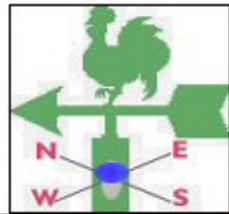




# TANZANIA METEOROLOGICAL AGENCY



## MONTHLY WEATHER BULLETIN

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### HIGHLIGHTS

- Long rains (*Masika*) started early during the first dekad of the month although it's spatial distribution was generally poor over most areas of a bimodal rainfall pattern.
- Over some areas soil moisture was excessive, a situation that slowed down both growth and development of crops.
- Pasture conditions and water availability for livestock were very good across the country.

### SYNOPTIC SUMMARY

During March, the Azores and Siberian anticyclones together with Arabian ridge, over the northern hemisphere relaxed towards the end of the month. The position of the zonal arm of the Inter-Tropical Convergence Zone (ITCZ) started to shift northwards. The southern hemisphere systems, the St. Helena and Mascarene anticyclones together with the East African ridge strengthened towards the end of the month thus enhancing the northward shift of the position of the zonal arm of ITCZ.

The series of tropical cyclones, *Gamede*, *Indlala* and *Jaya*, have influenced rainfall deficit over the country. *Gamede* was formed towards the end of February and persisted up to the beginning of March, while *Indlala* was formed at the middle of the March and *Jaya* was formed towards the end of the month. These tropical cyclones eroded the subtropical systems over southern hemisphere resulting into rainfall deficit over most parts of the country.

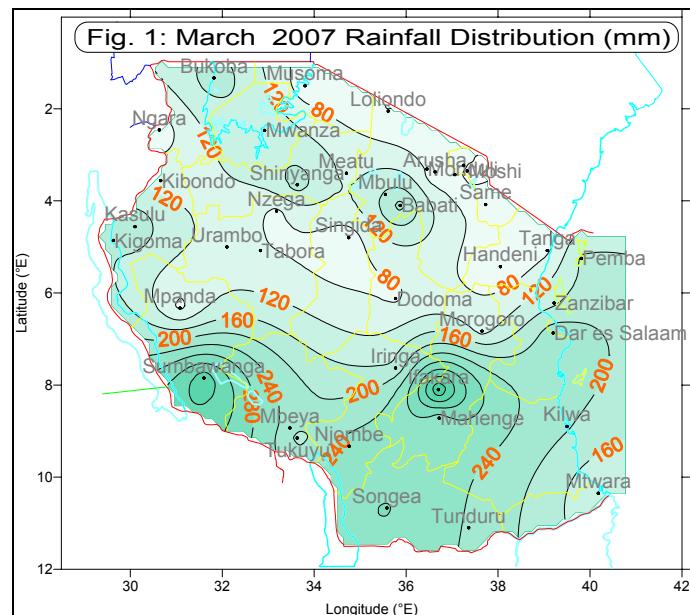
### WEATHER SUMMARY

#### RAINFALL

Seasonal rains continued during March 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 440 mm at Ifakara followed by

Sumbawanga 387 mm, Songea 282 mm, Njombe and Mahenge that recorded 255 mm, Mbeya 225, Dar es Salaam 223 mm, Babati 214, and Kilwa 204 mm. Much of these amounts were recorded during the second dekad of March.

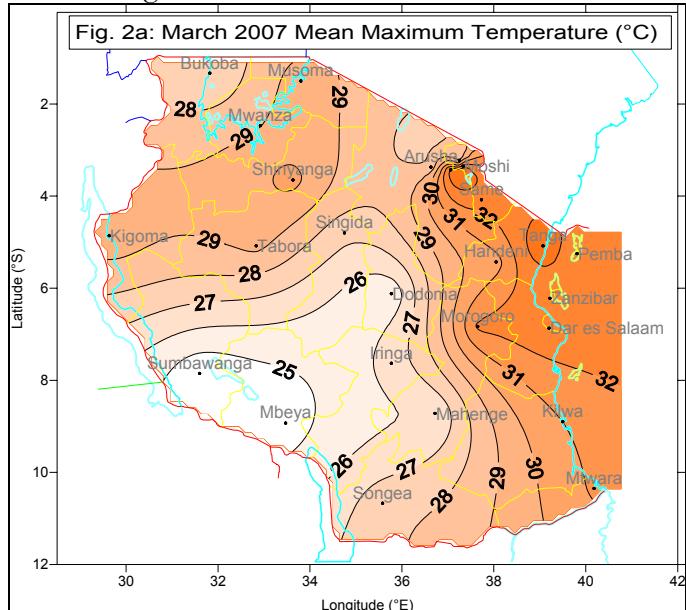
The long rains (*Masika*) started early during the first dekad of the month although it's spatial distribution was generally poor over most areas of a bimodal rainfall pattern (the Lake Victoria basin, northeastern highlands and northern coast). In Fig. 1, the areas enclosed by 80 mm isohyet in the bimodal rainfall regime (most of the eastern Lake Victoria basin and northeastern highlands) has experienced a late start of *Masika* rains, while over unimodal rainfall areas of central and parts of western regions such a decrease in rainfall amounts was anticipated as the season draws near to the end.



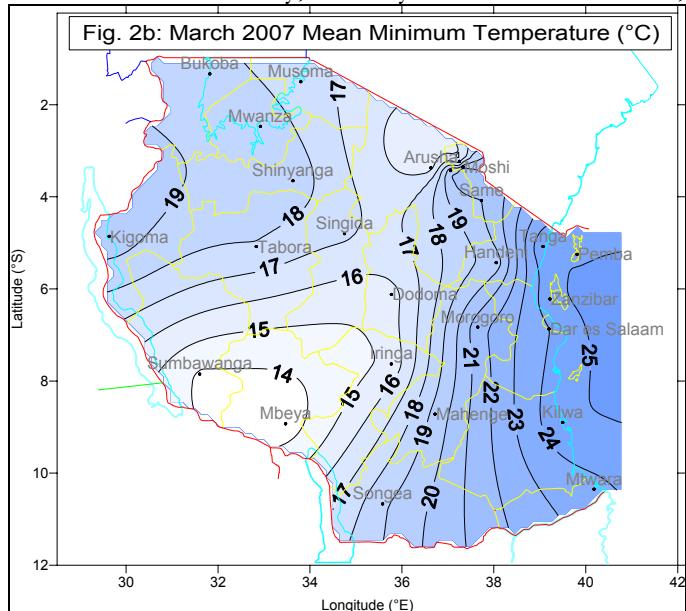
## MEAN AIR TEMPERATURE

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

The mean maximum temperature ranged between just above 33 °C and just below 25.0 °C as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 34.0°C at Tanga, while the lowest was about 24.0°C at Sumbawanga.



Higher temperatures were recorded over the eastern sector of the country, namely the northern coast,



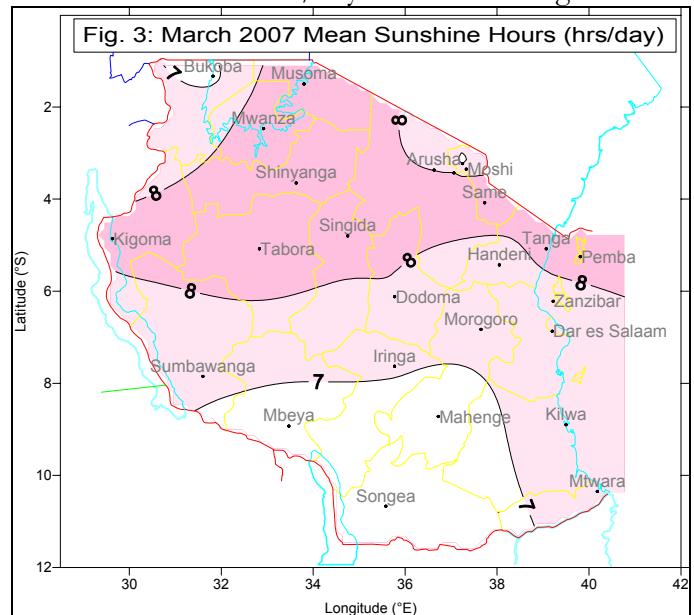
Islands of Zanzibar and Pemba, and northeastern highlands. The highest values were observed during the first and second dekads of the month. KIA reported the highest 10-day maximum temperature of 34.7 °C during the first dekad, followed by Tanga 34.1 °C and Zanzibar 34.0 °C.

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

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

## MEAN SUNSHINE HOURS

Spatial distribution of mean sunshine hours across the country during March indicates that the durations of mean bright sunshine hours ranged from below 7 to above 8 hrs/day as shown in Fig. 3.

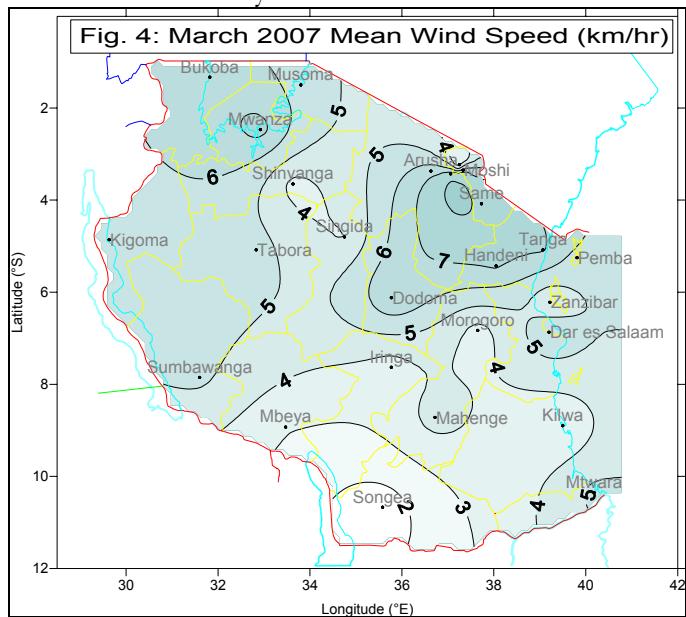


Sunshine durations of less than 7 hours/day were experienced over the southern sector of the country, where Mbeya, Iringa, Ruvuma and Morogoro (south) regions recorded the shortest durations of about 7 hours/day. The extreme northern coast, northeastern highlands, west parts of Lake Victoria basin, central and western areas observed longer durations (slightly more than 8 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 experienced windy conditions that reached maximum wind speeds of about 8 km/hr. Much of the country experienced slight winds of less than 5 km/hr with the cores of minimum speeds located over Shinyanga, for the northern sector, and Songea for the southern sector of the country.

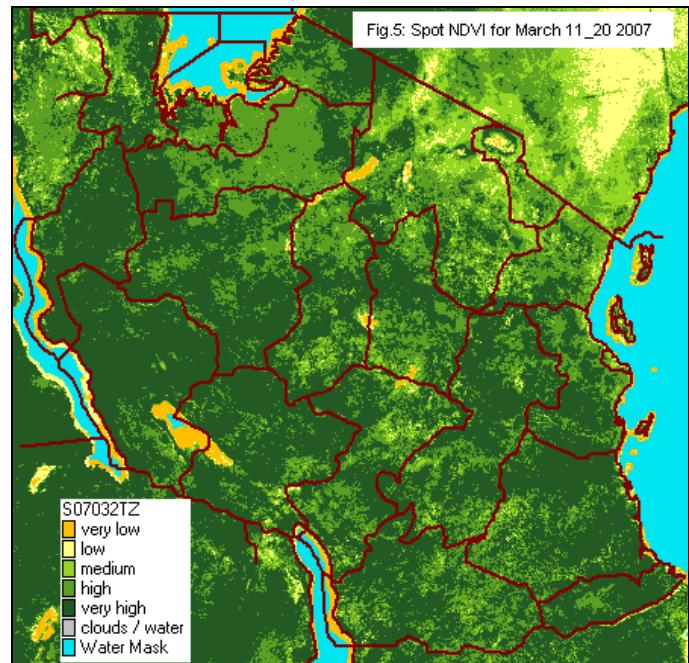


The increased wind speed accompanied with low rainfall over much of the northeastern highlands increased prospects for occurrences of dust devils, wind erosion, and higher evaporation rates.

## SATELLITE INFORMATION

Figure 5 shows the status of vegetation greening during second dekad of March 2007 as depicted by the Spot Normalized Difference Vegetation Index (spot 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 between medium to very high. Some areas in the northeastern highlands depicted low to medium spot NDVI due to late onset of *Masika* rains, however

the situation is expected to improve following expected soil moisture replenishment from long rains (*Masika*) in April.



AGROMETEOROLOGY

During the month sufficient soil moisture supply was experienced over most parts of the country. However over some areas, soil moisture was excessive, a situation that slowed down both growth and development of crops mainly over unimodal rainfall areas of the southern sector where crops such as maize were between vegetative and ripeness stages. These included parts of southern lowlands of Morogoro and Ifakara where the maize crop was still at an early vegetative stage and paddy was at flowering stage.

The excessive soil moisture levels impeded land preparations over a few areas of bimodal rainfall regime. However farmers in parts of Pwani, Arusha, Manyara, Mara, Mwanza and Tanga regions carried out normal final land preparations, planting, and weeding for the early planted *Masika* crops. The condition for the second planted beans crop over several parts of the country was good as indicated by sampled reports from Kasulu, Kibondo, Mpanda, Ngara, Mbulu and Mufindi districts where the crop was at an early vegetative growth stage.

Paddy and cassava crops were at various growth stages ranging from vegetative to harvesting, and in good state.

Pasture conditions and water availability for livestock were very good across the country.

### **HYDROMETEOROLOGY**

**W**ater levels in rivers, lakes and dams are good over much of the country.

### **ENVIRONMENTAL**

**T**he country experienced generally warm temperatures and comfortable conditions except for some humid conditions along the coast during daytime.

### **EXPECTED SYNOPTIC SITUATION DURING APRIL 2007**

**T**he Azores and Siberian anticyclones together with Arabian ridge over the northern hemisphere are expected to relax, thus allowing northward shift of the position of the zonal arm of the ITCZ.

The anti-cyclonic wind flow over the northwestern Indian Ocean is also expected to weaken to give way for the ITCZ to shift northwards. The St. Helena and Mascarene anticyclones and the East African ridge over the southern hemisphere are expected to intensify, thus pushing northwards the zonal arm of the ITCZ. The persistence of tropical cyclone *Jaya* is expected to influence dry spell over most parts of the country.

### **EXPECTED WEATHER SITUATION DURING APRIL 2007**

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

*Prepared by*

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