TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- *Parts of northeastern highlands (Ngorongoro, Monduli, Simanjiro ,and Same districts) and northern coast (Handeni district) particularly, and experienced severe soil moisture stress that hindered cropping activities during ongoing Masika rainfall season.*

SYNOPTIC SUMMARY

During the month of April 2009, the southern hemisphere high pressure systems(St Helena and Mascarene anticyclones) intensified while the northern high pressure systems weakened, resulting into northward movement of the zonal component of Inter-Tropical Convergence Zone (ITCZ). Warmer Sea Surface Temperatures (SSTs) coupled with southeasterly winds over the south West Indian Ocean continued to occasionally enhance moisture influx over the country leading into rainfall activities with outbreaks of excessive precipitation over some areas.

WEATHER SUMMARY

RAINFALL

During April rains increased over most parts of the western Lake Victoria basin, northern coast, and parts of northeastern highlands. On the other hand, parts of northeastern and southwestern highlands, and central regions of the country experienced less rainfall activities with amounts less than 50 mm as indicated in Figure 1A. Records from some stations indicate that rainfall amounts exceeding 300 mm were reported at Tukuyu 580.8 mm, Bukoba 419.3 mm, Matangatuani 373.5 mm, Lyamungo 364.5 mm and Ngara 307.9 mm. Figure 1B shows that rainfall was generally normal (75-125%) to above normal (>125%) over western Lake Victoria basin including Kigoma region, northern coast and central areas. The northeastern highlands continued to experience a below normal rainfall.

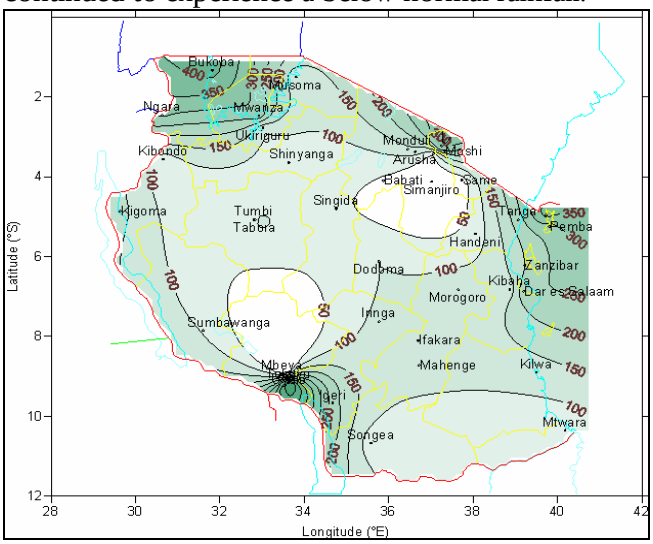

Figure 1A: April 2009 Rainfall Distribution (mm)

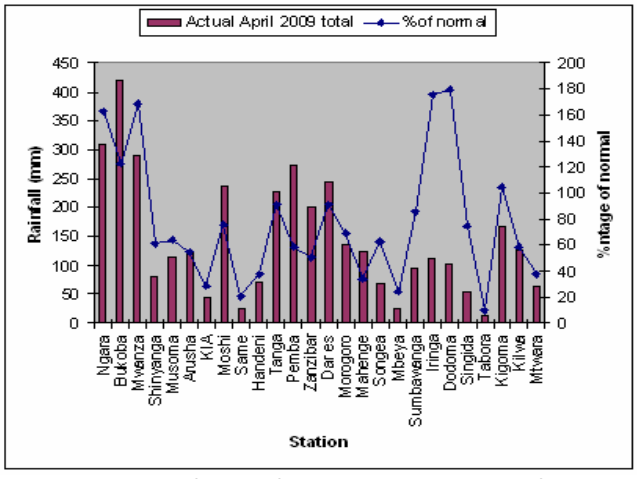

Figure 1B: Rainfall Performance as Percent of Normal during April 2009

MEAN AIR TEMPERATURE

During the month warm temperatures were experienced over the eastern sector of the country as indicated in Figure 2A. The mean maximum temperature ranged from 23.3 ºC to 32.1 ºC as indicated in Figure 2A.

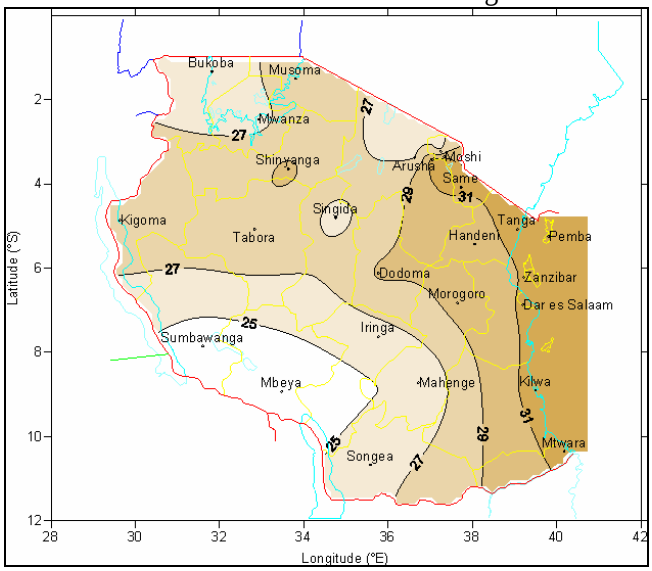

Figure 2A: April 2009 Mean Maximum Temperature (°C)

The highest mean maximum temperature recorded during the month was about 33 °C at Tanga with an absolute highest maximum of about 33.7 °C during the first dekad of the month.

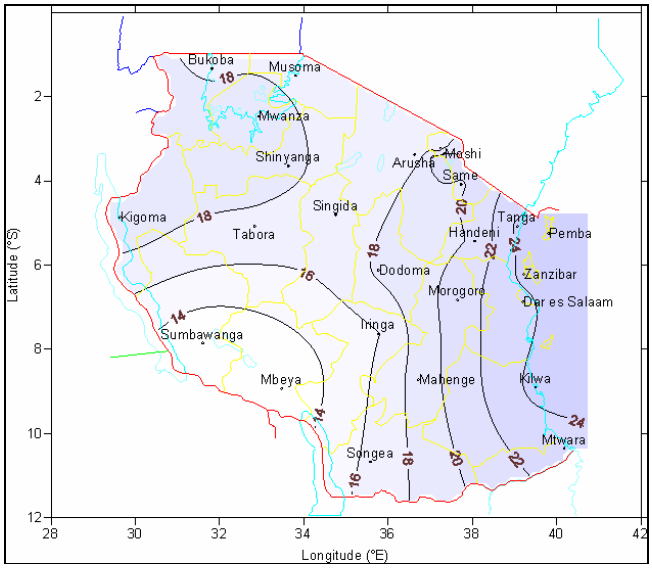

Figure 2B: April 2009 Mean Minimum Temperature (°C)

The mean minimum air temperature ranged from 12.1 ºC to 24.9 ºC as shown as shown in Figure 2B. The absolute lowest value of the mean minimum temperature of 12.1 °C was recorded at Sumbawanga, while the highest values of 24.9°C was observed at Pemba Island. An absolute minimum temperature of 11.7 °C was also recorded at Sumbawanga during the second dekad of the month.

MEAN SUNSHINE HOURS

Sunshine duration across the country during April indicates that the mean bright sunshine hours ranged from 4 hrs/day over northeastern highlands to more than 8 hrs/day over central areas of the country as shown in Figure 3.

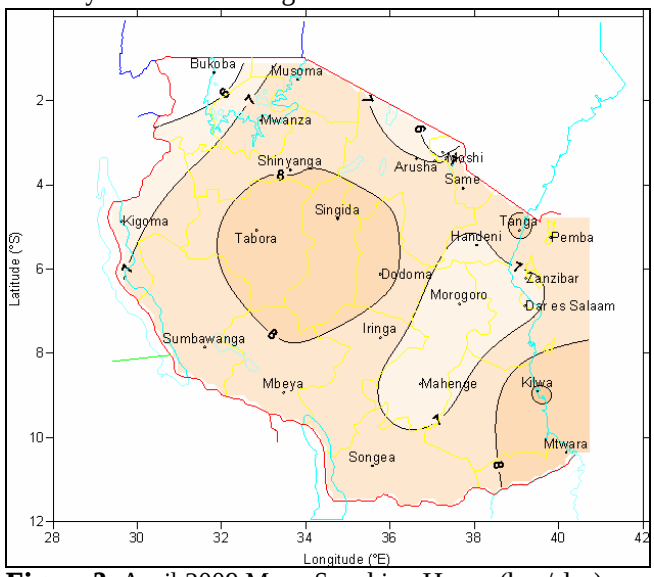

Figure 3: April 2009 Mean Sunshine Hours (hrs/day)

Longer sunshine hours and cloudless conditions dominated in areas where seasonal rains were coming to an end.

MEAN WIND SPEED

During the period mean wind speed across the country ranged between about 4 to 14 km/hr as indicated in Figure 4. Some parts of northeastern highlands experienced windy conditions that exceeded 14 km/hr. Low wind speed of below 4 km/hr were recorded over Songea, Morogoro, Shinyanga and Moshi as shown in Figure 4. Dryness

and windy conditions experienced over northeastern highlands increased occurrences of higher evaporation rates.

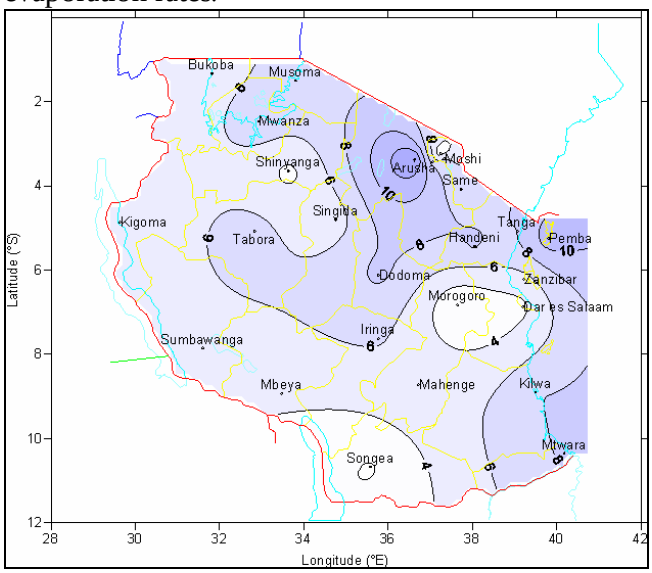

Figure 4: April 2009 Mean wind speed (km/hr)

SATELLITE INFORMATION

Mean vegetation condition during the month of April is indicated in Figure 5 in a NOAA satellite imagery, depicting the Normalized Difference Vegetation Index (NDVI). Some areas over northeastern highlands (Arusha, Kilimanjaro, and Manyara regions) were indicating poor vegetation condition depicted by low to very low vegetation indices. However, vegetation condition over much of the country was generally good. Thus, pasture supply for livestock and wildlife in the country was at a satisfactory level during the month, except over Arusha, Kilimanjaro, and Manyara regions where poor soil moisture has negatively affected pasture supply.

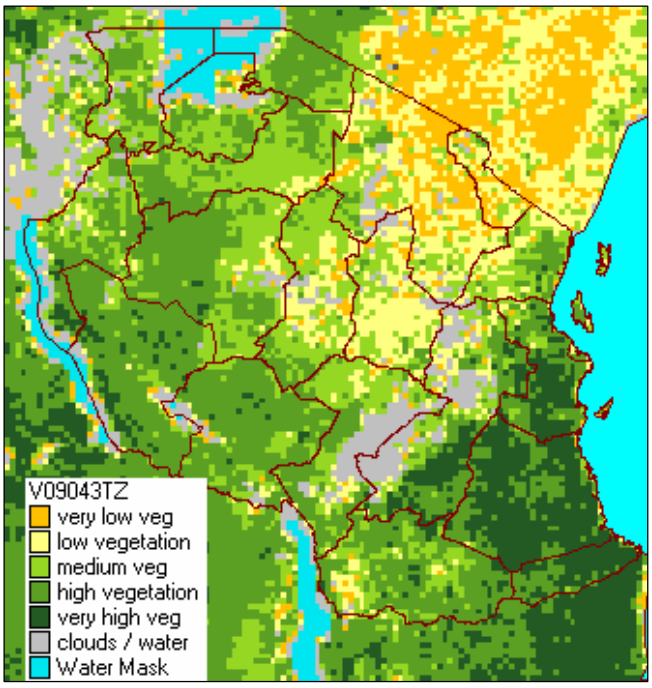

Figure 5: Vegetation condition for the period of 21-30th, April, 2009

AGROMETEOROLOGICAL SUMMARY

During the month of April soil moisture supply was adequate over most of bimodal areas including parts of northern coast, east and south of Lake Victoria basin with crops (maize, sorghum, paddy) ranging from between vegetative to tasseling stages and in a moderate to good state. However, parts of northeastern highlands and northern coast particularly Ngorongoro, Monduli, Simanjiro, Same, and Handeni districts experienced severe soil moisture stress that hindered cropping activities during ongoing *Masika* rainfall season. Over unimodal areas crops in the fields were generally progressing well following favorable soil moisture supply. Crop (maize, beans, sorghum, paddy) stages over these areas ranged between flowering to full ripeness, except for the delayed and replanted crops that were permanently wilted at vegetative stage as observed over most parts of southern coast (Lindi and Mtwara regions) during the period.

Market supply for cassava over several areas of the country were still at low levels, while pastures and water availability for livestock and wildlife was at a satisfactory level, except over parts of northeastern highlands where inadequate soil moisture levels has persistently been reported since the start of the month.

HYDROMETEOROLOGICAL SUMMARY

Prevailing rains have slightly boosted water levels in lakes and dams, and river discharges in their respective catchments. However, due to poor performance of these rains over much of bimodal areas, water for domestic and industrial purposes should be used sparingly.

ENVIRONMENTAL SUMMARY

During April cold conditions started to set in over most of the southern highlands whereas cool conditions are prevalent over the coastal belt.

EXPECTED SYNOPTIC SITUATION DURING MAY 2009

During the month of May 2009, the southern hemisphere systems (St. Helena and Mascarene high pressure cells) are expected to continue intensifying where as the Azores and Siberian anticyclones in the northern hemisphere featuring relaxation. The intensification of the Mascarene and relaxation of the Siberian High pressure cell are likely to push the ITCZ further to the north of the country (on the peripherals of the northern boarders). Warmer Sea Surface Temperatures over the south west Indian Ocean are likely to persist during the month of May 2009 and allow moist southeasterly to easterly flow towards the coastal areas. However the developing cool Sea Surface Temperatures over the coastal areas of the country is likely to enforce the high pressure ridge towards the hinterlands preventing moisture influx mostly towards the southern coast. The above configuration is expected to support near normal to below normal rainfall activities over most areas.

EXPECTED WEATHER SITUATION DURING MAY 2009

Lake Victoria basin (Kagera, northern Kigoma, Mwanza, Shinyanga and Mara regions) rains are expected to be mainly normal over much of the area except for southern Shinyanga, where normal to below normal rainfall is expected. Northern coast and hinterland (Dar es Salaam, Tanga, Coast, northern Morogoro and Isles of Zanzibar and Pemba), the rains are expected to continue and likely to be normal to below normal. Over northeastern highlands (Arusha, Kilimanjaro and Manyara regions) the rains are expected to be below normal with pockets of normal rainfall. Western areas (western parts of Tabora region and Kigoma) the seasonal rains came to the end during the forth week of April 2009 over most areas. During this month Kigoma areas are expected to continue with normal to above normal rainfall coming towards the end on the second week of May 2009. Over central and southern coast (Singida, Dodoma, Lindi and Mtwara regions), southern and southwestern areas (Rukwa, Mbeya, Iringa, south Morogoro and Ruvuma) the seasonal rains ceased during second and third dekad of April. However the high ground areas over southwestern highlands are expected to feature light rainshowers.

Prepared by
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