TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Favorable soil moisture supply was experienced over most parts of both unimodal and bimodal sectors.
- A few areas in Meatu, Magu, Nzega and Kondoa districts and Ismani in Iringa observed poor germination and wilting of young crops due to prolonged soil moisture stress.

SYNOPTIC SUMMARY

During March 2011, the southern hemisphere systems (Mascarine and St. Helena highs) continued to intensify, while the Siberian high and the Arabian ridge in the northern hemisphere continued to relax thus allowing the zonal arm of the rain-making mechanism i.e. Inter-Tropical Convergence Zone (ITCZ) to be active over Tanzania contributing to enhancement of rainfall over some parts of the country. *La Niña* conditions (below normal sea surface temperatures) continued to persist over much of eastern equatorial Pacific Ocean. Equatorial Sea Surface Temperatures (SSTs) were above average across much of Atlantic and near neutral over western Indian Ocean (along the East African coast) but was below average along central Indian Ocean. Slightly above average SSTs were observed along the west coast of Africa over Atlantic Ocean.

RAINFALL SUMMARY

The month of March 2011 observed a wide spread of scattered rains particularly over bimodal areas mainly in the last two dekads. The highest amount of rainfall was recorded at Mahenge 605.0 mm, followed by Matangatuani 308.9 mm, Musoma 298.6 mm, Bukoba 292.1 mm, Igeri 241.1 mm, Songea 195.0 mm, Mbozi 194.7 mm, Ilonga 187.5 mm, Kibaha 185.8 mm, Tanga 183.7 mm, Naliendele 175.5 mm, Newala 174.2 mm, Tabora 167.2 mm, Kizimbani 152.5 mm, Mtwara 152.0 mm, Same 150.6 mm, Handeni 145.7 mm, Tumbi 140.3 mm, Tukuyu 139.0 mm, Ukiriguru 131.3 mm, Hombolo 130.5 mm, Kigoma 129.8 mm, Mlingano 125.1 mm, Sumbawanga 121.9 mm, Arusha 114.3 mm, Babati 110.5 mm, Shinyanga 103.5 mm, Iringa102.4 mm, Pangani 102.2 mm. The rest of the stations from sample stations mainly over northeastern highlands (KIA, Moshi and Lyamungu), northern coast, Isles of Zanzibar and Pemba, and some pocket areas in Mwanza, Dodoma and Singida regions obtained the lowest amounts of rainfall (below 50 mm) for the period as shown in Figure 1.

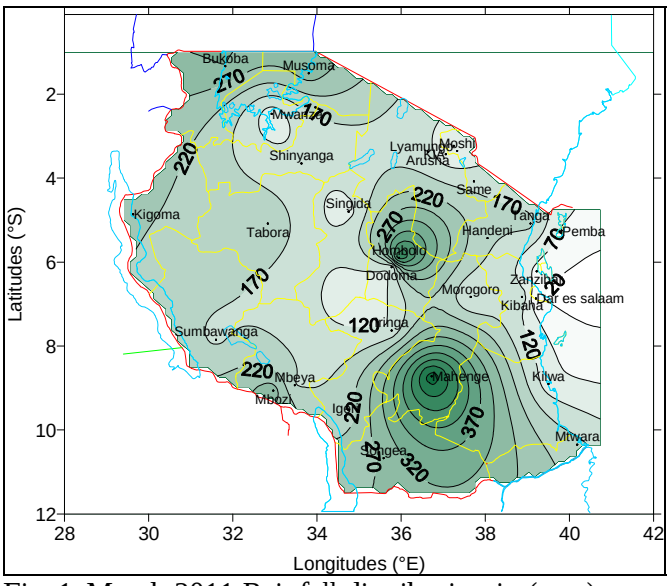

Fig. 1: March 2011 Rainfall distribution in (mm)

MEAN AIR TEMPERATURE

Temperatures were generally warm during the month. Over northeastern highlands and coastal regions monthly mean maximum temperatures recorded exceeded 32 ºC as indicated in Figure 2A.

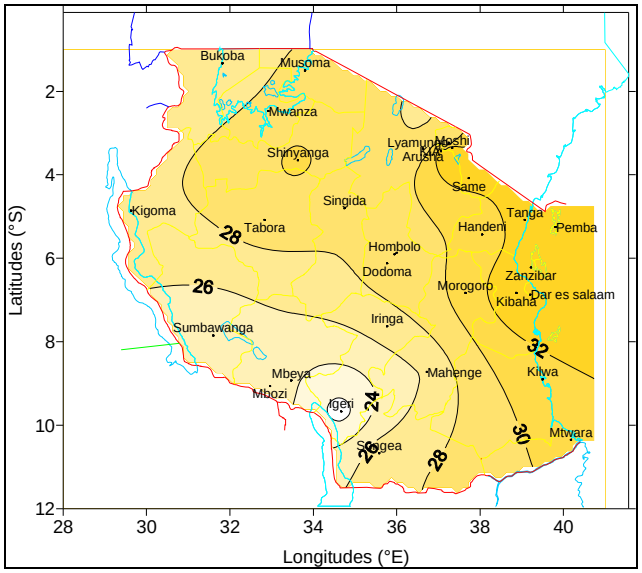

Fig 2A: March 2011 Mean Maximum Temperature (°C)

Mean maximum air temperature values ranged between 21ºC and 32ºC. The highest absolute maximum temperature of 34.6°C was recorded during the first dekad of the month at Kibaha, while Igeri over southwestern highlands recorded the lowest daily value in the second dekad with a maximum temperature of 21.1°C.

Mean minimum air temperatures recorded ranged from 12ºC to 25.0ºC as shown in Fig 2B. The lowest value of mean minimum temperature recorded was 12.1°C at Igeri (southwestern highlands) in the second dekad, while the highest value of 25.5°C was observed at Pemba (northern coast) in the third dekad.

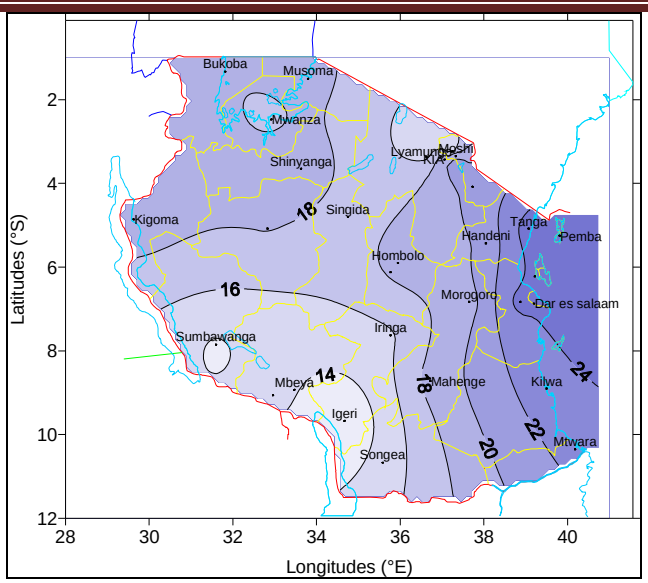

Fig 2B: March 2011 Mean Minimum Temperature (°C)

MEAN SUNSHINE HOURS

Sunshine duration records across the country during March show that the mean bright sunshine hours ranged from 4 hrs/day over southern western regions to about 9 hrs/day over northern coastal areas as shown in Figure 3.

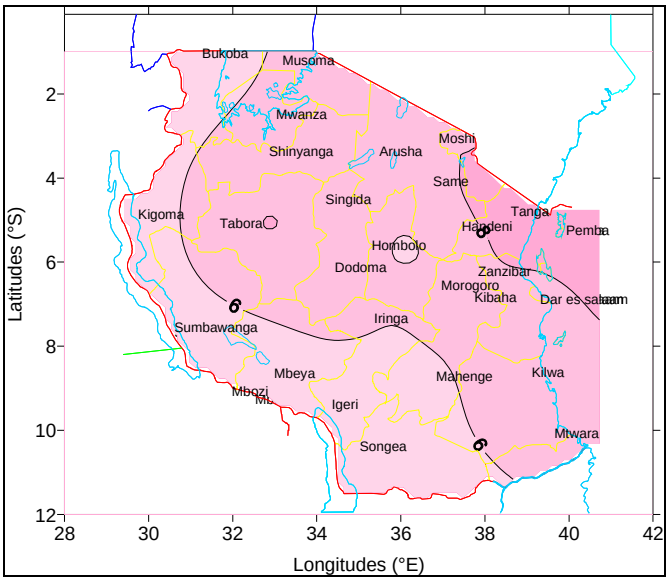

Fig 3: March 2011 Mean Sunshine Hours (hrs/day)

The longest duration was registered during the first dekad when the areas were characterized by less or no rainfall activities.

MEAN WIND SPEED

Mean wind speeds across the country ranged from 1 to 9 km/hr during the month. High wind speed of above 9 km/hr was recorded over parts of northeastern highlands (Same). High wind speed coupled with persistent wet conditions still allowed surface water losses through evapo-transpiration.

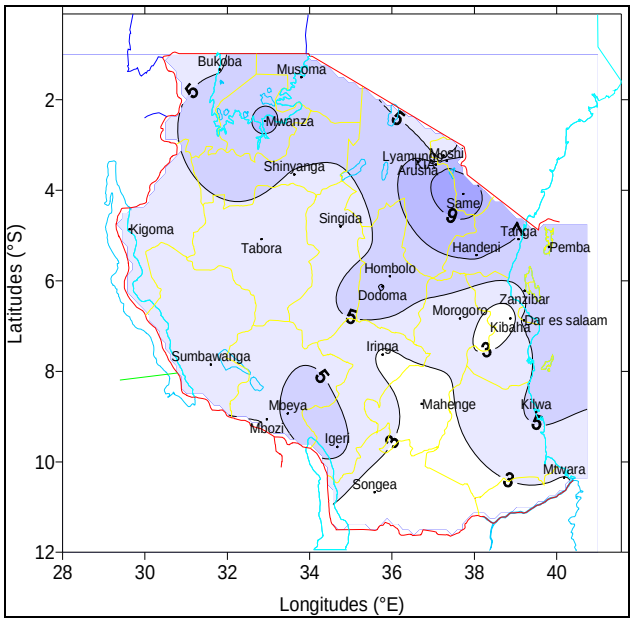

Fig 4: March 2011 Mean wind speed (km/hr)

AGROMETEOROLOGICAL SUMMARY

Favorable soil moisture supply was experienced over both unimodal and bimodal sectors of the country mostly during the last two dekads of the month. A few areas (Meatu, Magu, Nzega, Kondoa, Ismani,) observed poor germination and wilting of crops at early and mid stages due to severe soil moisture stress compelling farmers in those areas to resort to short term crops (cassava, peas, sweet potatoes) instead. However, crops conditions across the entire country mostly maize, beans, and paddy were rated as progressing well at stages ranging from vegetative as over Morogoro south (Ilonga and Ifakara areas) to maturity stage as reported in Katavi region (Mpanda area), southern (Ruvuma region) and central parts (Dodoma and Singida regions) where maize crop was generally at near to full ripeness stage while paddy was approaching milk stage. Over the bimodal sector which had timely onset of *Masika* season, the major field activities for the entire sector during the period generally were planting and weeding of crops which mostly were between emergence and early vegetative stages.

The persistent wet conditions also improved availability of water and pastures for livestock and wildlife in the country.

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HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, dams and river flows have regained fairly well due to substantial rainfall amounts obtained, but water for human and industrial usage and hydro-power generation should still be used sparingly.

ENVIRONMENTAL SUMMARY

Temperatures over most areas in the country were generally high but with a decreasing trend into April.

EXPECTED SYNOPTIC SITUATION DURING APRIL 2011

The central to eastern equatorial Pacific Ocean are expected to continue to be below normal (*La Nina* condition) while near average SSTs conditions are expected over the tropical western Pacific Ocean and central Indian Ocean. Near neutral SSTs are expected over the western Indian Ocean. Near to above average SSTs are expected across much of Atlantic Ocean particularly over the south-western coast of Africa and along Mozambique Channel extending to southeast of Madagascar and west of Australia. There is a likelihood of suppressed convection over central Indian Ocean. Moderate easterly to south easterly wind flow is expected during the Month of April. This will contribute to some activities over eastern

parts of the country especially the coastal areas mainly during the first half of April.

EXPECTED WEATHER DURING APRIL 2011

Lake Victoria Basin (Kagera, Mwanza, Mara and Shinyanga regions): is likely to feature normal to above normal rainfall. Western regions (Kigoma, Northern Rukwa and Tabora regions): are likely to feature normal rainfall. Northern coast (Dar es Salaam and Tanga regions, the Isles of Unguja and Pemba): is likely to feature normal rainfall with a few areas expected to experience above normal rains.

Central areas (Dodoma and Singida regions): is likely to feature normal to below normal rainfall. Northeastern highlands (Kilimanjaro, Arusha and Manyara regions): is likely to feature below normal rainfall. Southwestern highlands (Southern Rukwa, Iringa and Mbeya region): are likely to feature normal rainfall but there are chances of the rains to recede during the second week of April 2011. Southern region (Ruvuma region): is likely to feature mainly normal rainfall. The southern coast (Mtwara and Lindi regions) is likely to feature mainly normal rainfall

Note: Extreme weather events such as heavy localized rainfall can occur and result in **flash flooding** within the forecasted area of eastern and southern Tanzania. Also there is a likelihood of **dry spells** over the Northeastern Highlands during the month of April 2011.

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