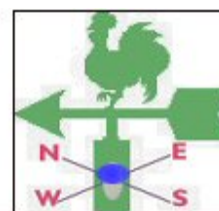




# TANZANIA METEOROLOGICAL AGENCY



## MONTHLY WEATHER BULLETIN

ISSN No: 0856-0919, Volume 9 Issue 07

July 2007

### HIGHLIGHTS

- Harvesting activities have been completed over most areas except over a few pocket areas of elevated lands in southwestern highlands (Njombe district), northeastern highlands (Tarime and Loliondo districts) and northern coast.

### SYNOPTIC SUMMARY

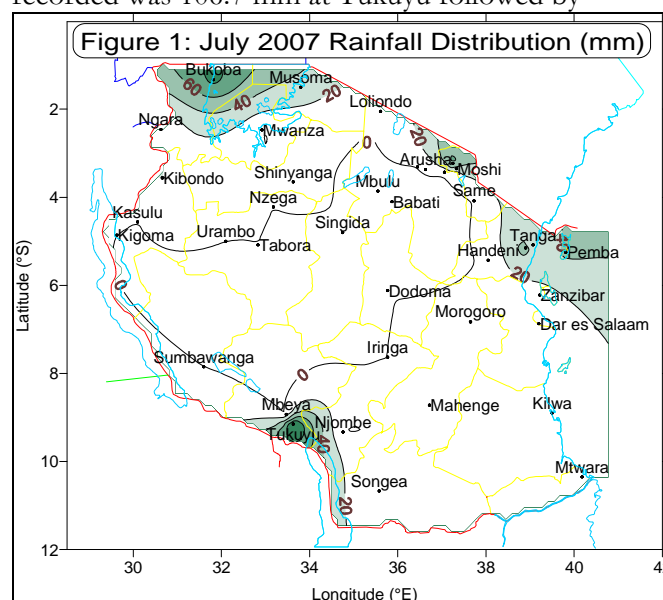
During the month of July, the St. Helena and Mascarene anticyclones were relatively strong, and East African ridge extended up to Ethiopia. The Azores and Siberian anticyclones together with Arabian ridge were relaxed thus maintaining the position of the Inter-Tropical Convergence Zone (ITCZ) far to the north outside our area. The frontal systems over southern hemisphere were propagating eastwards influencing the southern hemisphere systems, the St. Helena, and Mascarene anticyclones, and the East African ridge to fluctuate in intensity resulting in southeasterly and southerly flows to dominate in intervals over entire coastal areas, becoming easterly over inland. The Near Equatorial Trough (NET) observed over northwest Indian Ocean was influenced light rain showers over northern coast and northeastern highlands. The weak trough observed over Lake Victoria influenced light thundershowers over the Lake Victoria Basin. The cold and dry southerly flow remained dominant mostly over southwestern highlands.

### WEATHER SUMMARY

#### RAINFALL

The expected dry conditions throughout the country continued during July except for some off seasonal rains over a few areas where some of the recording stations reported monthly rainfall amounts

exceeding 50 mm (Fig. 1A). The highest rainfall recorded was 106.7 mm at Tukuyu followed by

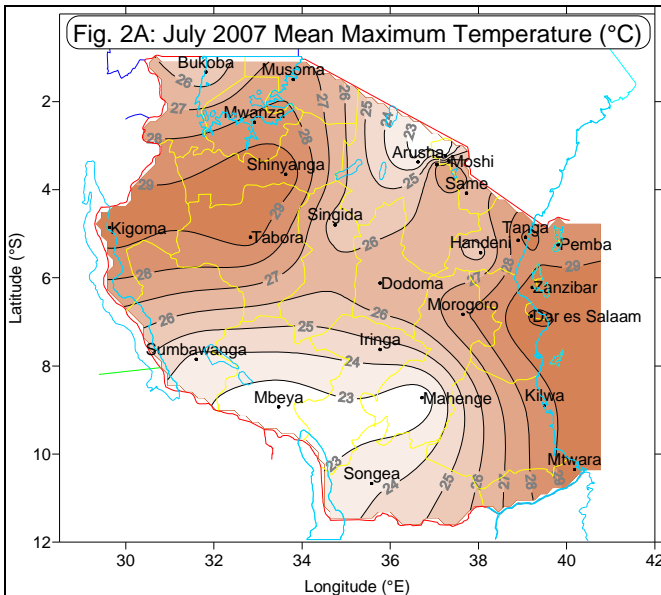


Bukoba 86.3 mm, Lyamungo 67.6 mm and Mlingano 50.3 mm.

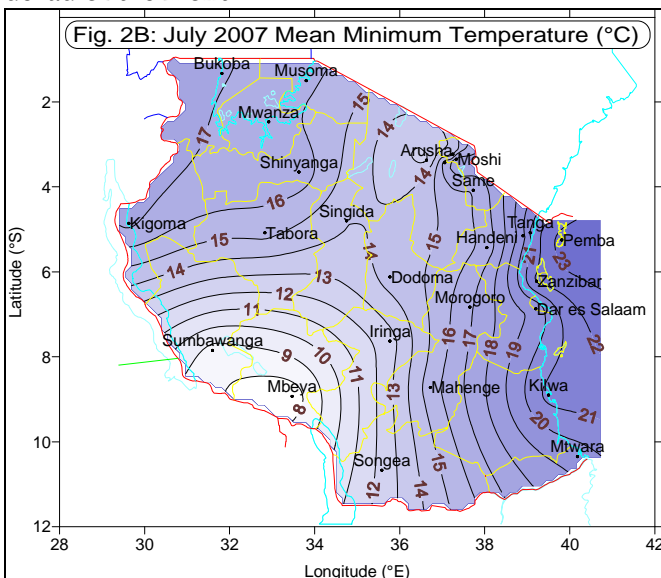
### MEAN AIR TEMPERATURE

Temperatures dropped slightly during the month of July. The spatial mean maximum and minimum values are shown in Figs. 2A and 2B respectively. The mean maximum temperature ranged between just above 29 °C and just below 23 °C as indicated in Figure 2A.

The highest mean maximum temperature recorded during the month was about 30.2 °C at Dar es Salaam in the coastal belt, while the lowest was about 22 °C at Lyamungo (northeastern highlands), Mbeya (southwestern highlands) and Mahenge (southern Morogoro region). The highest values were observed during the third dekad of the month.



Dar es Salaam and Tabora reported the highest 10-day maximum temperature of 30.5 °C during the third dekad of the month.

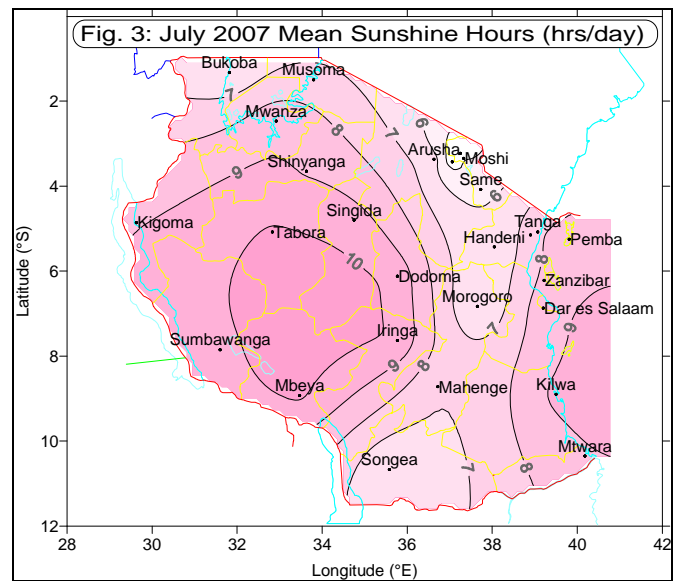


The mean minimum air temperatures ranged from just below 8 °C to slightly above 23 °C as shown in Fig. 2B. The lowest value of the mean minimum temperature recorded was about 7.4 °C at Mbeya, while the highest value was about 23.4 °C in the island of Pemba. Mbeya reported a 10-day mean minimum temperature of about 6.4 °C during the first dekad.

Compared with temperature conditions in June the temperatures in July did not change significantly.

**MEAN SUNSHINE HOURS**

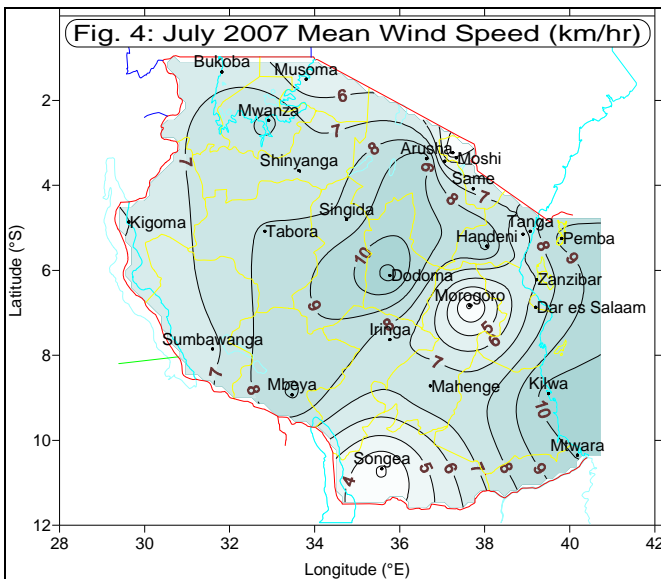
Spatial distribution of mean sunshine hours across the country during July indicates that the duration of mean bright sunshine hours ranged from below 5 hrs/day in the northeastern highlands (KIA, Moshi and Lyamungo) to above 10 hrs/day over parts of Tabora, Singida, Dodoma, Mbeya, and Rukwa regions as shown in Fig. 3.



**MEAN DAILY WIND SPEED**

During the period mean wind speed across the country ranged between about 3 and 11 km/hr as indicated in Fig. 4. The central, southwestern and northeastern highlands areas and coastal belts experienced windy conditions with wind speeds exceeding 8 km/hr. Slight winds of less than 3 km/hr had the cores of minimum speeds located over Songea, Morogoro and Lyamungo.

The increased wind speed accompanied with low rainfall over central areas, southwestern and northeastern highlands areas increased prospects for occurrences of dust devils, wind erosion, and higher evaporation rates.



**SATELLITE INFORMATION**

Figure 5 depicts the 10-day vegetation greening condition for the period between July 11-10, 2007.

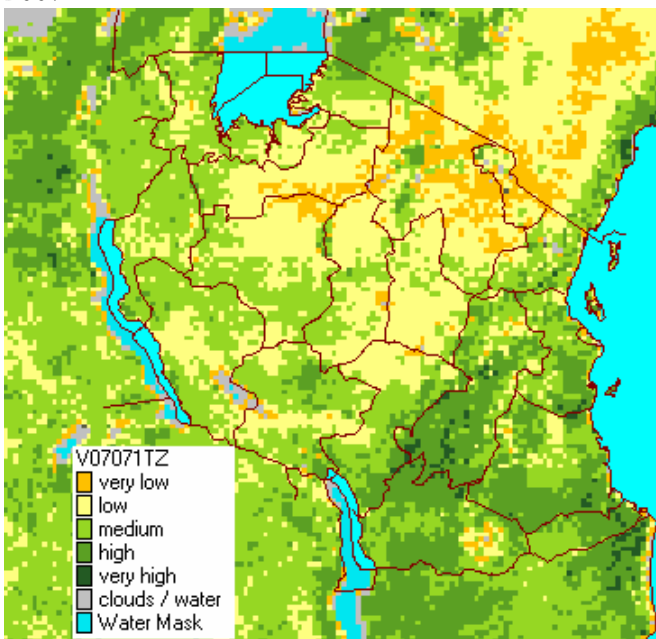


Figure 5 depicts the 10-day vegetation greening condition for the period between July 11-10, 2007.

In dekad 1 July 2007, the satellite depicted NDVI between very low to low indices over most parts of the northeastern highlands (Arusha, Manyara, and Kilimanjaro regions), Lake Victoria basin (Shinyanga region), western (northern part of Tabora region), and

central (Dodoma and Singida regions), and northern Iringa region. However, the vegetation seemed better (high to very high indices) mainly over the southern regions and costal belt. The observed low NDVI indices over the livestock potential areas (northeastern highlands, Lake Victoria basin, central and Tabora region) is a preliminary indicator that the anticipated pasture supply is likely to be low as the dry season continues.

**AGROMETEOROLOGICAL SUMMARY**

During the period soil moisture levels continued to fall further over many areas due to seasonal dry conditions across the country, except over a few localized areas of northern coast, Lake Victoria basin, northeastern highlands, the Islands of Pemba and Zanzibar, and southwestern highlands (Tukuyu) which reported some off-seasonal soil moisture replenishments.

Harvesting activities have been completed over most areas except over a few pocket areas of elevated lands in southwestern highlands (Njombe district), northeastern highlands (Tarime and Loliondo districts) and northern coast (Tanga region).



The status of Maize crop over some few remaining fields as observed in Mlingano areas in Tanga region (northern coast) during July 21-31, 2007.

Generally, the 2007 crop harvest over most of bimodal rainfall areas is anticipated to be less than the 2006 crop.

Root crops, mainly cassava and sweet potatoes were still performing well and market supply was good.

Pasture conditions and water availability for livestock and wildlife was still at satisfactory level across the

country, although the decrease in supply is anticipated as dry season continues.

### HYDROMETEOROLOGICAL SUMMARY

Low humidity and prevailing winds during last dekad of July resulted into higher evaporation rates leading to a reduction of water levels in rivers, lakes and dams. During August, the above situation will persist. Water users for domestic and industrial purposes are advised to use it more sparingly.

### ENVIRONMENTAL SUMMARY

Nights and mornings are chilly due to prevailing low temperatures and windy conditions. In high altitude areas where temperatures get low, heating up of homes by using charcoal stoves, firewood, etc. should be done with great care to avoid asphyxiation from carbon monoxide. Fire hazards (wildfires in particular) are also anticipated due to widespread dry and windy conditions.

### EXPECTED SYNOPTIC SITUATION DURING AUGUST 2007

Both northern and southern systems, the Arabian ridge, Siberian and Azores anticyclones over the northern hemisphere and the St. Helena and

Mascarene anticyclones, and the East African ridge in the southern hemisphere are expected to relax, hence allowing cool air over the country and ITCZ to retreat from the northern hemisphere. The weak trough observed over Lake Victoria Basin is expected to deepen, hence influencing thundershowers over some areas. The existence of NET over northwest Indian Ocean is expected to influence rainfall activities over northern coast and northeastern highlands.

### EXPECTED WEATHER SITUATION DURING AUGUST 2007

Northern coast (Pwani, Dar-es-Salaam, Tanga and Morogoro regions, together with Zanzibar and Pemba Islands), and northeastern highlands (Arusha, Kilimanjaro and Manyara) are expected to feature partly cloudy conditions with rainshowers over few areas. Lake Victoria basin (Kagera, Mwanza, Shinyanga, and Mara regions) is expected to feature partly cloudy conditions with thundery showers over few areas. Southwestern highlands (Iringa, Mbeya, and Rukwa regions), Southern areas (Ruvuma and southern Morogoro regions) are expected to be dry and cool nights with chances of light rains mainly over high grounds. Southern coast (Mtwara and Lindi regions); will mostly feature partly cloudy conditions with sunny periods. Western area (Kigoma and Tabora) will feature partly cloudy conditions with thundery showers over few areas, while central area (Dodoma and Singida regions) will feature cold and dry conditions with long sunny periods.

Prepared by

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