TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Improved soil moisture levels during the month favored crop development over the bimodal sector and late planted crops over unimodal areas which were at advanced vegetative and maturity stages.
- Excessive soil moisture was reported to affect crops over Kilosa district and Mahenge (lowlands) in Morogoro region and Kibondo district (Kigoma region) where maize crop was between earring and maturity stages.

SYNOPTIC SUMMARY

During April 2011, the southern hemisphere systems (Mascarene 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, the Inter-Tropical Convergence Zone (ITCZ) to be active over some parts of the country. La Niña condition (below normal sea surface temperatures) continued to decrease over much of eastern equatorial Pacific Ocean. Equatorial Sea Surface Temperatures (SSTs) were above average across much of Atlantic Ocean and near neutral over western Indian Ocean (along the East African coast) but was below average along central Indian Ocean. Slightly above average SSTs was observed along the East African coast over Indian Ocean towards the end of the month. Occurrence of easterly wave during the month of April 2011 contributed to enhanced rainfall over eastern sector of the country.

RAINFALL SUMMARY

Throughout the month of April most of the stations reported good rains except few areas over northeastern highlands, central and western parts of the country which experienced poor rainfall activities.

The highest rainfall reported during the period under review was 530.8 mm over Mahenge located to the south of Morogoro region, followed by Zanzibar which recorded 463.2 mm, Tukuyu (387.0 mm), Ilonga and Kilwa (360.8 mm), Bukoba (319.5 mm), and Igeri (294.0 mm). Other areas that reported rainfall exceeding 200 mm included Lyamungu (282.9 mm), Kibaha (247.2 mm), Mbozi (234.8 mm), Mwalimu Nyerere International Airport (224.4 mm) and Ngara (205.5 mm). Figure 1 shows that most of the western and central areas (unimodal) experienced reduced rainfall amounts indicating cessation of the 2010/2011 rainy season. Below normal rainfall amounts ware recorded during the period over northeastern.

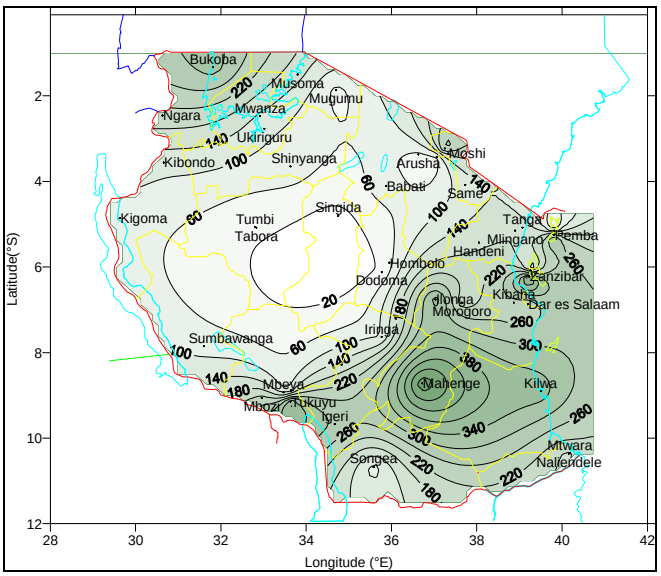

Fig. 1: April 2011 Rainfall distribution in (mm)

MEAN AIR TEMPERATURE

Temperature were generally warmer during the month. Over northeastern highlands and coastal regions monthly mean maximum temperatures recorded exceeded 31 ºC as indicated in Figure 2A.

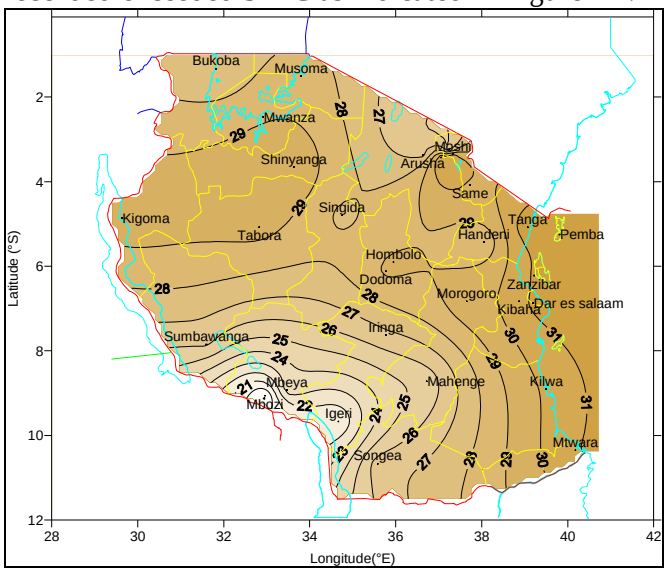

Fig 2A: April 2011 Mean Maximum Temperature (°C)

Mean maximum air temperature values ranged between 18.8 ºC and 31.8 ºC.

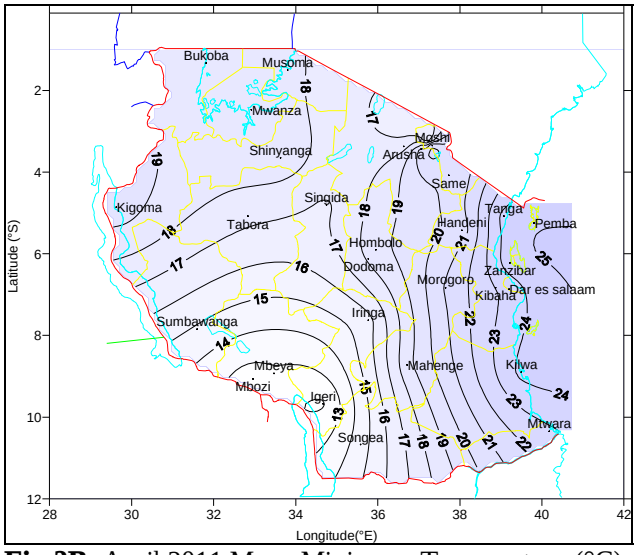

Fig 2B: April 2011 Mean Minimum Temperature (°C)

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 third dekad with a maximum temperature of 18.3 °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 10.7°C at Mbimba in Mbozi district (southwestern highlands) in the third dekad, while the highest value of 25.2°C was observed at Pemba (northern coast) in the third dekad.

MEAN SUNSHINE HOURS

The distribution of sunshine duration across the country during April showed that the mean bright sunshine hours ranged from 5 hrs/day over southwestern, southern and northeastern highlands to about 10 hrs/day over western areas as shown in Figure 3.

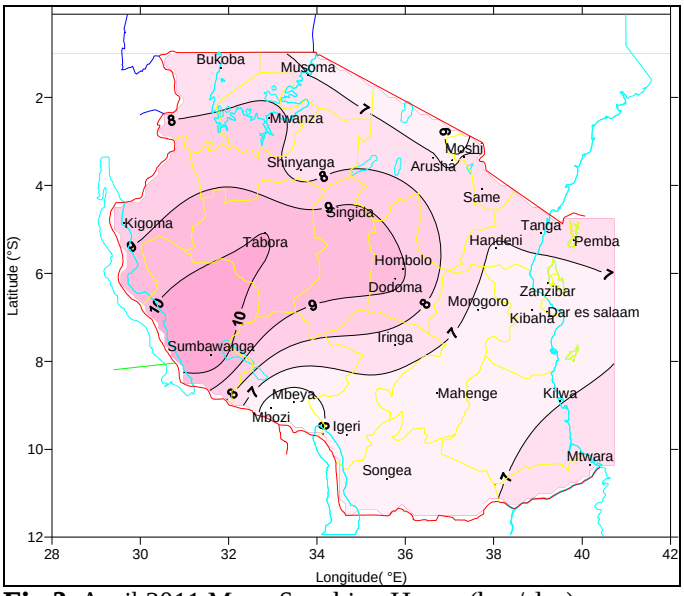

Fig 3: April 2011 Mean Sunshine Hours (hrs/day)

The longest duration of about 11 hours/day was registered during the third dekad of April over Rukwa and Tabora regions and these areas were characterized by less or no rainfall activities.

MEAN WIND SPEED

Mean wind speeds across the country ranged from calm to 10 km/hr during the month. High wind speeds of above 10 km/hr were recorded over much of northeastern highlands (Arusha) and central

(Hombolo). High wind speeds coupled with dry spell conditions allowed surface water losses through evapo-transpiration.

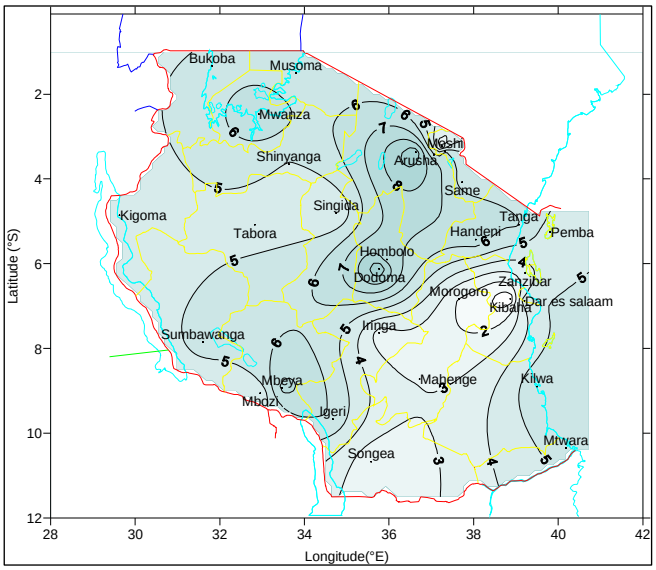

Fig 4: April 2011 Mean wind speed (km/hr)

AGROMETEOROLOGICAL SUMMARY

Over much of bimodal areas, bean crop was between flowering to pod filling stages while maize was between early vegetative to earring stages and in moderate state as reported over northern coast which include Handeni, few areas in northeastern highlands (Arusha, Moshi, and Monduli districts) and western Lake Victoria Basin (Ngara districts). However, soil moisture deficit was reported over much of Mwanza and Shinyanga regions and northeastern highlands (parts of Arusha, Same, and areas surrounding Kilimanjaro International Airport, KIA). Over much of the unimodal sector, maize crop was at maturity stage and between moderate and good state with some farmers doing harvesting. Excessive soil moisture was reported to affect crops over Kilosa district and Mahenge (lowlands) in Morogoro region and Kibondo district (Kigoma region) where maize crop was between earring and maturity stages.

Pastures and water availability for livestock and wildlife were generally good over much of the country due to ongoing seasonal rains.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, dams and river flows have regained fairly well due to substantial rainfall amounts recorded. All in all 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 high but with a decreasing trend towards May.

EXPECTED SYNOPTIC SITUATION DURING MAY 2011

During May 2011, the Siberian high with the Arabian ridge and Azores high are expected to relax particularly during the second half of the month. Over the contrary, the St. Helena and Mascarene highs are expected to intensify slightly. The SSTs over central to eastern Equatorial Pacific Ocean are expected to increase slightly indicating gradual weakening of La Nina condition. On the other hand below average SSTs conditions are expected to prevail over the central Indian Ocean while slight warming is expected over southwestern Indian Ocean near Tanzania coastline. Above average SSTs are expected across much of Atlantic Ocean particularly over southwestern coast of Africa and along Mozambique channel extending to southeast of Madagascar and west of Australia. Moderate southerly to south easterly wind flow is expected during the month of May. The above configuration is expected to continue to favour significant supply of moisture amounts especially over the coastal areas.

EXPECTED WEATHER DURING MAY 2011

Lake Victoria Basin (Kagera, Mwanza, Mara and Shinyanga regions): likely to feature normal rainfall. Western regions (Kigoma, northern Rukwa and Tabora regions): Normal rainfall is expected over Kigoma region while mainly dry conditions are expected over Tabora. Northern coast (Dar es Salaam and Tanga regions, the isles of Unguja and Pemba) is likely to feature normal rainfall with a few areas especially over the islands where above normal rains are expected.

Central areas (Dodoma and Singida regions): Mainly dry conditions are expected. Northeastern highlands (Kilimanjaro, Arusha and Manyara regions): is likely to feature below normal rainfall with poor distribution. Southwestern highlands (Southern Rukwa, Iringa and Mbeya region): Rainfall has receded over most areas. However, some rainfall is expected over high grounds during the month of May 2011. Southern region (Ruvuma region): Areas near Lake Nyasa are likely to feature mainly normal rainfall while a normal dry seasonal is expected elsewhere. Southern coast (Mtwara and Lindi regions) is likely to feature mainly normal rainfall with a decreasing trend towards mid May 2011.

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