TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- soil moisture experienced over much of the unimodal sector during the month enhancing crop development between vegetative and full ripeness stages
- Severe soil moisture stress hampered mainly late grown crops over northeastern highlands and northern coast in the bimodal sector.
- Long dry spells threatening central areas before improved to flash floods destroying several acres of crops as over Singida.

SYNOPTIC SITUATIONS

Observations showed that moderate low level low systems dominated much of the southwestern Indian Ocean(SWIO). Three tropical storms developed during the period, one of them developed into a tropical cyclone FELLENG. Mascarene high pressure systems shifted south-eastwards and remained relaxed during much of the month of January 2013. In the northern hemisphere, the Azores and Siberia pressure systems demonstrated steady intensification. A semi-permanent anticyclonic circulation was positioned in western Indian Ocean off Somalia steering maritime/continental northerlies into much of the eastern half of the country. The Inter-Tropical Convergence Zone (ITCZ) was observed over southern parts of the country.

WEATHER SUMMARY

RAINFALL

During the month of January 2013, much of bimodal areas; the Lake Victoria basin, northern coast and north eastern highlands experienced below normal associated with longer dry spells as shown in Figure 1a and 1b. On the other hand, much of southern coast and southern regions recorded above normal rainfall. The highest amount of rainfall during the month was recorded at Mtwara Airport 505.5 mm, followed by Naliendele 379.5 mm, Songea 281.5 mm, Singida 235.4 mm, Mahenge 210.6 mm, and Kilwa 206.0 mm.

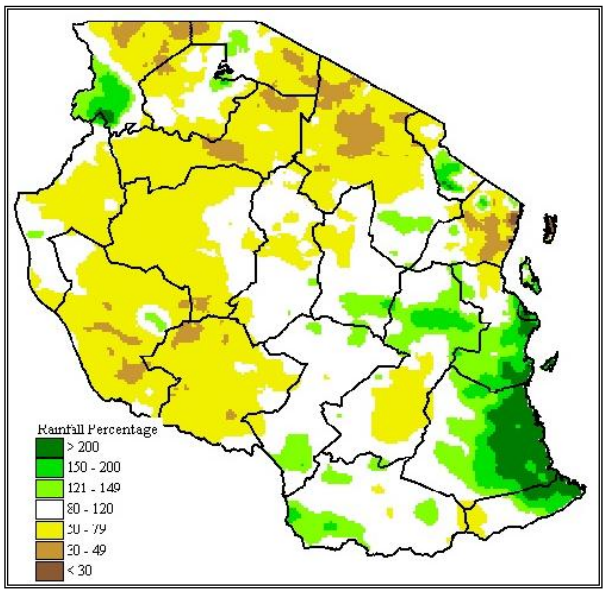

Figure 1a: *Percentage of average rainfall for 1st to 31st January 2013 as depicted by the Geospatial Water requirement Satisfaction Index (GeoWRSI) model with Improved Rainfall Estimates from Satellite Rainfall Estimates (RFE) and gauge data from Tanzania rainfall stations networks.*

Stations that recorded between 100 mm and 200 mm were Igeri 192.1 mm, Ilonga 192.0 mm, Iringa 163.3 mm, Tukuyu 158.7 mm, Morogoro 136.8 mm, Mbozi 135.0 mm, Kigoma 134.8 mm, Dodom 132.1 MM, Hombolo 128.4 mm, Kibaha 119.5 mm, Uyole 119.3 mm, Tabora 119.2 mm, Babati 116.8 mm, Mbeya 116.0 mm, Mpanda 107.9 mm and Mwanza 105.4 mm. Remaining stations recorded rainfall below 100 mm as depicted in Figure 1b below.

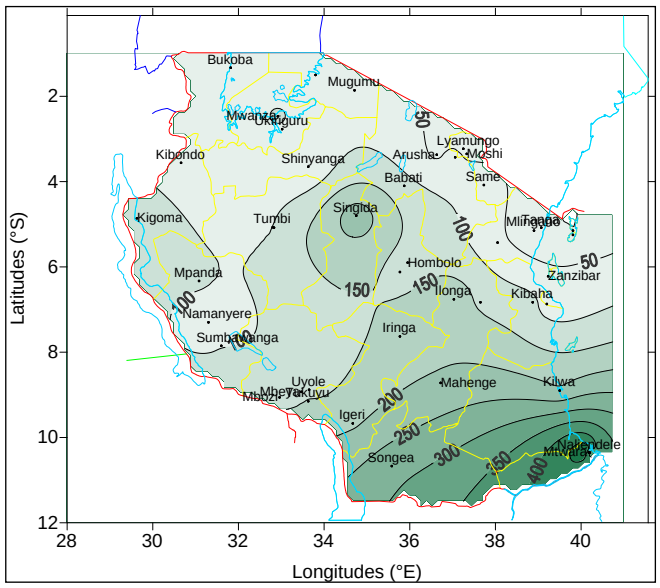

Figure 1b: January 2013 Rainfall distribution in (mm)

MEAN AIR TEMPERATURE

Mean maximum temperature during the month ranged between 20.6ºC and 33.7ºC as indicated in Figure 2A below. The highest absolute maximum temperature of 34.8°C was observed at Moshi during the third dekad of the month. The lowest absolute maximum temperature was 20.0 °C observed during the first dekad of the month over Igeri in the southwestern highlands.

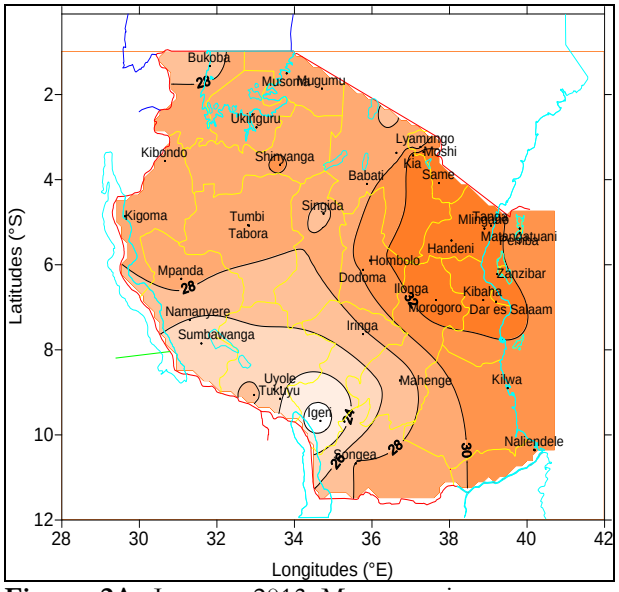

Figure 2A: January 2013 Mean maximum temperature (°C)

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.

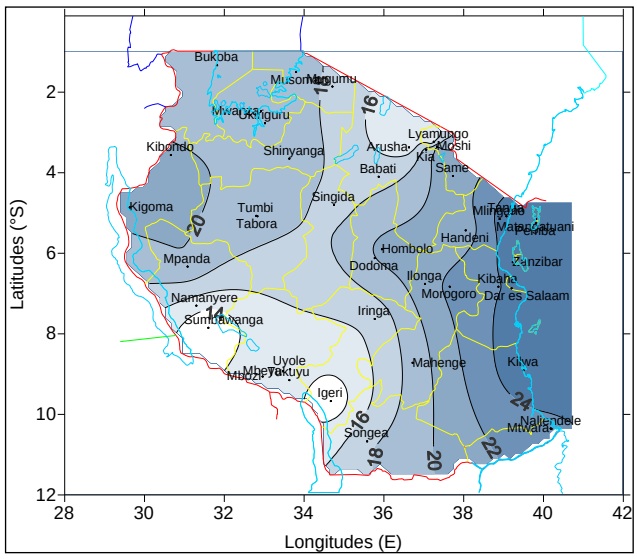

Figure 2B: January 2013 Mean minimum temperature (°C)

The mean minimum air temperatures ranged from 12.5 ºC to 25.5ºC, 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 26.0°C recorded at Kilwa during the third dekad of January 2013.

MEAN SUNSHINE DURATION

Sunshine durations across the country during the month of January 2013 ranged from about 2 hrs per day as the shortest duration observed around Igeri to about 12 hrs per day as recorded over Tanga in the northern coast areas of the country as shown in Figure 3.

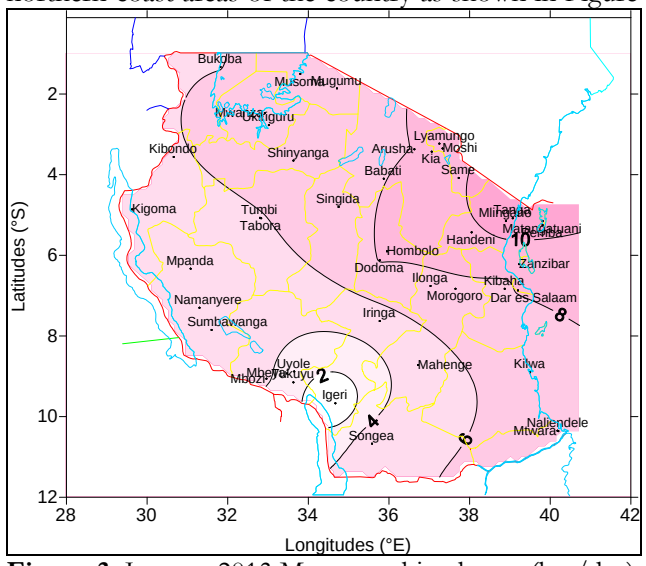

Figure 3: January 2013 Mean sunshine hours (hrs/day)

MEAN WIND SPEED

Mean wind speed during the month of January 2013, ranged from 1 to 12km/hr across the country. The highest wind speed was 12.8 km/hr recorded over Same in the second dekad, while the lowest wind speed value was 0.9 km/hr obtained over Tabora and Singida during January, as depicted by Figure 4.

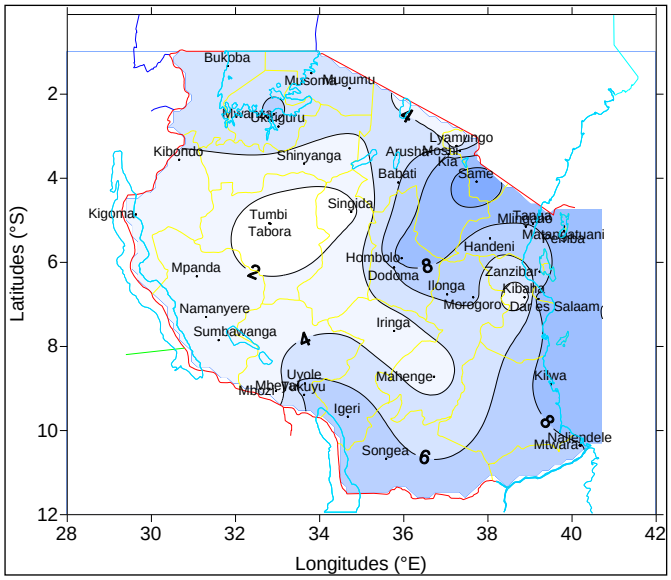

Figure 4: January 2013 Mean Wind speed (km/hr)

AGROMETEOROLOGICAL SUMMARY

Favorable soil moisture was experienced over much of the unimodal sector during the month enhancing crop development between vegetative and full ripeness stages, unlike northeastern highlands and northern coast in the bimodal sector where soil moisture stress severely hampered most late grown crops. Likewise, long dry spells during early January threatened central areas of Dodoma and Singida but later improved and resulted to flash floods that widely destroyed several acres of onion crop in Singida towards the end of the month. However, the early planted crops largely maize and beans over parts of Lake Victoria basin particularly Kagera, Mara and Mwanza regions performed fairly well, except for a few areas in the region such as parts of northeastern highlands and northern coast where the *Vuli* season depicted failures. As such farmers mainly those over parts of Lyamungu, Moshi and Same in Kilimnjaro region, as well as those over Handeni in Tanga region were compelled to go for earlier preparations for the next season, *Masika* that normally starts in March. On the other hand soil moisture supply was beneficial over much of the unimodal sector with higher levels observed over the southern coast mainly Lindi and Mtwara regions. Pastures and water availability for livestock and wildlife have widely improved over much of the country.

AGROMETEOROLOGICAL OUTLOOK

Expected levels of soil moisture resulted from normal to above normal rains during February over unimodal sector will be beneficial to field crops at various growth and development stages, whereas the soil moisture deficit expected over bimodal areas is normal for the period and will enhance drying of crops at harvesting maturity.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, dams and river flow discharges including their respective catchments have improved much during the month of January

ENVIRONMENTAL SUMMARY

Temperatures over most areas in the country were relatively high mainly towards the end of the month, causing uncomfortable conditions over some areas mainly coastal regions.

EXPECTED SYNOPTIC SITUATION DURING FEBRUARY 2013

For the month of February 2013, low level convergence systems are expected to dominate much of SWIO. Moderate low level convergence systems are expected to dominate over surrounding countries of Democratic Republic of Congo, Malawi, Zambia and northern Mozambique and thus enhance rainfall distribution in much parts of unimodal areas. Mascarene high pressure system is expected to gain latitude and remain relaxed during the period. Their counterpart to the northern hemisphere is expected to continue intensifying. This move will strengthen northerlies over much of northern Tanzania.

EXPECTED WEATHER SITUATION DURING FEBRUARY 2013

During this month, adequate seasonal rains are expected to feature in western, central, south western highlands and southern areas to the level of normal to above normal category. The Lake Victoria basin, northeastern highlands, northern coast and Zanzibar are expected to observe mainly dry conditions.