TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

HIGHLIGHTS

- Favorable soil moisture levels for crop growth and development was observed over most parts of bimodal sector during the month with threat of moisture stress reported in parts of Lake Victoria basin and northeastern highlands.
- Temperatures over most areas in the country were generally moderate but with a decreasing trend towards cool to cold conditions during June 2011.

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SYNOPTIC SUMMARY

During the month of May 2011, southern hemisphere systems (Mascarene and St. Helena anticyclones) 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, the Inter-Tropical Convergence Zone (ITCZ) to be active over northern parts of Tanzania. La Niña conditions (below normal sea surface temperatures) continued during early May 2011 across greater part of the equatorial Pacific Ocean. The episode has now weakened considerably approaching normal conditions. Equatorial Sea Surface Temperatures (SSTs) were above average across much of Atlantic and near normal neutral along the East African coast but was below average along central Indian Ocean.

RAINFALL SUMMARY

During the month of May rainfall activities concentrated over much of bimodal areas mainly northeastern highlands and the northern coast of the country depicting a normal feature of the year. Several stations in this sector reported good rains except for a few areas around Lake Victoria basin that experienced poor rainfall. The highest reported monthly total was obtained at Pemba Airport with 414.4 mm, followed by Tukuyu 330.5 mm, Lyamungu 326.5 mm, Tanga 347.2 mm, Mahenge 234.9 mm, Bukoba 271.8 mm, Zanzibar 262.7.mm, Marikitanda 176.2 mm, Naliendele 156.9 mm, Moshi 122.7 mm, Ilonga 121.3 mm, Dar es Salaam (DIA) 106.7 mm, Handeni 103.3 mm, and Kilwa 100.9 mm. The rest of the stations reported rainfall below 50 mm with several others reporting dry conditions as shown in Figure 1.

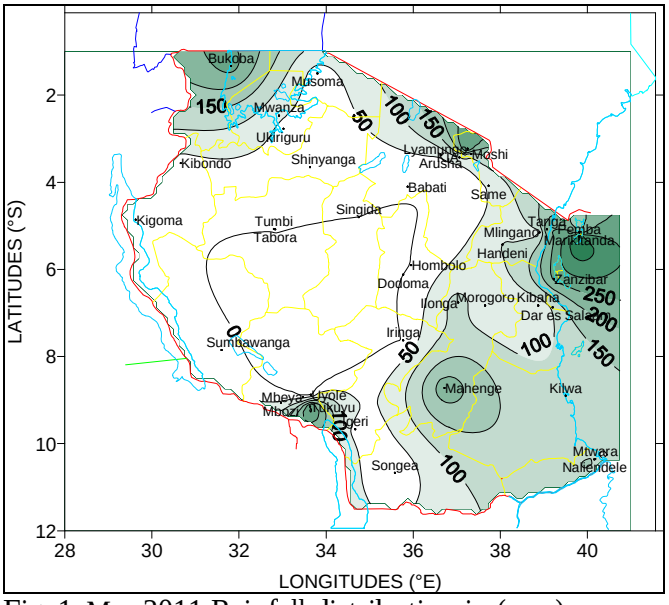

Fig. 1: May 2011 Rainfall distribution in (mm)

MEAN AIR TEMPERATURE

Temperatures were generally warmer during the month. Over northeastern highlands and

coastal regions monthly mean maximum temperatures recorded exceeded 30 ºC as indicated in Figure 2A.

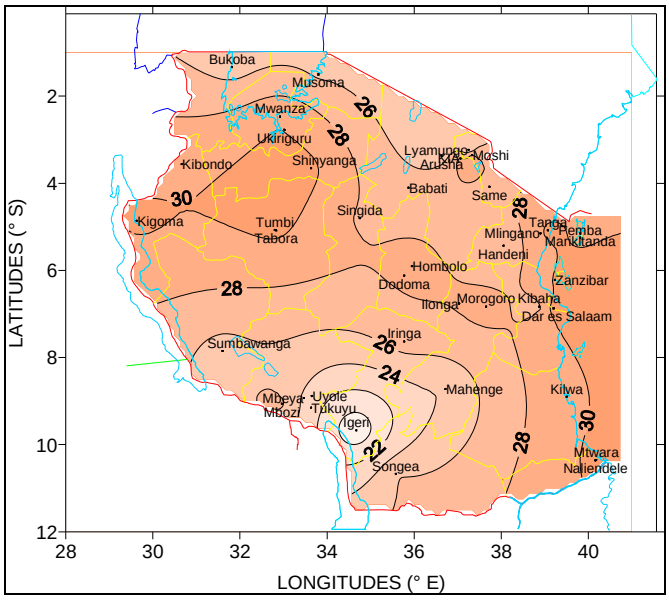

Fig 2A: May 2011 Mean Maximum Temperature (°C)

Mean maximum air temperature values ranged between 18.3ºC and 30.7ºC.

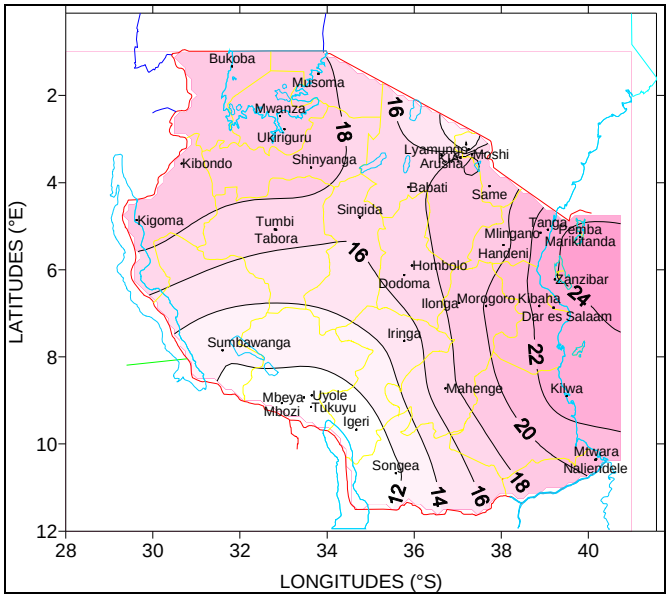

Fig 2B: May 2011 Mean Minimum Temperature (°C)

The highest absolute maximum temperature of 32.0°C was recorded during the second dekad of the month at Tanga Airfield, while Igeri over southwestern highlands recorded the lowest daily value in the second dekad with a maximum temperature of 31.1 °C. Mean minimum air temperatures recorded ranged from 12ºC to 24ºC as shown in Fig 2B. The lowest value of mean minimum temperature recorded was 10.2°C at Igeri district (southwestern highlands) in the third dekad, while the highest value of 24.2°C was observed at Pemba (northern coast) in the third dekad.

MEAN SUNSHINE HOURS

The distribution of sunshine duration across the country during May showed that the mean bright sunshine hours ranged from 5 hrs/day over southwestern, southern and northeastern highlands to about 8 hrs/day over western areas as shown in Figure 3.

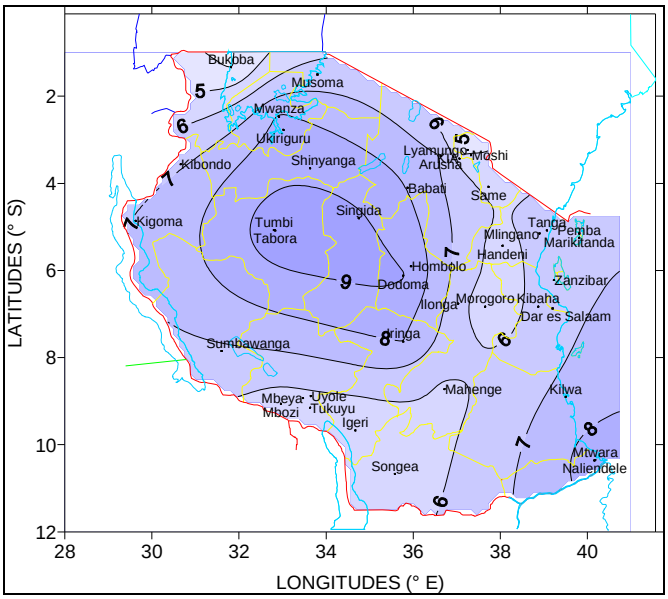

Fig 3: May 2011 Mean Sunshine Hours (hrs/day)

The longest duration of about 10 hours/day was registered during the first dekad of May over Tabora region, characterized by less or no rainfall activities.

MEAN WIND SPEED

Mean wind speeds across the country ranged from calm wind at Kibaha (Coast region) to 9 km/hr during the month as shown in Figure 4. High wind speed of above 11 km/hr was recorded mainly over central (Dodoma). High wind speeds coupled with dry spell conditions allowed surface water losses through evapo-transpiration.

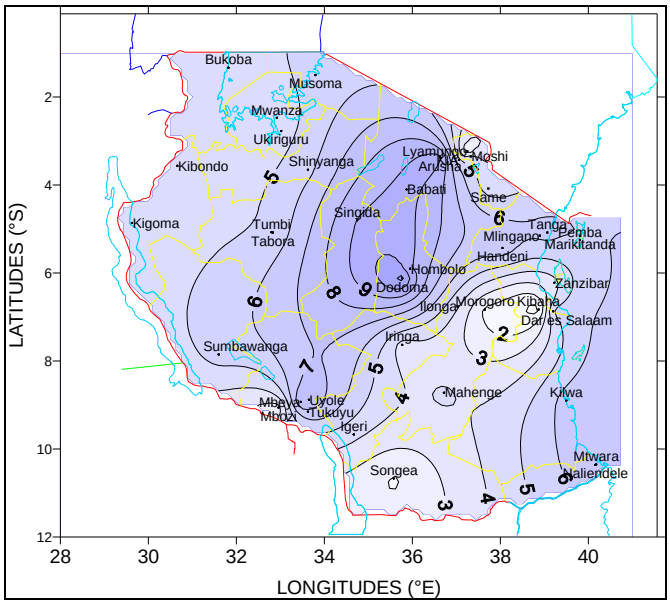

Fig 4: May 2011 Mean wind speed (km/hr)

AGROMETEOROLOGICAL SUMMARY

Favorable soil moisture levels for crop growth and development was observed over some parts of bimodal sector during the month. On the other hand, threat of moisture stress was reported in parts of Lake Victoria basin (Magu, Shinyanga and Musoma districts) and northeastern highlands (high grounds of Same, Mwanga, Karatu, Loliondo, Simanjiro, and lowlands of Rombo districts) causing stunted or wilting to crops mainly beans and maize which was generally at advanced vegetative stage. For the unimodal sector harvesting activities started over several parts but with anticipated less harvest following poor soil moisture supply experienced during the season as observed over parts of southwestern highlands (Iringa north, Chunya and Mbarali), central, and western areas of the country. Performance of most field crops over those areas was between poor to moderate due to inadequate soil moisture supply although excessive supply was another threat that hit Kilosa and Ilonga areas in Mahenge (Morogoro region).

Pastures and water availability for livestock and wildlife were generally good over much of the country.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, dams and river flows have regained fairly well due to substantial rainfall amounts recorded. However, water supply 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 moderate but with a decreasing trend towards cool to cold conditions during June 2011.

EXPECTED SYNOPTIC SITUATION DURING JUNE 2011

During the month of June 2011, the Siberian and Azores highs and the Arabian ridge are expected to relax while the St. Helena and Mascarene highs are expected to intensify. The SSTs from central to eastern equatorial Pacific Ocean and the associated La-Nina conditions are expected to dissipate giving way for neutral conditions to be established towards mid June 2011. However, slightly weaker atmospheric aspects of La-Nina may continue during the month of June 2011. On the other hand neutral SSTs conditions are expected to prevail over central Indian Ocean while warmer conditions are expected over southwestern Indian Ocean. Moderate southerly wind flow is expected during the month. The above configurations are expected to enhance cold air advection especially over the southern and southwestern parts of the country.

EXPECTED WEATHER SITUATION DURING JUNE 2011

Lake Victoria Basin (Kagera, Mwanza, Mara and Shinyanga regions), and Western regions (Kigoma, Northern Rukwa and Tabora regions) are is likely to feature mostly dry conditions. Northern coast (Dar es Salaam and Tanga regions, the isles of

Unguja and Pemba) is likely to feature a few showers especially over the islands where normal rains are expected mainly during the first half of the month. Central areas (Dodoma and Singida regions): Mainly dry conditions are expected. Enhanced windy conditions are likely with cool temperatures during night hours. Northeastern highlands (Kilimanjaro, Arusha and Manyara regions) are likely to feature dry and warm conditions during day times but cool temperatures during night and early morning hours. Southwestern highlands (Southern Rukwa, Iringa and Mbeya region): Some light rains are expected over high grounds. Very cold temperatures are expected particularly during night and early morning hours.

Southern region (Ruvuma region): Mainly normal dry season with occasional light rains along the Lake Nyasa shoreline and high grounds. Southern coast (Mtwara and Lindi regions) is likely to feature mainly dry conditions with a few light showers along the coast belt.

Extreme weather events such as heavy localized rainfall can occur during the dry season and can only be forecasted in shorter time scales ahead.

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