TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

ISSN No: 0856-0919, Volume 12 Issue 1 January, 2011

HIGHLIGHTS

- Favorable soil moisture supply was experienced over much of the country during January particularly in the unimodal sector.
- Delayed planting and related field activities in several parts of southern regions (Lindi, Mtwara, Ruvuma and Morogoro south (Ilonga and Ifakara) due to soil moisture deficit.

SYNOPTIC SUMMARY

During January 2011, the southern hemisphere systems (Mascarine and St. Helena Highs) generally remained slightly strong but were confined further south while the Siberian high and the Arabian ridge in the northern hemisphere continued to intensify and extended towards the northern parts of the country. The Azores high on the other hand intensified gradually; as a result the Inter-Tropical Convergence Zone (ITCZ) was forced to move further southwards away from Tanzania. La Niña condition (below normal sea surface temperatures) continued to persist over much of Equatorial Pacific Ocean with at least 1.0°C below average. However, pockets of more than 2.0°C below average temperatures were observed in some areas. Equatorial Sea Surface Temperatures (SSTs) were above average across much of Atlantic, Western Indian Ocean (along the East African coast) and Indonesia, but was below average along central Indian Ocean. Well above average SSTs of up to 2.0°C was observed along the Mozambique Channel extending to the southern and south eastern parts of Madagascar, enhancing activities over those areas and leaving most parts of Tanzania with suppressed development. Weak low level north-easterly wind flow was observed to dominate over most parts of the country, with the exception of south eastern sector of the country where north westerly flow was observed.

RAINFALL SUMMARY

The month of January 2011 observed a wide spread of scattered rains across the country with much concentration over unimodal sector (central, western, southwestern, and southern areas).

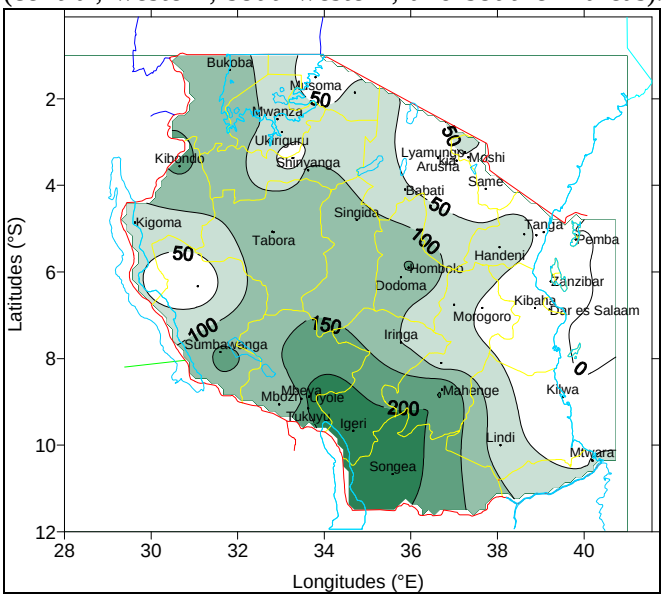

Fig. 1: January 2011 Rainfall distribution in millimeters

The highest total rainfall amount for the month was recorded at Uyole 234.7 mm, followed by Songea 227.8 mm, Igeri 205.4 mm, Mahenge 203.4 mm, Tukuyu 203.4 mm, Hombolo 161.6 mm, Kibondo 161.4 mm, Sumbawanga 160.9 mm, Tabora 148.4 mm, Mbeya 134.6mm, Bukoba 126.7mm, Shinyanga 116.3mm, Dodoma 115.0mm, Mbozi 112.4mm, and

Singida 112.4 mm. The rest of the stations from sample stations including northeastern highlands and the coastal belt obtained lower amounts of rainfall (not exceeding 50 mm) for the period as shown in Figure 1.

MEAN AIR TEMPERATURE

Temperatures were generally warm during the month indicating warm season around the country. Over northeastern highlands and coastal regions recorded monthly mean maximum temperatures exceeded 32 ºC as indicated in Figure 2A.

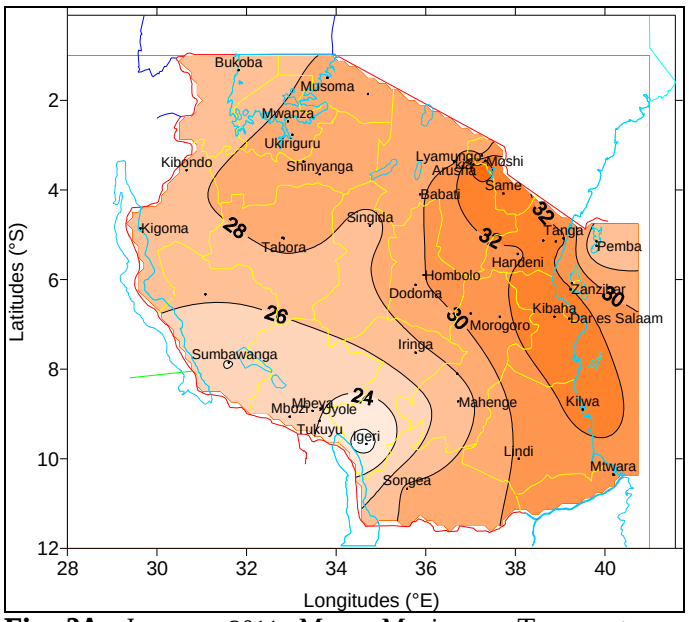

Fig 2A: January 2011 Mean Maximum Temperature (°C)

Mean maximum air temperature values ranged between 22ºC and 32ºC. The highest absolute maximum temperature of 35.4°C was recorded during the third dekad of the month at KIA. Igeri over southwestern highlands recorded the lowest daily value in the second dekad with a maximum temperature of 21.0°C.

Mean minimum air temperatures recorded ranged from 14ºC to 26.0ºC as shown in Fig 2B. The lowest value of mean minimum temperature recorded was 12.0°C at Igeri (southwestern highlands) while, the highest value of 25.7°C was observed at Kilwa (southern coast) during the third dekad.

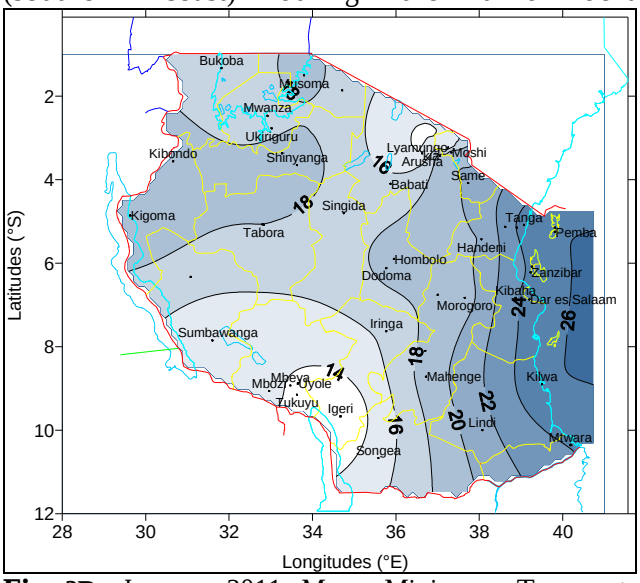

Fig 2B: January 2011 Mean Minimum Temperature (°C)

MEAN SUNSHINE HOURS

Sunshine duration records across the country during January show that the mean bright sunshine hours ranged from 4 hrs/day over southern region to about 10 hrs/day over southern-coast areas as shown in Figure 3.

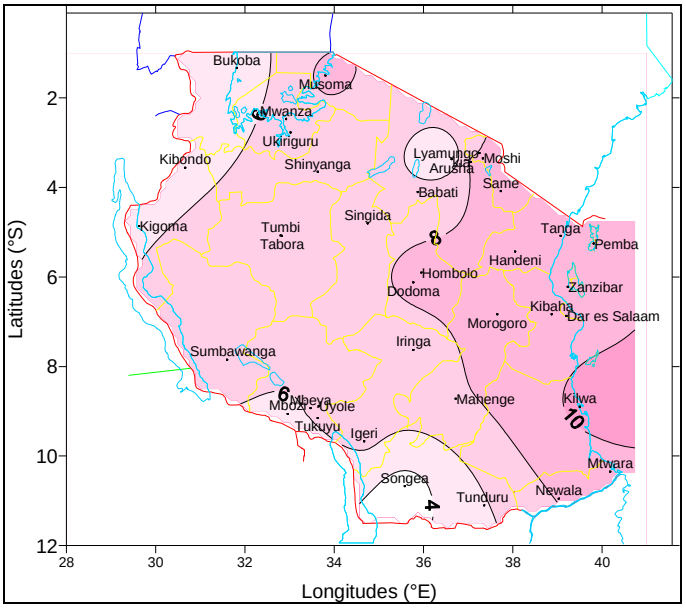

Fig 3: January 2011 Mean Sunshine Hours (hrs/day)

MEAN WIND SPEED

Mean wind speeds across the country ranged from 4 to 14 km/hr during the month. High wind speed of above 14 km/hr was recorded over parts of northeastern highlands (Kilimanjaro). High wind speed coupled with persistent dry conditions increased surface water losses through evapo-transpiration.

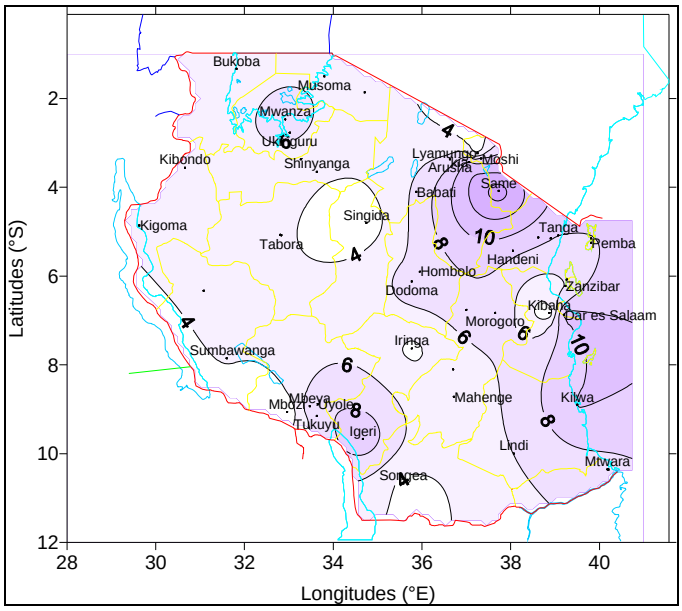

Fig 4: January 2011 Mean wind speed (km/hr)

AGROMETEOROLOGICAL SUMMARY

During January, favorable soil moisture supply was experienced over some parts of unimodal sector, though inadequate soil moisture levels experienced in several parts of southern regions of Lindi, Mtwara, Ruvuma and Morogoro south (Ilonga and Ifakara) delayed planting and other related field activities. Generally, maize crop stages in most areas of this sector ranged from emergence to early vegetative, while land preparation and planting beyond normal dates continued in several areas following low soil moisture supply.

In the bimodal sector, the V*uli* season ended with a sad story. It was characterized by wilted maize and beans crops which were observed over some areas due to prolonged dry spells, occasional improved soil moisture in those areas did not revive the impeded crops at stages ranging from vegetative to flowering as was the case over Biharamulo district, Kigoma (north), Pangani, Same and Lyamungo. Northeastern highlands particularly Same district reported permanent wilting on maize, while Lyamungo and Moshi districts observed wilting that occurred on beans crop at emergence to near ripeness stages. Monduli, Loliondo and Simanjiro districts could not utilize the poor *Vuli* season as the cropping cycle was deemed too short to be effective at all.

The moderately wet condition on the other hand improved availability of water and pastures for livestock and wildlife in the country.

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HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes, dams and river flows have not regained much due to inadequate rainfall amounts, thus water for human and industrial usage and hydro-power generation should be used sparingly.

ENVIRONMENTAL SUMMARY

Temperatures over most areas in the country were generally high leading to uncomfortable conditions. The warming trend will persist during February.

EXPECTED SYNOPTIC SITUATION DURING FEBRUARY 2011

During the month of February 2011, the Siberian high with the Arabian ridge and Azores High are expected to remain relatively intense. The St. Helena and Mascarine highs are also expected to remain slightly intense. The pressures along the equatorial Africa, Indian Ocean and Atlantic Ocean are expected to remain relatively below average hence provide room for the rain belt (ITCZ) to remain over the country. The SSTs over the central to eastern equatorial Pacific Ocean are expected to continue to be below normal (La Nina condition) while above average SSTs conditions are expected

over the tropical western Pacific Ocean, and eastern Indian Ocean (around Indonesia). Near neutral equatorial SSTs is expected over the central towards western Indian Ocean. Near to above average SSTs are expected across much of Atlantic Ocean and along Mozambique Channel extending to Madagascar and west of Australia. There is a likelihood of enhanced convection over Indonesia and south western Indian Ocean (South of Madagascar) and suppressed convection over central towards western (East African coast) Indian Ocean. This will lead to less injection of moisture towards the country as a result of dry north easterly and weak easterly wind flow. Weak westerly to north westerly wind flow towards western and central areas of the country are also expected during this period, and hence fewer activities are expected over a large part of the country especially the northern sector.

EXPECTED WEATHER SITUATION DURING FEBRUARY 2011

Lake Victoria Basin (Kagera, Mwanza, Mara and Shinyanga regions) is likely to feature normal to below normal rainfall. Western regions (Kigoma, northern Rukwa and Tabora regions) are likely to feature normal to below normal rainfall.

Northern coast (Dar es Salaam and Tanga regions, the isles of Unguja and Pemba) is likely to feature below normal rainfall. Central areas (Dodoma and Singida regions) are likely to feature normal to below normal rainfall.

Northeastern highlands (Kilimanjaro, Arusha and Manyara regions) are likely to feature below normal rainfall. Southwestern highlands (southern Rukwa, Iringa and Mbeya region) are likely to feature normal rainfall but there are chances of receiving above normal rainfall. Southern region (Ruvuma region) is likely to feature normal rainfall but there are chances of receiving above normal rainfall. Southern coast (Mtwara and Lindi regions) is likely to feature mainly normal rainfall.

There is a possibility of extreme weather events (of for example flash flooding/dry spell) within the forecasted weather category.

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