TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Seasonal dry conditions and cool/cold temperatures prevailed over much of the country.
- During August low vegetation conditions is likely to cover most parts of northeastern highlands and central regions.

SYNOPTIC SUMMARY

During the month of July, the southern hemisphere systems, St Helena and Mascarene high pressure cells and the East African ridge remained intense while the Siberian high pressure cell in the southern hemisphere relaxed resulting in persistence of southeasterly to southerly wind flow towards coastal areas. The above configuration also continued to influence dry weather over most parts of the country because of the continued divergent wind flow pattern. Injection of cold air mass from the southern tip of Africa (where winter is currently prevailing) continued to cause cool to cold morning and night temperatures over the entire country particularly over central areas and high grounds. The Near Equatorial Trough (NET) was weak (retreated) reducing activities over the coastal belt. Relaxation of the Azores anticyclone 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

During July seasonally dry conditions spread over much of the country, except for a few areas of Lake Victoria basin, coastal belt, northeastern highlands and pockets over unimodal pattern mainly southwestern highlands where off-seasonal rainfall activities were reported as shown in Figure 1. The highest rainfall recorded was 87.7 mm at Lyamungu (northeastern highlands), followed by Marikitanda in Muheza district (Tanga region) 70.9 mm, Pemba 67.2 mm, Tanga 48.9 mm, Mlingano 41.1mm, Tukuyu 39.2 mm, and Musoma 35.4mm. A few stations reported rainfall between 10 and 20 mm.

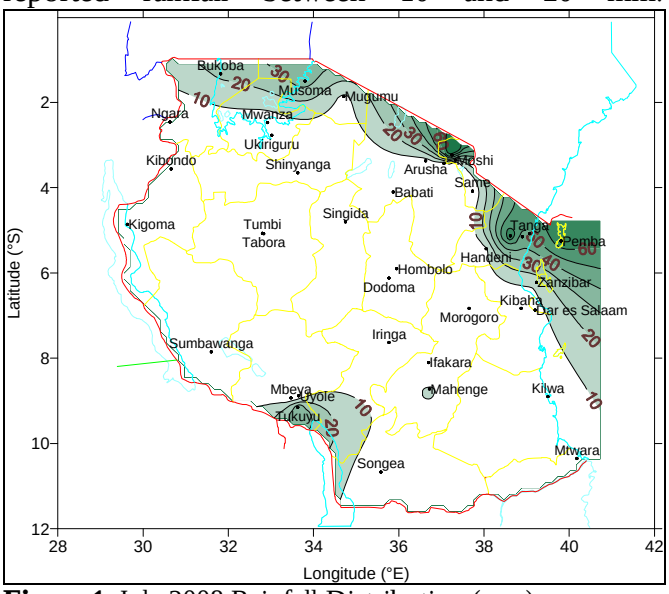

Figure 1: July 2008 Rainfall Distribution (mm)

MEAN AIR TEMPERATURE

Temperatures continued falling during the month of July due to a pronounced cold southerly wind flow regime over the country. The mean maximum temperature ranged between just above 29ºC and below 16ºC as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 29.6 °C at Shinyanga with an

absolute highest maximum of about 30.3 °C during the first dekad of the month. The lowest mean maximum temperature was about 15.3 °C over Igeri in the southwestern highlands. The mean minimum air temperature ranged from just below 6 ºC to slightly above 23 ºC.

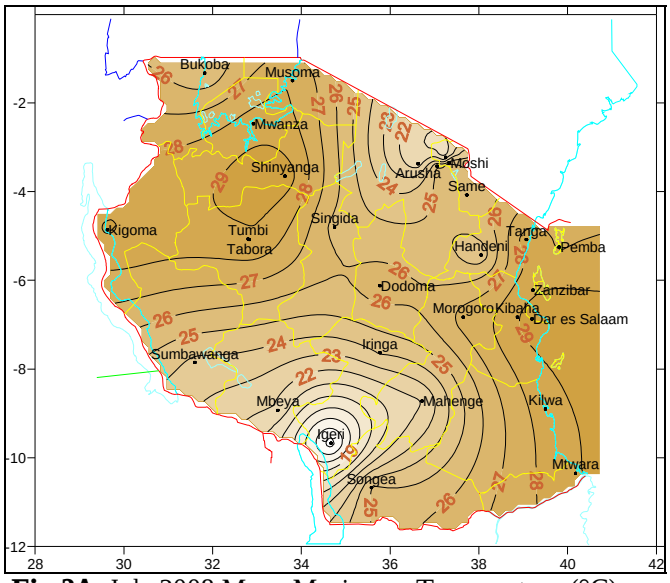

Fig 2A: July 2008 Mean Maximum Temperature (°C)

The lowest value of the mean minimum temperature was about 5.2 °C observed at Igeri, while the highest value was about 23.1 °C recorded at Pemba as shown in Fig. 2B.

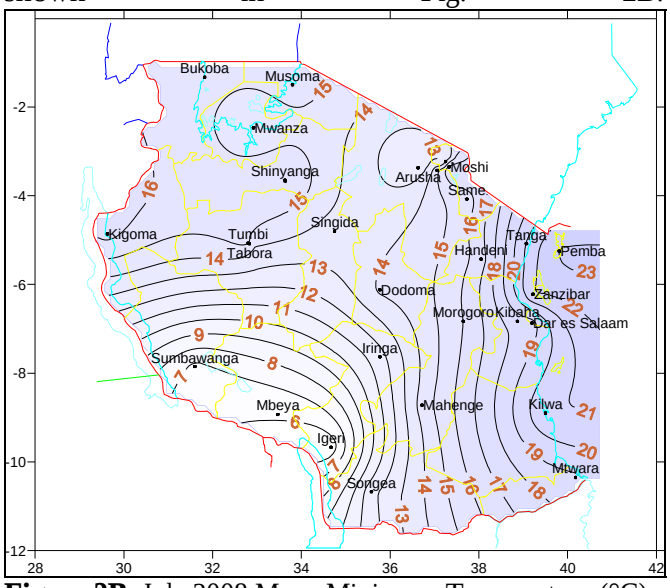

Figure 2B: July 2008 Mean Minimum Temperature (°C)

The lowest temperature was experienced over southwestern highlands (Mbeya, Sumbawanga, and southern Iringa including Igeri where the mean temperatures were generally between 5 °C and 7°C. Mbeya however, recorded an absolute minimum temperature of about 3.9 °C during first dekad of the month.

MEAN SUNSHINE HOURS

Sunshine hours across the country during July indicate that the mean duration of bright sunshine hours ranged from about 5 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 regions), and southwestern highlands (Mbeya region), while short durations (< 5 hrs/day) were experienced over some parts in northeastern highlands around Kilimanjaro mountain (Arusha, Moshi, Lyamungo, and Same). Cloudy conditions over northeastern highlands shortened bright sunshine durations.

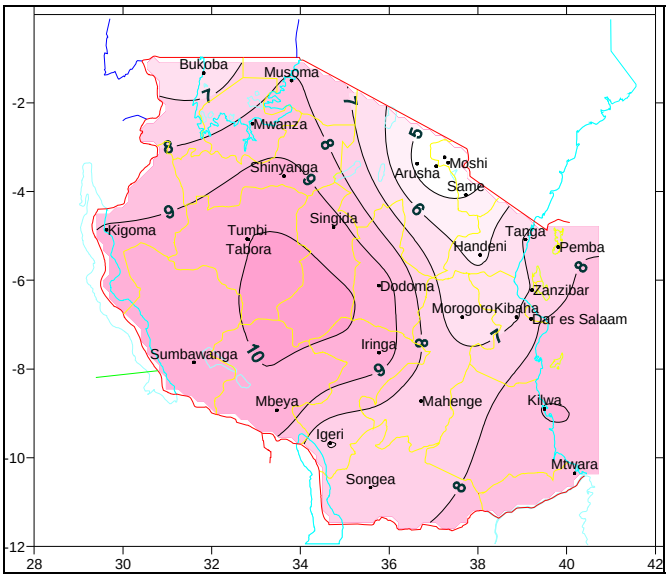

Figure 3: July 2008 Mean Sunshine Hours (hrs/day)

MEAN WIND SPEED

During the period mean wind speeds across the country ranged between about 4 to 10 km/hr as indicated in Figure 4. Some parts of southern coast and central regions experienced windy conditions that exceeded 10 km/hr. 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.

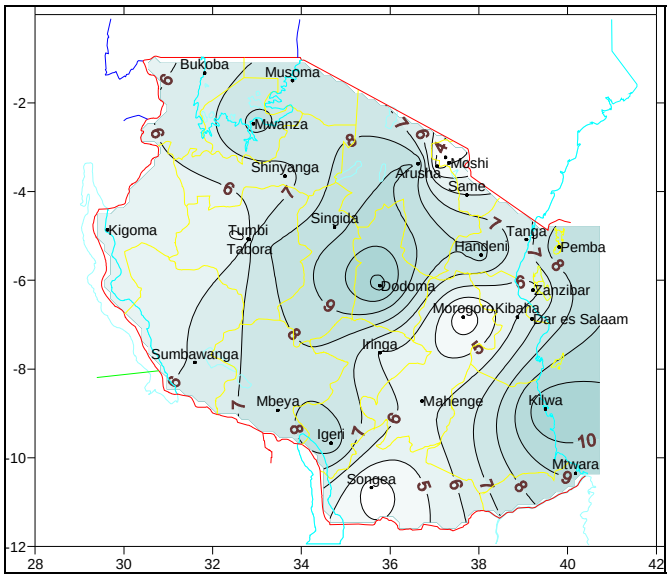

Figure 4: July 2008 Mean wind speed (mm)

SATELLITE INFORMATION

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

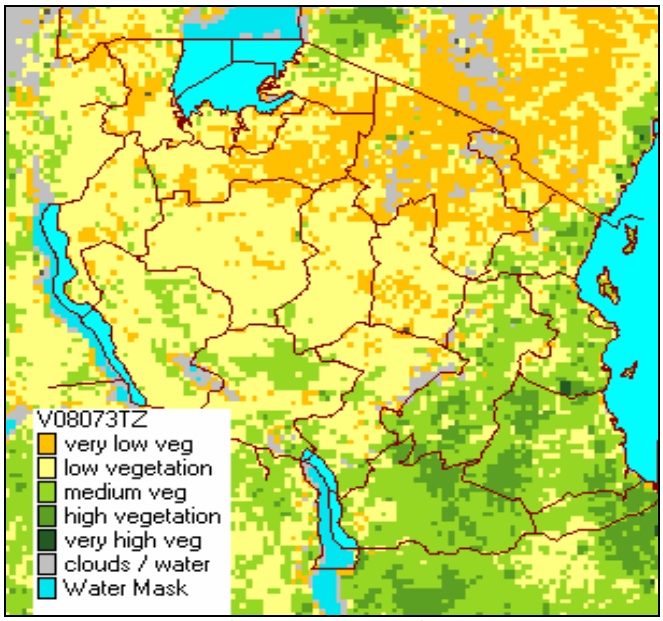

Fig 5: Vegetation for the period of July 21-31, 2008

Generally status of vegetation condition was turning poor across the country except over a few areas in the southern sector of the country and along the coastal belt where medium to high vegetation greening were observed during the third dekad of the month as depicted in Figure 5 by NDVI indices.

On the other hand, vegetation conditions and cover were deteriorating (low to very low NDVI) over northern areas (Arusha, Kilimanjaro, and Manyara regions), Lake Victoria basin (Kagera, Mara, Mwanza, and Shinyanga), and central (Tabora, Singida, and Dodoma regions), areas which are potential for livestock keeping. During August low vegetation conditions is likely to cover most parts of northeastern highlands and central regions depicting poor pasture supply for livestock.

AGROMETEOROLOGICAL SUMMARY

Most farmers have finished harvesting of cereals as cropping calendar over much of the country was going to the end. However, some harvesting of maize was still underway over high grounds of southwestern highlands particularly Njombe district, whereas wheat crop was approaching ripeness stage with an anticipation of normal yields. Harvesting of coffee was progressing well in northeastern and southwestern highlands and the Lake Victoria basin.

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

HYDROMETEOROLOGICAL SUMMARY

Low humidity and prevailing winds during July resulted 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 August night temperatures will continue be low 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 AUGUST 2008

During the month of August, the southern hemisphere systems (St. Helena and the Mascarene high pressure cells) are expected to remain intense, where as the Azores and Siberian high pressure cells in the northern hemisphere will remain relaxed. East African ridge will continue to remain strong over the country resulting in a southerly wind flow. Relatively cold air is expected to persist over most parts of the country mainly over high grounds especially during the first three weeks of August.

EXPECTED WEATHER SITUATION DURING AUGUST 2008

The northern coast and hinterlands (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 outbreaks of light showers over few areas with cool nights and mornings weather. Lake Victoria basin (Kagera, Mwanza and Mara regions) is expected to feature partly cloudy conditions with isolated showers and thunderstorms caused by Lake Trough effect. Western areas and Shinyanga region 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 weather conditions with drizzle mostly over high grounds. Southern coast (Lindi and Mtwara regions) is expected to feature mostly partly cloudy conditions with sunny periods.

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