TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Soil moisture deficit was experienced over much of the country thus impeding crop growth and development as reported during the month mainly over central (Dodoma, Singida, and Tabora) and southern coast (Lindi, and Mtwara), and parts of Morogoro region.

SYNOPTIC SITUATIONS

Observations show that moderate low-level low pressure systems dominated over much of the South Western Indian Ocean (SWIO). The Mascarene high pressure systems shifted south eastwards and remained relaxed giving room to the development of a tropical cyclone *HARUNA* during the month of February. In the northern hemisphere, the Azores and Siberian high pressure systems demonstrated steady intensification. A semi permanent anticyclonic circulation was positioned over western Indian Ocean off Somalia coast, steering maritime northerlies into much of the eastern half of the country. The Inter-Tropical Convergence Zone (ITCZ) was noted to have taken position to the south of the country.

WEATHER SUMMARY

RAINFALL

During the month of February 2013, much of the country including the Lake Victoria basin, northern coast, north eastern highlands, central, and southern coast were drier than normal (less than 50% of long term average) as indicated in Fig 1a. In Figure 1b, the highest amount of rainfall recorded during the month was over Igeri 203.0 mm, followed by Naliendele 166.5 mm, Tukuyu 145.4 mm, Tabora 145.4 mm, Mbozi 120.9 mm, Mpanda 120.8 mm, Bukoba 110.6 mm and Mahenge 109.1 mm.

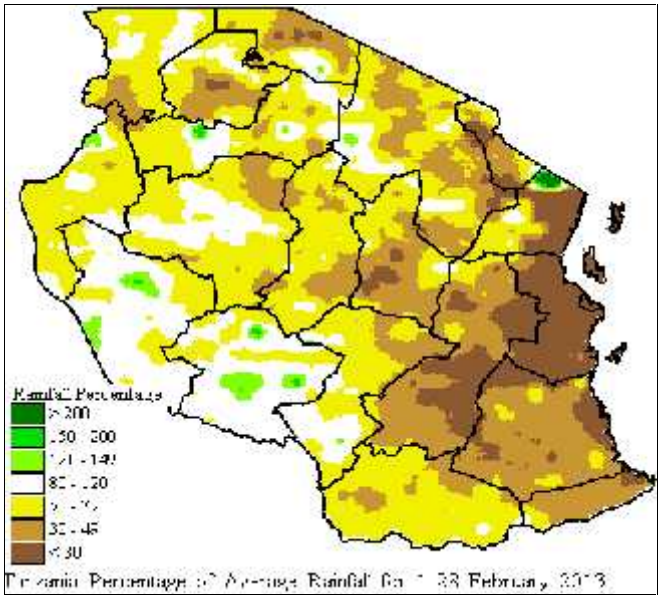

Figure 1a: *Percentage of average rainfall for 1st to 28th February 2013 as depicted by the Geospatial Water requirement Satisfaction Index (GeoWRSI) model with Improved Rainfall Estimates from Satellite Rainfall Estimates (RFE) and gauge data from Tanzania rainfall stations networks.*

Stations that recorded between 20 mm and 90 mm were Kigoma 87.4 mm, Songea 76.3 mm, Sumbawanga 74.2 mm, Iringa 67.7 mm, Mtwara 60.6 mm, Ukiriguru 55.5 mm, and Arusha 53.1 mm. Remaining stations recorded rainfall between 0 mm and 50 mm as depicted in Figure 1b below.

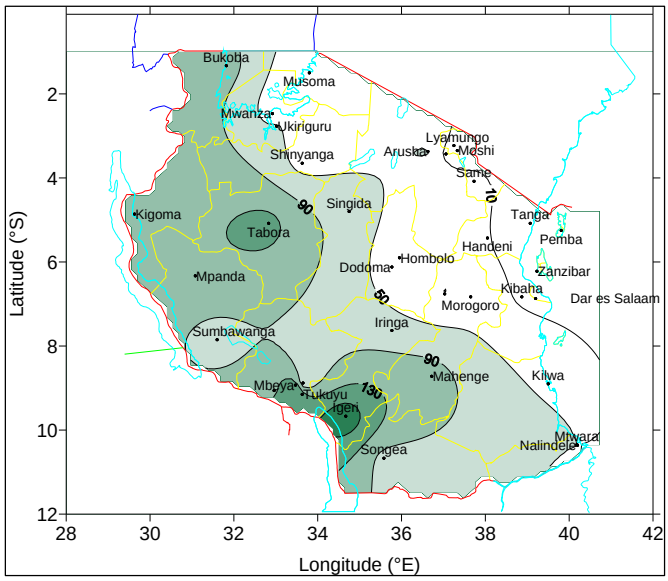

Figure 1b: February 2013 Rainfall distribution in (mm)

MEAN AIR TEMPERATURE

Mean maximum temperature during the month ranged between 21 °C and 34°C as indicated in Figure 2A below. The highest absolute maximum temperature of 35.7°C was observed at KIA during the second dekad of the month. The lowest absolute maximum temperature was 20.8 °C observed during the third dekad of the month over Igeri in the southwestern highlands.

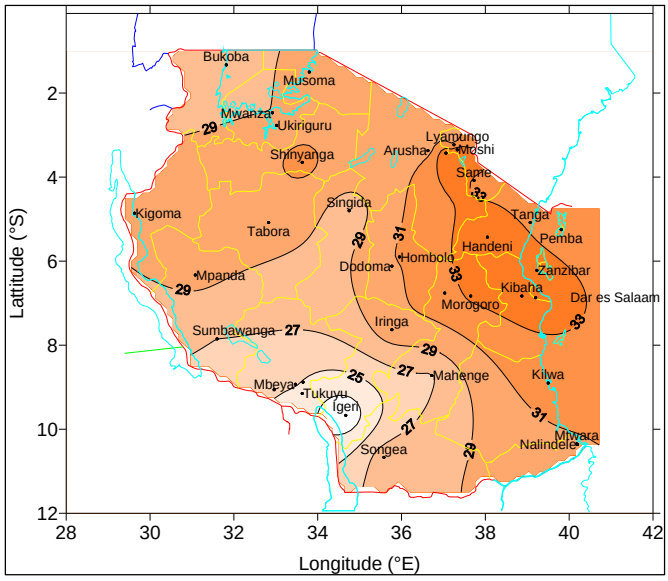

Figure 2A: February 2013 Mean maximum temperature (°C)

Temperatures were relatively high as was evident over almost the whole country during the month, with the lowest observed values obtained over Igeri in the southwestern highlands, as indicated in Figs 2A and 2B.

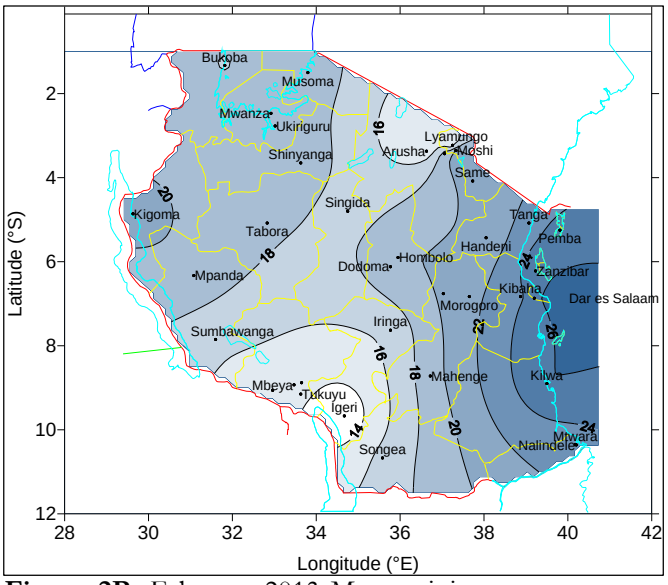

Figure 2B: February 2013 Mean minimum temperature (°C)

The mean minimum air temperatures ranged from 14 °C to 26°C, whereby the lowest absolute minimum temperature was 12.3°C recorded at Igeri during the first dekad of the month, while the highest absolute minimum was 26.2°C recorded at DIA during the second dekad of February 2013.

MEAN SUNSHINE DURATION

Sunshine durations across the country during the month of February 2013 ranged from about 2 hrs per day as the shortest duration observed around Igeri to

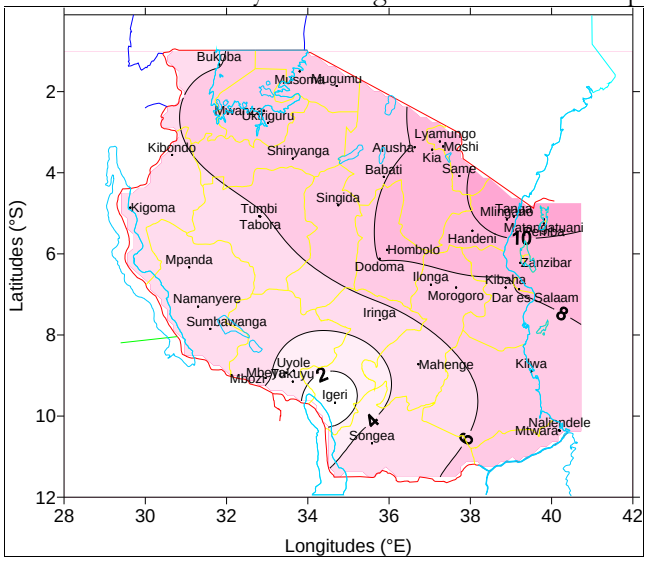

Figure 3: February 2013 Mean sunshine hours (hrs/day)

about 10 hrs per day as recorded over Tanga in the northern coast areas of the country as shown in Figure 3.

MEAN WIND SPEED

Mean wind speed during the month of February 2013, ranged from 2 to 13 km/hr across the country. The highest wind speed was 13.0 km/hr recorded over Same during the second dekad, while the lowest wind speed value was 2 km/hr obtained over Tabora and Songea during February, as depicted in Figure 4.

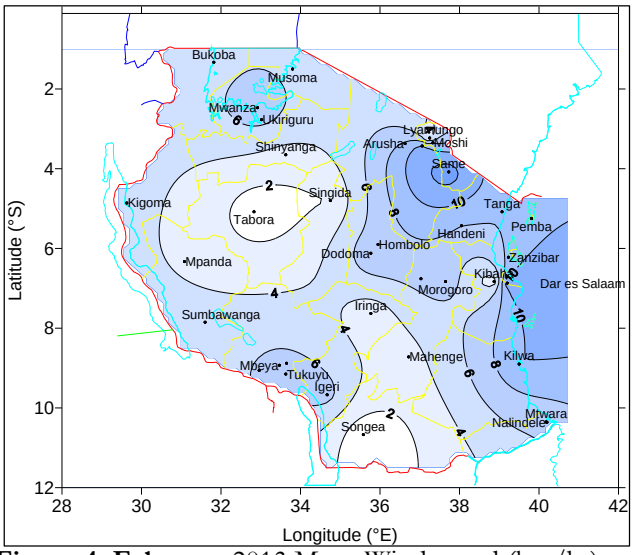

Figure 4: February 2013 Mean Wind speed (km/hr)

AGROMETEOROLOGICAL SUMMARY

Soil moisture deficit was experienced over much of the country thus impeding crop growth and development as reported during the month mainly over central (Dodoma, Singida, and Tabora) and southern coast (Lindi, and Mtwara), and parts of Morogoro region. On the other hand over Sumbawanga, Mpanda, Tunduru and Newala districts in the unimodal sector crops between advanced vegetative to near maturity stages were in moderate state. Over bimodal areas northeastern highlands, northern coast, and Lake Victoria basin declining trends of moisture during February is a normal transition from short to long rain "*Masika*" crop in early March.

Pastures and water availability for livestock and wildlife have widely improved over much of the country.

AGROMETEOROLOGICAL OUTLOOK

Expected levels of soil moisture at normal to above normal over unimodal sector during March will be beneficial to field crops at various growth and development stages, whereas the soil moisture deficit expected over bimodal areas during the period will be for establishment *Masika* crop.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, dams and river flow discharges including their respective catchments are likely to improve from current levels during the month of March.

ENVIRONMENTAL SUMMARY

Temperatures over most areas of the country were relatively high mainly towards the end of the month, causing discomfort over some areas mainly of the coastal belt.

EXPECTED SYNOPTIC SITUATION DURING MARCH 2013

For the month of March, 2013 low level convergence systems are expected to dominate in SWIO due to warming (above average) of the sea surface temperature (SSTs) close to Tanzania coastal strip, while the central Indian Ocean is expected to experience cooling (below average) SSTs. Likewise, moderate low level convergence systems are expected to dominate over the surrounding countries of Democratic Republic of Congo, Malawi, Zambia and northern Mozambique, thus enhancing rainfall distribution in most parts of the country. The southern hemisphere high pressure systems are expected to intensify slightly during the period, while their counterparts to the northern hemisphere slightly relaxing. This move will strengthen the convergence zone over most part of the country.

EXPECTED WEATHER DURING *MARCH* 2013

During the month of March, many parts of the country are expected o feature normal (adequate) rains.

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