TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Northeastern highlands particularly Monduli and Simanjiro districts experienced severe soil moisture stress throughout the period hindering to seasonal farming activities.
- Above normal rains were experienced at Sumbawanga (southwestern highlands), Bukoba (Lake Victoria basin), Singida (central), and Kigoma (western).

SYNOPTIC SUMMARY

During the month of March 2009, the southern hemisphere systems, St Helena and Mascarene high pressure cells intensified while the northern systems weakened, resulting in a northward movement of the zonal component of Inter-Tropical Convergence Zone (ITCZ). Warmer Sea Surface Temperatures (SSTs) over the South West Indian Ocean continued to support formation of tropical disturbances over the area. In mid March 2009 a tropical cyclone '*IZILDA*' formed leading into enhanced northeasterly to northerly wind flow thereby reducing rainfall activities over the coastal areas and slightly delayed the spreading of *Masika* rains over northeastern highlands.

WEATHER SUMMARY

RAINFALL

During March the rains increased over most parts of western Lake Victoria basin, southern, southern coast, and southwestern highlands. On the other hand, the northeastern highlands and parts of northern coast experienced little rainfall not exceeding 50 mm as indicated in Figure 1A. Records from sample stations indicate that rainfall amounts exceeding 300 mm were reported at Mahenge 495.3 mm, Ifakara 462.0 mm, and Bukoba 372.8 mm.

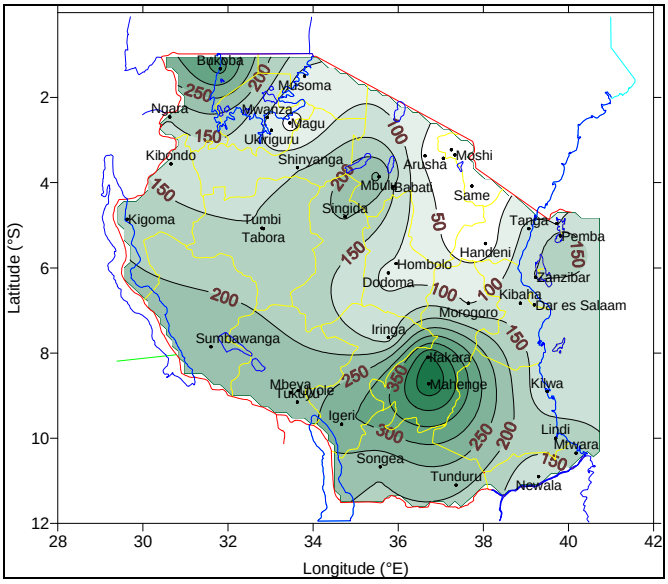

Figure 1A: March 2009 Rainfall Distribution (mm)

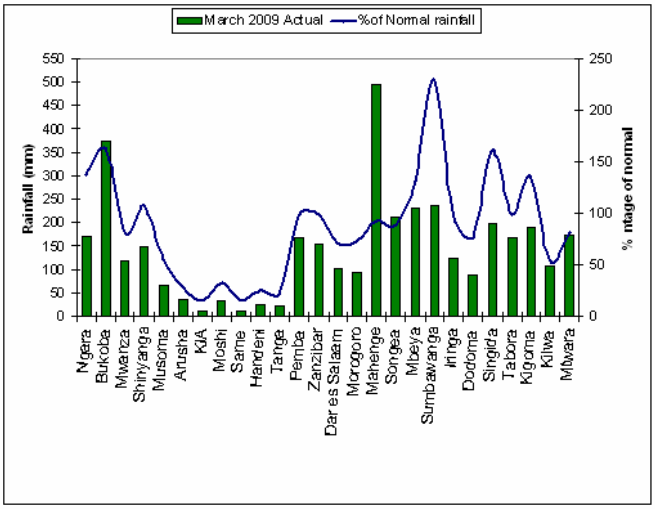

Figure 1B: Rainfall Performance as Percent of Normal during March 2009

During the period under review Figure 1B, indicates that rainfall performance was below normal (<75%

normal) over stations in the northern coast (Morogoro, Dar es Salaam, Tanga, and Handeni), northeastern highlands (Same, Moshi, KIA and Arusha), eastern and southern Lake Victoria basin (Musoma, Shinyanga and Mwanza), southern coast (Kilwa) and parts of central (Dodoma including northern Iringa). Above normal (>125% normal) rains were experienced at Sumbawanga (southwestern highlands), Bukoba (Lake Victoria basin), Singida (central), and Kigoma (western).

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 between just above 33 ºC and below 22 ºC as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 35 °C at KIA and Moshi with an absolute highest maximum of about 35.0 °C during the second and third dekads of the month. The lowest mean maximum temperature was about 20.2 °C over Igeri (southern Iringa) in the southwestern highlands.

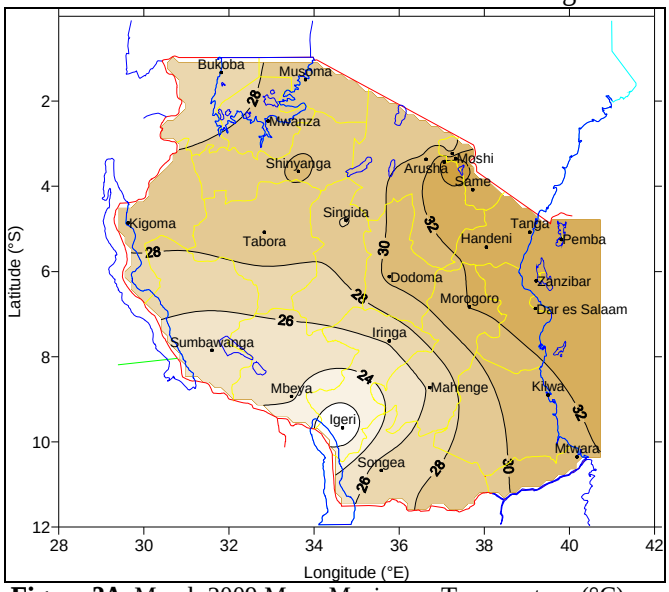

Figure 2A: March 2009 Mean Maximum Temperature (°C)

The mean minimum air temperature ranged from just below 14 ºC to slightly above 24 ºC as shown as shown in Figure 2B. The lowest value of the mean minimum temperature of about 13.2 °C was recorded at Igeri, while the highest values of about 25°C were observed at Tanga and Kilwa over the coastal belt. An absolute minimum temperature of about 10.1 °C was also recorded at Igeri during the third dekad of the month.

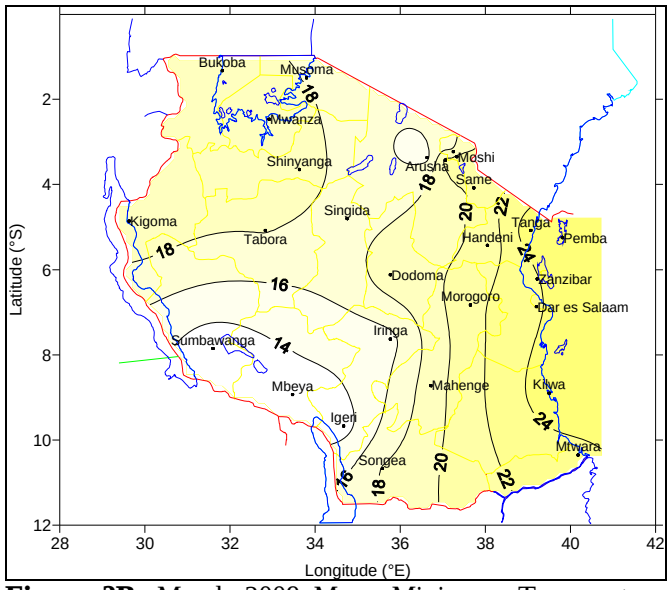

Figure 2B: March 2009 Mean Minimum Temperature (°C)

MEAN SUNSHINE HOURS

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

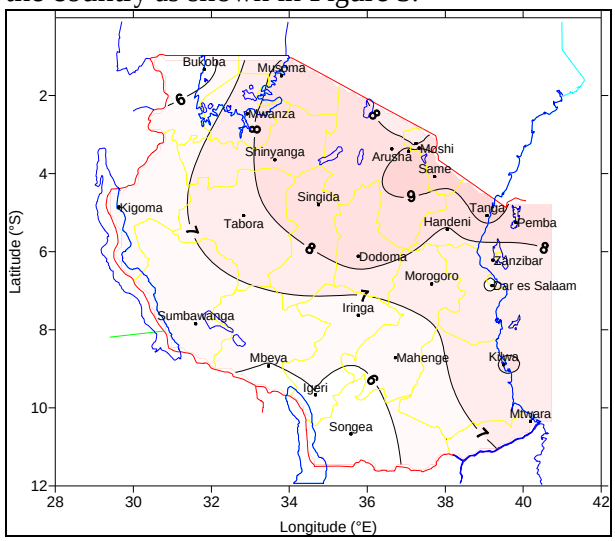

Figure 3: March 2009 Mean Sunshine Hours (hrs/day)

Rainy and cloudy conditions shortened bright sunshine durations to less than 6 hrs/day over

southwestern highlands and parts of western Lake Victoria basin.

MEAN WIND SPEED

During the period mean wind speeds across the country ranged between about 2 to 12 km/hr as indicated in Figure 4. Some parts of northeastern highlands experienced windy conditions that exceeded 12 km/hr. Low wind speeds of below 2 km/hr were recorded over Songea, Sumbawanga, Shinyanga, and Moshi as shown in Figure 4. Dryness and windy conditions experienced over northeastern highlands increased occurrences of higher evaporation rates.

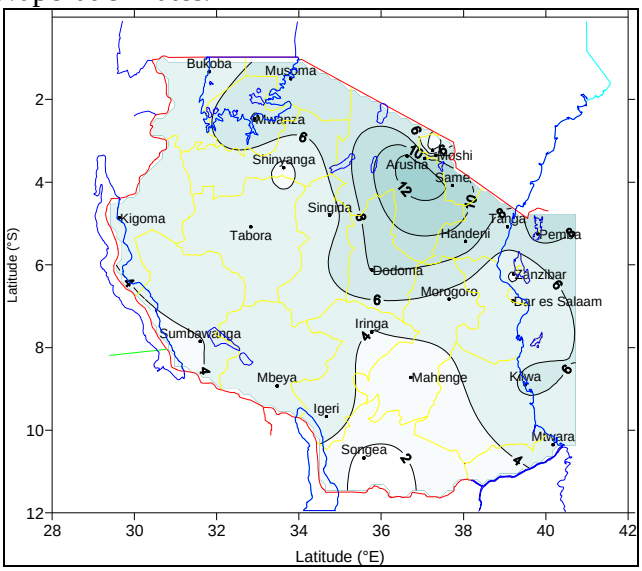

Figure 4: March 2009 Mean wind speed (km/hr)

SATELLITE INFORMATION

Mean vegetation condition during the month of March is indicated in Figure 5 in a NOAA satellite imagery, depicting the Normalized Difference Vegetation Index (NDVI). Some areas over northeastern highlands (Arusha 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 satisfactory level during the month except over Arusha and Manyara regions where poor soil moisture has negatively affected pasture supply.

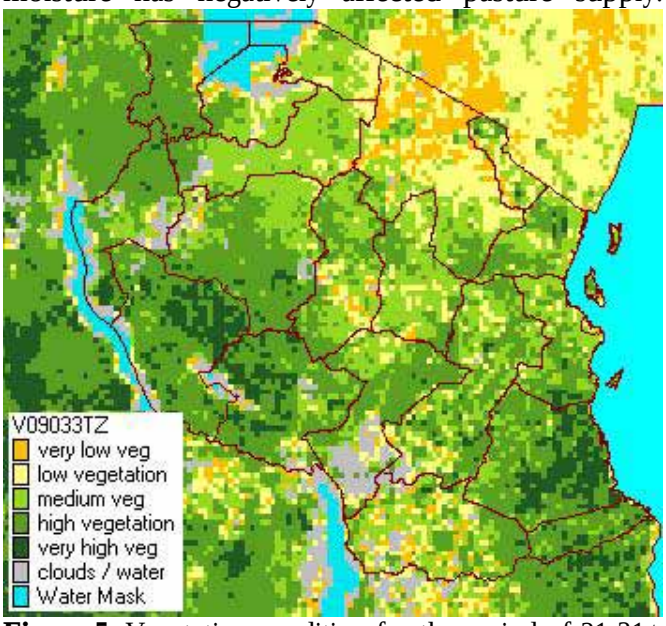

Figure 5: Vegetation condition for the period of 21-31st, March, 2009

AGROMETEOROLOGICAL SUMMARY

During the month of March soil moisture supply slightly increased over some parts of bimodal areas in the northern coast, east and south of Lake Victoria basin as well as northeastern highlands mainly towards the end of the month enhancing planting activities for the anticipated *Masika* cropping season due by this time. Other areas of Lake Victoria basin particularly (Musoma and Magu districts) initially experienced poor soil moisture supply which in late March regained, while over northeastern highlands particularly Monduli and Simanjiro districts experienced severe soil moisture stress throughout the period hindering seasonal farming activities. Over unimodal areas crops in the fields were progressing well following adequate soil moisture supply. Over these areas crop stages were ranging between flowering to full ripeness, except for the delayed and replanted crops over parts of southern coast (Lindi and Mtwara regions) which were at early vegetative stages. Short sunshine durations and heavy rains negatively affect beans during pod formation.

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 rivers 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 March temperatures were generally mild with local variations of high temperatures causing discomfort over the coastal belt. Dry and 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 APRIL 2009

During the month of April 2009, the St. Helena and Mascarene high pressure cells over southern hemisphere are expected to intensify whereas the Azores and Siberian high pressure cells in the northern hemisphere will slightly relax.

The intensification of the Mascarene and relaxation of the Siberian High pressure cells accompanied by warmer SSTs over the South West Indian Ocean are likely to allow moist southeasterly to easterly flow towards the region. Low level easterly wind convergence is likely to be enhanced creating a likelihood of increased moisture influx over the southern parts spreading to the northern parts of the coastal belt and hinterlands. The above configuration is expected to support near normal to above normal rainfall activities over most areas. However there is likelihood of persistence suppressed rainfall over the Northeastern highlands and eastern parts of the Lake Victoria Basin.

EXPECTED WEATHER SITUATION DURING APRIL 2009

Southwestern highlands (Iringa, Rukwa and Mbeya regions, and Mahenge), southern areas (Ruvuma region), southern coast (Lindi and Mtwara regions) and central areas (Dodoma and Singida regions), are expected to experience normal rainfall with pockets of above normal rainfall. Lake Victoria basin (Kagera, Mwanza and Shinyanga regions) and western areas (Tabora and Kigoma regions) are expected to receive above normal rains with exception of eastern Mara region where near normal to below normal rainfall is likely to occur. Northern coast and hinterlands (Dar es Salaam, Tanga and Morogoro regions, Islands of Zanzibar and Pemba) are expected to receive mainly normal rainfall. Northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to receive near normal to below normal rainfall.

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