TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- The rainfall experienced during the month of February over unimodal areas was favorable for crop and pasture development.
- Farmers over the bimodal areas are advised to finalize land preparations and acquisition of farm inputs and start planting as soon as the soil moisture is sufficient to support seed germination

SYNOPTIC SITUATION

During the month of February 2014, the high pressure systems in northern hemisphere continued intensifying while those in the southern hemisphere remained relaxed. Significant weakening of East African ridge was observed which resulted into zonal arm of the Inter Tropical Convergence Zone (ITCZ) to reach its extreme position in the southern hemisphere. Slight cool Sea Surface Temperatures (SSTs) were observed over the Somali coast where as neutral to slight warm SSTs were observed over Tanzanian coast during the month. A series of Tropical Depressions formed over the western Indian Ocean and caused less moisture influx from north-easterly and easterly winds over the area. However, slight cooling in the Atlantic Ocean near Angola and Namibian coasts contributed the maintenance of the Meridional arm of the ICTZ and westerly wind anomalies over most parts of the country.

WEATHER SUMMARY

RAINFALL

As a result of the above synoptic situation, most of unimodal areas experienced enhanced seasonal rains during the month and periods of heavy rainfall and strong winds at times. The bimodal areas experienced mainly seasonal dry conditions. However, significant off-seasonal rains were observed in some parts of the bi-modal areas of the country, particularly north-eastern highlands. As shown in Figure 1a, the highest amount of rainfall during the month was recorded at Mbeya (363.7 mm), followed by Mahenge (346.6 mm), Mtwara (304.6 mm), Naliendele (295.3 mm, Uyole (192.3 mm), Same (190.0 mm), Tukuyu (189.3 mm), Kilwa (184.9 mm), Arusha (182 mm), Songea (171.7 mm), Igeri (171.5 mm), Mpanda (153.9 mm), Mbozi (149.6 mm), Tumbi (139.0 mm), Moshi (134.9 mm), Iringa (134.1 mm), Tabora (132.8 mm), Singida (105.7 mm), Zanzibar (104.4) and Handeni (103.0mm). The remaining areas received rainfall totals below 100 mm during the month. Figure 1b also shows Satellite Rainfall Estimates (RFE) merged with gauge data from Tanzania rainfall stations network as percentage of long-term average rainfall obtained during the month. As depicted from the diagram, some of the unimodal areas received above normal rains.

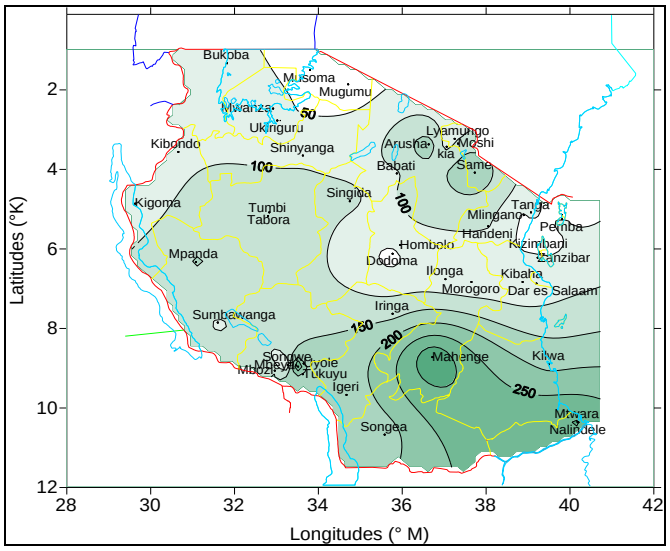

Fig. 1a: February, 2014 total rainfall distribution in millimeters

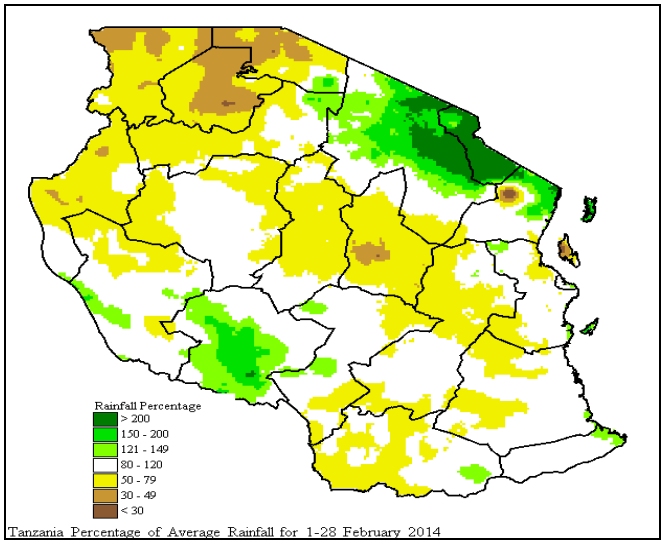

Figure 1b: Satellite Rainfall Estimates (GeoWRSI) merged with gauge data from Tanzania rainfall stations network showing percentage of long-term average rainfall.

MEAN AIR TEMPERATURE

Mean maximum temperature during the month of February, 2014 ranged between 20 ºC and 33ºC as indicated in Figure 2a. The highest absolute maximum temperature was 33.9°C observed at Zanzibar during the first dekad of the month, whereas the lowest absolute maximum temperature was 20.1°C observed over Igeri in the southwestern highlands during the third dekad.

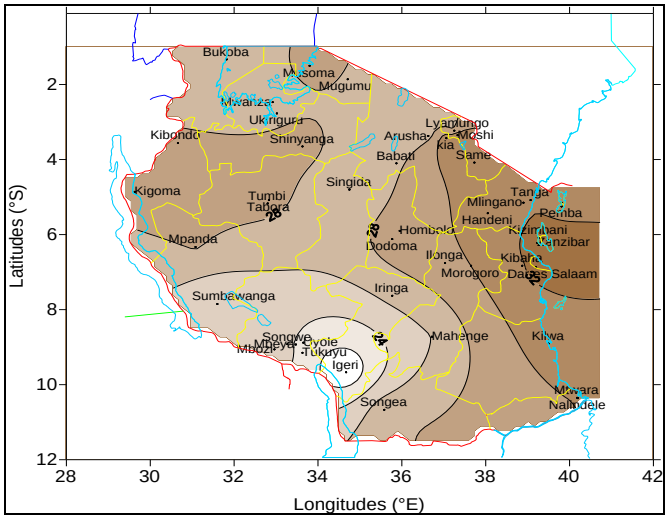

Fig. 2a: February, 2014 mean maximum temperature (°C)

The mean minimum air temperatures ranged between 12ºC and 25ºC as shown in Figure 2b. The highest absolute minimum temperature was 25.5°C recorded at Pemba during the second dekad, while the lowest absolute minimum temperature was 12.1°C recorded at Igeri in the south western highlands during the first dekad of the month.

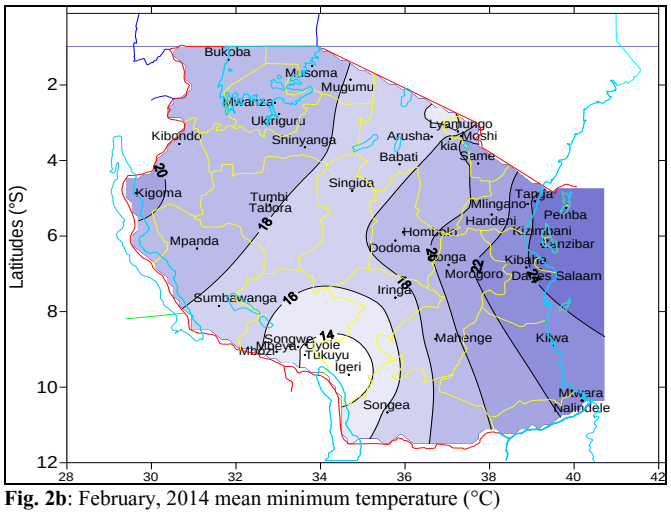

Fig. 2b: February, 2014 mean minimum temperature (°C)

MEAN SUNSHINE HOURS

Sunshine durations across the country during the month of February, 2014 ranged from about 4 hours per day as the shortest duration observed at Igeri to about 9 hours per day as recorded over Iringa in the south-western highlands as shown in Figure 3.

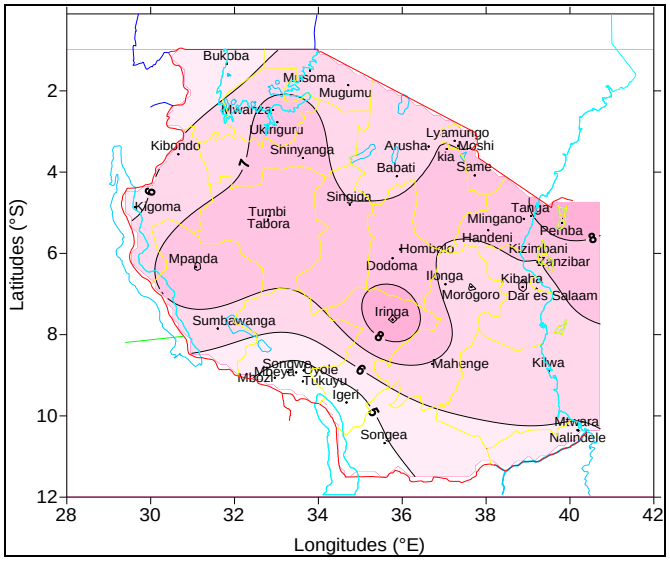

Fig. 3: February, 2014 mean sunshine hours (hrs/day)

MEAN WIND SPEED

Mean wind speed during the month of February 2014, ranged from 1 to 10 km/hr across the country. The highest wind speed was 12.7 km/hr recorded over Same in the third dekad, while the lowest wind speed was nearly 0.27 km/hr recorded over Mahenge during the third dekad of the month, as shown in Figure 4.

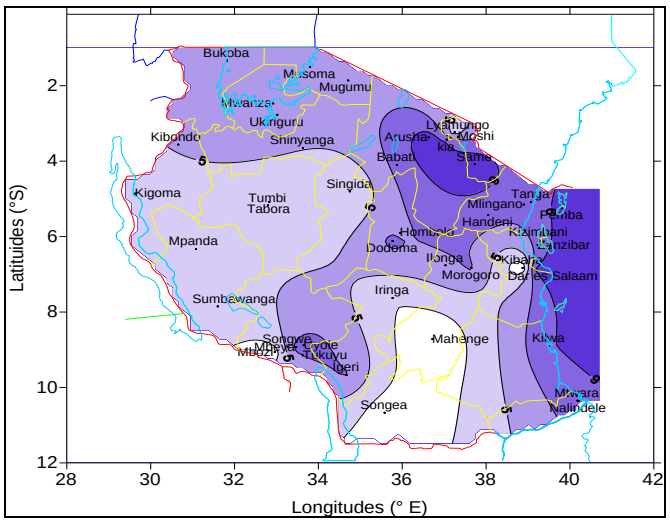

Fig. 4: February, 2014 mean wind speed (km/hr)

AGROMETEOROLOGICAL SUMMARY

During the month of February 2014, the unimodal areas continued to experience seasonal rainfall with good soil moisture, except a few places like central areas where dry conditions were observed throughout the third dekad. The rainfall experienced during the period was favourable for crop growth and development over much of the unimodal areas. Maize crops over the western regions were reported to be between flowering and waxy ripeness while over central regions maize crops were between ninth leaf and tasseling. Over Southern coast and southern region, maize crops were mostly at flowering stage while over south-western highlands crops were reported to be between ninth leaf and tasseling. Generally, crops were reported in good condition except over Mbeya region where maize crops were rated average due to the effect of frequent rains that led to excessive soil moisture conditions. Over the bimodal areas, mainly seasonal dry conditions prevailed over much of the region during the period. The seasonal dry conditions together with the off-seasonal rains observed during the month were favourable for land preparations for *masika* season. Pastures and water availability for livestock and wildlife have improved over much of the country especially in unimodal areas.

HYDROMETEOROLOGICAL SUMMARY

Water levels in dams and river-flows improved significantly over most parts of the unimodal areas due to the ongoing seasonal rains. However, slight improvements were reported over some places bimodal areas of the country due to off-seasonal rains that occurred

ENVIRONMENTAL SUMMARY

During the month of February warmer condition prevailed over much of the country.

EXPECTED SYNOPTIC SITUATION DURING MARCH, 2014

In March, 2014 the high pressure systems in the southern hemisphere are expected to intensify relatively while those in the northern hemisphere systems are expected to relax slightly. With this configuration, the Arabian ridge is expected to relax slightly while the zonal arm of the ITCZ is expected to slightly shift northwards and cover most parts of the country. However, the meridional arm of the ITCZ is likely to move slightly east wards and contribute to slight enhancement of rainfall over western, south-western, southern and central sector of the country. Slight neutral to warm SSTs currently observed over the South Western Indian Ocean closer to Tanzania, are expected to persist along the coast.

EXPECTED WEATHER DURING MARCH, 2014

Lake Victoria Basin (Kagera, Geita, Mwanza, Mara, Simiyu and Shinyanga regions together with northern Kigoma regions): Normal rains are expected. Northern coast (Dar es Salaam, Morogoro and Tanga regions, the isles of Unguja and Pemba): Mainly below normal to near normal rains are expected. North-eastern highlands (Kilimanjaro, Arusha and Manyara regions) and western regions (Kigoma, Rukwa and Tabora regions): Mainly normal rains are expected. Central areas (Dodoma and Singida regions), south-western highlands (Southern Rukwa, Katavi, Njombe, Iringa and Mbeya region) and southern region (Ruvuma region): Normal to above normal rains are expected. Southern Coast (Mtwara and Lindi regions): Normal to below normal rains are expected.

AGROMETEOROLOGICAL OUTLOOK DURING MARCH, 2014

During the month of March 2014, the expected normal to above normal seasonal rains over the unimodal areas will be favorable for crops and pasture development. Where above normal rains are predicted, farmers are advised to take precautionary measures for their safety and farms against soil erosion, flooding and leaching of nutrients. However, timely weeding is recommended to salvage soil moisture and nutrients available for crops. Over the bimodal areas, the predicted rains will be useful for finalizing land preparations and planting *Masika* crops. Farmers over the bimodal areas are advised to finalize land preparations and acquisition of farm inputs and start planting as soon as the soil moisture is sufficient to support seed germination. Farmers are also advised to seek professional advice from their extension officers.

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