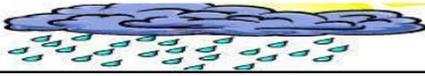




TANZANIA METEOROLOGICAL AGENCY



SEASONAL WEATHER FORECAST

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Summary

The Bulletin contains a brief review of the performance of the rains since September 2009, evolution of the climate systems and outlook for the March – May 2010 rainfall season. The September to December 2009 short rains (vuli) fared well over most of the bimodal areas except for the northern coast. Heavy sporadic rains over Same, Mpwapwa, Kongwa and Kilosa, caused disasters that included loss of life and property and destruction of infrastructure.

SUMMARY SOND 2010 SEASON

This statement gives a review of the performance of the ongoing seasonal rains in the unimodal areas (Southern coast, Southern, Southwestern, Central and Western) and an outlook for the March to May 2010 long rains season (*Masika*) over the bimodal areas (Northern coast and hinterland, Northeastern Highlands and Lake Victoria basin). The performance of the September to December 2009 short rains (*vuli*) fared well over most of the bimodal areas except for the Northern coast. However, due to heavy sporadic rains over Same, Mpwapwa, Kongwa and Kilosa, disasters were reported that included loss of life and property and destruction of infrastructure. Performance of seasonal rains over the unimodal areas fared well except over the southern coast where below normal rainfall amounts recorded.

SEASONAL OUTLOOK

The outlook for the March to May 2010 rainfall season indicates that most parts of the bimodal areas are expected to receive mainly normal rains with a likelihood of above normal over the Lake Victoria basin and below normal over the Northern coast. Unimodal areas are expected to receive normal rains with pockets of above normal over western areas and south-western highlands and eastern southern regions while below normal rains are expected over the southern coast. The principal factors responsible for

the observed and predicted weather are weak El Nino conditions (warm Sea Surface Temperatures (SSTs)) over eastern and central equatorial Pacific Ocean and warming over equatorial western Indian Ocean coupled with easterly flow and neutral conditions over the eastern Atlantic Ocean (coast of Angola).

RAINFALL PERFORMANCE

The performance of the September to December 2009 short rains (*vuli*) season coincided with a weak El Nino (abnormally warm seas surface temperatures) condition that prevailed over the equatorial eastern Pacific Ocean. Over most parts of the bimodal areas except the northern coast and over most parts of the unimodal areas normal to above normal rainfall was experienced except for the southern coast. However, the distribution both in spatial and time was generally poor over some parts of the bimodal areas. The recorded rainfall amounts in millimeters for some selected stations with their percentage of long term means in brackets are indicated below:

BIMODAL AREAS:

Northern Coast and hinterlands: Tanga recorded 446.9mm (109.2%), Pemba 315.6mm (105.3%), Mlingano 340.4mm (80.7%), Handeni 266.8mm (110.2%), Kizimbani 410.3mm (68.6%), Zanzibar 396.3mm (71.6%), Morogoro 199.3mm (96.9%) and JNIA 110.7mm (33.0%) of rainfall.

Northeastern highlands: Moshi recorded 275.8mm (183.3%), Lyamungu 340.2mm (145.9%), Same

160.5mm (89.9%) and KIA 163.0mm (140.9%) of rainfall

Lake Victoria Basin: Mwanza recorded 582.6mm (144.0%), Bukoba 799.9mm (123.4%), Musoma 413.2mm (172.8%) and Shinyanga 410.1mm (137.2%) of rainfall.

UNIMODAL AREAS:

Western areas: Tabora recorded 362.6 mm (104.6%) and Kigoma 259.8mm (63.8%) of rainfall.

Central areas: Dodoma recorded 373.5mm (246.4%) and Hombolo 244.1mm (145.6%) of rainfall.

Southwestern highlands: Iringa recorded 173.0mm (117.7%), Mbeya 275.2mm(104.5%), Tukuyu 373.3 mm(79.4%) and Igeri 287.1mm (86.3%) of rainfall.

Southern areas: Mtwara recorded 148.5mm (58.8%), Kilwa 88.3mm (35.3%) and Songea 223.9mm (93.2%) of rainfall.

It should be noted that: Statistically rainfall amounts below 75% of long term averages are categorized as below normal while those ranging from 75 to 125% are categorized as near normal and those greater than 125% of long term averages are categorized as above normal.

CLIMATE SYSTEMS OUTLOOK

This outlook is based on a review of the past and current state of the global climate system and its likely impact on the ongoing and upcoming season in the country.

The forecast of March to May 2010 rainfall is based on the prevailing and expected Sea Surface Temperatures Anomalies (SSTAs) over the Pacific, Indian and Atlantic Oceans as well as other local factors that affect the climate of Tanzania. The continuing weak El Nino condition over the eastern and central equatorial Pacific and warm SSTs and western equatorial Indian Ocean were also taken into account. Prediction from Global Climate Centers and that issued by the Greater Horn of Africa Climate Outlook Forum (GHACOF-25th) that took place in Nairobi from 25th to 26th February 2010 which included Tanzania Meteorological Agency experts were also considered.

Currently, the Sea Surface Temperatures (SSTs) in the equatorial Pacific Ocean have been anomalously warm for several months and are projected to persist through May 2010. This implies that El Niño condition is expected to continue across much of the east-central equatorial Pacific and declining towards June 2010.

Anomalous warming is observed over south-west towards south-eastern Indian Ocean and is projected to persist and get warmer over the central-western Indian Ocean through May 2010. However, cooler conditions are observed over south-east Madagascar and are projected to persist through May 2010 which will induce the intensification of the Mascarene High pressure.

Warmer conditions are observed over north-eastern and central Atlantic Ocean and near neutral conditions are observed over the coast of Central Africa (Angola coast) and are projected to persist through May 2010.

Currently, low level south-easterly wind anomalies are dominant over south-west Indian Ocean and over most parts of the country and are projected to weaken gradually from the end of March. During the month of March 2010, a weak westerly wind flow is projected towards western parts of the country.

SEASONAL RAINFALL OUTLOOK

(i) Long Rains (*Masika*)

The long rains season in the northern sector (bimodal areas) of Tanzania is due to commence in the first to second week of March 2010. The details are as follows:

Lake Victoria basin: Rains are expected to start in the first week of March in Kagera region and are expected to spread over the rest of the region during the second week. In most parts of Mwanza, Mara and western Shinyanga the rains are expected to start during the second week of March 2010. These rains are expected to be mainly normal to above normal over most areas and there is a likelihood of normal rainfall for eastern Shinyanga and eastern Mara.

Northern coast and hinterland: (Dar es Salaam, Tanga, Coast, northern Morogoro regions, the Isles of Zanzibar and Pemba): The rains are expected to

start during the first week of March and are expected to be mainly normal with pockets of below normal. Northeastern highlands (Kilimanjaro, Arusha and Manyara regions): The onset of rains is expected during the second week of March. The rains over these areas are expected to be normal over most areas.

(ii) Seasonal Rains

Western areas (western parts of Tabora, Kigoma and Rukwa regions): The ongoing rains are expected to continue with normal to above normal trend over most areas except eastern parts of Tabora, which are likely to receive normal rainfall.

Central areas (Singida and Dodoma): The ongoing rains are expected to be normal. The rains are expected to recede towards the end of April 2010.

Southern coastal areas (Mtwara and Lindi): Most of these areas are expected to get normal to below normal rainfall. Cessation of rains is expected towards the end of April 2010.

Southern areas (Ruvuma region): Western Ruvuma areas are expected to get normal to above normal rainfalls while eastern Ruvuma will get normal is expected towards the end of April 2010.

South-western highland areas (Rukwa, Mbeya, Iringa and South Morogoro): The seasonal rains are expected to end towards the end of April 2010. Most of these areas are expected to get normal to above normal rainfall.

Table: Onset and cessation

The rains are expected to recede towards the end of April 2010.

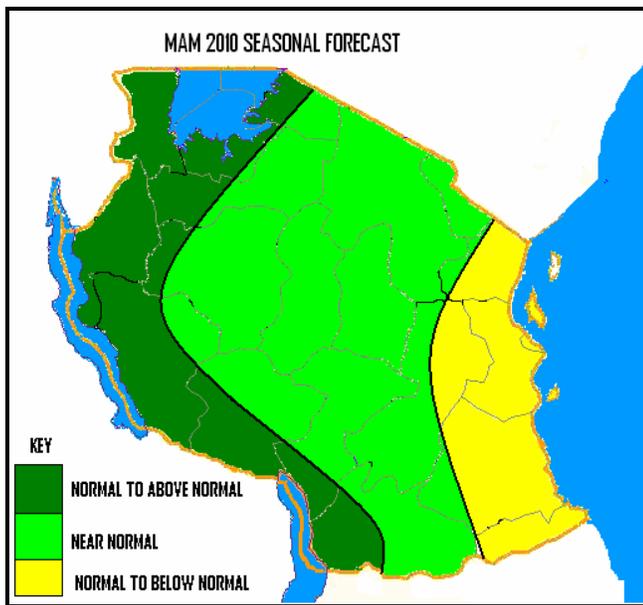
REGION	ONSET	CESSATION
Lake Zone Basin (Kagera, Mwanza and Shinyanga)	First to second week of March	End of May 2010
Northern coast and hinterland (Dar es Salaam, Tanga, Coast, northern Morogoro regions , isles of Zanzibar and Pemba)	First week of March	End of May 2010
Northeastern highlands (Kilimanjaro, Arusha and Manyara regions)	Second week of March	End of May 2010
Western areas (western parts of Tabora, Kigoma and Rukwa regions)	Ongoing rains	End of April 2010
Central areas (Singida and Dodoma)	Ongoing rains	End of April
Southern coastal areas (Mtwara and Lindi)	Ongoing rains	End of April
Southern areas (Ruvuma region):	Ongoing rains	End of April 2010
South-western highland areas (Rukwa, Mbeya, Iringa and South Morogoro)	Ongoing rains	End of April 2010

It should be noted that heavy and short duration events are common even in below normal rainfall conditions.

It should also be noted that the March to May rainfall season is more significant for the northern sector of the country.

Formation of tropical cyclones over the southwest Indian Ocean during March to May period may interfere with forecasted rainfall conditions over various parts of the country.

Tanzania Meteorological Agency will continue to monitor developments of the systems and we therefore advise that this outlook should be used with 24hr forecasts and regular updates issued by the Agency



POTENTIAL IMPACTS AND ADVISORY

The impacts took into account the contribution from various national stakeholders.

1. Agriculture and food security over entire coast, farmers are advised to plant fast maturing crops. In northern Iringa and Dodoma regions, farmers should plant sweet potatoes to salvage the remaining rains in the season. Over Singida region, western and Southwestern highlands, farmers should continue with normal practice as crops get into maturity. Over north-eastern highlands, farmers should go for a normal “*Masika*” season.

Pasture and water for livestock and wildlife is expected to flourish.

2. Energy and water resource sectors

Water levels in dams, rivers and Lakes are expected to get a boost especially to areas expected to receive normal to above normal rains during the season. Water resources are expected to be adequate in areas expected to receive normal to above normal rainfall. However, the available should be well managed in case of any rainfall deficit

3. Disaster management

The national disaster operational centres are advised to take necessary measures that would ensure mitigation and preparedness of any negative impact resulting from forecast conditions.

4. Transport and public safety

Light aircrafts are advised to take utmost care and avoid flying through deep cumulus clouds associated with severe turbulence and lightning.

5. Local Authorities

Municipalities over regions expected to experience normal to above normal rains are advised to open up drainage system so as to avoid water accumulation due to surface runoff leading to flash floods.

6. Health Sector

There are high chances of water borne diseases such as malaria, cholera and bilharzias over areas that are expected to receive normal to above normal rains.

7. Environment

In areas expected to receive normal to above normal rainfall environmental degradation may occur. The public is advised to plant trees to increase forest cover.

N.B.

It should be noted that this is an El Nino year but it is not expected to be associated with widespread very heavy rainfall such as in 1997/98 due to the fact that the Indian Ocean has not and is not expected to respond in a typical El Nino fashion whereby mostly a dipole develops with simultaneous cooling and warming over Indonesia and western Indian Ocean respectively thus triggering dynamics for rainfall enhancement.

Prepared by

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