TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

ISSN No: 0856-0919, Volume 11 Issue 10 October 2009

HIGHLIGHTS

- **Soil moisture replenishment over some parts of bimodal areas encouraged most farmers to continue with land preparation as well as planting activities.**
- **Poor pasture and water availability due to prolonged dry season claimed deaths to livestock over some parts of northeastern highlands.**

SYNOPTIC SUMMARY

During the month of October 2009, the climate systems over the northern hemisphere have gradually intensified thus allowing the rain zone, the Inter-tropical Convergence Zone (ITCZ) to shift southwards over East Africa. Meanwhile, the southern hemisphere high pressure systems (St. Helena and Mascarene) continued to weaken contributing to the relaxation of the ridge crossing the eastern sector of Tanzania.

WEATHER SUMMARY

RAINFALL

Most parts of the bimodal areas particularly the Lake Victoria Basin, northeastern highlands and northern coast have generally received normal and above normal rainfall except over few areas. Amani station in Tanga region recorded above normal rainfall of about 308.3 mm in 10 days followed by Mwanza 226.8 mm, and Tanga 209 mm as shown in Fig 1A. Other stations reported below normal rainfall with much of unimodal areas remained seasonably dry as shown in Fig 1A and 1B.

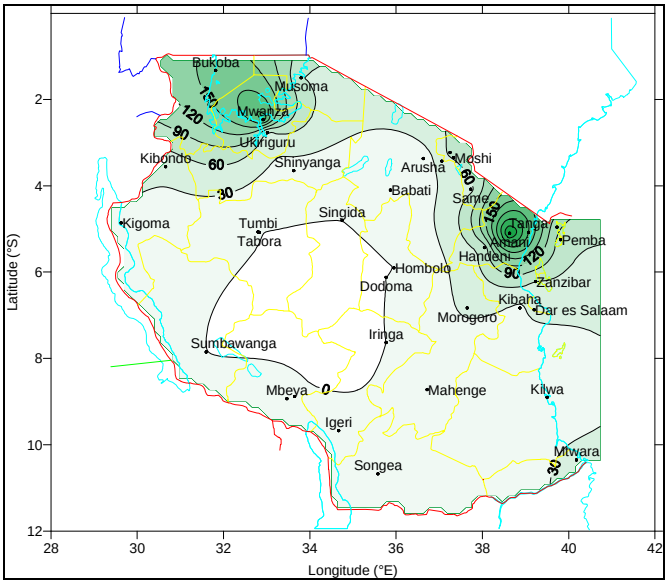

Fig 1A: October 2009 rainfall distribution (mm)

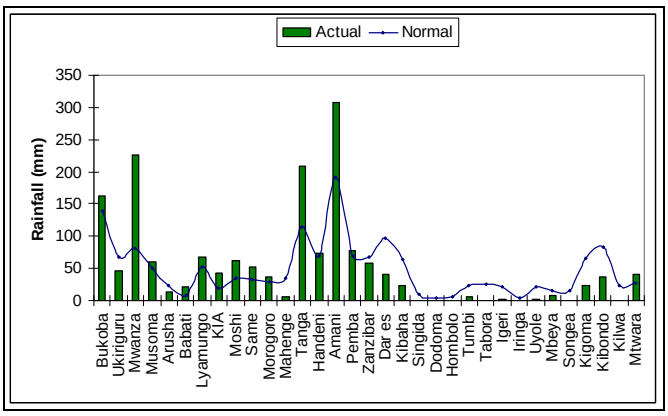

Fig 1B: October 2009 rainfall distribution against normal

MEAN AIR TEMPERATURE

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

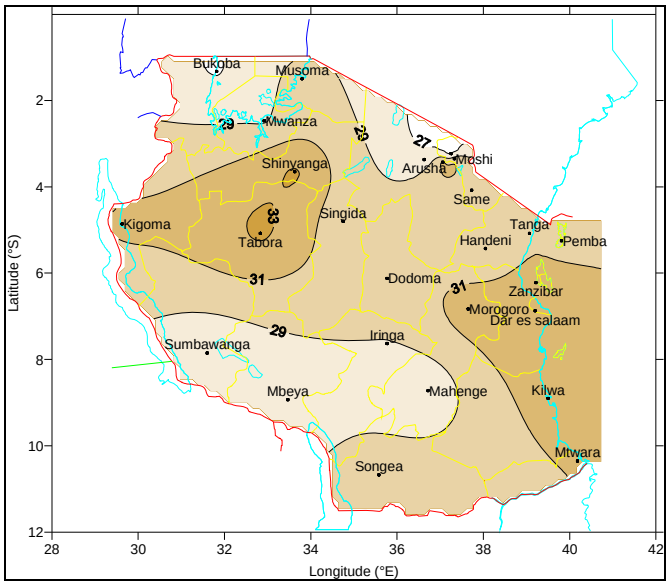

Fig2A: October 2009 Mean Maximum Temperature (°C)

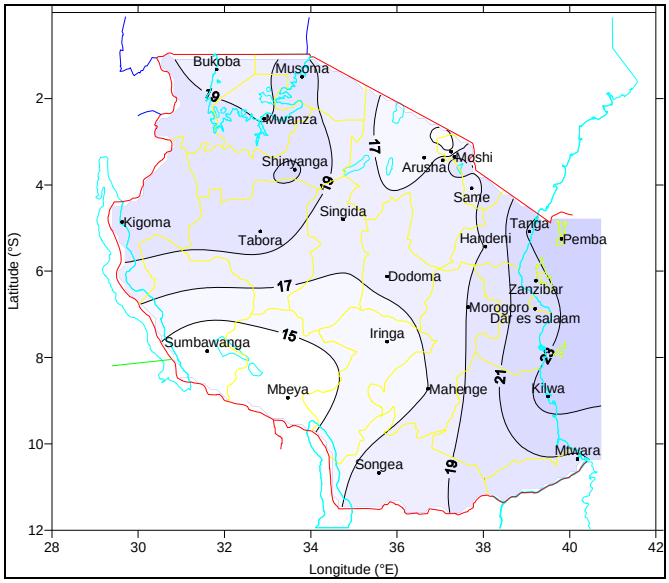

Fig 2B: October 2009 Mean Minimum Temperature (°C)

Mean maximum air temperatures ranged between 27 ºC and 33 ºC as indicated in Figure 2A. The highest absolute maximum temperature of 33.5 °C was recorded at Tabora during the third dekad of the month. The lowest mean maximum temperature was 24.2 °C at Lyamungo in the northeastern highlands.

The mean minimum air temperatures ranged from 15 ºC to 23 ºC as shown in Figure 2B. The lowest value of mean minimum temperatures recorded was 10.9 °C at Sumbawanga in the southwestern highlands while the highest value of 24.8 °C was at Pemba over the coastal belt.

MEAN SUNSHINE HOURS

Sunshine duration records across the country during October show that the mean bright sunshine hours ranged from about 6 hrs/day over west of Lake Victoria Basin and northeastern highlands to more than 10 hrs/day over southwestern highlands and southern coast areas as shown in Figure 3.

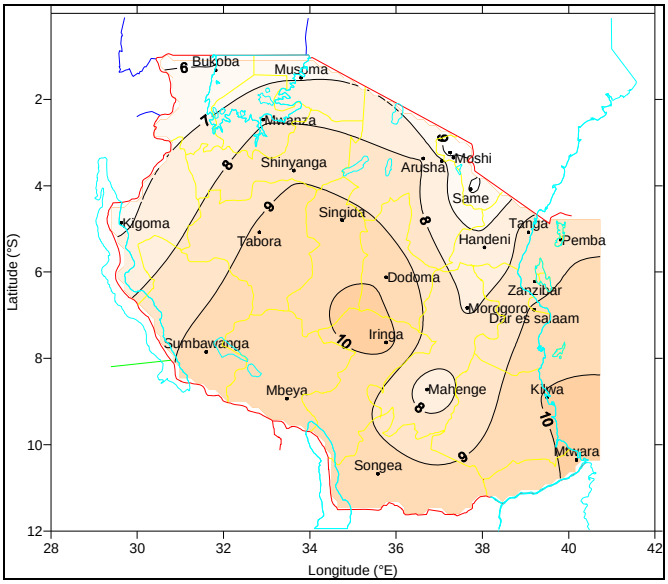

Fig 3: October 2009 Mean Sunshine Hours (hrs/day)

MEAN WIND SPEED

Mean wind speeds across the country ranged between 7 to 15 km/hr during the month of October as shown in Figure 4. Some parts of northeastern highlands and southwestern highlands experienced wind speeds exceeding 13 km/hr. Low wind speed of below 5 km/hr was recorded over some parts of northeastern highlands (Lyamungo). Windy conditions experienced over some parts of northeastern highlands (Arusha) and southwestern highlands (Mbeya) increased evaporation rates and therefore more water deficits.

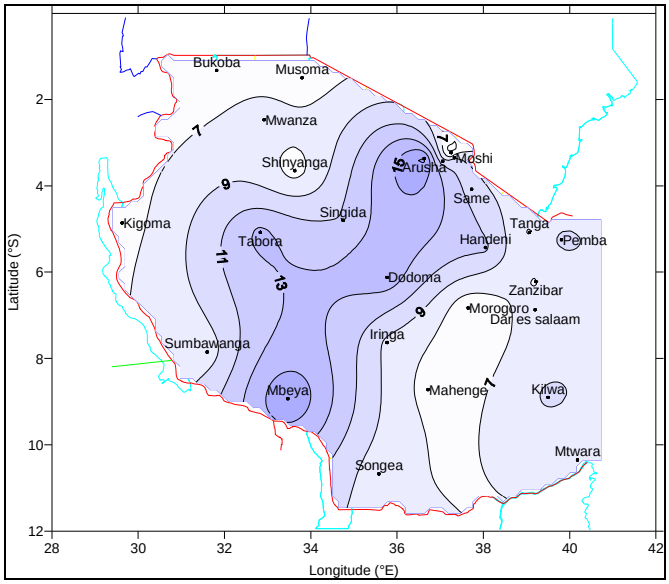

Fig 4: October 2009 Mean wind speed (km/hr)

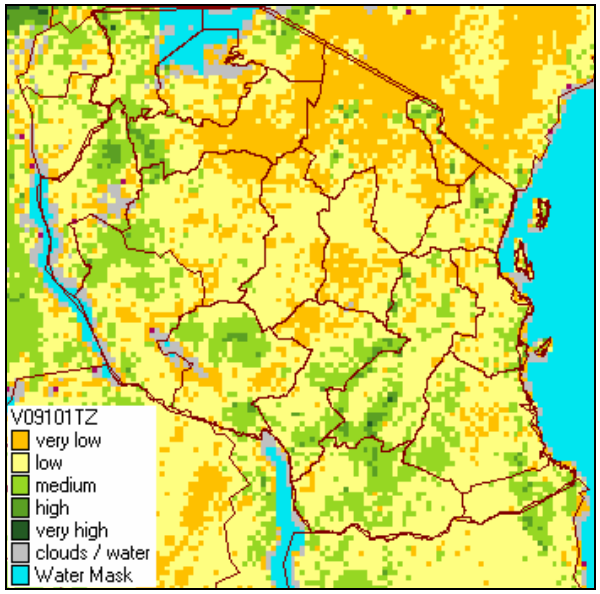

Fig 5: Vegetation condition during October 1-10, 2009

SATELLITE INFORMATION

Figure 5 depicts the status of vegetation coverage during the first dekad of October 2009 as Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor. In the first dekad of October 2009, the satellite depicted NDVI between very low to low indices over most parts of the northeastern highlands (Arusha, Manyara, and Kilimanjaro regions), eastern Shinyanga region, western (northern part of Tabora region), and central (Dodoma and Singida regions), northern Iringa and west parts of Mbeya region. However, the vegetation has performed better (high to very high indices) mainly over some few parts of Lake Victoria Basin, southwestern highlands, southern regions and coastal belt. The observed low NDVI index over the livestock potential areas (northeastern highlands, parts of Lake Victoria basin, central and Tabora region) is a preliminary indicator that pasture supply is still low. The situation is likely to improve over bimodal areas from mid November as a result of ongoing short rains.

AGROMETEOROLOGICAL SUMMARY

During the month there was improvement soil moisture conditions over some parts of the northeastern highlands and northern coast at which crop planting and land preparations were the major activities occupied farmers. Lake Victoria basin (Bukoba areas) some farmers were harvesting beans and maize were at knee height. The rest of the areas which receive *Vuli* rains crops were at emergence stage.

Market supply for cassava over several areas continued fairly well.

Poor pasture and water availability due to recurrent drought and prolonged dry season claimed deaths to livestock over some parts of northeastern highlands including Loliondo, Monduli and Simanjiro districts.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, rivers and dams are expected to rise as the season progresses**.** Water availability for human, industrial and energy generation has been affected by the dry season, and thus should be used sparingly.

ENVIRONMENTAL SUMMARY

During the month temperatures over most parts of the county were high while humidity levels have remained fairly low.

.

EXPECTED SYNOPIC SUMMARY DURING NOVEMBER 2009

During the month of November 2009, the southern hemisphere high pressure systems (St. Helena and Mascarene) are expected to relax significantly allowing the East African ridge to retreat to southern Tanzania. The Siberian and Azores high pressure systems in the northern hemisphere are expected to intensify and allow the zonal component of the ITCZ to migrate southwards over the East African sub-region. The Sea Surface Temperatures (SSTs) over the Indian Ocean which play a major role in the climate conditions of East Africa show slightly warmer conditions especially over the Western part of the Ocean. SSTs are expected to normalize over the western Indian Ocean but become warmer towards the Central Indian Ocean during the month of November.

Easterly wind flow over West Indian Ocean is expected to allow influx of moisture especially over the coastal areas occasionally extending to northeastern highlands thus causing some rainfall activities over northern coast and northeastern highlands.

EXPECTED WEATHER SITUATION DURING NOVEMBER 2009

Western areas (Tabora and Kigoma regions) are expected to feature partly cloudy conditions and occasional showers. Seasonal rains are likely to set in during the first to second week of November 2009. These rains are expected to be mainly normal to above normal. Over the central areas (Dodoma and Singida regions), onset of the seasonal rains is expected in the third and fourth week of November 2009, with a likelihood of being normal to above normal. Southwestern highlands (Mbeya, Rukwa and Iringa regions) are expected to feature mainly partly cloudy conditions and occasional showers. Onset of the seasonal rains over these areas is expected in the third and fourth week of November 2009, with a likelihood of being normal to above normal. Southern parts of the country (Ruvuma region and Southern Morogoro), onset of the seasonal rains over these areas is expected in the third and fourth week of November 2009, with a likelihood of being below normal to normal. Southern coast (Lindi and Mtwara regions) are expected to feature mainly partly cloudy condition with a few showers. Onset of the seasonal rains over these areas is expected in the third and fourth week of November 2009, with a likelihood of being below normal to normal.

Prepared by
TANZANIA METEOROLOGICAL AGENCY
3rd, 4th & 10 th Floors - Ubungo Plaza – Morogoro Road.
P.O. Box 3056 Tel. 255 -(0) 22 – 2460706-8 ; Fax: 255 - (0) 22 – 2460718 E-mail: (1) met@meteo.go.tz (2) agromet1_tz@meteo.go.tz
Dar es Salaam UNITED REPUBLIC OF TANZANIA