TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

ISSN No: 0856-0919, Volume 10 Issue 6 **June 2008**

HIGHLIGHTS

- Seasonal dry conditions and cool/cold temperatures prevailed over much of the country.
- Declining soil moisture condition was conducive for both harvesting activities and drying up of crops.

SYNOPTIC SUMMARY

During the month of June, the southern hemisphere systems, St Helena and Mascarene high pressure cells and the East African ridge continued to intensify while the Siberian high pressure cell relaxed resulting to persistence of southeasterly to southerly flow toward the coastal areas. The intensification of these systems had also continued to influence dry weather over most areas of the country because of the continued southerly flow. Injection of cold air-mass from the southern tip of Africa (where winter is currently prevailing) continued to cause cool/cold temperatures over the country. The Near Equatorial Trough (NET) was weak (retreated) reducing activities over the coastal belt. Relaxation of the Azores high pressure cell over the northern hemisphere resulted into retreat of the meridional component of the rain making mechanism, ITCZ. The zonal arm of the ITCZ remained further north away from the country.

WEATHER SUMMARY

RAINFALL

Seasonal dry condition prevailed over much of the country, except over bimodal rainfall areas (northern coast, northeastern highlands, and Lake Victoria basin) where a few rainfall activities were reported during the month of June. Figure 1 Indicates that rainfall exceeding 50 mm was received over northern coast and islands of Zanzibar and Pemba, and northeastern highlands. The highest amount of 144.4 mm was reported at Marikitanda in Muheza district (Tanga region) followed by Lyamungo 115.6 mm, Tanga 102.3, Mlingano 87 mm, Pemba 69.9 mm, Zanzibar 64.6 mm and Bukoba 50.5 mm. Other few stations reported rainfall between 20 mm and 50 mm. Declined rainfall over most parts of bimodal rainfall areas indicate normal cessation of *Masika* or long rains.

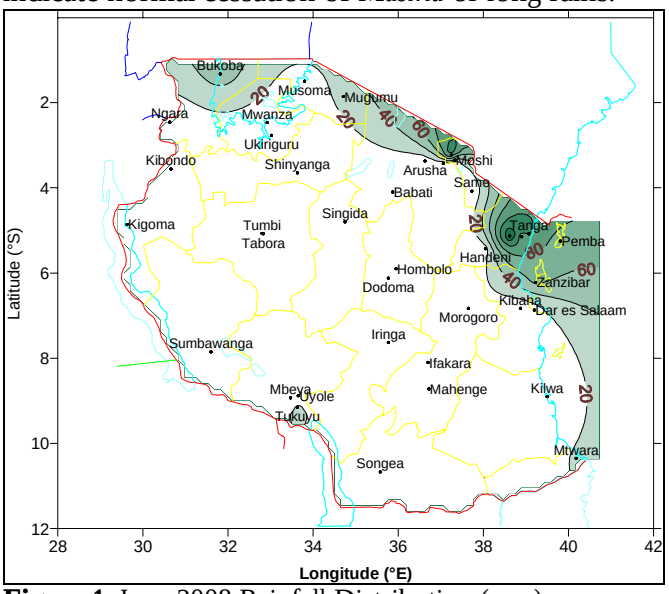

Figure 1: June 2008 Rainfall Distribution (mm)

MEAN AIR TEMPERATURE

Temperatures continued falling during the month of June due to pronounced cold southerly wind flow regime over the country. The mean maximum temperature ranged between just above 29 ºC and below 20 ºC as indicated in Figure 2A. The highest mean maximum temperature recorded during the

month was about 29.4 °C at Dar es Salaam with an absolute highest maximum of about 30.2 °C during the first dekad of the month. The lowest mean maximum temperature was about 20.5 °C over Lyamungo in the northeastern highlands. The mean minimum air temperature ranged from just below 7 ºC to slightly above 23 ºC.

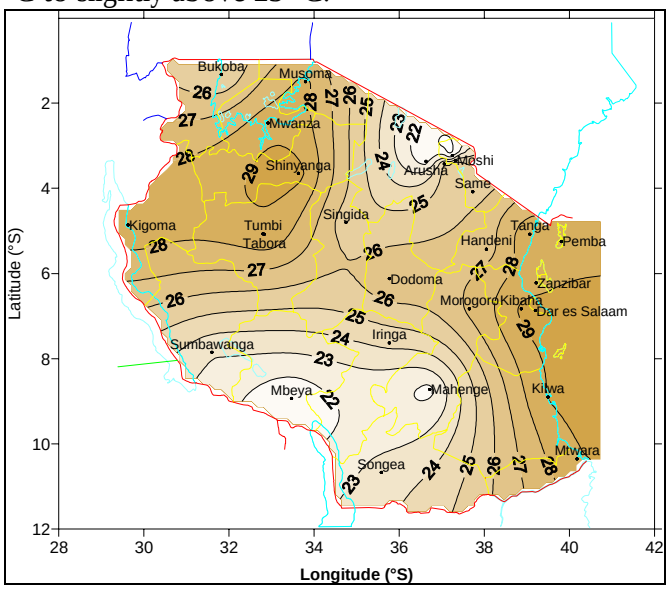

Fig 2A: June 2008 Mean Maximum Temperature (°C)

The lowest value of the mean minimum temperature was about 6.6 °C observed at Mbeya, while the highest value was about 23.4 °C recorded at Pemba as shown in Fig. 2B. Mbeya town reported the lowest 10 day minimum temperature of about 4.8 °C during the third dekad of June.

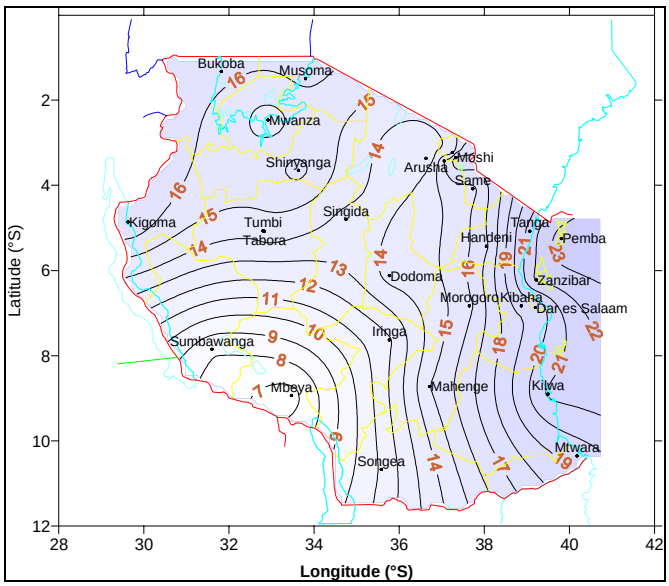

Figure 2B: June 2008 Mean Minimum Temperature (°C)

The month of June recorded lower temperatures compared with May as depicted by Mbeya where maximum temperatures in June dropped by about 1.1 °C and minimum temperatures by 2.9 °C.

MEAN SUNSHINE HOURS

Sunshine hours across the country during June indicate that the duration of mean bright sunshine ranged from about 3 hrs/day to above 10 hrs/day as shown in Figure 3. Long bright sunshine hours (> 10 hrs/day) occurred over western (Tabora region), central areas (Singida and Dodoma regions), and southwestern highlands (Mbeya region), while short durations (< 4 hrs/day) were experienced over some parts in northeastern highlands including Moshi and Lyamungo. Cloudy conditions over northeastern highlands shortened bright sunshine durations.

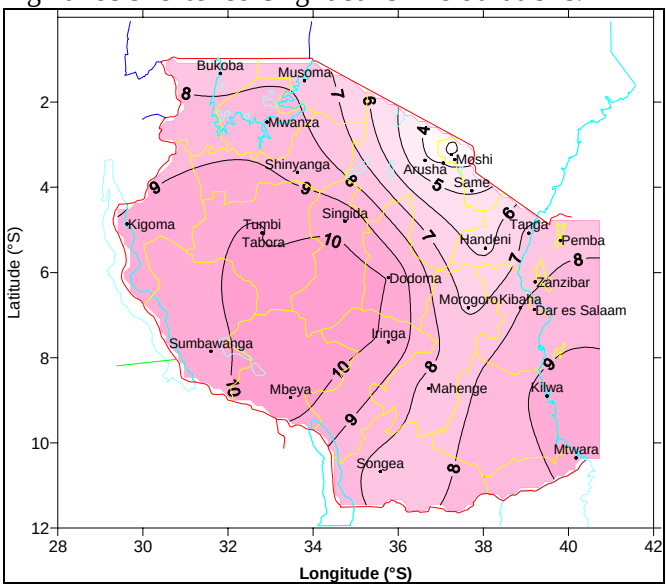

Figure 3: June 2008 Mean Sunshine Hours (hrs/day)

MEAN WIND SPEED

During the period mean wind speeds across the country ranged between about 3 to 11 km/hr as indicated in Figure 4. Some parts of southern coast and central regions experienced windy conditions that exceeded 9 km/hr. Wind speeds in June increased slightly over the coastal belt compared to previous month. Calm conditions and low wind speeds of about 4 km/hr were recorded over most parts of Morogoro and Ruvuma regions. However, increased windy and dry conditions have increased

prospects for occurrences of dust devils, wind erosion, and higher evaporation rates.

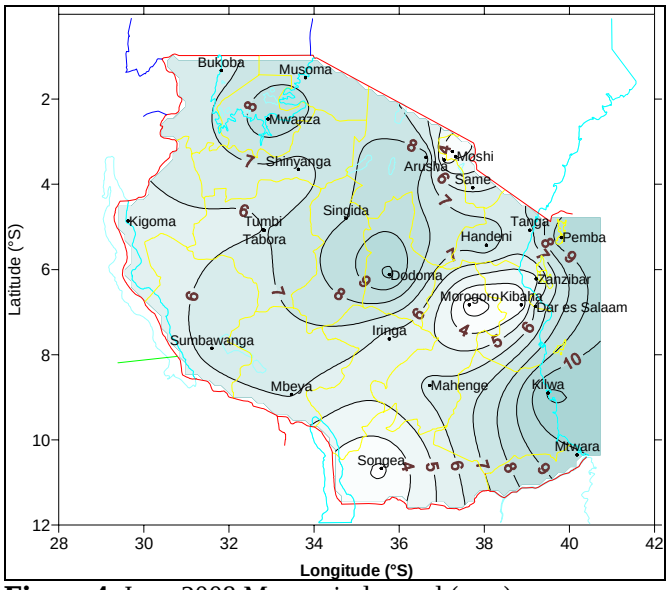

Figure 4: June 2008 Mean wind speed (mm)

SATELLITE INFORMATION

Mean vegetation condition during the third dekad of June is indicated in Figure 5 in a NOAA satellite imagery, depicting the Normalized Difference Vegetation Index (NDVI).

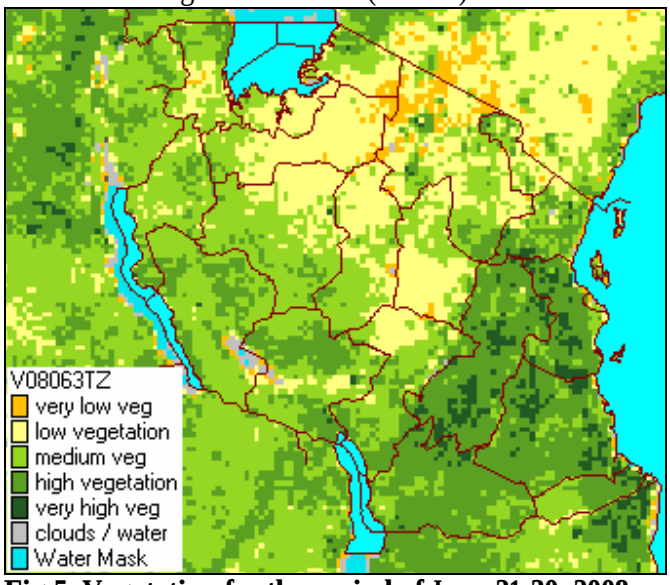

Fig 5: Vegetation for the period of June 21-30, 2008

Generally good vegetation condition was recorded over the southern sector and coastal regions including Morogoro region as depicted in Figure 1 by high to very high NDVI indices.

On the other hand, vegetation conditions and cover were deteriorating (low to very low NDVI) over northeastern areas (Arusha, Kilimanjaro, and Manyara regions), Lake Victoria basin (Mara, Mwanza, and Shinyanga), and central (Tabora, Singida, and Dodoma regions), areas which are potential for livestock keeping. On average, very low vegetation condition is likely to cover most parts of northeastern highlands, eastern Shinyanga, and central areas during the month of July.

AGROMETEOROLOGICAL SUMMARY

During the month soil moisture levels continued declining over most parts of the country except over some parts of the northern coast (Tanga region and Pemba Island), and Lyamungo in Kilimanjaro region where soil moisture replenishment was reported. Declining soil moisture levels created a conducive situation for both harvesting activities and further drying up of crops (maize, paddy, and millet/sorghum) found in unimodal rainfall areas (southwestern highlands, southern, western, and central regions). Crop yields for 2007/08 cropping season in these areas is anticipated to be good.

Likewise over bimodal rainfall regime areas, early planted crops were being harvested while the late planted maize, rice and beans were between wax ripeness and full ripeness stages and in good state as observed over some parts of northeastern highlands. However, crops over Same (Mkumbara and Mkomazi), Mbulu, Loliondo, and Rombo in the northeastern highlands, and Ngara, Karagwe, Magu, Kwimba, and Tarime in the Lake Victoria basin were adversely affected by persistent soil moisture stress. Crop condition in these areas was between moderate and poor.

Market supply for cassava over several areas of the country continued fairly well, while pasture supply and water availability for livestock and wildlife were generally adequate across the country.

HYDROMETEOROLOGICAL SUMMARY

Low humidity and prevailing winds during July will result into higher evaporation rates leading to

a reduction in water levels in lakes and dams, and rivers discharges. Water for domestic and industrial purposes should be used sparingly.

ENVIRONMENTAL SUMMARY

During July night temperatures will continue falling over most parts of the country as the cool/cold season continues. In high altitude areas where temperatures get too low, heating up of homes by using charcoal stoves, firewood, etc, should be done with great care to avoid asphyxiation from carbon monoxide.

EXPECTED SYNOPTIC SITUATION DURING JULY 2008

During the month of July, the southern hemisphere systems (St. Helena and the Mascarene anticyclones) are expected to remain intense, whereas the Azores and Siberian anticyclones in the northern hemisphere are expected to continue relaxing thus allowing both the zonal and meridional components of the ITCZ to move further northwards. East African ridge is expected to remain strong over the country resulting to southerly flow from the southern hemisphere. Relatively cold air is expected to persist over most parts of the country mainly over high grounds.

EXPECTED WEATHER SITUATION DURING JULY 2008

The northern coast (Dar es Salaam, Tanga and northern Morogoro regions and islands of Zanzibar and Pemba) and northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to feature partly cloudy conditions with occasional light rains over few areas and cool/cold temperatures during nights and morning times. Lake Victoria basin (Kagera, Mwanza and Mara regions) is expected to feature partly cloudy conditions with occasional isolated showers and thunderstorms caused by Lake Trough effect. Western areas are expected to feature partly cloudy conditions and sunny periods. Central areas (Dodoma and Singida regions), southwestern highlands (Iringa, Rukwa and Mbeya regions), southern areas (Ruvuma region and Mahenge) are expected to continue experiencing partly cloudy and cool/cold weather conditions with drizzle mostly over high grounds. Southern coast (Lindi and Mtwara) is expected to feature mostly partly cloudy conditions with long sunny days.

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