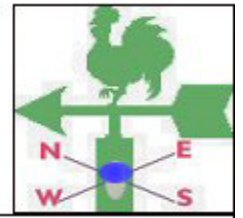




# TANZANIA METEOROLOGICAL AGENCY



## MONTHLY WEATHER BULLETIN

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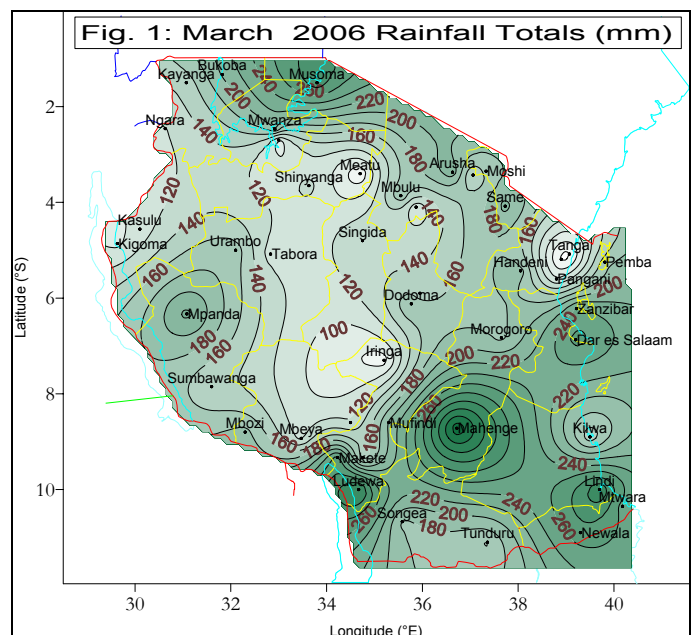
March 2006

### MARCH – HIGHLIGHTS

- Most parts of the country experienced an upward trend of soil moisture availability, although the cumulative situation depicts soil moisture deficits over central, northern coast and parts of northeastern highlands and Lake Victoria basin.
- Wet and cloudy conditions in April will further improve growth of immature crops but also impede drying and harvesting of matured crops.

### SYNOPTIC SUMMARY

During March the Azores and Siberian anticyclones over the northern hemisphere continued to relax making the Arabian ridge retreat backward from the horn of Africa to some areas around Sudan. In the southern hemisphere systems, St. Helena and Mascarene anticyclones continued to intensify giving way to the East African ridge to dominate some areas over the southern and central parts of the Country. The zonal component of the ITCZ was active over the southern sector of the country, while the meridional arm was prominent and active over western areas, with an extended trough from the Congo basin towards the western parts of the country and Lake Victoria basin. The month was dominated by the southeasterly wind flow which contributed to more rainfall activities mainly over northern coast and northeastern highlands especially towards the end of the month.



### MEAN AIR TEMPERATURE

Temperature conditions for the month of March were expressed as mean air maximum and minimum temperatures as shown in Figs. 2A and 2B respectively. Observed mean maximum temperature ranged between about 25 °C over areas in Rukwa and Mbeya regions and just above 31 °C over areas in the north (Fig. 2A). The highest maximum temperature recorded during the period was about 32 °C over Tanga region in the northern coast.

The mean minimum air temperatures ranged from just below 16 °C to slightly above 24 °C (Fig. 2B). The highlands in the southwestern part of the country (Rukwa and Mbeya and Iringa regions) experienced cooler conditions, with Mbeya town recording the lowest mean minimum temperature of about 14 °C. Mbeya town experienced the lowest minimum

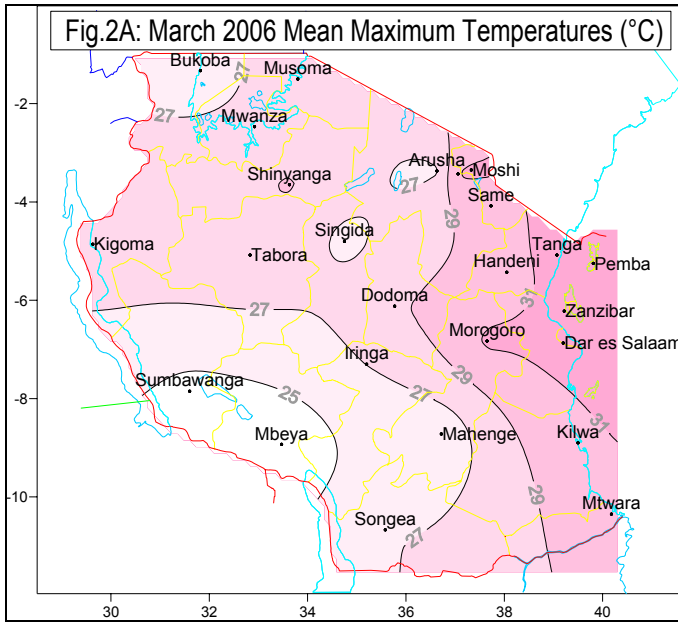
### WEATHER SUMMARY

#### RAINFALL

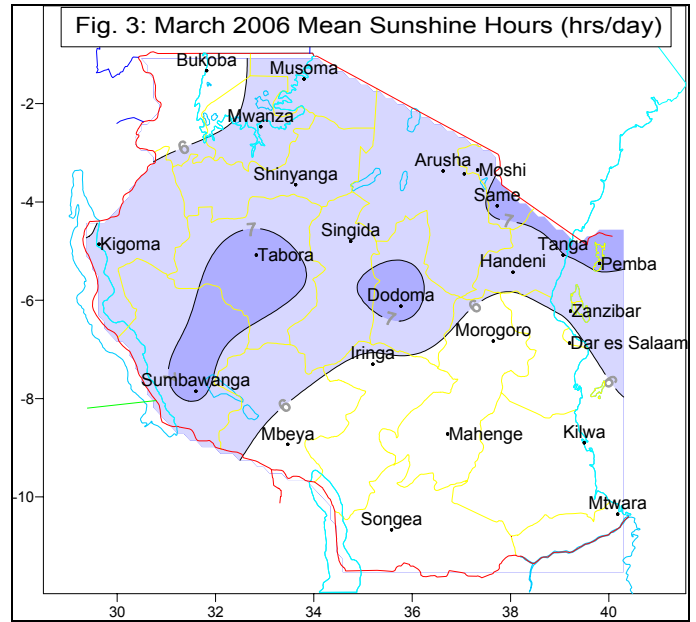
The long rains (*Masika*) started early during the first dekad of the month although its spatial distribution was generally poor over most areas which experience a bimodal rainfall pattern. However, during the third dekad most parts of the country recorded substantial amounts of rainfall. The highest rainfall amount recorded during the month was about 375 mm over Mahenge station, in the unimodal rainfall regime. A few reported a mere 50 – 60 mm of rainfall over northern Iringa, Tanga in the northern coast and Meatu in Shinyanga region as indicated in Figure 1.

temperature value of about 13 °C during the second dekad of the month.

the country due to predominant cloudy activities in the areas.



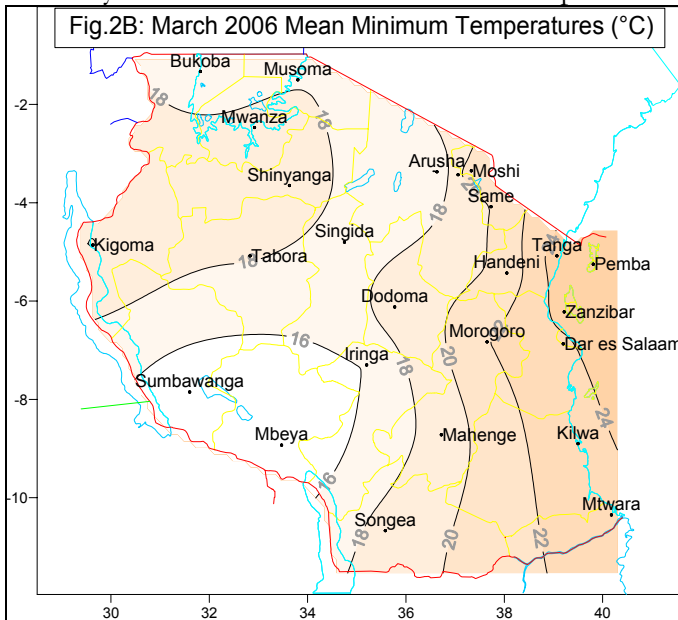
Generally, temperature conditions for March did not change significantly from that of February 2006, although for the northern coast there was a slight daytime cooling of about 2 °C as depicted from February and March maximum temperatures.



The longest durations of about 7 hrs/day dominated mainly over a few pocket areas of northern coast, central and western areas.

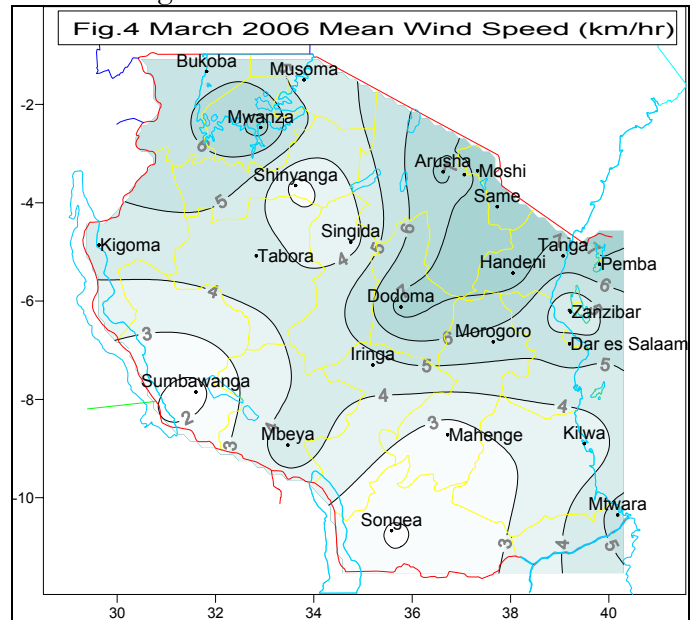
**MEAN DAILY WIND SPEED**

Mean wind speed across the country ranged from just below 2 km/hr to just above 7 km/hr as shown in Figure 4.



**SUNSHINE HOURS**

Figure 3, indicates the spread of mean sunshine hours across the country during March. Durations of mean bright sunshine ranged between about 6 and 7 hrs/day. The shorter durations of about half daylight hours were observed during the period over western Lake Victoria basin and southern sector of

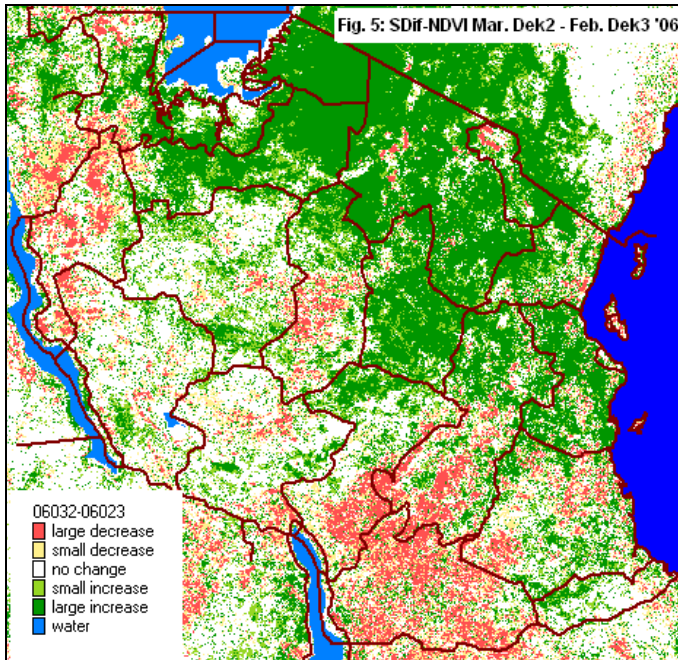


The core of maximum speed of about 8 km/hr was located over the northeastern highlands. Lower wind speeds of less than 2 km/hr dominated over Shinyanga, Rukwa and Ruvuma regions. The wind regime indicates a weakening trend over most areas

during February and March, a condition which has led to decreased occurrence of dust devils, wind erosion and reduced evaporation rates.

### SATELLITE INFORMATION

Figure 5 depicts vegetation greenness as indicated by the Spot Satellite Normalized Difference Vegetation Index sensor being a difference image of March second dekad from that of February dekad three.



Generally large or significant increases are depicted over the northern and northeastern sector of the country, due to the ongoing *Masika* rainfall season. The increasing in greenness was from perennial vegetation that sprouts in anticipation of setting in of seasonal rains. Over southern regions a decrease in SNDVI was recorded from the situation during the end of February compared to that of mid-March.

### AGROMETEOROLOGY

During the last dekad of March, most parts of the country experienced an upward trend of soil moisture availability, although the cumulative situation depicts soil moisture deficits over central, northern coast and parts of northeastern highlands and Lake Victoria basin. This condition, enhanced crop growth and development across the country where the general crop status varied from emergence to near ripeness. Crop stages by the end of the month particularly maize ranged between tasseling and ripeness over

much of the unimodal sector (southwestern highlands, western, southern and southern coast), while over the bimodal sector (Lake Victoria basin, northern coast and northeastern highlands), the maize crop was at early vegetative stage. Over a few pockets that experienced flash soil moisture supply during January and February maize crop was reported at tasseling stage in moderate state. However, armyworms were reported to invade parts of northeastern highlands of Same, Hedaru and Mwangi in Kilimanjaro region during the period.

Likewise, beans crop was at various growth stages ranging from emergence over Ludewa district in Iringa region to flowering stage over Mbeya and Kagera regions. Harvesting of ripened beans over Mpanda and highlands of Mahenge was hampered by wet conditions that prevailed during the period. Paddy over areas of Mbeya, Tabora and Shinyanga regions was growing fairly well at between transplanting and flowering stages, but over the northern coast the state of the crop was moderate. As for cassava crop, it was at various growth stages and the crop state was good throughout the country.

Over bimodal areas, pastures and water availability to livestock/wildlife improved significantly.

The expected rainfall and cloudy conditions over some areas during April will further improve crop conditions although in other areas it will impede the drying of matured crops and harvesting activities.

### HYDROMETEOROLOGY

Water levels in rivers, lakes and dams have continued to increase during the period except in the central belt. However, water for domestic and industrial purposes should be used sparingly.

### ENVIRONMENTAL

Temperatures are cooling down, winds are slowing down while evaporation rates are also coming down in many parts of the country.

### EXPECTED SYNOPTIC SITUATION DURING APRIL 2006

There is a general fluctuation of the major pressure systems on both northern and southern hemispheres. The northern hemisphere pressure

systems, the Siberian and Azores anticyclones are expected to continue relaxing while over the southern hemisphere, the Mascarene and St. Helena anticyclones are expected to intensify slowly as there are still some frontal systems to the south which are reducing the strength of the pressure centers by eroding them. The ITCZ will maintain its position along the equator thus keeping the rainfall active area to be within northern coast, northeastern highlands and some areas over Lake Victoria basin. The meridional and zonal components of the ITCZ are expected to remain active with considerable northward oscillations. The westerly wind flows from the Congo basin are expected to retreat back with low level convergence over western areas of our country. The southeasterly wind flow pattern will dominate over the northern coast and north eastern highlands.

### EXPECTED WEATHER SITUATION DURING APRIL 2006

The northern coast (Coast, Dar es Salaam, Tanga, and Pemba and Zanzibar Islands) will continue to feature partly cloudy to cloudy conditions with

showers and thunderstorms over most areas during the first two weeks of the month reduced to over few areas and sunny periods towards the end of the month.

The central areas (Dodoma and Singida regions) and northern part of Morogoro region will feature partly cloudy with light showers and thunderstorms over few areas and sunny periods. The western parts of the country (Kigoma and Tabora regions) will feature partly cloudy conditions with showers and thundershowers over few areas and sunny periods. Lake Victoria basin (Kagera, Mwanza and Mara regions) will experience partly cloudy conditions to cloudy at times with showers and thunderstorms over most areas and sunny intervals. Southwestern highlands (Rukwa and Mbeya regions), southern (Ruvuma region) and southern coast (Lindi and Mtwara regions) are expected to experience partly cloudy with showers and light thunderstorms at the beginning of the month followed by light showers and sunny periods towards the end of the month, while over the northeastern highlands (Arusha, Kilimanjaro and Manyara regions) will experience cloudy conditions with showers and thunderstorms at times over high grounds and sunny intervals.

Prepared by

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