TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

Pastures and water availability were improving towards the end of the month reducing, massive deaths to livestock.

During the month of November 2009, the climate systems over the northern hemisphere have consistently intensified thus allowing the rain zone, Inter-tropical Convergence Zone (ITCZ) to shift southwards over Tanzania. Also, the southern hemisphere high pressure systems (St. Helena and Mascarene) remained weak contributing to more active phase of the rain zone.

WEATHER SUMMARY

RAINFALL

Most parts of the country particularly the Lake Victoria Basin, northeastern highlands, South (Ruvuma region), northern coast, western and south western highlands have generally received normal and above normal rainfall except over few areas as shown in Fig 1A and 1B. Among stations which received more than 200mm of rainfall were Bukoba which recorded above normal rainfall of 341.8 mm, Amani 308.3 mm, Kibondo 273.2 mm, Mwanza 226.8 mm and Shinyanga 209.7 mm. Other stations reported less than 200 m of rainfall as shown in figure 1A and 1B.

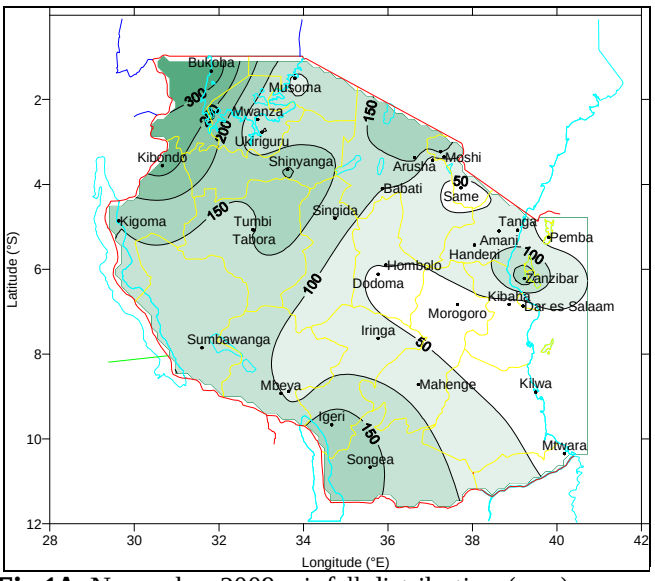

Fig 1A: November 2009 rainfall distribution (mm)

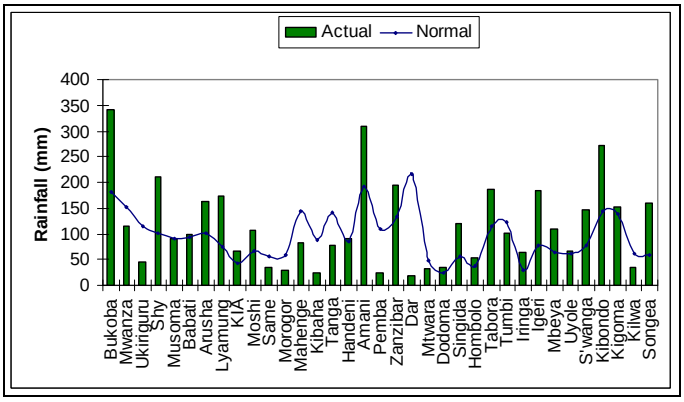

Fig 1B: November 2009 rainfall distribution against normal

MEAN AIR TEMPERATURE

During the month under review the country experienced cool to hot temperatures whereas the higher altitude areas of the country (southwestern and northeastern highlands) experienced cool temperatures as indicated in Figure 2A.

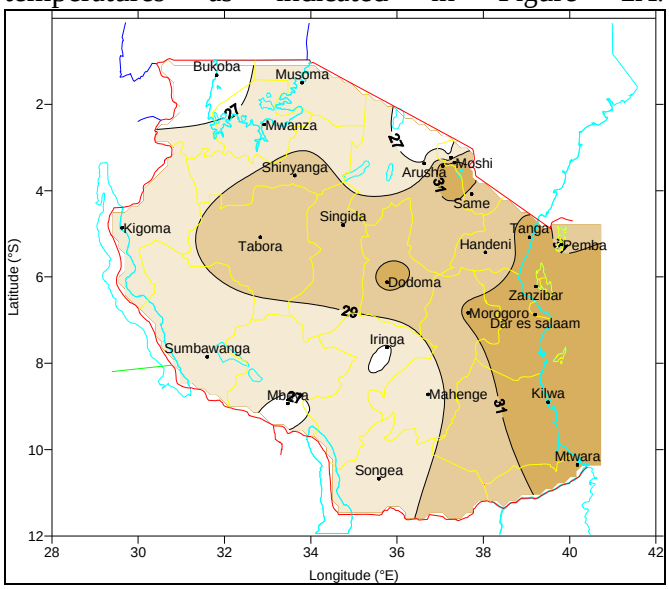

Fig2A: November 2009 Mean Maximum Temperature (°C)

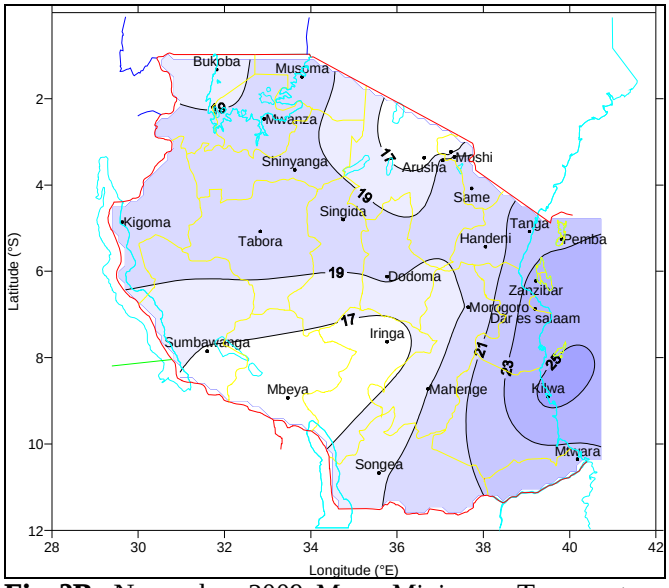

Fig 2B: November 2009 Mean Minimum Temperature (°C)

Mean maximum air temperatures recorded ranged between 27 ºC and 33 ºC. The highest absolute maximum temperature of 33.6 °C was recorded at Dodoma during the third dekad of the month. The lowest mean maximum temperature was 23.6 °C at Sumbawanga in the southwestern highlands.

The mean minimum air temperatures recorded ranged from 13 ºC to 26 ºC. The lowest value of mean minimum temperatures recorded was 13.1 °C at Sumbawanga in the southwestern highlands while the highest value of 25.8 °C was Kilwa over the coastal belt.

MEAN SUNSHINE HOURS

Sunshine duration records across the country during November show that the mean bright sunshine hours ranged from about 5 hrs/day over west of Lake Victoria Basin and northeastern highlands to more than 10 hrs/day over northern coast areas as shown in Figure 3.

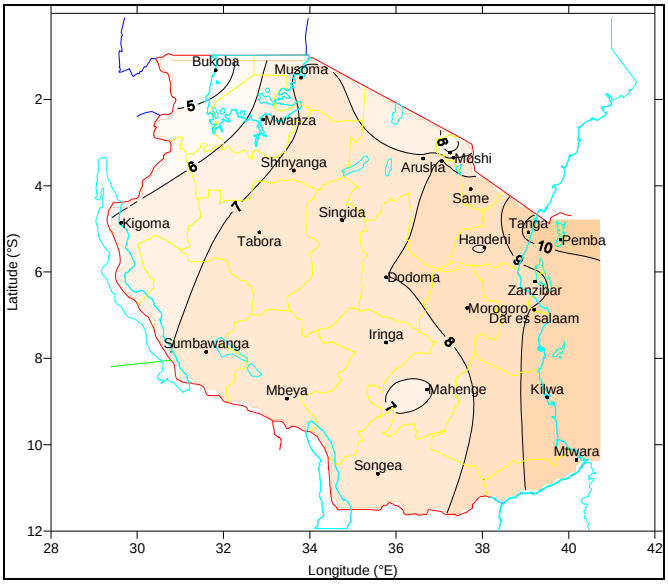

Fig 3: November 2009 Mean Sunshine Hours (hrs/day)

MEAN WIND SPEED

Mean wind speeds across the country ranged between 4 to more than 10 km/hr during the month of November as shown in Figure 4. Some parts of southwestern highlands experienced wind speeds exceeding 10 km/hr. Low wind speed of below 4 km/hr was recorded over some parts of northeastern highlands (Lyamungo). Windy conditions experienced over some parts of southwestern highlands (Mbeya) enhanced evaporation rates.

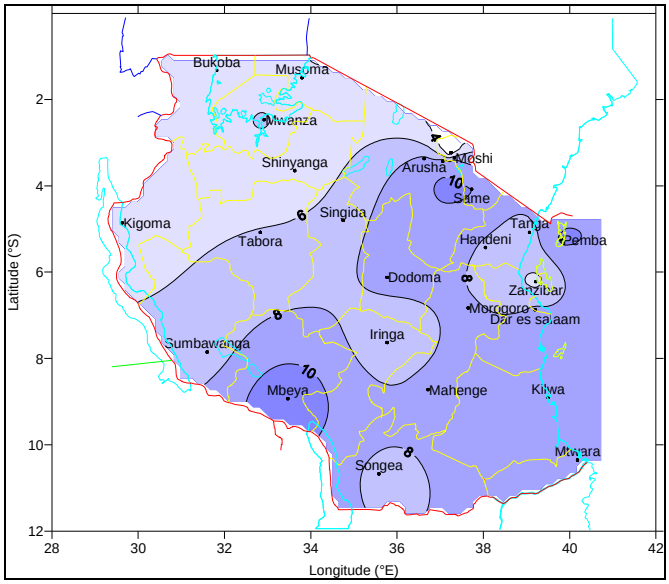

Fig 4: November 2009 Mean wind speed (km/hr)

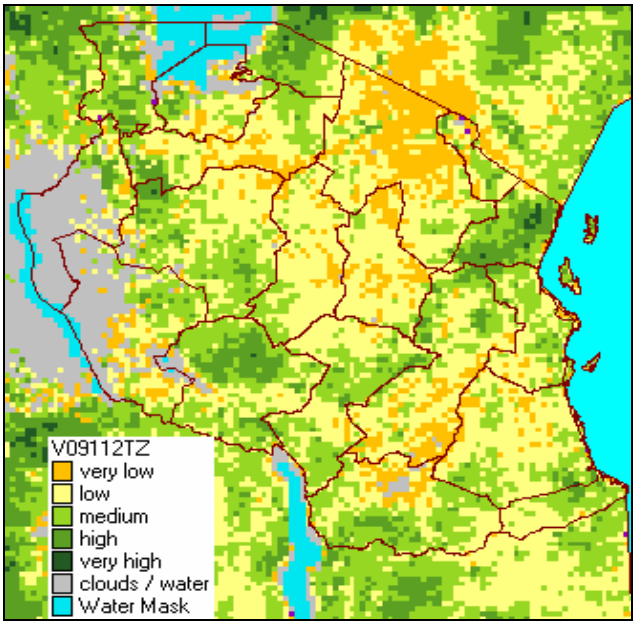

Fig 5: Vegetation condition during November 11-20, 2009

SATELLITE INFORMATION

Figure 5 depicts some improvement of vegetation coverage during the second dekad of November 2009 as Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor. In the second dekad of November 2009, the satellite depicted NDVI between very low to low indices over most parts of the northeastern highlands (Arusha, and Manyara), central parts of Shinyanga region, central (Dodoma and Singida regions) and southern Morogoro region. However, the vegetation has performed better (high to very high indices) mainly over some parts of Lake Victoria Basin, southwestern highlands, southern regions and coastal belt due to soil moisture improvement as a result of the ongoing seasonal rains. Thus, pasture availability for livestock is likely to improve.

AGROMETEOROLOGICAL SUMMARY

Improved soil moisture supply observed over several areas mainly in northeastern highlands and Lake Victoria basin during the month was conducive, thus, enhanced field activities ranging from land preparation and planting to weeding of crops notably maize as reported from those areas. In Kagera region early planted beans and crops were being harvested in parts whereas in some areas the crops, affected by both late and false start of the season. Over much of the northern coast (Pangani district) and lowlands of Rombo and Same districts in the northeastern highlands, farmers during the period were actively involved in planting, gap filling and replanting of crops which resulted from poor seed germination and wilting of early planted crops. Generally, crops were at between early to advanced vegetative growth stages ranging from poor to good state.

In unimodal areas major field activities during the month included land preparation with a few farmers mainly over west and southwestern highlands particularly Mbeya and Rukwa regions started planting, exercise which this year started much earlier. Remaining areas mostly central and southern regions (Dodoma, Singida, Mtwara, Lindi, and Ruvuma) were proceeding with land preparation.

Market supply for cassava over several areas continued fairly well.

Pastures and water availability were improving towards the end of the month reducing massive deaths to livestock although the tender soft grass caused problems for the weak and hungry livestock in several areas of northeastern highlands.

HYDROMETEOROLOGICAL SUMMARY

The ongoing rains have slightly boosted water levels in lakes and dams and rivers and their respective catchments**.** Water availability for human, industrial and energy generation has improved but should be used sparingly.

ENVIRONMENTAL SUMMARY

During the month temperatures over most parts of the county were rising along with humidity levels making it rather uncomfortable particularly over the coastal belt.

EXPECTED SYNOPIC SUMMARY DURING DECEMBER 2009

During the month of December 2009, the southern hemisphere high pressure systems (St. Helena and Mascarene) are expected to relax allowing the rain mechanism (ITCZ) to migrate further south while the Siberian and Azores high pressure systems in the northern hemisphere are generally expected to intensify. Sea Surface Temperatures (SSTs) over central-tropical Pacific Ocean will continue to be warm in consistency with the development of moderate El Nino. SSTs over Indian Ocean which play a major role in the climate conditions of East Africa show near neutral conditions especially over the western areas. A northeasterly wind flow is likely to dominate the country during the month of December 2009. However moisture is likely to be suppressed over a greater part of the country.

EXPECTED WEATHER SITUATION DURING DECEMBER 2009

Lake Victoria basin (Kagera, Mwanza and Mara regions), the rains are expected to be normal over most areas and above normal over few areas during the month of December 2009. Mara and Shinyanga regions are likely to feature normal to below normal rainfall. Northern coast and hinterlands (Dar-es-Salaam and Tanga regions, northern Morogoro and islands of Unguja and Pemba), rainfall is expected to be mainly normal. Over the hinterlands the rains are likely to be suppressed to below normal category. Northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to receive generally normal rainfall with pockets of below normal.

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