TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

Soil moisture improvement was experienced over much of the country during the second and third dekads of the month favoring the adversely affected field crops.

SYNOPTIC SUMMARY

During November 2010, Southern Hemisphere systems (Mascarine and St. Helena anticyclones) relaxed slightly while the Siberian and Azores Anticyclones in the northern hemisphere intensified and extended southwards. The meridional arm of the Inter-tropical Convergence Zone (ITCZ) was active over central and western parts of Africa as the zonal arm remained diffused. La Niña condition (below normal sea surface temperatures) persisted over much of equatorial Pacific Ocean with a maximum cooling reaching around -2ºC. On the contrary, equatorial Sea Surface Temperatures (SSTs) were above average across the Atlantic, southeastern Indian and far western Pacific Oceans. The area covering central to western Indian Ocean experienced near neutral SSTs conditions.

WEATHER SUMMARY

RAINFALL

The month of November 2010 observed occasional rains in several parts of the country mainly the greater part of Lake Victoria basin, Central, Western, Southwestern and Southern areas and to a less extent Coastal areas. The highest total rainfall amount for the month was recorded at Zanzibar-169.1mm, followed by Bukoba 118.2mm, Arusha 98.4mm, Ngara 96.7mm, Kigoma 94.5mm, Mlingano 91.6mm, Kibondo 87.1mm, Lyamungo 82.1mm, Tanga 79.4mm, Kilwa 78.4mm, Mwanza 75.2mm, Musoma 72.5mm, Tabora 67.9mm, Hombolo 63.7mm, Kibaha 59.4mm, Moshi 55.7mm and Shinyanga 53.0mm. The rest of the stations recorded rainfall amounts below 50mm, with a smaller potion that received below 10 mm of rainfall for the period as depicted in Figure 1 below.

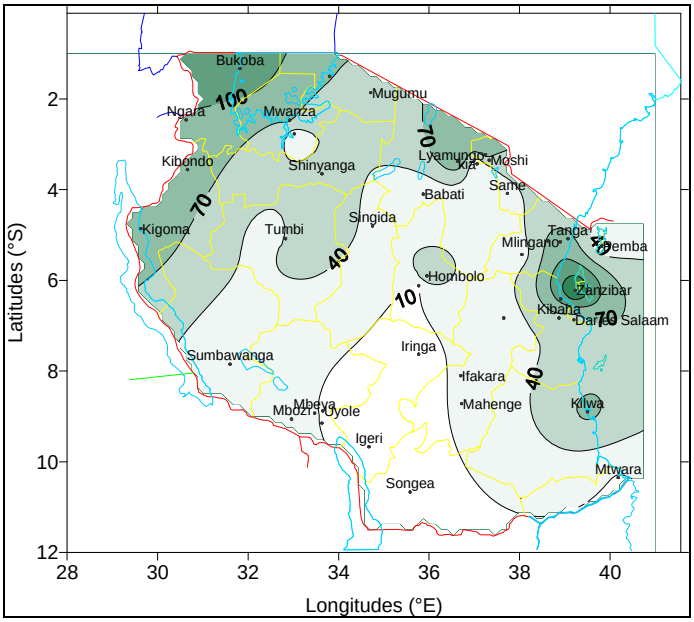

Fig. 1: November 2010 Rainfall distribution in millimeters

MEAN AIR TEMPERATURE

Temperatures were generally warmer during the month indicating warmer than normal season around the country. Over northeastern highlands, coastal region and its hinterlands, central, Shinyanga and Tabora regions, recorded monthly mean

maximum temperatures exceeding 32 ºC as indicated in Figure 2A.

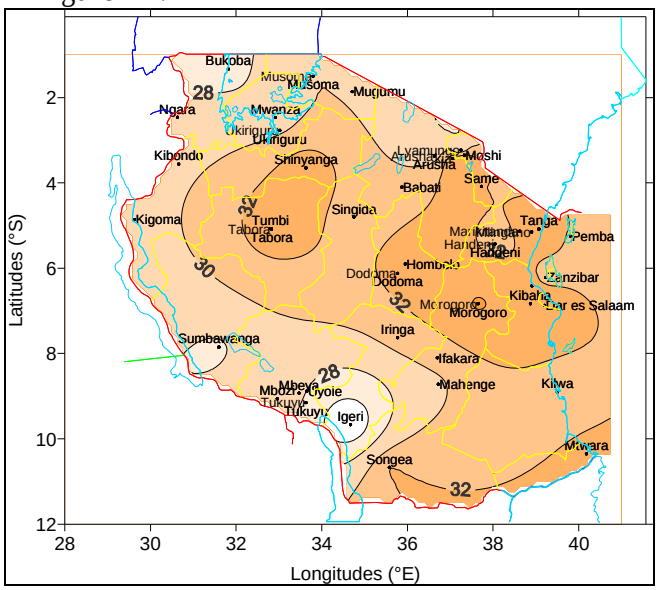

Fig 2A:November 2010 Mean Maximum Temperature (°C)

Mean maximum air temperature values ranged between 23ºC and 33ºC. The highest absolute maximum temperature of 33.7°C was recorded in Morogoro during the first dekad of the month. Igeri over southwestern highlands recorded the lowest maximum temperature of 22.9°C in the second dekad

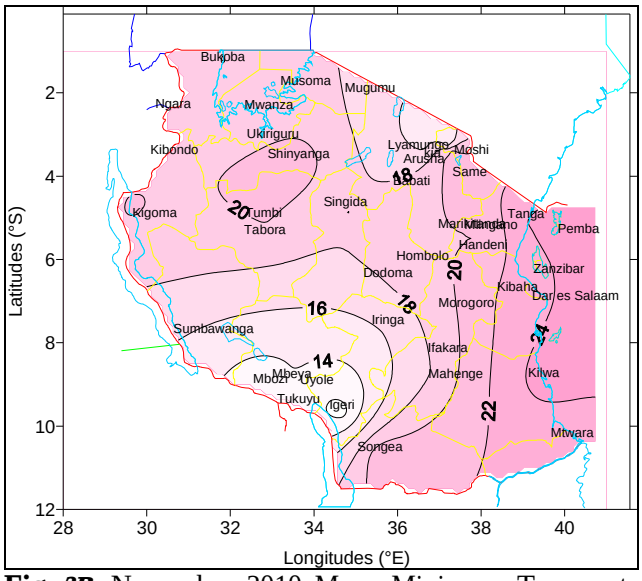

Fig *2B:* November 2010 Mean Minimum Temperature (°C)

Mean minimum air temperatures recorded ranged from 12ºC to 24.0ºC as shown in Fig 2B. The lowest value of mean minimum temperature recorded was 11.3°C at Igeri over the southwestern highlands while the highest value of 25.7 °C was recorded at Kilwa in the southern coast during the third dekad.

MEAN SUNSHINE HOURS

Sunshine duration records across the country during November show that the mean bright sunshine hours ranged from 6 hrs/day over western Lake Victoria basin to about 10 hrs/day over central, coastal and southern coastal areas as shown in Figure 3.

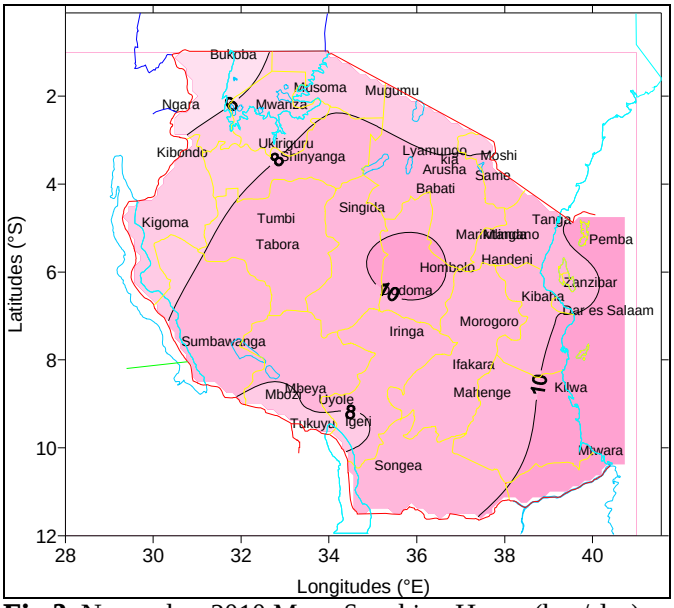

Fig 3: November 2010 Mean Sunshine Hours (hrs/day)

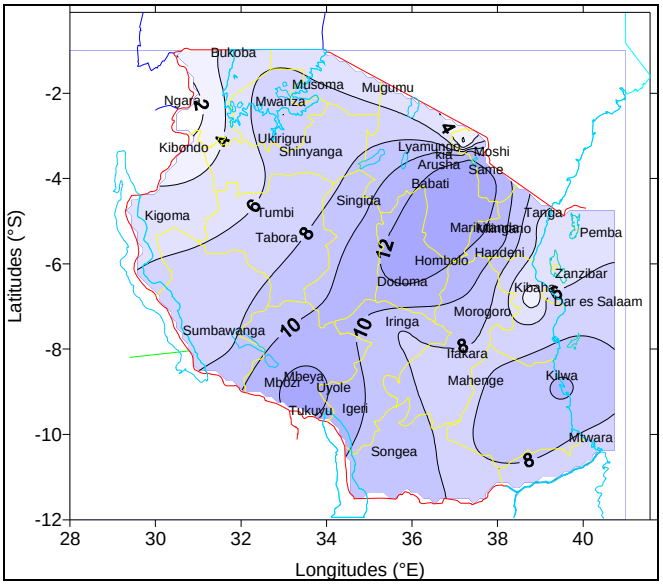

Fig 4: November 2010 Mean wind speed (km/hr)

Mean wind speeds across the country ranged from 2 to 12 km/hr during the month as shown in some parts of southwestern highlands and central areas experienced wind speed exceeding 12 km/hr. Low wind speed of below 2 km/hr was recorded over parts of Lake Victoria basin particularly in Kagera and Kigoma (north) regions.

AGROMETEOROLOGICAL SUMMARY

Soil moisture improvement was experienced over much of the country mainly during the second and third dekads of the month favoring the adversely affected field crops. The situation as well enhanced the impeded field activities such as planting activity that was delayed over most parts mainly the northern coast that experienced quite a longer delay of *Vuli* seasonal onset. As a result replanting of crops was carried out and thus to find maize crop reported at various stages ranging from emergence to tasseling in moderate state as from Lake Victoria basin (Biharamulo, Sengerema, Kibondo, Tarime and Kibondo districts) while beans from budding to flowering stages. Northern coast (Pangani and Handeni districts) reported maize at between emergence to vegetative stages in poor to moderate state. Northerneastern highlands particularly Same district reported maize at emergence stage while Lyamungo and Moshi districts observed only beans at emergence to flowering in good state. Several areas in northeastern highlands like Monduli and Loliondo never responded to the late Vuli as the cropping cycle was already shorten. Over unimodal areas land preparation was progressing accordingly. The wet condition on the other hand improved availability of water and pastures for livestock and wildlife over most of the country.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, dams and river flows have regained due to the moderately prevailed wet season, thus water 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 warmer leading to uncomfortable conditions. The trend is towards warming during the coming month.

EXPECTED SYNOPTIC SITUATION DURING DECEMBER 2010

During the month of December 2010, the Siberian and Azores High as well as the Arabian ridge are expected to intensify further. Intensification of the Siberian High and the associated Arabian ridge are likely to allow northerly to northeasterly wind flow towards the country. The St. Helena and Mascarine highs together with the East African ridge are expected to relax slightly and hence provide room for the rain belt (ITCZ) to migrate southward of the country. The SSTs over the central to eastern equatorial Pacific Ocean are expected to continue to be below normal (La Nina condition) while the tropical western Pacific Ocean and eastern Indian Ocean are expected to be anomalously warm. The SSTs over the western Indian Ocean are expected to be near neutral with the exception of few pockets of slightly below normal SSTs off the coast of Somali. The SSTs over large area of Southern Atlantic Ocean is expected to be slightly below average while northern Atlantic is expected to be slightly above average. La Niña condition is predicted to persist across much of the Pacific Ocean and the maximum cooling is expected to reach -2.0°C. The likely impacts of La Niña include suppressed convection over Central to eastern Tropical Pacific Ocean. Similarly in the Indian Ocean, there is likelihood of enhanced convection over Indonesia and suppressed convection over central and western Indian Ocean. In this regard, less moisture is expected to be injected towards the country as a result of dry northeasterly and weak Easterly wind flow. A slight intensification of Azores High is likely to trigger westerly to northwesterly wind flow towards western and central areas of the country, which are likely to bring moisture over the areas from equatorial Africa and Congo basin.

EXPECTED WEATHER DURING DECEMMBER 2010

Lake Victoria basin (Kagera, Mwanza, Mara and Shinyanga regions): is likely to feature normal rainfall with scattered thunderstorms.
Western regions (Kigoma, northern Rukwa and Tabora regions): are likely to feature normal rainfall with scattered thunderstorms. Southwestern highlands (southern Rukwa, Iringa and Mbeya regions): are likely to feature normal rainfall with scattered thunderstorms.
Northern coast (Dar es Salaam and Tanga regions, the Isles of Zanzibar and Pemba): is likely to feature below normal rainfall. Central areas (Dodoma and Singida regions): is likely to feature normal rainfall with scattered thunderstorms. Northeastern highlands (Kilimanjaro, Arusha and Manyara regions): is likely to feature below normal rainfall. Southern region of Ruvuma is likely to feature normal rainfall with scattered thunderstorms. Southern coast (Mtwara and Lindi regions) is likely to feature below normal rainfall with chances of normal rainfall. There is a possibility of extreme weather events of flash floods mainly in southern regions and escalating dry spells in northern coast and north eastern highlands within the forecasted period.

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