TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Over bimodal areas farmers finalized harvesting of vuli crop, and started land preparations for long rains (Masika) crop.
- Vuli crop harvest was generally good except for some areas in the bimodal rainfall regime where excessive soil moisture levels impeded crop growth during the short rains season.
- Zanzibar recorded the highest maximum temperature of about 39.0°C.

SYNOPTIC SUMMARY

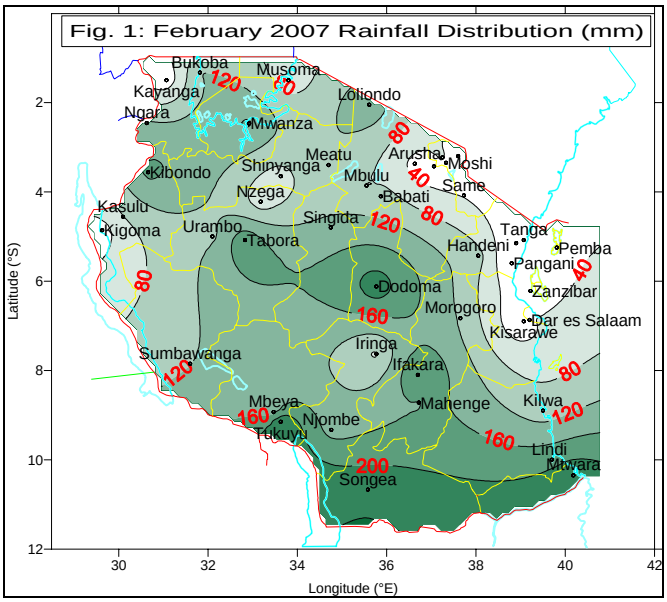
During February, the Azores and Siberian anticyclones together with Arabian ridge were relatively strong, maintaining the position of the Inter-Tropical Convergence Zone (ITCZ). The St.Helena and Mascarene anticyclones together with the East African ridge were relaxed, and hence allowed the position of the zonal arm of ITCZ to be located between latitude 10^0 and 15^0 south. The series of tropical cyclones, *Enok*, *Favio*, *Gamede*, *and Humba*, contributed into rainfall increase over southern areas of our country. The *Favio* resulted into flooding over Mozambique and increased rainfall activities over southwestern highlands, southern regions and southern coast. *Gamede* was associated with feeder bands and strong winds accompanied with thundershowers which caused destruction of buildings and trees over northern coast and northeastern highlands.

WEATHER SUMMARY

RAINFALL

Seasonal rains continued during February over much of the unimodal sector where some of the recording stations reported monthly rainfall amounts that exceeded 200 mm (Fig. 1). The highest rainfall recorded was 242 mm at Tukuyu followed by Songea and Mtwara that recorded 232 mm, Dodoma 225 mm, and Ifakara 205 mm. Incidences of floods and hail storms were reported in Chunya (Mbeya region) and Mbulu (Arusha region) respectively.

Fig. 1: February 2007 Rainfall Distribution (mm)



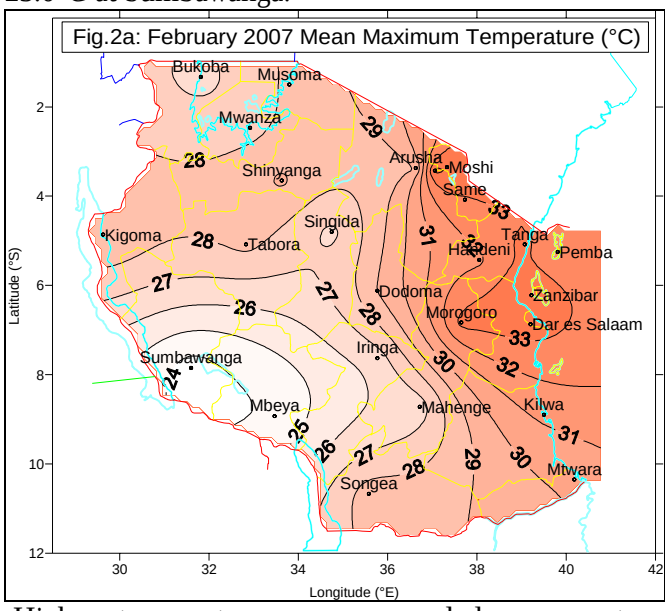
While most parts of the country recorded a slight increase in rainfall activities during the month, much of the northern coast and northeastern highlands in the bimodal rainfall regime remained generally dry with total rainfall less than 40 mm. The observed rains over the bimodal rainfall sector were generally off-season as the long rains season (*Masika*) is due to start in March.

MEAN AIR TEMPERATURE

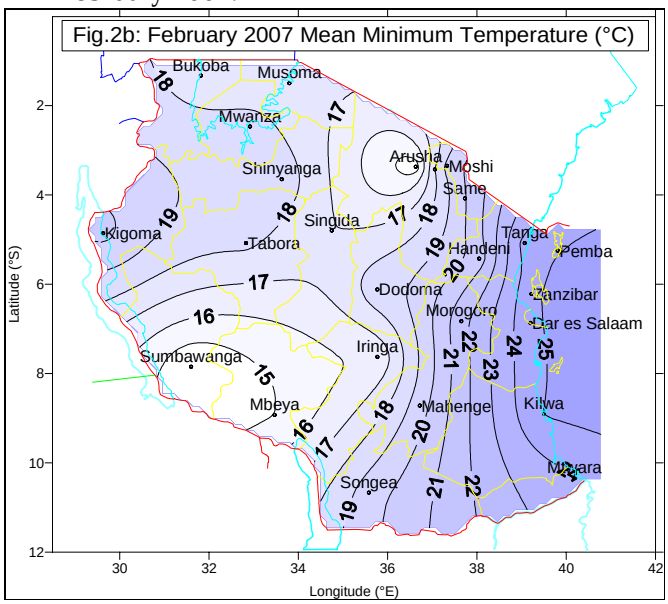
Upward trend of temperatures was maintained during the month of February as compared to the past month. The mean maximum and minimum values are shown in Figs. 2A and 2B respectively.

The mean maximum temperature ranged between just above 33 ºC and just below 24.0 ºC as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 34.0°C at

Moshi and Zanzibar, while the minimum was about 23.0°C at Sumbawanga.



Higher temperatures were recorded over eastern sector of the country mainly the northern coast, Islands of Zanzibar and Pemba, and northeastern highlands. The highest values were observed during third dekad of the month where Zanzibar recorded a 10-day mean maximum temperature of 35.3 ºC and extreme maximum temperature of about 39.0°C on 27th February 2007.

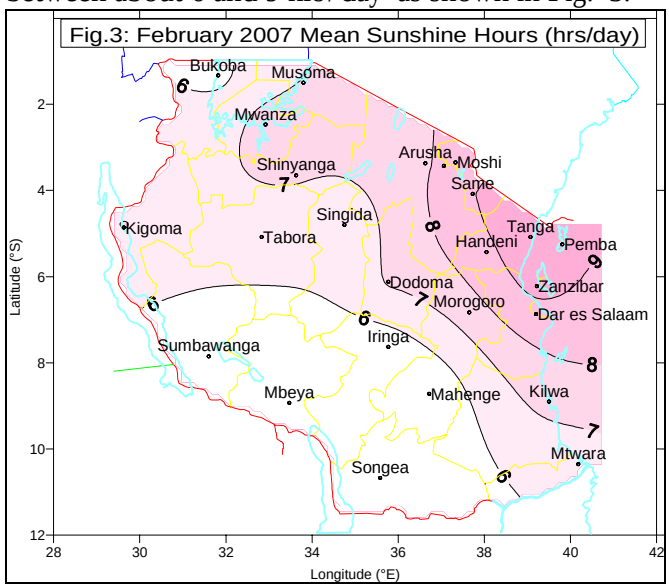


Mean minimum air temperatures ranged from just below 15 ºC to slightly above 25 ºC as shown in Fig. 2B. The lowest value of the mean minimum temperature recorded was about 14 °C at Arusha and Sumbawanga, while the highest value was about 25 °C at Kilwa, Pemba, Zanzibar, and Dar es Salaam.

Comparing with temperature conditions in January the maximum temperatures increased slightly by about 1 °C. Generally, warm conditions have continued over much of the country, which is a normal feature in February.

MEAN SUNSHINE HOURS

Spatial distribution of mean sunshine hours across the country during February indicates that the durations of mean bright sunshine hours ranged between about 6 and 9 hrs/day as shown in Fig. 3.

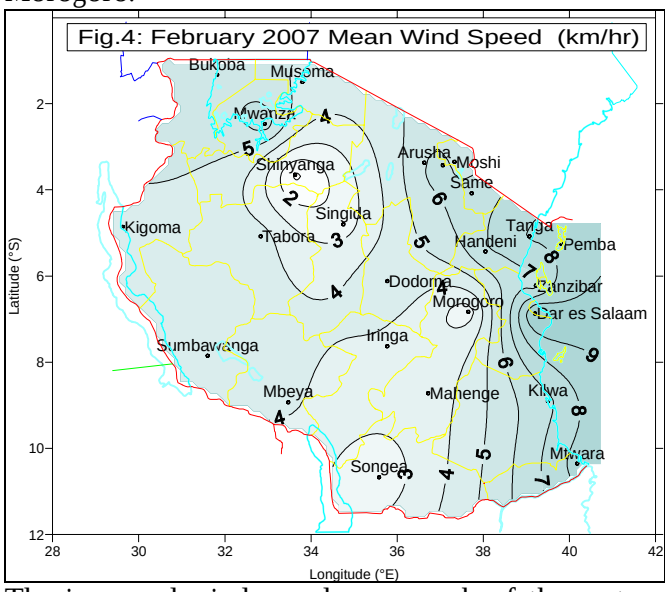


Sunshine durations of less than 6 hours/day were experienced over the western sector of the country, where Sumbawanga, Mbeya, Iringa, Ruvuma and Morogoro (south) regions recorded the shortest durations of about 5 hours/day. The northern coast, northeastern highlands, and parts of Lake Victoria basin observed longer durations (more than 7 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 9 km/hr as indicated in Fig. 4. The eastern sector of the country experienced windy conditions that reached maximum wind speed of about 9 km/hr over the coastal belt. Much of the country experienced slight winds of less than 5 km/hr with the cores of minimum speeds located over Shinyanga, Songea and

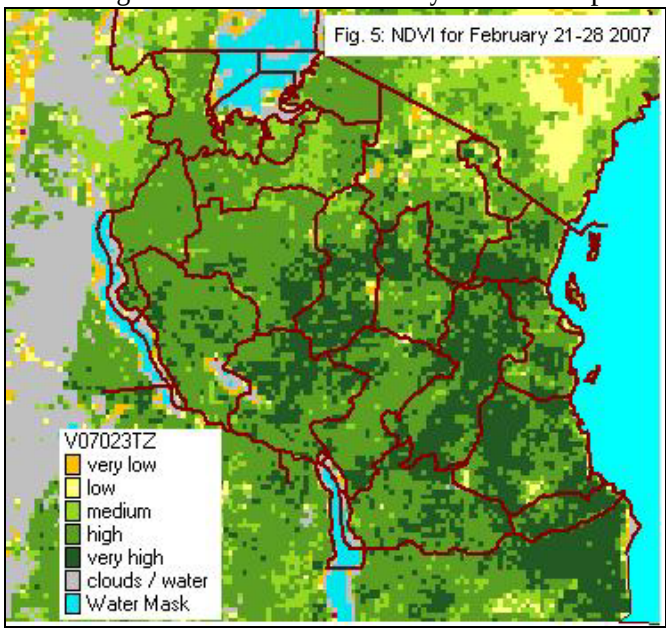
Morogoro.



The increased wind speed over much of the eastern sector of the country widened 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 February 2007 as depicted



by the NOAA Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor. The vegetation greening indices ranged from very low to very high. Over much of the country the vegetation condition was good as the greening indices ranged between high to very high. However, a few areas in the northeastern highlands depicted low to medium NDVI due to dry conditions that has persisted over the areas since the end of *vuli* season. The vegetation conditions and cover over the northeastern highlands is likely to improve following expected soil moisture replenishment from long rains (*Masika)* that are due to start during March.

AGROMETEOROLOGY

Soil moisture conditions during the month favored crop growth and development particularly over areas with a unimodal rainfall pattern where maize was between advanced vegetative and ripeness stages as for early grown and fast maturing crop varieties that were reported over western areas (parts of Tabora and Kigoma regions). The rainfall caused excessive soil moisture over some areas in Mtwara, Mbeya (Chunya district) and Singida regions following flash floods that destroyed several hectares of crops. Damage of crops due to hail storms was also reported in Mbulu district (Arusha region). A few periods of dry conditions that were experienced during the month reduced the threat of excessive soil moisture experienced during the season that hindered crop growth and development nearly across the whole cropping sector. Over areas with a bimodal rainfall pattern a few farmers finalized crop harvesting while others have started land preparations for long rains (*Masika*) crop. *Vuli* crop harvest was generally good except for some areas in the bimodal rainfall regime of Lake Victoria basin (Mwanza, Shinyanga, and Kagera) where excessive soil moisture levels impeded crop growth and development during the short rains season. During the month, areas over the northeastern highlands experienced strong winds and thundershowers accompanied with hail which resulted into destruction of buildings, trees and crops (banana and coffee).

Paddy was being transplanted and much of it has entered advances vegetative stage in good state. The cassava crop across the country was at various growth stages and in good state. Over bimodal areas, crops and field activities such as land preparation progressed well.

Pasture conditions and water availability for livestock was fairy good across the country.

HYDROMETEOROLOGY

Rains have boosted water levels in rivers, lakes and dams over most areas in the country and eased off the acute load shedding experienced in the second half of 2006.

ENVIRONMENTAL

Temperatures are warm and uncomfortable mainly over coastal areas with low wind speeds over much of the country, thus reducing prospects for diseases such as coughs, colds, pneumonia and asthma

EXPECTED SYNOPTIC SITUATION DURING MARCH 2007

The Siberian anticyclone, Arabian ridge and Azores anticyclone over the northern hemisphere will weaken and the position of zonal arm of the ITCZ will retreat northwards. The anti-cyclonic flow over the northwestern Indian Ocean will weaken allowing ITCZ to move northwards.

The St. Helena and Mascarene anticyclones together with the East African ridge over the southern hemisphere will intensify, thus allowing southeasterly to converge with northeasterly winds over the zonal arm of the ITCZ.

EXPECTED WEATHER SITUATION DURING MARCH 2007

Southwestern highlands (Iringa, Mbeya and Rukwa regions), southern region (Ruvuma and Mahenge), southern coast (Lindi and Mtwara regions), western (Kigoma and Tabora regions) and central (Dodoma and Singida regions), and Lake Victoria basin (Kagera, Mwanza, Shinyanga and Mara regions) will feature cloudy conditions with thundershowers over some areas and sunny intervals. Northern coastal (Pwani, Dar es Salaam, Tanga and Morogoro (north) regions, and Islands of Zanzibar and Pemba) and northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to experience partly cloudy to cloudy conditions with thundershowers and sunny intervals.

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