TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Dry spell prevailed over most of bimodal rainfall pattern areas during the third dekad.
- Low soil moisture levels over western, southern and central parts favored most crops at between ripeness and harvesting maturity
- Adequate pastures and water availability for livestock and wildlife across the country

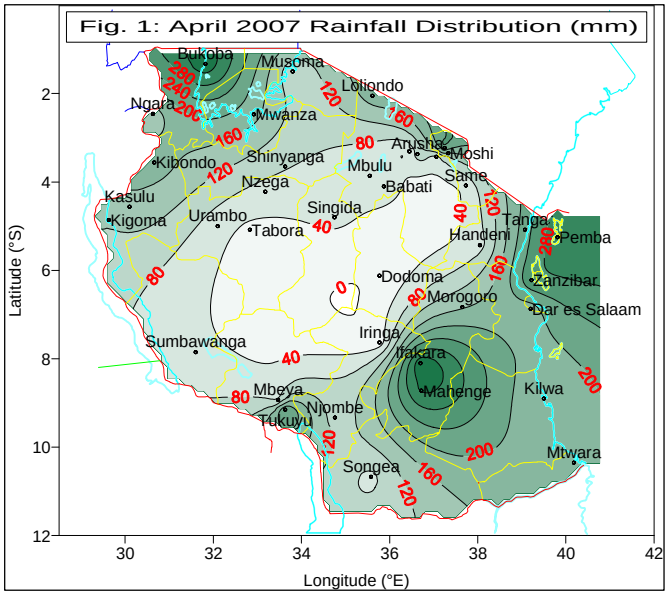
SYNOPTIC SUMMARY

During April, the Azores and Siberian anticyclones together with Arabian ridge over the northern hemisphere relaxed giving room for a northward shift of the zonal arm of the Inter-Tropical Convergence Zone (ITCZ). The southern hemisphere systems, the St. Helena and Mascarene anticyclones together with the East African ridge were strong enough to enhance a slight northward the movement of the zonal arm of the ITCZ. There was a series of frontal systems in the southern hemisphere which sometimes eroded the subtropical highs over the area resulting into falling of pressure within Tanzania and hence increased rainfall activities over most parts of the country, particularly southwestern highlands. A southeasterly flow dominated over northern coast at times becoming easterlies over the entire coast. A confluent flow along the northern coast of two air masses the maritime sub-tropical and the maritime tropical, was observed at the end of the month.

WEATHER SUMMARY

RAINFALL

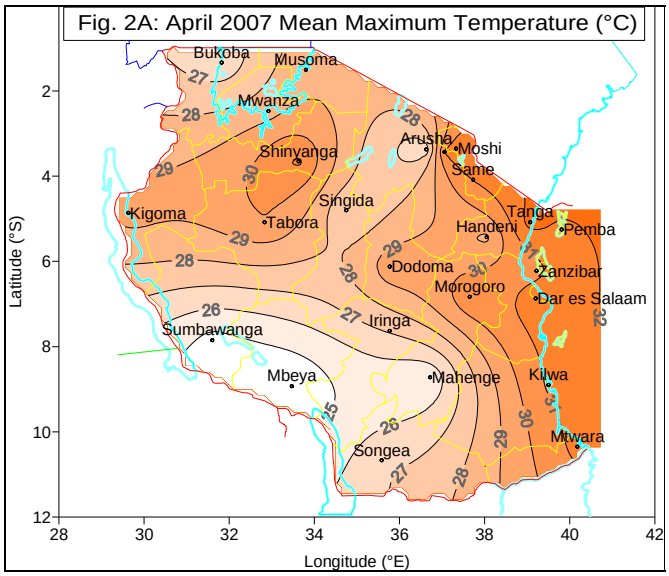
The rains continued during April over some areas of the unimodal and bimodal rainfall patterns where some of the recording stations reported monthly rainfall amounts that exceeded 300 mm (Fig. 1). The highest rainfall recorded was 354 mm at Ifakara followed by Bukoba 351 mm, Mahenge 325 mm, and Pemba 310 mm most of which was recorded during the second dekad of April.



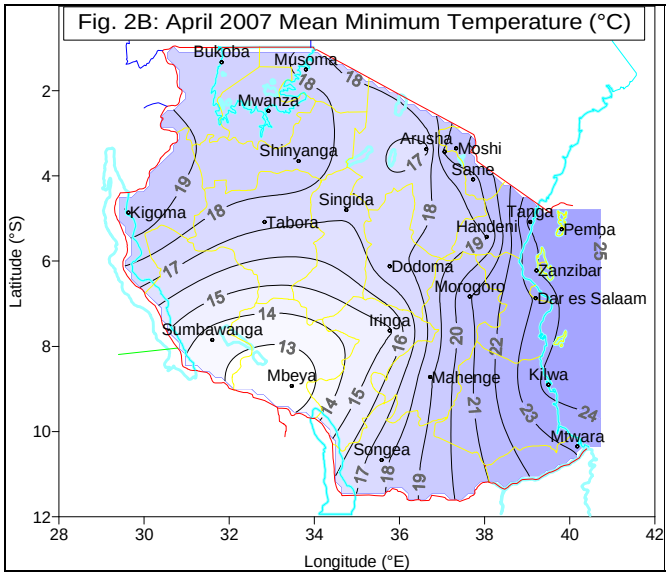
During the third dekad of the month a dry spell prevailed over most of bimodal rainfall pattern areas (the Lake Victoria basin, northeastern highlands and northern coast) especially over northeastern highlands where a 10-day rainfall amounts recorded were below 20 mm. On the other hand, a decrease in seasonal rains over unimodal rainfall regime of the central and western areas marked the normal cessation of seasonal rains in those areas as indicated in Fig. 1.

MEAN AIR TEMPERATURE

Temperatures remained high during the month of April. The spatial mean maximum and minimum values are shown in Figs. 2A and 2B respectively.



The mean maximum temperature ranged between just above 32 ºC and just below 25 ºC as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 32.0°C at Tanga and Pemba in the northern coast, while the lowest was about 24 °C at Mbeya in southwestern highlands.



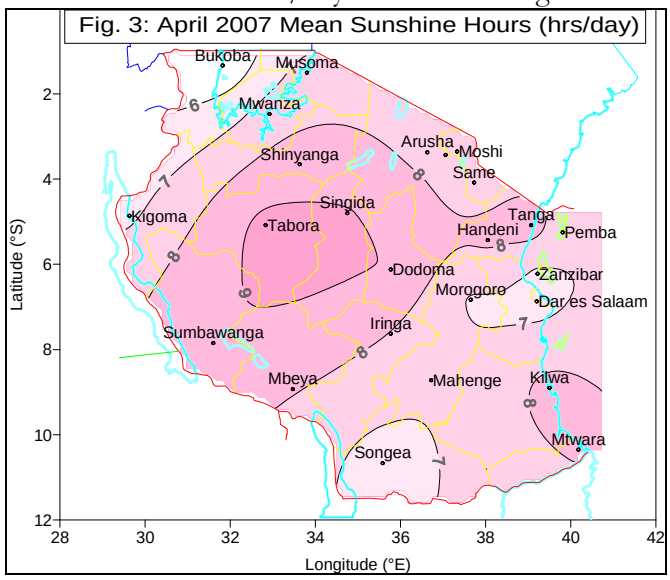
The highest values were observed during the first dekad of the month. Tanga reported the highest 10-day maximum temperature of 33.6 °C during the first dekad.

Mean minimum air temperatures ranged from just below 13 ºC to slightly above 25 ºC as shown in Fig. 2B. The lowest value of the mean minimum temperature recorded was about 12 °C at Mbeya, while the highest value was about 25 °C in the island of Pemba.

Comparing with temperature conditions in March the maximum temperatures in April decreased slightly by about 1 °C. However, warm conditions continued to be experienced over much of the country, which is a normal feature in April.

MEAN SUNSHINE HOURS

Spatial distribution of mean sunshine hours across the country during March indicates that the duration of mean bright sunshine hours ranged from below 6 to above 9 hrs/day as shown in Fig. 3.

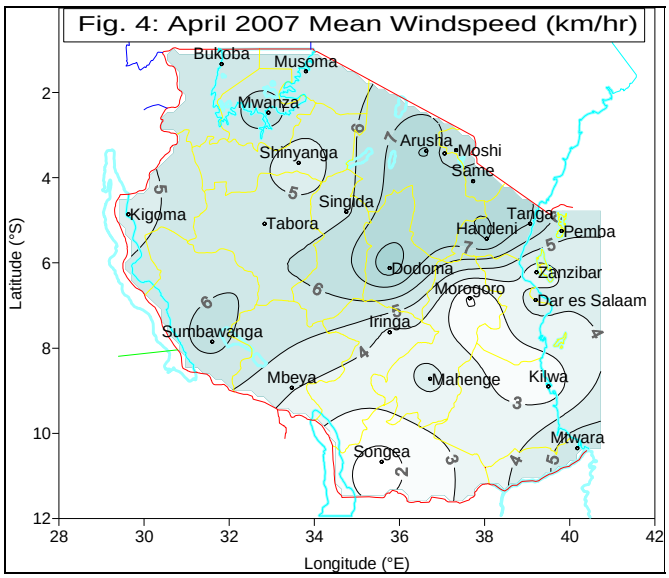


A few pocket areas of southern, coast and west of Lake Victoria basin experienced sunshine durations of less than 7 hours/day. The extreme northern coast, parts of northeastern highlands, southern parts of Lake Victoria basin, central and western areas observed longer durations (between 8 and 10 hours/day) mainly due to decreased cloudy activities experienced in the areas during the month.

MEAN DAILY WIND SPEED

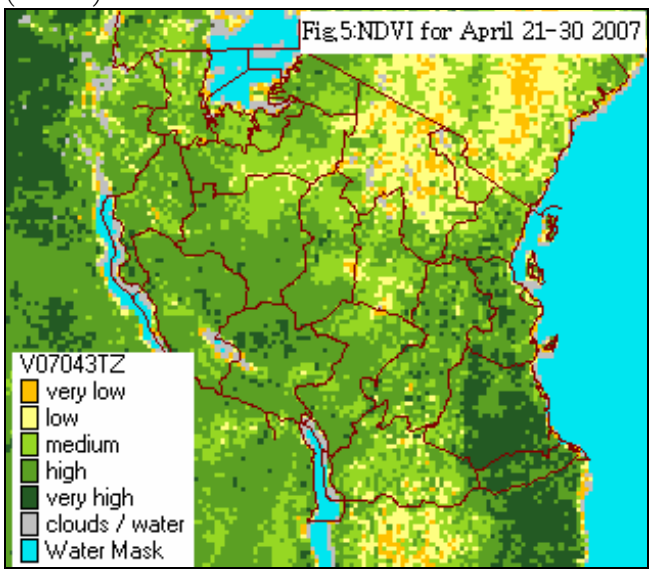
During the period mean wind speed across the country ranged between about 2.0 and 8 km/hr as indicated in Fig. 4. The northeastern highlands and central areas experienced windy conditions with wind speeds exceeding 7 km/hr.

Much of the southern region experienced slight winds of less than 4 km/hr with the cores of minimum speeds located over Songea, Kilwa and Morogoro.
The increased wind speed accompanied with low rainfall over much of the northeastern highlands and central areas increased prospects for occurrences of dust devils, wind erosion, and higher evaporation rates.



SATELLITE INFORMATION

Figure 5 shows the status of vegetation greening during third dekad of April 2007 as depicted by the Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor.



The vegetation greening indices ranged from very low to very high values.

Over much of the country the vegetation condition was good as the greening indices ranged from medium to very high. Most areas in the northeastern highlands depicted low NDVI with some parts showing very low indices, the reason being little rainfall and poor distribution of 2007 *Masika* rains. On the other hand good vegetation cover and greening is observed over the coastal regions as indicated by very high indices.

AGROMETEOROLOGY

During the month most areas over unimodal sector experienced generally low soil moisture levels, a situation which favored most crops for they were at between ripeness and harvesting maturity as reported from western, southern and central parts of the country including Nzega and Urambo (Tabora region), Njombe and Makete (Iringa region), Sumbawanga (Rukwa region), Tunduru (Ruvuma region), Mbeya rural, Bahi (Dodoma region) and Singida rural.

However over the bimodal sector, weeding of early planted crops continued as observed particularly in Pwani, Tanga and Mara regions. Crops (including maize) in these areas were generally in moderate state although the situation slightly worsened during the third dekad of April when inadequate supply of soil moisture hit Musoma (Mara region), Moshi and Same (Kilimanjaro region), northern Morogoro, and Pemba Island with crops mainly maize and paddy that were between vegetative growth and tasselling stages.

The second phase beans crop planted in the districts of Kasulu, Kibondo, Mpanda, Ngara, Mbulu and Mufindi was at flowering stage and in good condition whereas cassava crop at various growth stages progressed well and in good state as reported across the country.

Pasture conditions and water availability for livestock and wildlife continued to be adequate across the country.

HYDROMETEOROLOGY

Water levels in rivers, lakes and dams are good over much of the country.

ENVIRONMENTAL

The country experienced generally warm temperatures and comfortable conditions.

EXPECTED SYNOPTIC SITUATION DURING MAY 2007

The Siberian and Azores anticyclones together with Arabian ridge over the northern hemisphere are expected to weaken more, thus allowing the position of the zonal arm of the ITCZ to shift further northwards. The St. Helena and Mascarene anticyclones and the East African ridge over the southern hemisphere are expected to intensify, thus pushing the zonal arm of the ITCZ further northwards. However, the passage of frontal system over the southern hemisphere will reduce the air pressure within the country and hence increase activities over the region.

The positioning of the anticyclone over southeast of South Africa during the period is expected to cause advection of cold air towards our coastal areas and hence converging with warm air mass from the north, enhancing rainfall activities along these areas. However, reduction of moisture is expected due to the moderate sea surface temperature over our coast, which is expected in the first dekad of May. The Lake trough over Lake Victoria basin is also expected to persist and enhance rainfall over the basin.

EXPECTED WEATHER SITUATION DURING MAY 2007

Southwestern highlands (Iringa, Mbeya and Rukwa regions), southern areas (southern Morogoro, Ruvuma region, and southern coast) will feature partly cloudy conditions with showers of rain over few areas mainly over high ground and sunny periods. Western areas (Kigoma and Tabora regions) and Lake Victoria basin (Kagera, Mwanza and Mara regions) will feature partly cloudy conditions with thundershowers over few areas and sunny periods. Northeastern highlands (Arusha, Kilimanjaro and Manyara regions) and Northern coastal (Pwani, Dar es Salaam and Tanga regions, northern Morogoro together with Zanzibar and Pemba Islands) will experience partly cloudy to cloudy conditions with thundershowers over some areas and sunny intervals. Central areas (Dodoma and Singida regions) towards Shinyanga region will experience partly cloudy conditions and sunny periods.

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