TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Gust winds associated with showers were reported over localized areas in Sumbawanga district (Lwiche and Sumbawanga divisions) where about 133 houses and trees were damaged.
- Over two villages in Kasulu district (Bukuba and Buhimanyi) in Kigoma region a hailstorm caused damage to crops and other properties

SYNOPTIC SUMMARY

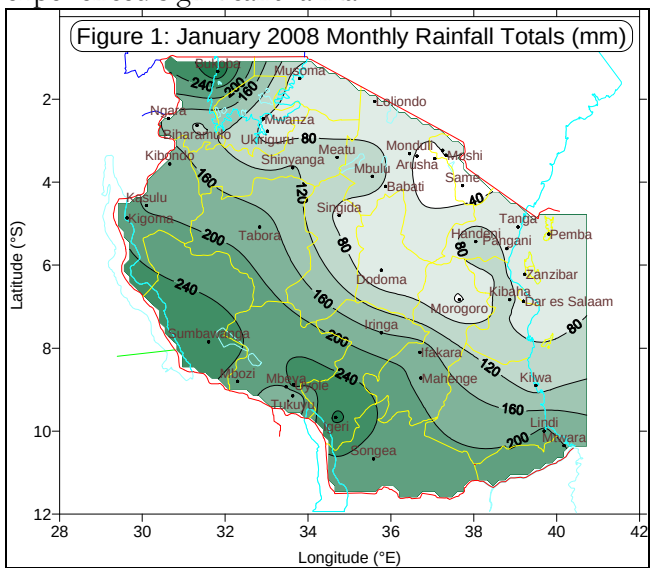
During January, the Arabian ridge was more pronounced over the northwest Indian Ocean, leading to northeasterly winds dominating over northern coast. The development of the tropical depression *Gula* over north of Madagascar enhanced thundershowers mostly over western areas, southwestern highlands, southern region and southern coast. The southern hemisphere systems (the St. Helena and Mascarene highs and East African ridge) were relaxed. The northern hemisphere systems (the Azores and Siberian anticyclones together with Arabian ridge) were relatively intense, allowing the Inter-Tropical Convergence Zone (ITCZ) to maintain its position further south.

WEATHER SUMMARY

RAINFALL

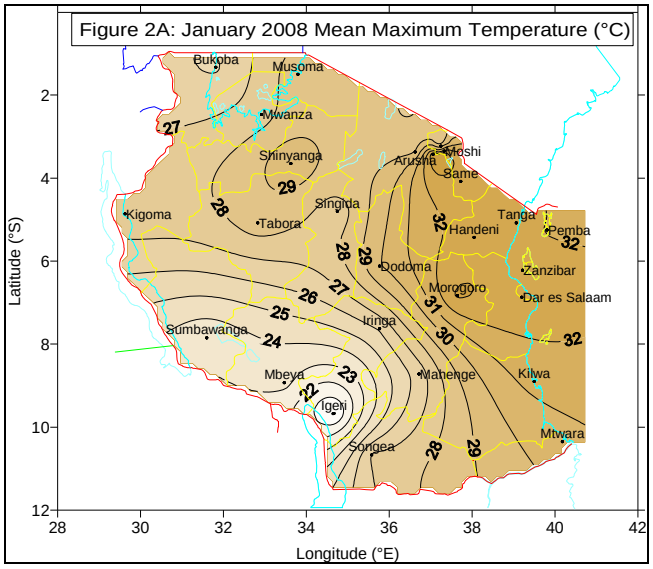
During January, seasonal rains (*Msimu*) covered much of the unimodal rainfall areas where most of the stations reported monthly rainfall which exceeded 120 mm as shown in Figure 1.

Significant rainfall was observed over much of the western, southwestern highlands and southern regions where the highest amount reported was 290.1 mm at Igeri, followed by Sumbawanga 265.5 mm, Uyole 263.2 mm, Kigoma 234.7 mm, Songea 216.6 mm, Lindi 206.7, and Mtwara 200.4 mm. Elsewhere in the country reported rainfall was between 120 and 200 mm. Some areas in the Lake Victoria basin and northeastern highlands of the bimodal rainfall pattern were the only areas which experienced significant rainfall.

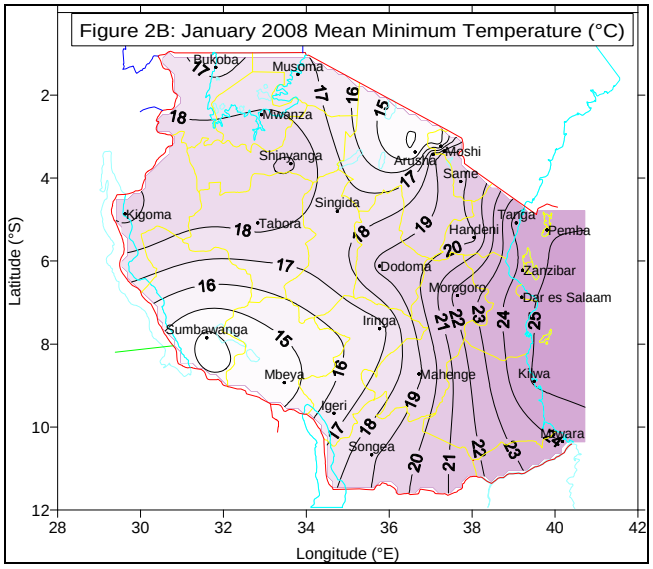


MEAN AIR TEMPERATURE

Temperatures were high during the month as indicated by the spatial mean maximum and minimum values in Figs. 2A and 2B respectively. The mean maximum temperature ranged between just above 32 °C and below 21 °C as indicated in Figure 2A. The highest mean maximum temperature recorded during the month was about 33.2 °C at Dar es Salaam station with the absolute maximum of 34.5 °C recorded at Kilimanjaro International Airport (KIA) during the first dekad of the month.



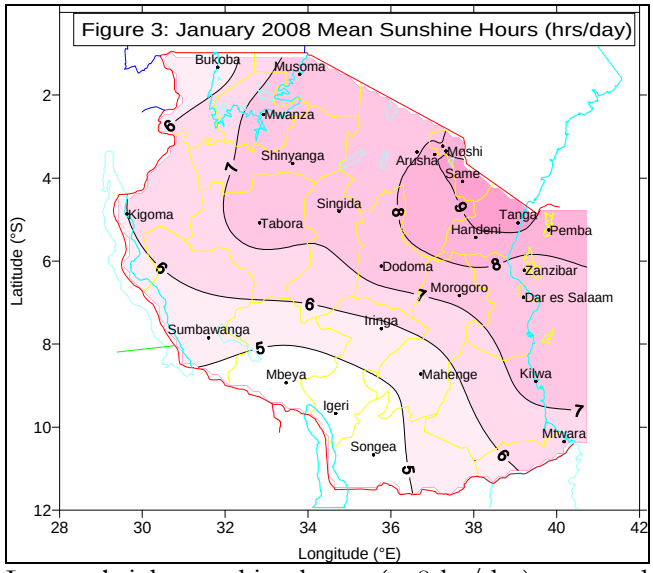
The lowest mean maximum temperature was about 21 °C over Igeri in the southwestern highlands.



The mean minimum air temperature ranged from just below 14 °C to slightly above 25 °C. The lowest value of the mean minimum temperature was about 12.3 °C observed at Igeri station, while the highest value was about 25.0 °C recorded at Kilwa in the southern coast as shown in Fig. 2B.

MEAN SUNSHINE HOURS

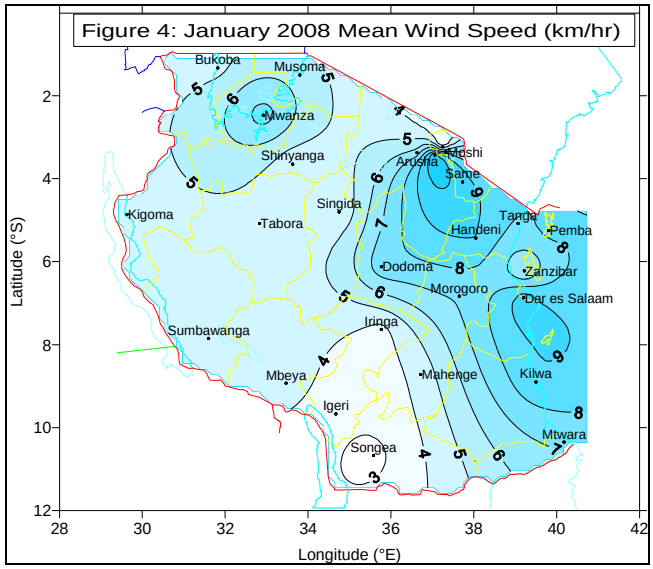
Sunshine hours across the country during January indicate that the duration of mean bright sunshine hours ranged from about 5 hrs/day to above 9 hrs/day as shown in Figure 3.



Longer bright sunshine hours (> 8 hr/day) occurred over some parts in northeastern highlands and northern coast including Pemba Island. Cloudy conditions over western, southwestern highlands and western parts of Lake Victoria basin (Kagera region) shortened bright sunshine durations to less than 6 hrs/day in those regions.

MEAN WIND SPEED

During the period mean wind speed across the country ranged between about 3 to 10 km/hr as indicated in Fig. 4.



Northeastern highlands and coastal belt experienced windy conditions where wind speeds exceeded 8 km/hr. The core of maximum wind speed of about

10 km/hr was recorded at KIA. Calm conditions and low wind speeds at about 4 km/hr were recorded over most parts of Iringa and Ruvuma regions. However over some areas gust winds associated with showers were reported over localized areas in Sumbawanga district (Lwiche and Sumbawanga divisions) where about 133 households and trees were damaged.

Compared to December, the wind strength decreased slightly over some areas during January. Wet conditions in the country have reduced prospects for occurrences of dust devils, wind erosion, and higher evaporation rates.

SATELLITE INFORMATION

Mean vegetation condition during the third dekad of January is indicated in Figure 5 in a NOAA satellite imagery, depicting the Normalized Difference Vegetation Index (NDVI).

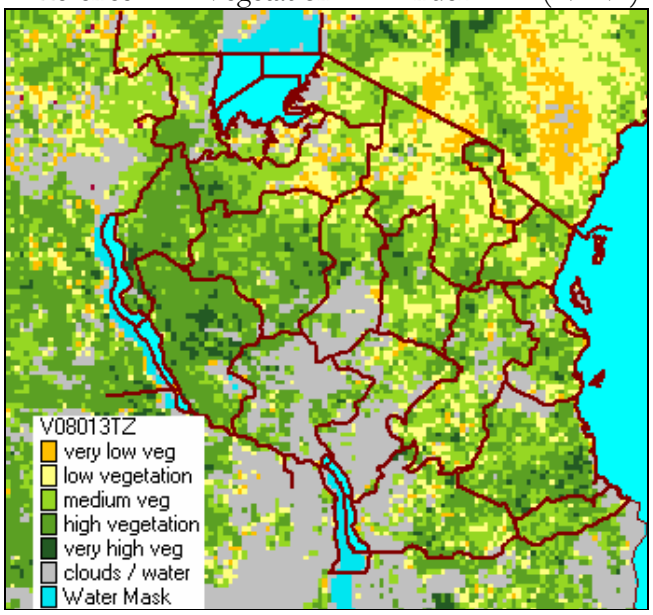


***Figure 5**: NOAA Satellite NDVI indicating the vegetation condition for the period of January 21-31, 2008.*

Higher values of vegetation indices appear largely over western, central, and southern coastal belt areas. Low values are depicted over some pockets in the southern and eastern sectors of the Lake Victoria basin (Mwanza, Shinyanga, and Mara regions), northeastern highlands (Arusha and Manyara regions). The vegetation condition has slightly improved compared to December over much of unimodal rainfall areas as a result of soil moisture improvement recorded in these areas. Vegetation cover was masked by clouds which dominated over southwestern highlands. The observed improvement of vegetation is likely to increase pasture productivity for livestock in these areas.

AGROMETEOROLOGICAL SUMMARY

During the month soil moisture improvement was observed over most areas of the unimodal rainfall pattern with maize crop status being generally good at between post emergence to knee height stages. Soil moisture replenishment was experienced over Dodoma and Singida regions and over transitional areas in Shinyanga and Morogoro regions. Crop performance over much of unimodal rainfall regime was good following significant soil moisture improvement experienced in these areas.

In the bimodal regime of the western parts of Lake Victoria basin including Biharamulo, Muleba, Karagwe and Ngara districts in Kagera region maize crop was near ripeness in good state while beans harvesting was coming to an end. Over two villages in Kasulu district (Bukuba and Buhimanyi) in Kigoma region a hailstorm caused damage to crops and other properties. Preliminary reports indicated that in Buhimanyi village the hailstorm damage to crops was 100% especially maize which was at tasseling stage.
Elsewhere in the regime particularly northeastern highlands (Monduli, Handeni, Loliondo and Simanjiro districts) crops were at emergence and at good state. Over northern coast (Pwani and Tanga regions) farmers were involved in land preparations for the long rainy *(Masika)* season after total failure of the short rainy (*Vuli)* season.

Market supply for cassava over several areas of the country continued fairly well.

Pasture conditions and water availability for livestock and wildlife especially over central and northeastern highlands were moderate but expected to improve significantly over central areas as a result of improved soil moisture from ongoing seasonal rains.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes and dams, and water flows in rivers are expected to increase as a result of the ongoing seasonal rains over unimodal areas. However, water for domestic and industrial purposes should be used sparingly particularly over the bimodal rainfall sector.

ENVIRONMENTAL SUMMARY

Temperatures are high over most parts while humidity is particularly high over the coastal belt.

EXPECTED SYNOPTIC SITUATION DURING FEBRUARY 2008

The northern hemisphere systems (Arabian ridge, Siberian and Azores anticyclones) are expected to intensify, while the southern hemisphere systems (St. Helena and Mascarene anticyclones and the East African ridge) are expected to relax, allowing the ITCZ to maintain its position.

Tropical depressions are expected to develop during February. *Gula* that occurred towards the end of January is expected to deepen, thus influencing rainfall activities over most parts of the country.

EXPECTED WEATHER SITUATION DURING FEBRUARY 2008

Over northern coast and hinterlands (Dar es Salaam, Tanga and Morogoro regions together with Zanzibar and Pemba Islands), and northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to feature partly cloudy conditions with rain showers over few areas. Lake Victoria basin (Kagera, Mwanza, Mara, and Shinyanga regions), together with western areas (Kigoma region) are expected to feature partly cloudy conditions with isolated thundery showers over a few areas. Western areas (Tabora region and southern Kigoma), and central areas (Dodoma and Singida regions) are expected to feature partly cloudy conditions with showers over some areas. Southern coast (Lindi and Mtwara regions) is expected to feature partly cloudy conditions with isolated thundery showers and sunny intervals. Southern areas (Ruvuma region) together with Mahenge and southwestern highlands (Iringa, Rukwa and Mbeya regions) are expected to feature cloudy conditions with thundery showers over some areas.

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