TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

ISSN No: 0856-0919, Volume 10 Issue 11 November 2008

HIGHLIGHTS

- Late onset and poor spread of short-rain season (*Vuli*) over northern coastal and northeast areas
- Onset seasonal rains.(Msimu) over unimodal rainfall areas.

SYNOPTIC SUMMARY

During the month of November 2008, the southern hemisphere systems, St Helena and Mascarene high pressure cells relaxed while the Siberian high pressure continued to intensify resulting into southward migration of the Inter-Tropical Convergence Zone (ITCZ). However a rise in sea surface temperatures (SSTs) led into low pressure and enhanced convection over the central Indian Ocean causing northeasterly and southeasterly winds to flow towards the area that resulted into continued deprivation of moisture supply to our region and causing rainfall reduction over the coastal belt and northeastern highlands. An active trough over Lake Victoria basin and low level wind convergence continued to maintain near normal rainfall activities over the region. The meridional component of ITCZ continued to be active over some parts of southwestern highlands.

WEATHER SUMMARY

RAINFALL

The rainfall performance during the month of November is as shown in Figure 1. The highest rainfall was recorded at Zanzibar 285.4mm, followed by Sumbawanga 216.6mm, Pangani 208.8mm, Babati 185.9mm, Ukiriguru 162.0mm, Hombolo 149.2mm, Kigoma 146.2mm, Mwanga 143.7mm, Tarime 136.2mm, Singida 134.2mm, Bukoba 119.4mm, Kibaha 117.0mm, Mwanza 115.5mm, Shinyanga 112.5mm, Arusha 112.2mm, Musoma 107.9mm and Meatu 1.05.4mm. The 80mm isohyet line appearing over bimodal areas in northeaster highlands depicts poor spread of *vuli* rains during the period. The 40mm isohyet enclosing central areas indicated persistence of the dry season which is normal for the area during this time of the year.

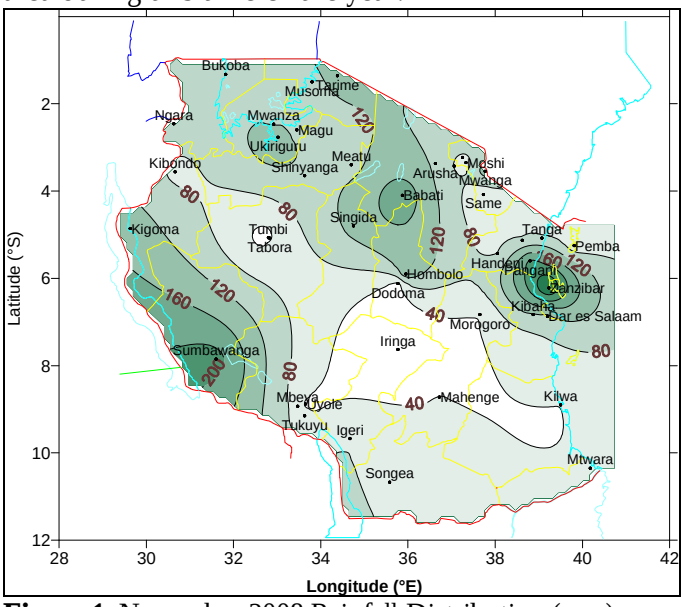

Figure 1: November 2008 Rainfall Distribution (mm)

MEAN AIR TEMPERATURE

Warm temperatures were experienced over much of the country during the month of November indicating the onset of hot season. The mean maximum temperature ranged between just above 32ºC and nearly 25ºC as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 32.4 °C at Morogoro with an absolute highest maximum of about 32.9°C during the second dekad of the month. The lowest mean maximum temperature was about 24.9°C over Sumbawanga. The mean minimum air temperature ranged from just above 14.3ºC to slightly above 25ºC.

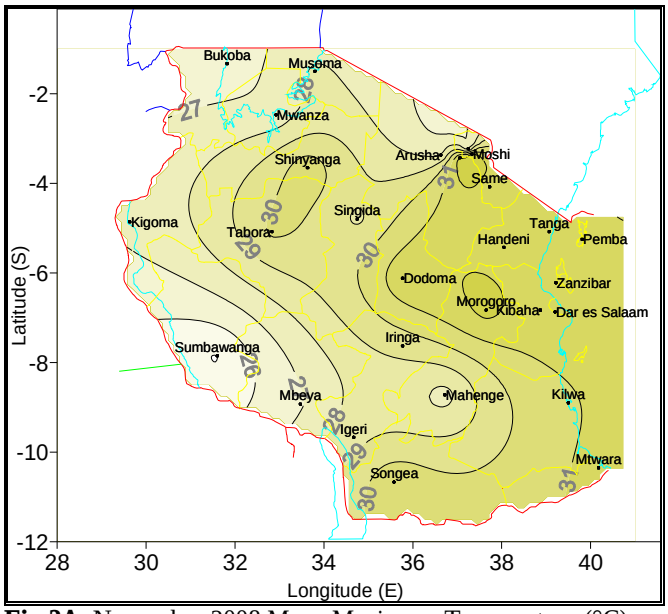

Fig 2A: November 2008 Mean Maximum Temperature (°C)

The lowest value of the mean minimum temperature of about 14.3°C was recorded at Arusha while the highest value of about 25.7°C was observed at Kilwa Masoko in the southern coast as shown in Fig. 2B.

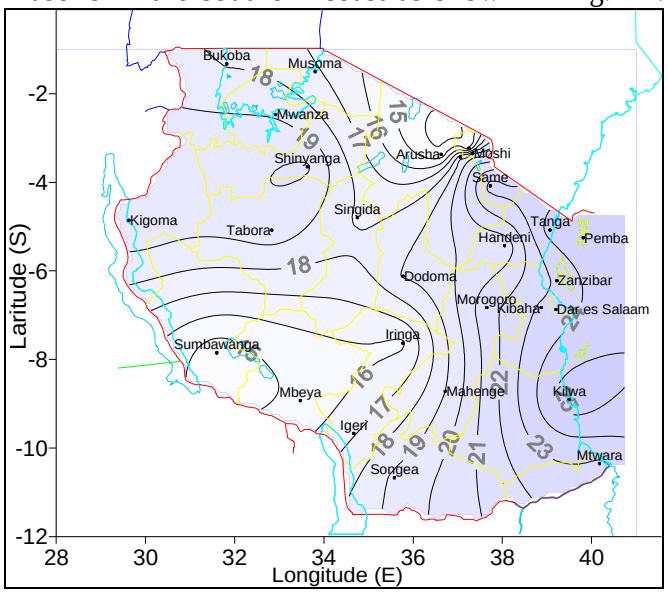

Fig 2B: November 2008 Mean Minimum Temperature (°C)

Arusha also recorded an absolute minimum temperature of about 13.6°C during second dekad of the month.

MEAN SUNSHINE HOURS

Sunshine hours across the country during November indicate that the mean duration of bright sunshine hours ranged from about 3 hrs/day to 9 hrs/day as shown in Figure 3. Long bright sunshine hours (> 9 hrs/day) occurred over parts of southern coast. Cloudy conditions shortened bright sunshine durations to about 3 hrs/day centered over northeastern highlands as depicted from sunshine map in Figure 3 below.

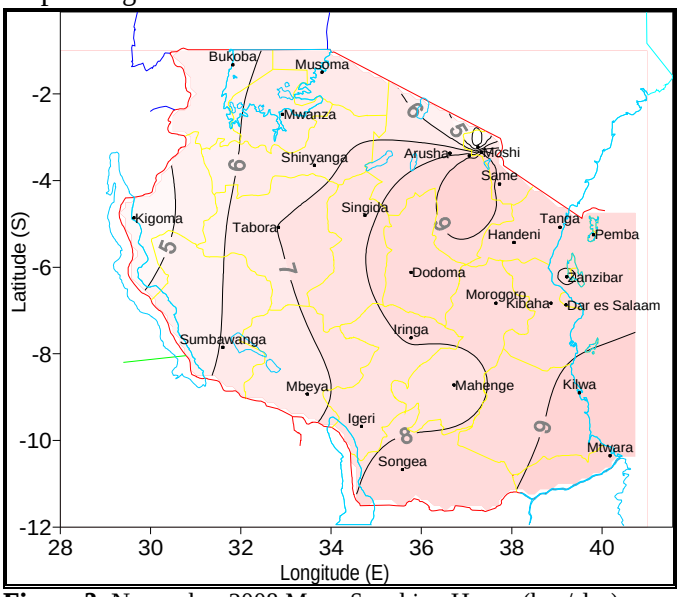

Figure 3: November 2008 Mean Sunshine Hours (hrs/day)

MEAN WIND SPEED

During the period mean wind speeds across the country ranged between about 1 to 14 km/hr as indicated in Figure 4. Some parts of central and northeastern highlands regions experienced windy conditions that exceeded 14 km/hr. Slight wind conditions with low wind speeds of about 1 km/hr were recorded over most parts of Coast region with Kibaha recording the lowest speed (< 2 km/day). However, increased windy conditions have increased prospects for higher evaporation rates.

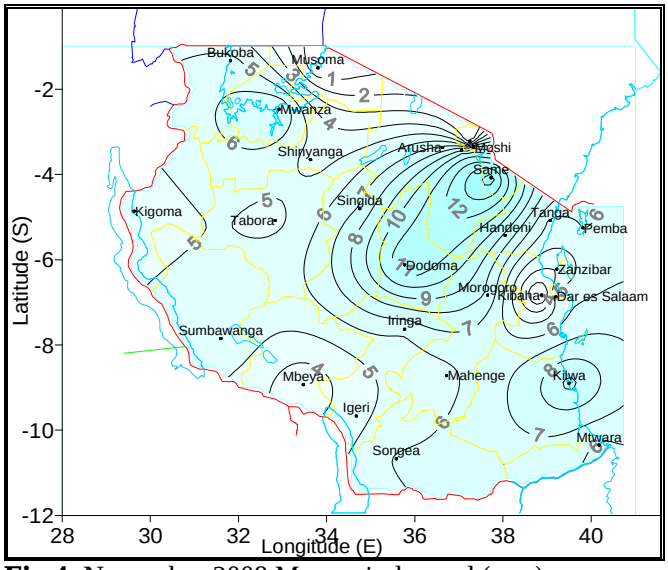

Fig 4: November 2008 Mean wind speed (mm)

SATELLITE INFORMATION

During the period the vegetation level as picked by the NOAA meteorological satellite (as shown in Fig. 5) depicts continued very low NDVI levels over northeastern highlands (Manyara and Arusha regions) a condition that was also predominant over central areas and southwestern highlands. Lake Victoria Basin, western areas and the eastern sector of the country recorded medium to high vegetation levels. Of concern were localized areas over northeastern highlands which at this time of the year should have observed relatively medium level in its vegetation cover.

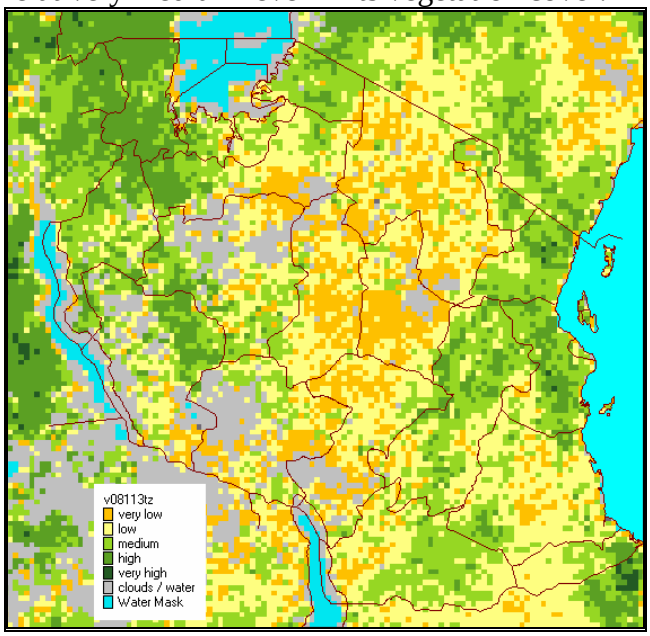

Fig 5: Vegetation for the period of November 21-31, 2008

However, areas over the coastal belt, western, and Lake Victoria Basin indicate medium to high vegetation greening as a result of some replenished soil moisture levels. During December poor vegetation conditions is likely to persist over central regions and parts of northeastern highlands depicting delayed improvement in pasture supply for livestock and wildlife.

AGROMETEOROLOGICAL SMMAURY

During the month of November most areas particularly over bimodal sector (Lake Victoria basin, northeastern highlands, northern coast, Isles of Zanzibar and Pemba) farmers were still engaged in basic field activities like land preparation, planting and first weeding. These activities were still being carried outdue to the poor performance of the season caused mainly by delayed onset of the season and accompanied by uneven distribution of soil moisture

Crops mainly maize and beans at this time of the season normally should be at around the flowering stage and beyond but the actual current observed stages range from emergence to late vegetative stage generally in poor to moderate state.

However, a few pockets particularly in Rombo, Muleba and Tarime districts reported that early planted maize crop was approaching ripeness stage in moderate state.

Over the unimodal sector (central, western, southwestern highlands, southern and southern coast regions) land preparation continued well in some areas while in other areas planting was started following onset of reasonal rains (Msimu)..

Market supply for cassava over several areas of the country dropped slightly. Pastures and water availability for livestock and wildlife over northeastern highlands and much of unimodal rainfall generally declined.

HYDROMETEOROLOGICAL SUMMARY

Seasonal rains that have just started over bimodal areas are anticipated to boost water levels in lakes and dams, and river discharges. Nevertheless water for domestic and industrial purposes should be used sparingly.

ENVIRONMENTAL SUMMARY

Warm temperatures are anticipated to increase over most parts of the country during December. However, dry and windy conditions over the central areas are likely to decrease and thus reducing prospects for diseases such as coughs, colds, pneumonia and asthma.

EXPECTED SYNOPTIC SITUATION DURING DECEMBER 2008

During the month of December 2008, the southern hemisphere systems (the St. Helena and the Mascarene anticyclones) are expected to continue relaxing, whereas the Azores and Siberian anticyclones in the northern hemisphere will continue to intensify. The current slight warming SSTs condition over the West Indian Ocean is expected to persist. Northeasterly to easterly low level convergence associated with influx of moisture from the Indian Ocean is expected to enhance rainfall over the southwestern and southern sectors of the country.

EXPECTED WEATHER SITUATION DURING DECEMBER 2008

The Lake Victoria basin (Kagera, Mwanza, and Mara and Shinyanga regions) and western areas are expected to feature partly cloudy to cloudy conditions with showers and thunderstorms. The northern coast and hinterlands (Dar es Salaam, Pwani, Tanga and Morogoro regions, Islands of Zanzibar and Pemba) and northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to feature partly cloudy conditions with isolated showers. Central areas (Dodoma and Singida regions), southwestern highlands (Iringa, Rukwa and Mbeya regions), southern areas (Ruvuma region and Mahenge in southern Morogoro region) are expected to experience cloudy conditions with thundery showers over areas. Southern coast (Lindi and Mtwara regions) is expected to feature partly cloudy conditions, showers and thunderstorms over some areas.

Prepared by
TANZANIA METEOROLOGICAL AGENCY
3rd, 4th & 10 th Floors - Ubungo Plaza – Morogoro Road.
P.O. Box 3056 Tel. 255 -(0) 22 – 2460706-8 ; Fax: 255 - (0) 22 – 2460718 E-mail: (1) met@meteo.go.tz (2) agromet1_tz@meteo.go.tz
Dar es Salaam UNITED REPUBLIC OF TANZANIA