TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Over the livestock potential areas (northeastern highlands, Lake Victoria basin, central and Tabora region) the pasture supply is becoming low as the dry season continues.
- Fire hazards (wildfires in particular) are also anticipated due to widespread dry and windy conditions.

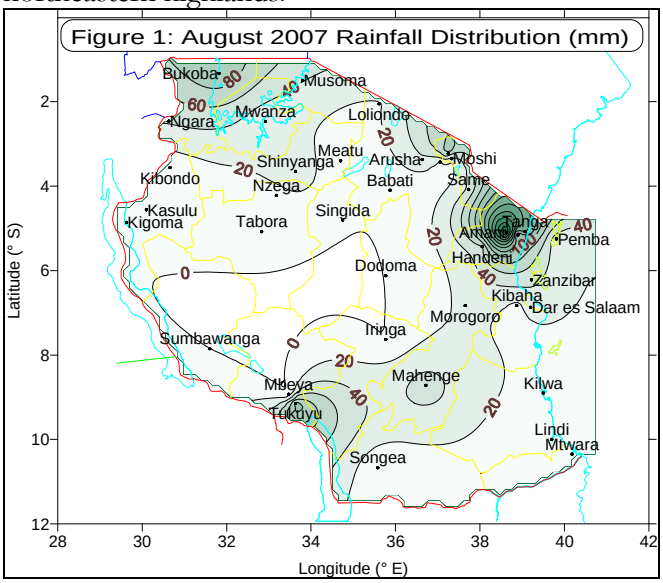
SYNOPTIC SUMMARY

During the month of August, the southern hemisphere systems, the St. Helena and Mascarene anticyclones were relatively strong, and East African ridge extended up to northern parts of Kenya. The fluctuations observed on intensities of the Mascarene, St Helena and the East Africa ridge were mainly influenced by southern hemisphere mid latitude frontal systems which were propagating eastwards, resulting in southeasterly to easterly flow to dominate at various intervals over the entire country. The northern hemisphere systems (the Azores and Siberian anticyclones together with Arabian ridge), were relaxed, thus maintaining the position of the Inter-Tropical Convergence Zone (ITCZ) over the northern hemisphere. The Near Equatorial Trough (NET) over northwest Indian Ocean was observed to be a dominant feature influencing occasional light rainshowers over northern coast and northeastern highlands. A weak trough was also observed over Lake Victoria Basin.

WEATHER SUMMARY

RAINFALL

Much of the country remained seasonally dry during August except over a few areas where some of the recording stations reported some off-seasonal rains exceeding monthly total of 50 mm (Figure 1). The highest rainfall recorded was 279.7 mm at Amani in Tanga region followed by Tanga 149.2 mm, Tukuyu 110.2 mm, Bukoba 98.6 mm, Lyamungo 89.9 mm, Mlingano 86.6 mm, and Mahenge 50.3 mm. Much of the reported rainfall activities were over areas in the northern coast and northeastern highlands.

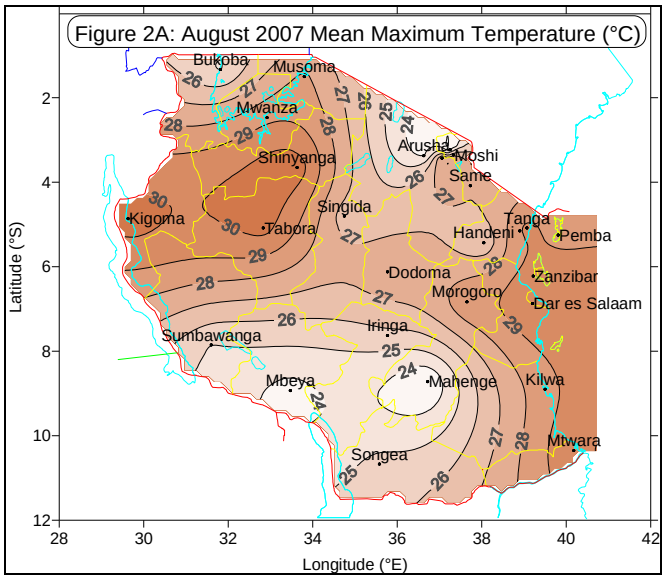


MEAN AIR TEMPERATURE

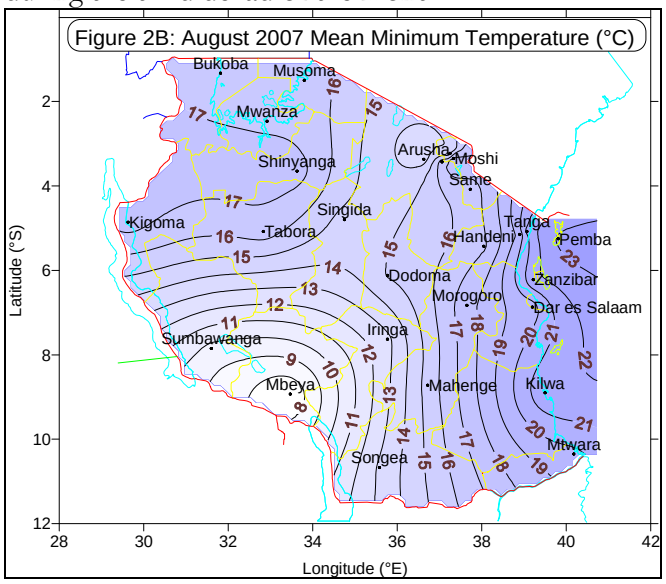
Temperatures peaked up slightly during the month of August. The spatial mean maximum and minimum values are shown in Figs. 2A and 2B respectively. The mean maximum temperature ranged between just above 30 °C and just below 24 °C as indicated in Figure 2A.

The highest mean maximum temperature recorded during the month was about 31 °C at Shinyanga (Lake Victoria basin) and Kigoma (western), while the lowest was about 23 °C at Lyamungo (northeastern highlands) and Mahenge (southern Morogoro region). The highest values were observed during the third

dekad of the month.



Shinyanga, Kigoma and Tabora reported the highest 10-day maximum temperature, just above 31 °C during the third dekad of the month.

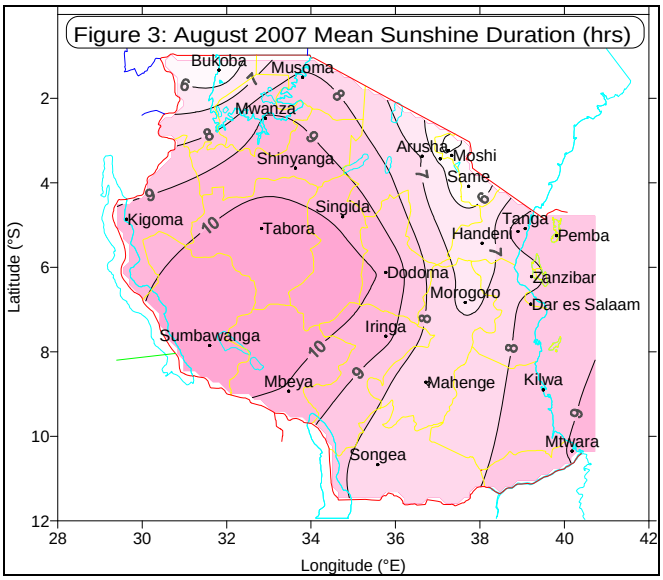


The mean minimum air temperatures ranged from just below 8 °C to slightly above 23 °C as shown in Fig. 2B. The lowest value of the mean minimum temperature recorded was about 7.1 °C at Mbeya, while the highest value was about 23.1 °C in the island of Pemba. Mbeya reported a 10-day mean minimum temperature of about 6.1 °C during the third dekad.

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

MEAN SUNSHINE HOURS

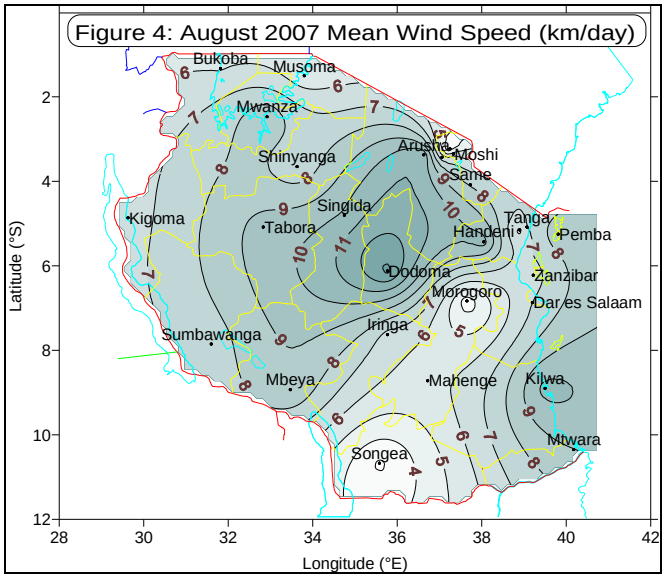
Spatial distribution of mean sunshine hours across the country during August indicates that the duration of mean bright sunshine hours ranged from below 5 hrs/day in the northeastern highlands (Lyamungo) and west of Lake Victoria basin (Bukoba) to above 10 hrs/day over parts of Tabora, Singida, Dodoma, 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 13 km/hr as indicated in Fig. 4. The central part and its neighborhoods experienced windy conditions with wind speeds exceeding 9 km/hr. The core of maximum wind speed (about 13 km/hr) was located at Dodoma. Slight winds of less than 4 km/hr had the cores of minimum speeds located over Songea, Lyamungo and Morogoro.

The increased wind speed accompanied with dry conditions 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 mean vegetation greening condition for the period between August 21-31, 2007.

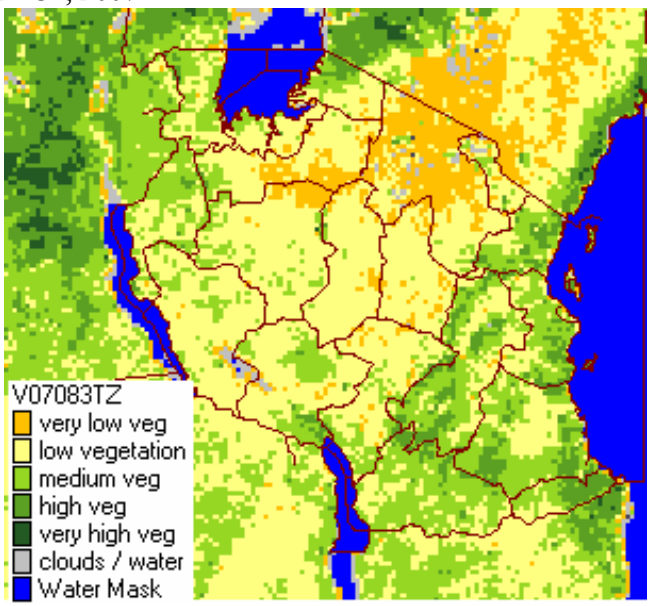


Fig. 5: *Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor as depicted during third dekad of August 2007.*

In dekad 3 August 2007, the satellite depicted NDVI between very low to low indices over much of the country, mainly 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), western Mbeya and Iringa regions. However, the vegetation seemed better (high to very high indices) mainly over the costal regions, Morogoro and northern Kigoma. Over the livestock potential areas (northeastern highlands, Lake Victoria basin, central and Tabora region) the pasture supply is becoming low as the dry season continues, the condition which was well depicted by very low to low NDVI indices.

AGROMETEOROLOGICAL SUMMARY

During the period seasonal dry conditions continued to cause further fall of soil moisture levels over many places across the country, except over a few localized places of northern coast, Lake Victoria basin, northeastern highlands, the Islands of Pemba and Zanzibar, and Tukuyu in the southwestern highlands where significant soil moisture replenishments was reported.

Harvesting activities continued over a few pockets of elevated lands in southwestern highlands (Njombe district) and northeastern highlands (Tarime and Loliondo districts) and some few places in the northern coast (Mlingano in Tanga region). The crop harvest in these areas was reported to be good mainly over elevated lands.

Growth of cassava and sweet potatoes was progressing well at various stages, while market supply for both crops was good.

Pasture conditions and water availability for livestock and wildlife are decreasing in supply over the northern, northeastern highlands, western, southern and central areas as the dry season progresses.

HYDROMETEOROLOGICAL SUMMARY

Low humidity and prevailing winds during last dekad of August resulted into higher evaporation rates leading to a reduction of water levels in rivers, lakes and dams. During September, the above situation is likely to persist over many regions of the country. 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 SEPTEMBER 2007

The northern hemisphere systems, the Arabian ridge, and Siberian and Azores anticyclones are expected to intensify while the southern hemisphere systems, the St. Helena and Mascarene anticyclones, and the East African ridge over the southern hemisphere are expected to relax, allowing ITCZ to start shifting southwards. The weak trough observed over Lake Victoria Basin is also expected to intensify, hence influencing thundershowers over the area.

The existence of NET over northwest Indian Ocean is expecting to influence rainfall activities over northern coast and northeastern highlands.

EXPECTED WEATHER SITUATION DURING SEPTEMBER 2007

Northern coast (Pwani, Dar es Salaam, Tanga and Morogoro regions together with Zanzibar and Pemba Islands) and northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to feature partly cloudy conditions with occasional rainshowers over few areas. Southern coast (Lindi, Mtwara and southern Morogoro regions) is expected to feature partly cloudy conditions with few occasional rainshowers over few areas. Lake Victoria basin (Kagera, Mwanza, Shinyanga and Mara regions), and northern Kigoma region are expected to feature partly cloudy conditions with thundery showers over few areas. Southwestern highlands (Iringa, Rukwa and Mbeya regions), Western areas (southern Kigoma and Tabora regions), southern areas (Ruvuma region) and central areas (Dodoma and Singida regions) are expected to be mainly dry and 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) agromet_tz@meteo.go.tz
Dar-es-Salaam UNITED REPUBLIC OF TANZANIA