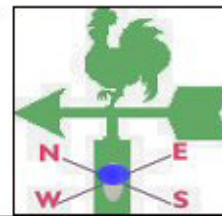




# TANZANIA METEOROLOGICAL AGENCY



## MONTHLY WEATHER BULLETIN

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### HIGHLIGHTS

- The country generally continued to experience dry conditions with cool to mild temperatures over high grounds of southwestern and northeastern highlands.
- During September large decrease in pasture supply is likely to cover most parts of northeastern highlands and central areas.

### SYNOPTIC SUMMARY

During the month of August, the southern hemisphere systems, St Helena and Mascarene high pressure cells and the East African ridge remained intense and occasionally fluctuating while the Siberian high pressure remained relaxed resulting in persistence of low level southeasterly wind flow towards the coastal belt areas. The zonal arm of the Inter-Tropical Convergence Zone (ITCZ) remained further north away from the country. The country generally continued to experience dry conditions with cool to mild temperatures over high grounds of southwestern and northeastern highlands. The Near Equatorial Trough (NET) was weak reducing activities over the coastal belt. However, the occasional fluctuation of the southern hemisphere systems and the low level southeasterly flow resulted in developing a few showers over the northern coastal areas.

### WEATHER SUMMARY

### RAINFALL

During August seasonally dry conditions spread over much of the country, except for a few areas of Lake Victoria basin, northern coastal belt, northeastern highlands and southwestern highlands mainly over high grounds where off-seasonal rainfall activities were reported as shown in Figure 1. The highest rainfall recorded was 115.3 mm at Mugumu

in Mara region, followed by Bukoba 98.8 mm, Tukuyu 68.0 mm, Musoma 63.4 mm, and Zanzibar 51.2 mm. Very few stations reported rainfall between 10 and 20 mm.

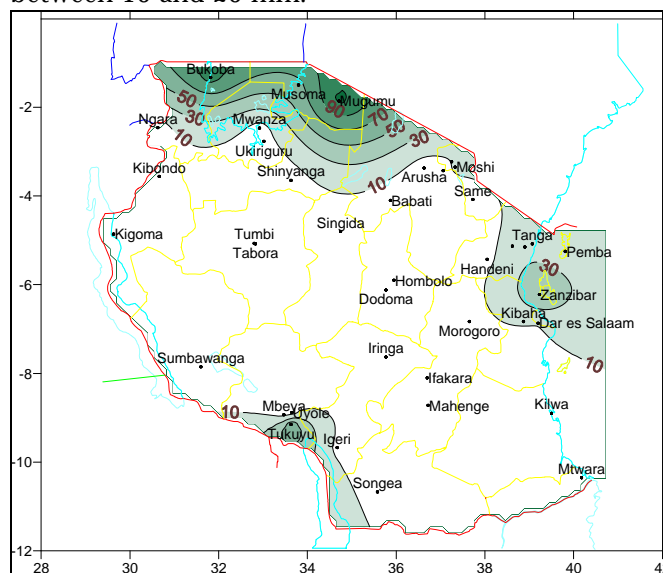
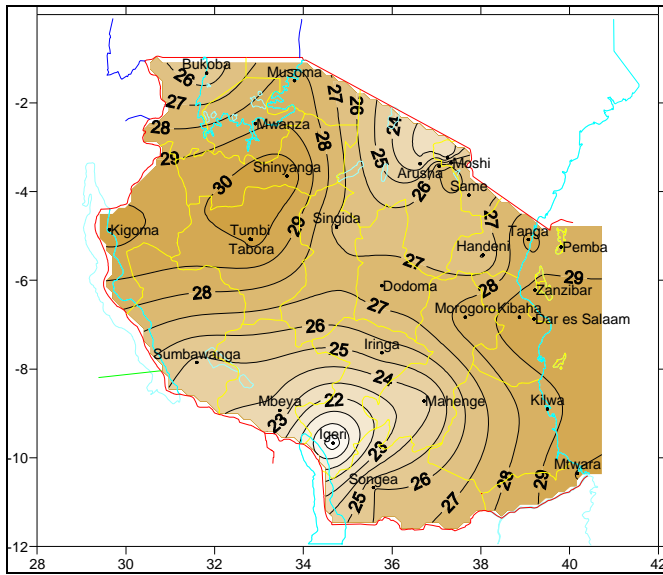


Figure 1: August 2008 Rainfall Distribution (mm)

### MEAN AIR TEMPERATURE

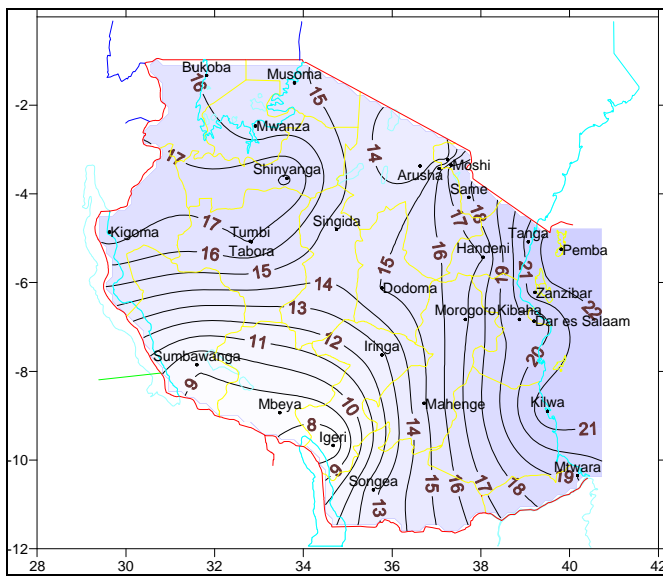
Cool temperatures continued during the first and second dekads of August with third dekad of the month indicating slight warming. The mean maximum temperature ranged between just above 30°C and below 19.0 °C as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 30.8 °C at Shinyanga with an absolute highest maximum of about 31.6 °C during the first dekad of the month. The lowest mean maximum temperature was about 18.2 °C over Igeri in the southwestern highlands. The mean

minimum air temperature ranged from just below 8 °C to slightly above 22 °C.



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

The lowest value of the mean minimum temperature was about 7.2 °C observed at Igeri, while the highest value was about 22.9 °C recorded at Pemba as shown in Fig. 2B.



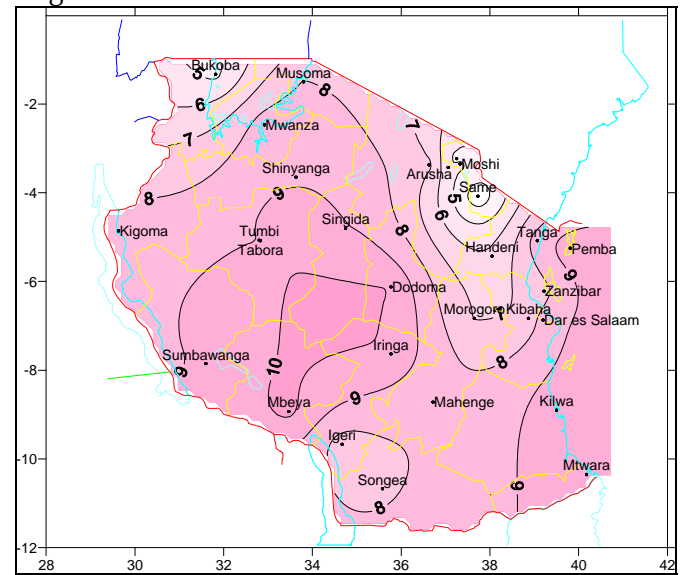
**Figure 2B:** August 2008 Mean Minimum Temperature (°C)

The lowest temperature was experienced over southwestern highlands (Mbeya, Sumbawanga, and south Iringa including Igeri) where the mean minimum temperatures were generally between 7 °C and 12°C. Igeri however, recorded an absolute

minimum temperature of about 7°C during second dekad of the month.

**MEAN SUNSHINE HOURS**

Sunshine hours across the country during August indicate that the mean duration of bright sunshine hours ranged from about 4 hrs/day to above 10 hrs/day as shown in Figure 3. Long bright sunshine hours (> 10 hrs/day) occurred over parts of Singida, Tabora, Mbeya, Iringa, and Dodoma regions, whereas short durations (< 3 hrs/day) were experienced over some parts of northeastern highlands around mount Kilimanjaro. Cloudy conditions over northeastern highlands shortened bright sunshine durations.



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

**MEAN WIND SPEED**

During the period mean wind speeds across the country ranged between about 2 to 13 km/hr as indicated in Figure 4. Some parts of southern coast, central, and northeastern highlands regions experienced windy conditions that exceeded 10 km/hr. Calm conditions and low wind speeds of about 6 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.

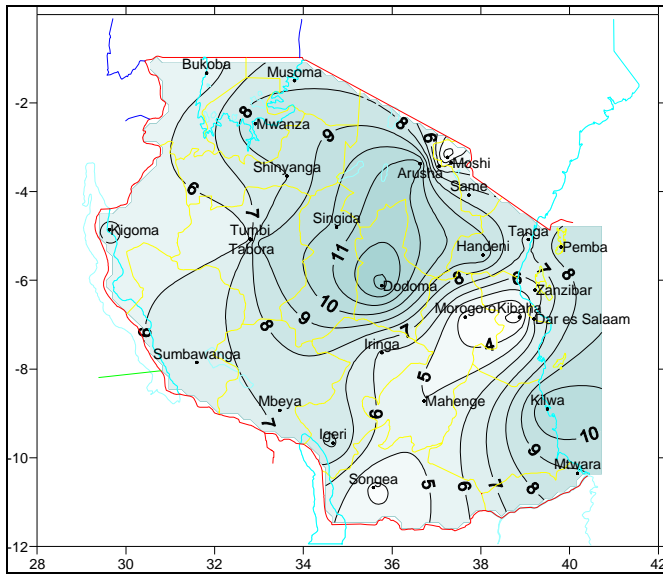


Figure 4: August 2008 Mean wind speed (mm)

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 vegetation indices.

On the other hand, vegetation condition and cover deteriorated (low to very low NDVI) over the 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 September low vegetation condition is likely to cover most parts of central regions and northeastern highlands depicting poor pasture supply for livestock.

**AGROMETEOROLOGICAL SUMMARY**

Continued decreasing trend of soil moisture levels was observed during the third dekad of the month, signifying real features of a dry season across the country. Late harvesting of maize crop continued over high ground areas of southwestern highlands (Njombe district), while wheat crop has reached harvesting stage. Picking of coffee was progressing well over northeastern highlands, southwestern highlands and the Lake Victoria basin, whereas some areas of the Lake basin have started land preparation for the next farming season.

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 August resulted into higher evaporation rates leading to a reduction in water levels in lakes and dams, and rivers flow discharges. Consequently water for domestic and industrial purposes should be used sparingly.

**SATELLITE INFORMATION**

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

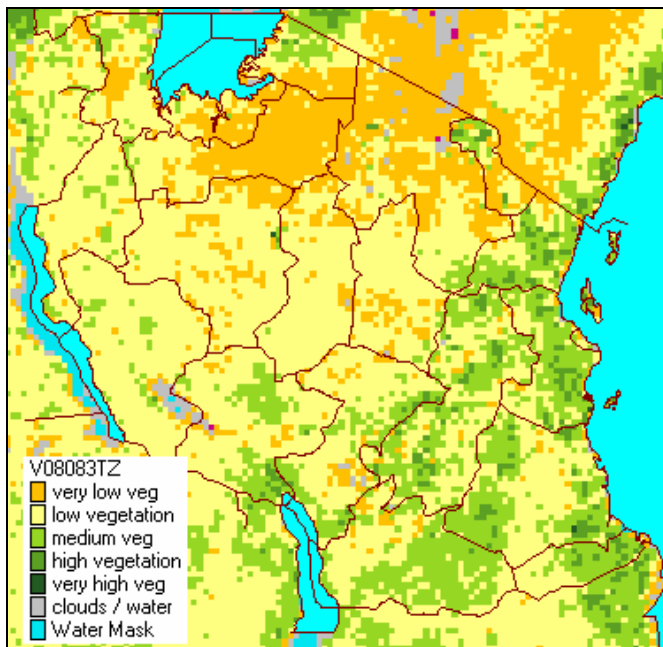


Fig 5: Vegetation for the period of August 21-31, 2008

Generally the status of vegetation condition turned turning poor across the country except over a few

### ENVIRONMENTAL SUMMARY

During September mild temperatures are anticipated over most parts of the country as the cool/cold season approaches an end. In high ground areas where temperatures are still 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 SEPTEMBER 2008

During the month of September, the southern hemisphere systems (St. Helena and Mascarene high pressure cells) are expected to relax, whereas the Azores and Siberian high pressure cells in the northern hemisphere will intensify slightly. The East African ridge is expected to relax allowing low level southerly wind flow convergence from the Indian Ocean to the northern coastal belt areas. Currently there is a slight warming over the southwest Indian Ocean which is likely to enhance moisture influx and occasional rainfall activities over bimodal rainfall pattern areas.

### EXPECTED WEATHER SITUATION DURING SEPTEMBER 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 showers over few areas. Lake Victoria basin (Kagera, Mwanza, Shinyanga, and Mara regions) is expected to feature partly cloudy conditions with isolated showers and thunderstorms particularly over Kagera and Mara regions. 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 experience partly cloudy conditions with a few light rains mostly over high grounds. The southern coast (Lindi and Mtwara regions) is expected to feature mainly partly cloudy conditions with sunny periods.

Prepared by

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