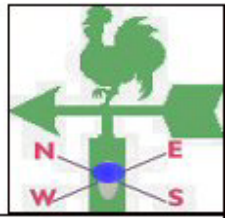




# TANZANIA METEOROLOGICAL AGENCY



## MONTHLY WEATHER BULLETIN

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### HIGHLIGHTS

- **Planting and weeding were the major activities occupying farmers in bimodal areas**
- **Over unimodal areas most crops were at vegetative to full ripeness stages**

During March 2010 the climate high pressure systems (Azores and Siberian) over the northern hemisphere relaxed while the southern high pressure systems (Mascarin and St. Helena) intensified significantly thus resulting into gradual northward migration of the Inter-tropical Convergence Zone (ITCZ), the rain-making mechanism covering large areas of the country. Sea Surface Temperatures (SSTs) over the southwestern Indian Ocean were persistently warm. Southeasterly to easterly low level wind flow was dominant over most parts of the country for most of the period.

above normal rainfall as shown in Figure 1A. The highest amount recorded during March was 352 mm at Igeri followed by Musoma 321 mm, Kibondo 318 mm and Ukiriguru 304 mm. Other stations reported less than 300 mm of rainfall as shown in Figure 1A and 1B.

### WEATHER SUMMARY

#### RAINFALL

Parts of Lake Victoria basin, northeastern highlands, northern coast, western and few areas over the southwestern highlands received normal to

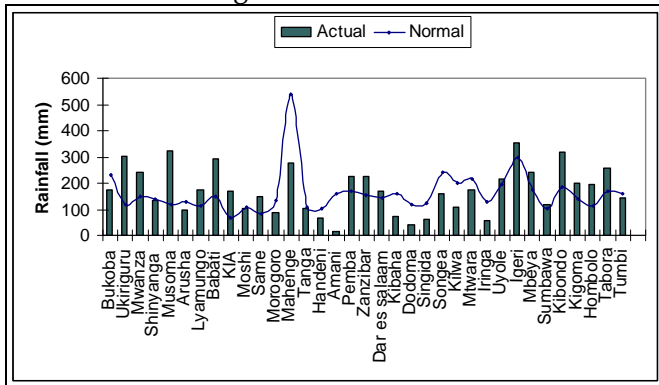


Fig 1A: March 2010 rainfall distribution against normal

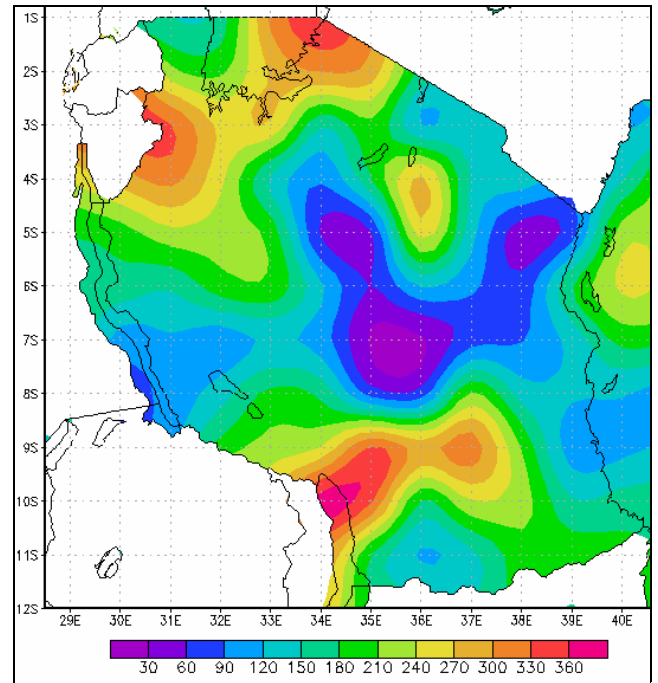
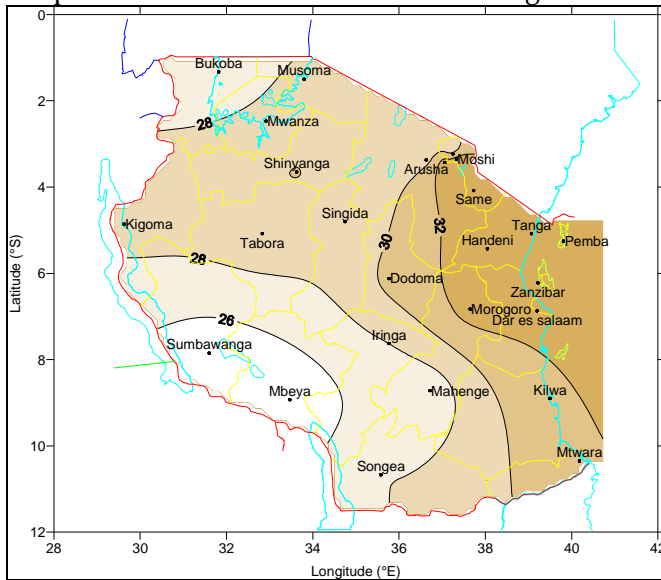


Fig 1B: March 2010 rainfall distribution (mm)

#### MEAN AIR TEMPERATURE

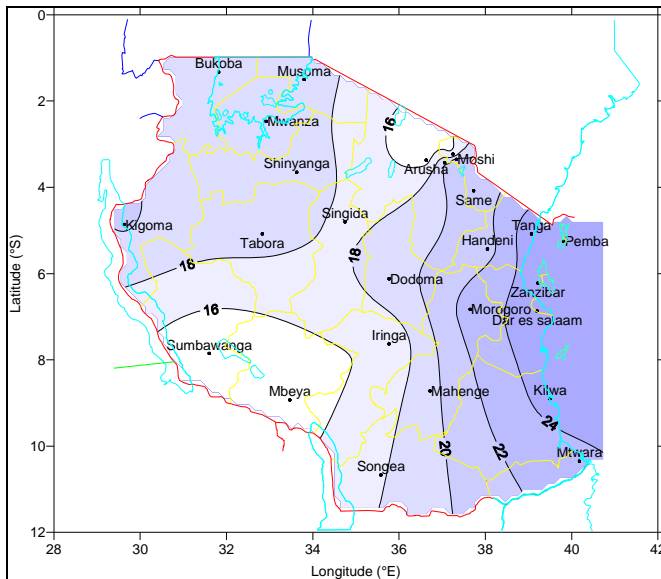
During the month under review the country experienced warm to hot temperatures whereas high altitude areas of the country (southwestern and northeastern highlands) experienced warm

temperatures as indicated in Figure 2A.



**Fig2A:** March 2010 Mean Maximum Temperature (°C)

Mean maximum air temperatures recorded ranged between 24°C and 35°C. The highest absolute maximum temperature of 35.3°C was recorded at Moshi during the second dekad of the month. The lowest mean maximum temperature was 24.2°C at Mbeya in southwestern highlands.

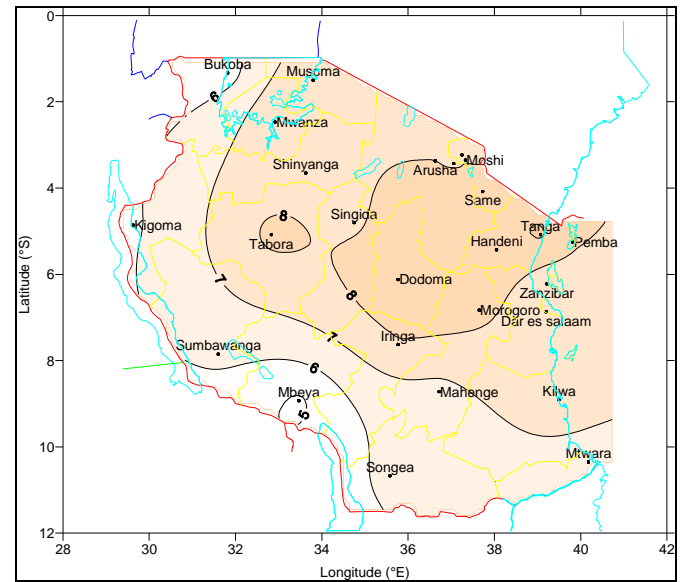


**Fig 2B:** March 2010 Mean Minimum Temperature (°C)

The mean minimum air temperatures recorded ranged from 14°C to 26°C as shown in Fig 2A. The lowest value of mean minimum temperatures recorded was 13.8 °C at Sumbawanga in the southwestern highlands while the highest value of 26.2 °C was reported at Tanga over the coastal belt.

**MEAN SUNSHINE HOURS**

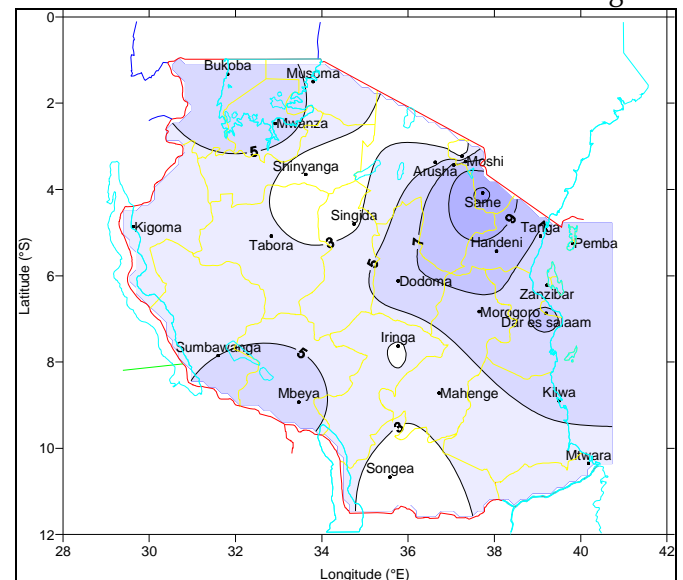
Sunshine duration records across the country during March show that the mean bright sunshine hours ranged from about 5 hrs/day over southwestern highlands to more than 9 hrs/day over extreme northern coast, central and some parts of northeastern highlands as shown in Figure 3.



**Fig 3:** March 2010 Mean Sunshine Hours (hrs/day)

**MEAN WIND SPEED**

Mean wind speeds across the country ranged between 3 to more than 10 km/hr during the

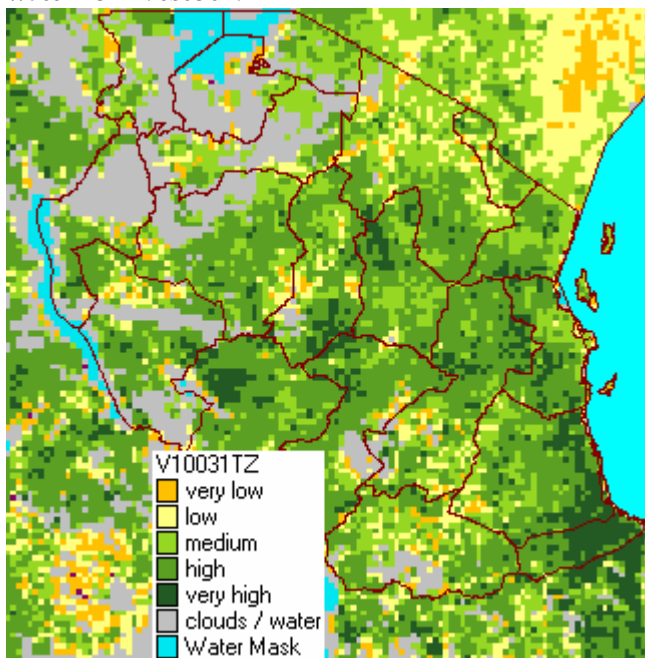


**Fig 4:** March 2010 Mean wind speed (km/hr)

month of March as shown in Figure 4. Some parts of northeastern highlands experienced wind speeds exceeding 8 km/hr. Low wind speeds of below 3km/hr were recorded over some parts of northeastern highlands (Lyamungo) and southern areas (Songea). Windy conditions experienced over some parts of north eastern highlands (Same) enhanced evaporation rates.

### SATELLITE INFORMATION

Figure 5 depicts some improvement of vegetation coverage during the first dekad of March 2010 as Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor. In the first dekad of March 2010, the satellite depicted between high to very high indices over most parts of southern coast (Lindi and Mtwara), central (Singida and Dodoma), southwestern highlands (Rukwa region) and Morogoro region. Few areas depicted very low indices as shown in Figure 5. Thus, there is more improvement of pasture and water for livestock.



**Fig 5:** Vegetation condition during March 1-10, 2010

### AGROMETEOROLOGICAL SUMMARY

During the month of March 2010 farmers in most areas of bimodal rainfall pattern were engaged in planting activities which progressed well mainly over lowland areas of northeastern highlands (Hai and Same districts) and northern coast (Tanga and Coast regions) where soil moisture supply from long rains season (*Masika*) was favourable for the field work mainly towards the end of the month although the season onset was late. Weeding was another activity that occupied the farmers in these areas.

Over unimodal areas most crops particularly maize, beans, paddy, sunflower and sorghum were generally between moderate and good states at vegetative to full ripeness stages. The early planted beans mainly over higher altitudes have already been harvested while the second planting phase was in good state at vegetative stage. Paddy crop in moderate state was from transplanting to wax ripeness stages, while planting of wheat mainly over parts of Mbeya region continued well. A few areas like Ismani in northern Iringa experienced soil moisture deficits causing poor crops performance during the period. Some floods were reported over Ibwera and Karonge locations in Bukoba rural (Kagera region), Uyui in Tabora region, , Newala in Mtwara region and Arusha region causing destruction of crops.

Market supply for cassava over several areas continued fairly well.

Pasture and water availability are good and livestock conditions are normal.

### HYDROMETEOROLOGICAL SUMMARY

The ongoing rains have boosted water levels in lakes and dams and rivers in their respective catchments. Water availability for human, industrial and energy generation has improved but should be used sparingly.

### ENVIRONMENTAL SUMMARY

Cool temperatures over most areas in the country leading to comfortable conditions at night.

### EXPECTED SYNOPSIS SUMMARY DURING APRIL 2010

Sea Surface Temperatures (SSTs) in April 2010 are projected to be generally warm over southwestern tropical Indian Ocean coupled with enhanced easterly wind flow. The ITCZ is expected to migrate further northwards over the country signaling the gradual withdrawal of the rains over parts of southern western Tanzania. Southern coast and southern region will remain favorable in terms of rainfall patterns.

Moreover, SSTs over the Equatorial Pacific Ocean indicate that *El Nino* event is coming to an end. However, the forecasted SSTs are indicating a persistence of a weak *El Nino* to neutral conditions in a few months ahead.

### EXPECTED WEATHER DURING APRIL 2010

Lake Victoria basin (Kagera, Mwanza, Mara regions and Kibondo area) are expected to feature normal to above normal rainfall over some areas. Western (Kigoma and Tabora regions), the seasonal rains are expected to be normal to above normal. Over Tabora region there is a likelihood of decreasing rainfall. Southwestern highlands (Iringa, Rukwa and Mbeya regions) and southern areas (Ruvuma region) are expected to feature normal rainfall over most areas. The seasonal rains are expected to recede towards the end of April 2010. Rains over northern coast (Dar es Salaam, Tanga, and Morogoro regions, and Zanzibar and Pemba Islands) are expected to be normal to above normal during the month of April 2010. Central areas (Dodoma and Singida regions) the seasonal rains are expected to be mainly normal and decreasing towards the end of April 2010. Northeastern highlands (Kilimanjaro, Arusha and Manyara regions) the Masika rains are expected to be mainly normal with outbreaks of above normal rainfall at times. Southern coast (Mtwara and Lindi regions) most of these areas are expected to get normal rainfall with occasional heavy rains during the month of April followed by a gradual decrease in rainfall as the seasonal rains come to an end.

Prepared by

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