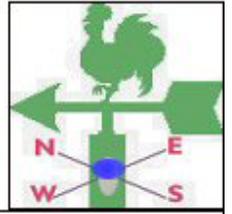




TANZANIA METEOROLOGICAL AGENCY



MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Much of the country experienced below normal rainfall except a few areas in Mara, Mwanza, Arusha, Morogoro, Mtwara, and Rukwa regions which received normal to above normal rainfall.
- There is a likelihood of more cool weather over the southwestern highlands and northeastern areas of the country.

SYNOPTIC SUMMARY

During the month of May 2009, the southern hemisphere pressure systems, St Helena and Mascarene high pressure cells and the East African ridge continued to intensify while the Siberian high pressure cell relaxed resulting to southeasterly to southerly flow towards the coastal areas. Generally the northern hemisphere systems (Azores and Siberian anticyclones) continued to relax thus allowing the Inter-Tropical Convergence Zone (ITCZ) to migrate further northwards. A weak trough over the Lake Victoria basin continued to support rainfall and thunderstorms over few areas of the region. Warmer Sea Surface Temperatures over the central Indian Ocean associated with enhanced convection resulted into a dominant low level diffluent wind flow over the region thus reducing rainfall over most areas of the country.

country experienced below normal rainfall except over a few areas in Mara, Mwanza, Arusha, Morogoro, Mtwara, and Rukwa regions which received normal to above normal rainfall (Fig. 1B).

WEATHER SUMMARY

RAINFALL

During May much of the country remained dry, except for a few areas in the bimodal rainfall regime (Lake Victoria Basin, northeastern highlands, and northern coast which recorded a significant monthly rainfall amounts exceeding 100 mm as shown in Figures 1A and 1B). Stations which recorded monthly rainfall exceeding 200 mm were Musoma (288.4 mm), Pemba (254.4 mm), Arusha (223.6 mm), and Tukuyu (205.3 mm). Much of the

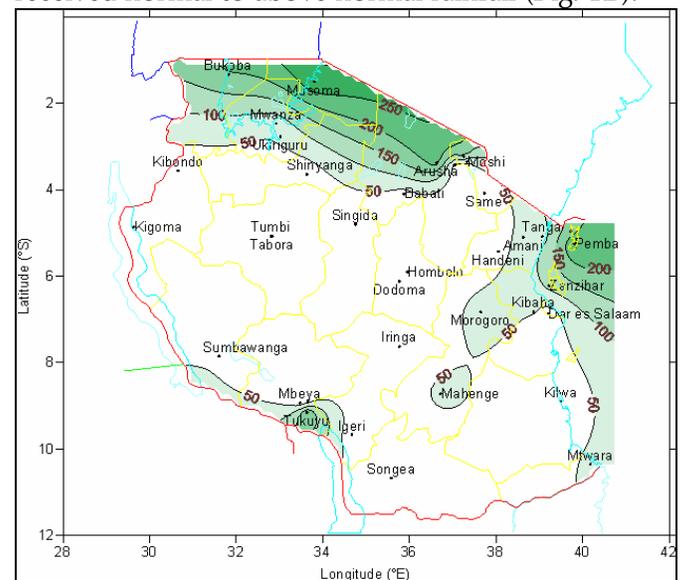


Figure 1A: May 2009 Rainfall Distribution (mm)

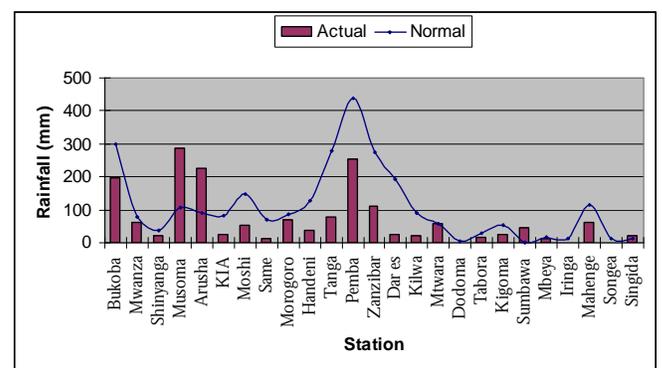


Figure 1B: Rainfall Performance during May 2009

MEAN AIR TEMPERATURE

During the month under review warm temperatures were experienced over the eastern sector of the country as indicated in Figure 2A. Mean maximum temperatures ranged between 24°C and 30°C as indicated in Figure 2A. The highest absolute maximum temperature of 31.2 °C was reported at Shinyanga during the first dekad of the month. The lowest mean maximum temperature was about 22.8 °C over Lyamungo in the northeastern highlands.

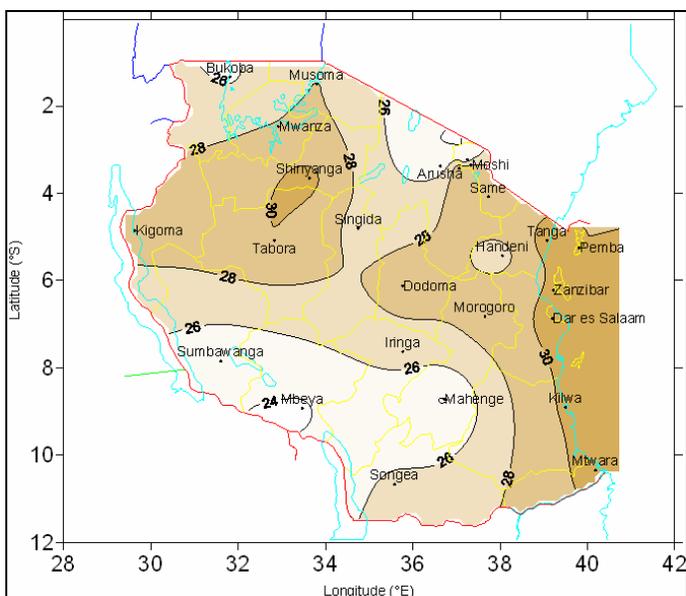


Figure 2A: May 2009 Mean Maximum Temperature (°C)

Mean minimum air temperatures ranged from 11°C to 23 °C as shown in Figure 2B. The lowest value of the mean minimum temperature was about 9.5 °C at Mbeya in the southwestern highlands while the highest value of about 25°C was at Pemba over the coastal belt. The third dekad of the month was the coolest dekad of May 2009 where Mbeya recorded the lowest absolute temperature of about 7.3 °C.

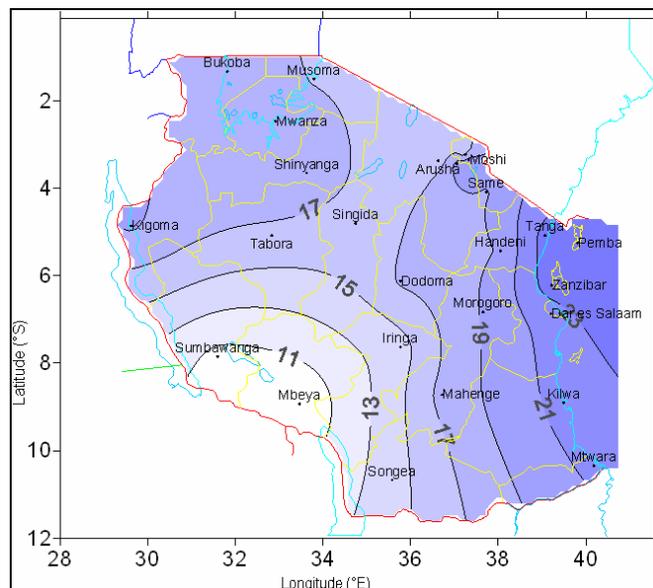


Figure 2B: May 2009 Mean Minimum Temperature (°C)

MEAN SUNSHINE HOURS

Sunshine duration across the country during May indicates that the mean bright sunshine hours ranged from about 6 hrs/day over few areas in the northeastern highlands and Lake Victoria basin to more than 9 hrs/day over central, western, southwestern highlands, and southern coast areas as shown in Figure 3.

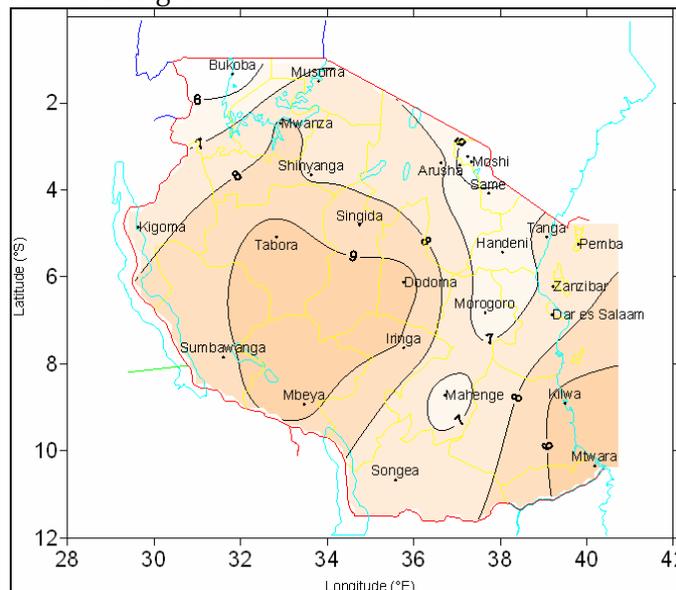


Figure 3: May 2009 Mean Sunshine Hours (hrs/day)

MEAN WIND SPEED

Mean wind speeds across the country ranged between 2 to 12 km/hr during the month of May as indicated in Figure 4. Some parts of northeastern highlands experienced windy conditions that exceeded 12 km/hr. Low wind speed of below 2 km/hr were recorded over Songea, Mbeya, and Musoma as shown in Figure 4. Windy conditions experienced over northeastern highlands increased occurrence of higher evaporation rates and water deficit.

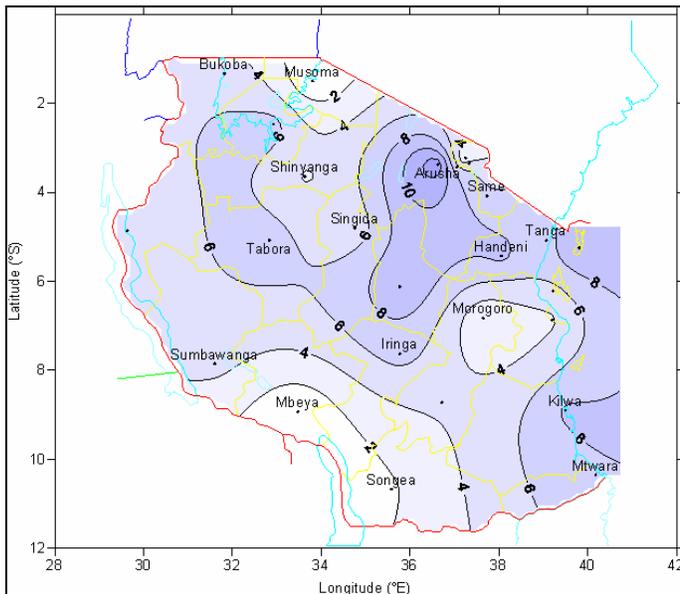


Figure 4: May 2009 Mean wind speed (km/hr)

SATELLITE INFORMATION

Difference in mean vegetation condition between the third dekad of April and May 2009 is indicated in Figure 5 satellite imagery, depicting the Normalized Difference Vegetation Index (NDVI). The figure depicts a large increase in vegetation greening and cover over western Lake Victoria basin (Kagera region), central (Singida region), northern coast (Morogoro region), and southern (Ruvuma region) during the last dekad of May as compared to April 2009. On the other hand, a large decrease in vegetation condition was depicted over western (Tabora region), Lake Victoria basin (Shinyanga and Mara regions), central (southern Dodoma region), northeastern highlands (Arusha, Kilimanjaro, and Manyara regions), northern coast (Tanga and Coast

regions), southwestern highlands (Rukwa and Mbeya regions) and southern coast (Lindi and Mtwara regions). Pasture supply for livestock and wildlife in the country was at satisfactory level during the month though further decrease is anticipated in June 2009 due to the seasonal dry condition.

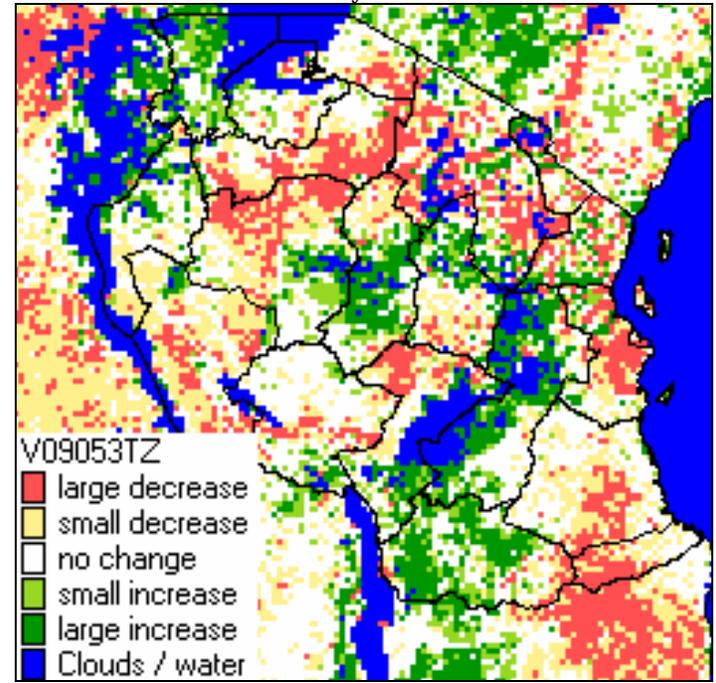


Figure 5: Vegetation condition during May 21-31st, 2009 when compared with April 21-30, 2009.

AGROMETEOROLOGICAL SUMMARY

During the month of May, soil moisture supply particularly over bimodal areas maintained a descending trend to far below normal, except for parts of Lake Victoria basin that registered nearly normal supply of the moisture. The declining episode spread extensively to northeastern highlands, northern coast and eastern areas (Coast and Morogoro regions) badly hampering most crops to a wilting state as observed specifically in Arusha, Manyara, Tanga, Coast and Morogoro regions. Dry conditions over unimodal areas favoured harvesting of maize, beans, paddy, coffee and tobacco crops as reported from Tabora, Ruvuma (Tunduru), Rukwa and Kilimanjaro regions, although drying of cereal crops over high grounds areas continued slowly due to low temperature condition. Poor yield prospects for 2008/09 cropping season are expected over central (Dodoma region), northeastern highlands (Kilimanjaro,

Arusha, and Manyara regions), northern coast (Tanga, Coast, and northern Morogoro regions), southern coast (Lindi and Mtwara regions), and eastern Lake Victoria basin (Mara region) where rainfall performance was generally poor.

Market supply for cassava over several areas of the country was generally good, while pastures and water availability for livestock and wildlife was at a satisfactory level mainly in unimodal areas. For bimodal areas the condition was worse over most parts of northeastern highlands.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes and dams, and discharge in rivers in their respective catchments were relatively low due to poor performance of long rains over much of bimodal areas. Water for domestic and industrial purposes should therefore be used sparingly.

ENVIRONMENTAL SUMMARY

During May many areas of the country started to experience cool conditions while cold conditions were experienced over some parts of the southwestern and northeastern highlands. Dry windy conditions that prevailed over parts of the northeastern highlands increased prospects for diseases such as coughs, colds, pneumonia, and asthma.

EXPECTED SYNOPTIC SITUATION DURING JUNE 2009

During the month of June, the southern hemisphere pressure systems (the St. Helena and the Mascarene anticyclones) are expected to continue intensifying, whereas the Azores and Siberian

anticyclones in the northern hemisphere are expected to continue to relax thus allowing both the zonal and meridional components of the ITCZ to move further northwards. The East African ridge is expected to strengthen resulting to southerly wind flow over the country. Relatively cold air is expected to spread from the southern region and southwestern highlands towards central areas including high grounds of northeastern highlands.

EXPECTED WEATHER SITUATION DURING JUNE 2009

With the rainfall season almost coming to the end over most areas of the country a normal dry and cool season (*Msimu wa Kipupwe*) is expected. However there is a likelihood of more cool weather over the southwestern highlands and northeastern areas of the country. The Northern coast and hinterlands (Dar es Salaam, Tanga and northern Morogoro regions and islands of Zanzibar and Pemba) are expected to feature mainly partly cloudy conditions with outbreaks of light showers over few areas. A dry and cool condition is likely over the Northeastern highlands (Arusha, Kilimanjaro and Manyara regions). Lake Victoria basin (Kagera, Mwanza and Mara regions) is expected to feature normal conditions of partly cloudy with isolated showers and thunderstorms. central areas (Dodoma and Singida regions), southwestern highlands (Iringa, Rukwa and Mbeya regions), southern areas (Ruvuma region and Mahenge) are expected to feature partly cloudy, chilly and cool weather conditions with drizzle mostly over high grounds. Southern coast (Lindi and Mtwara regions) and western (Kigoma and Tabora regions) are expected to feature partly cloudy conditions and long sunny periods.

Prepared by

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