwestern highlands, Southern region and Southern Coast). Rainfall over these areas is expected to commence in the first to second week of November, 2015. During October to December, the seasonal rains over most of these areas are expected to be normal to above normal. However pockets of below normal rains are likely to occur over some areas as described here below.

**Western areas: (Tabora, Rukwa, Katavi and Kigoma regions):**
The seasonal rains are expected to be normal to above normal over most parts of Tabora, Kigoma, Rukwa and Katavi regions while northern parts of Kigoma and Tabora regions rains are expected to be above normal to normal. The rains are expected to start during the first week of November, 2015.

**Central (Singida and Dodoma regions):**
The seasonal rains are expected to be normal to above normal over most parts of Dodoma and Singida regions. However above normal to normal rainfall is expected over northern parts of

Dodoma and Singida regions. The rains are expected to start during the second and third week of November, 2015.

**Southwestern highlands: (Mbeya, Iringa, and Njombe regions and southern Morogoro areas):**
The seasonal rains are expected to be normal to above normal over much of the region. However parts of southern Njombe and Morogoro (extreme southern parts of Mahenge) regions are expected to experience normal to below normal rains. The rains are expected to start during the fourth week of November, 2015.

**Southern region and Southern Coast: (Ruvuma, Mtwara and Lindi regions):**
The seasonal rains are expected to be normal to below normal over much of the regions. However,pockets of normal to above normal rains are expected over eastern parts of Lindi and Mtwara regions. Rains are expected to start during the fourth week of November, 2015.

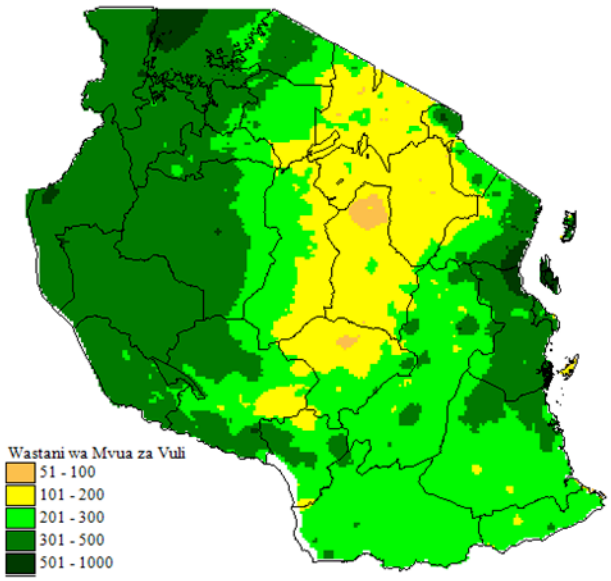



*Figure 1: Long term average rainfall for October to December(mm)*

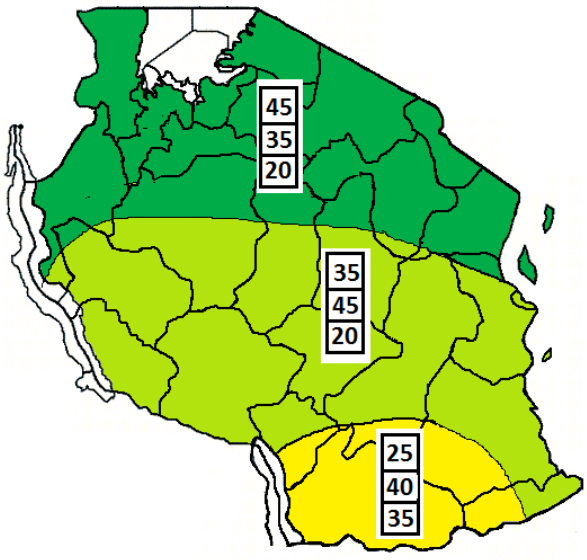
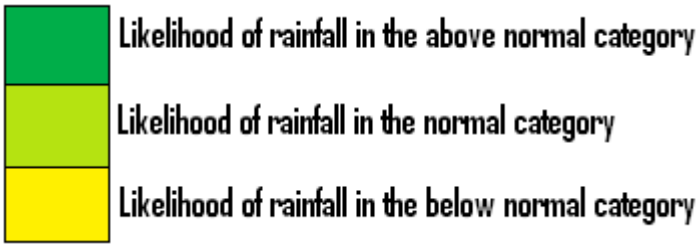



*Figure 2: Outlook for the coming rainfall season October to December, 2015*

Key:
*The Colour in the rainfall map (Figure2) indicates areas expected to receive above normal, normal and below normal rainfall. Three categories likelihood for the rainfall is shown in the map by numbers in the boxes thus represent the percentage of probability:*




**Note:**
***The numbers for each zone indicate the probabilities of rainfall in each of the three categories, above-, near-, and below-normal. The top number indicates the probability of rainfall occurring in the above-normal category; the middle number is for near-normal and the bottom number for below-normal category. For example, in areas of deep green colour, there is 45% probability of rainfall occurring in the above-normal category; 35% probability of rainfall occurring in the near-normal category; and 20% probability of rainfall occurring in the below-normal category. It is emphasised that boundaries between zones should be considered as transition areas.***

***It should be noted that although heavy and short duration rainfall events are likely to be more frequent in areas with above normal rains they are also common even in areas of normal and below normal rainfall conditions.***

*Occurrence of Tropical Cyclones over the Southwest Indian Ocean is expected to influence the rainfall patterns in the country.*

## E: LIKELY IMPACTS AND ADVISORY

The October-November-December, 2015 rainfall is expected to be above normal and normal over most parts of bimodal areas and some parts of unimodal areas. However, pockets of below normal are expected over the southern parts. The associated impacts on social-economic sectors and their respective advisories as prepared by TMA in collaboration with respective sectors are highlighted as follows:

**Agriculture and food Security:**
Sufficient soil moisture levels are likely to favour cropping season over most areas of the Lake Victoria regions, northeastern highlands, northern coast, southwestern highlands, western regions, southern coast and central parts of the country during the period. However, risk of fungal diseases and excessive soil moisture levels due to heavy rains are likely to impede crop development. Furthermore, high requirement for agricultural inputs is expected to raise production costs. Farmers are advised to prepare their farms and acquire agricultural inputs early while making appropriate land use management and right choice of crop varieties to plant. For the areas where excessive rainfall risks and few areas where suppressed rainfall are likely to occur, communities are advised to store sufficient amount of food crops to sustain their household needs.

**Pasture and Water for Livestock and wildlife**

The regions where above normal and normal rains are expected, sufficient pasture and water for livestock and wildlife are likely. However, over few areas of the southern regions where rainfall is expected to be below normal, less pasture and water for livestock and wildlife during the period is anticipated. Famers in the southern region areas are advised to store animal feeds. Due to high likelihood of livestock diseases outbreak (foot and mouth disease etc.), regular dipping and vaccination against pests and diseases are highly recommended. Wildlife-human conflicts due to wildlife migration and agricultural activities are likely to be reduced during the season.

**Natural Resources and Tourism**

Due to the expected torrential rains for the October to December 2015 rainfall season, the natural resources management and tourism authorities are encouraged to protect infrastructure such as roads and bridges against damage in the National Parks and Game Reserve areas.

**Energy and water**

Over the areas where above normal rains are expected, water levels in dams and reservoirs are likely to increase significantly. Water harvesting and storage practices are highly recommended for good use of the anticipated enhanced rains. However, the likely enhanced rains may also bring about negative impacts such as destruction of hydropower and water treatment plants, infrastructures and dams. Disruption of mineral exploration, processing and distribution activities in the oil and gas sector are also likely to occur. Experts in Mining Sector are advised to conduct regular checking and stabilization of mining pits, while the Water Authorities are encouraged to maintain water treatment plants and reservoirs.

**Local Authorities**

Since heavy rains and floods are likely to occur even in areas where below normal rainfall is anticipated, relevant Authorities are advised to open and clean water drainage systems so as to avoid water accumulation due to surface runoff and floods that may cause destruction of infrastructures, loss of lives and property.

**Health sector**

Anticipated above normal and below normal rainfall, are likely to trigger outbreak of water borne diseases such as cholera, typhoid etc and vector borne diseases such as malaria etc. Therefore, the responsible authorities are advised to take appropriate health measures to minimize the expected negative impacts to public health.

**Transport Sector**

The potential for heavy rains and floods are likely to cause destruction of transport infrastructure (road, bridges, railway lines etc.) and affect the transportation activities. The relevant Authorities are encouraged to take appropriate actions such as strategic mitigation plans and allocate budgets for reinforcement of infrastructures at high risk to minimize any negative impacts.

**Disaster Management**

According to the seasonal outlook, the likely socio-economic impacts in various sectors include high cost for rehabilitation and reconstruction, increase in price of goods and services, increase in health costs and under nutrition. Disaster management authorities and other stakeholders are advised to take necessary measures such as preparation of multi-hazard contingency plans, protection of water sources/dams, allocate resources for mitigation and preparedness, enhance capacity building and community awareness, destruction of vector breeding areas, improving hygiene and sanitation to reduce any negative impacts that may result from the expected above normal rainfall in the country.

**Media**

The media is advised to obtain, make regular follow-ups and give high priority in disseminating weather and climate information, warnings including updates as provided by the Tanzania Meteorological Agency. Moreover, the media is encouraged to seek and obtain inputs from relevant sectors when preparing and relaying cross cutting issues on Weather and Climate to the Public.

Tanzania Meteorological Agency advises all users of weather information including farmers, livestock keepers, wildlife conservation authorities, hydrological and health sector experts to continue making follow-up in case of any update. Furthermore, to make use of advise provided by the TMA and experts from their relevant sectors.

***NB: The current status of seasonal forecasting allows for prediction of spatial and temporal averages and may not fully account for all physical and dynamical factors that influence short term climate variability. Users of this outlook are, therefore urged to make good use of daily, ten days and monthly updates issued by the Tanzania Meteorological Agency.***

Tanzania Meteorological Agency will continue to monitor developments of the weather systems and issue updates.

**Signed By: Dr. Agnes L. Kijazi**
**DIRECTOR GENERAL**
**TANZANIA METEOROLOGICAL AGENCY (TMA)**