TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Rainfall performance for the period was good regardless of mild hazards resulted from being so excessive.
- In spite of the flood incidences reported during 2006/2007 growing season, so far the country has experienced a good rainfall performance during this season.

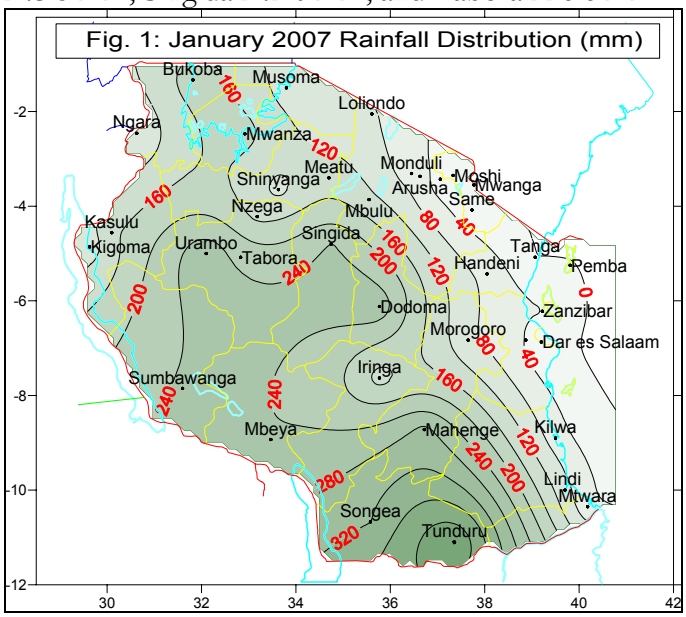
SYNOPTIC SUMMARY

During January the Azores and Siberian anticyclones together with Arabian ridge remained strong, hence maintaining the position of the Inter-Tropical Convergence Zone (ITCZ). The St. Helena and Mascarene anticyclones together with the East African ridge relaxed due to variability of Sea Surface Temperatures (SSTs) over the southern Indian Ocean. The presence of tropical cyclones *Clovis* and *Dora* enhanced rainfall activities over some part of the country. The northeasterly flow was dominant over northern coast and northeasterly highlands, while the northerly and westerly flow was dominant over southern areas and southern coast. The development of tropical storm *Dora* towards the end of the month enhanced rainfall over central, southwestern highlands, southern region, and southern coast. The westerlies from Congo basin were backing to southwesterly over the Lake Victoria basin, thus increasing rainfall over those areas. The anti-cyclonic flow that was seated over the northwestern Indian Ocean was a dominant feature, influencing dry condition over northern coast and northeastern highlands.

WEATHER SUMMARY

RAINFALL

Rainfall activities increased during January over much of the unimodal sector where some of the recording stations reported monthly rainfall amounts that exceeded 200 mm (Fig. 1). The highest rainfall recorded was 319.0 mm at Songea followed by Tukuyu that recorded 310.2 mm, Mahenge 290.6 mm, Dodoma 264.9 mm, Sumbawanga 244.3 mm, Mbeya 243.5 mm, Singida 242.0 mm, and Tabora 226.6 mm.

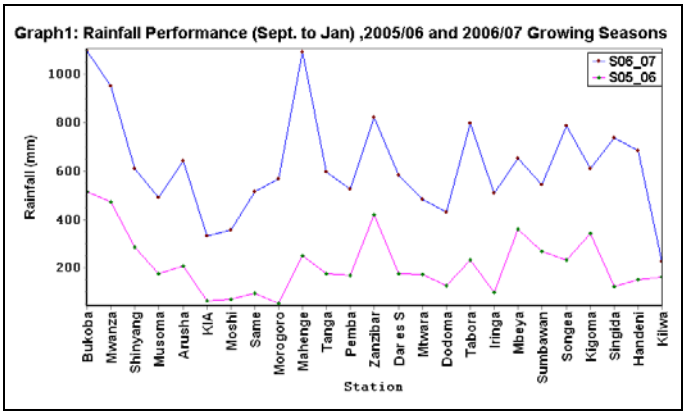


However, the northern coast and northeastern highlands of the bimodal sector of the country remained relatively dry, with large areas continuing to receive little or no rains during this period, thus indicating cessation of short rains over this sector.

High intensity rainfalls were also observed and caused floods over some areas such as Mwanza urban in Mwanza region, Pawaga in Iringa region and Tunduru in Ruvuma region, where some infrastructures and crops were destroyed. Generally, rainfall performance for the period was good regardless of mild hazards resulted from being so excessive.

In spite of the flood incidences reported during 2006/2007 growing season, the country has

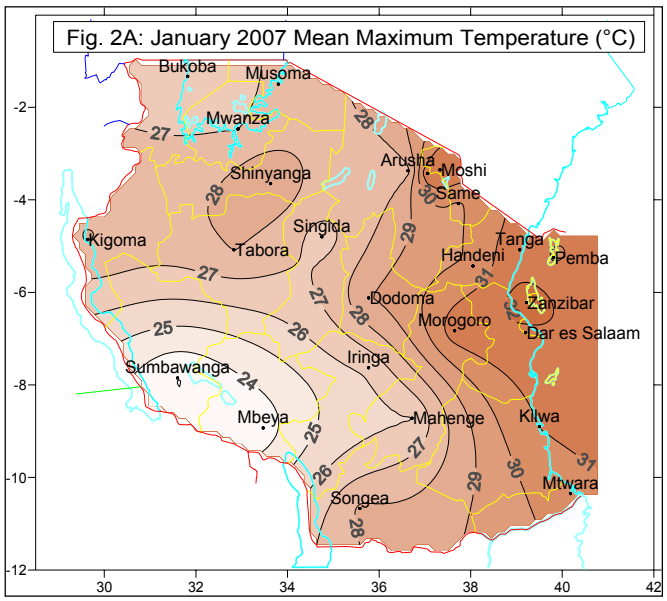
experienced a good rainfall performance during the season as compared with the past season 2005/2006 (Graph 1). From Graph 1, the curves S05_06 (red) and S06_07 (blue) show rainfall amounts collected during September to January of 2005/ 2006 being lower than 2006/2007 growing seasons respectively.

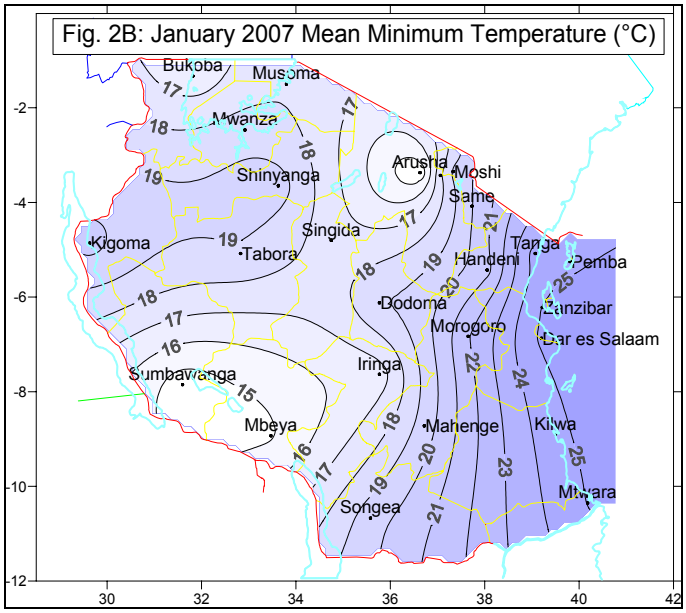


MEAN AIR TEMPERATURE

Upward trend of temperatures was maintained during the month of January as compared to the past month. The mean maximum and minimum values are shown in Figs. 2A and 2B respectively.

The mean maximum temperature ranged between just above 32 ºC and just below 24.0 ºC as indicated in Figure 2A. The highest mean maximum temperature was recorded at Zanzibar 32.6 °C, while the minimum was 23.0°C at Sumbawanga. Higher temperatures were recorded over eastern sector of the country mainly the northern coast, Islands of Zanzibar and Pemba, and parts of the northeastern highlands.





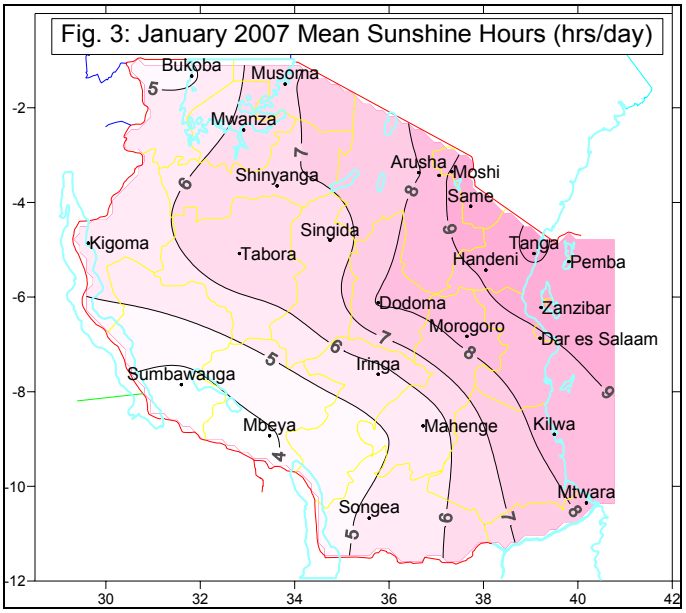
Mean minimum air temperatures ranged from just below 15 ºC to slightly above 25 ºC as shown in Fig. 2B. The lowest value of the mean minimum temperature recorded was about 14 °C at Arusha and Sumbawanga, while the highest value was about 25 °C at Zanzibar, Dar es Salaam and Mtwara.

Comparing with temperature conditions in December the maximum temperatures increased slightly by about 1 °C. Generally, warm conditions have continued over much of the country, which is a normal feature in January.

MEAN SUNSHINE HOURS

Spatial distribution of mean sunshine hours across the country during January indicates that the durations of mean bright sunshine hours ranged between about 4 and 10 hrs/day as shown in Fig. 3. Sunshine durations of less than 6 hours/day were experienced over the western sector of the country, where Mbeya and Sumbawanga recorded the shortest durations of about 4 hours/day.

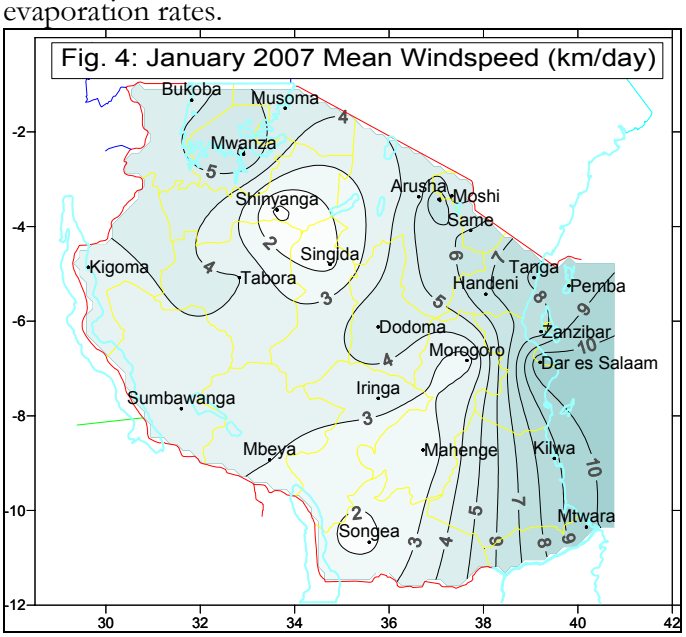
Greater part of the country observed longer durations (more than 7 hours/day) mainly due to decreased cloudy activities experienced in the areas during the month.



MEAN DAILY WIND SPEED

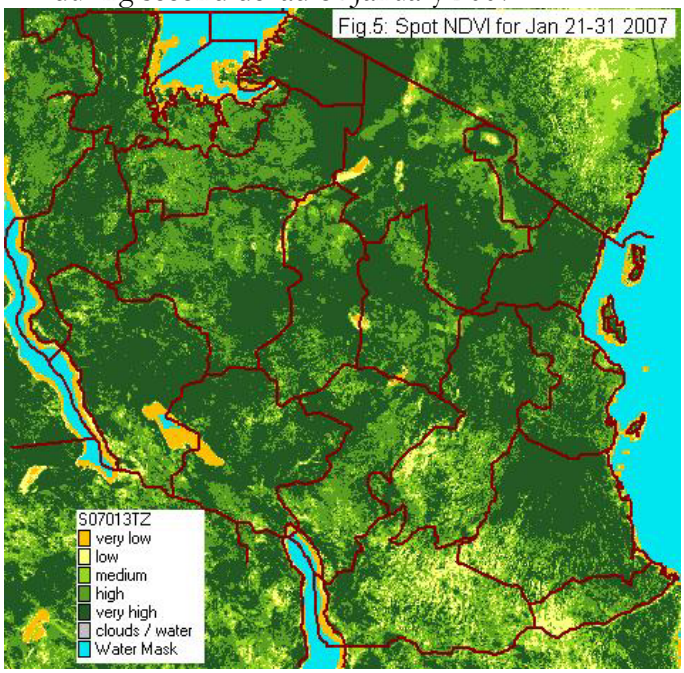
During the period mean wind speed across the country ranged between about 1.0 and 10 km/hr as indicated in Fig. 4. Much of the country experienced slight winds of less than 4 km/hr with the cores of minimum speeds located over Songea and Shinyanga.

The decrease in wind speed over much of the eastern sector of the country widened prospects for occurrences of dust devils, wind erosion, and higher evaporation rates.



SATELLITE INFORMATION

Figure 5 shows the status of vegetation greening during second dekad of January 2007.



The vegetation greening indices, the Spot Normalized Difference Vegetation Index (Spot NDVI) ranged from low to very high. Much of the high vegetation greening was over the coastal regions, northeastern highlands, Lake Victoria basin, western and central regions. In spite of a few pocket areas that have depicted low vegetation greening, the vegetation condition across the country was generally good. The vegetation conditions and cover is likely to be maintained following sufficient soil moisture from rains experienced countrywide during the 2006/2007 growing season so far.

AGROMETEOROLOGY

Increased soil moisture levels during the month have been reported nearly throughout unimodal areas of the country. However, excessive soil moisture levels that prevailed during the period have relatively affected field crops (maize and beans) over the lowland areas. Over the bimodal rainfall pattern areas, stages of most crops particularly maize and beans were ranging between earing and blister stages (maize), while beans crop was between pod filling and

ripeness stages. Paddy and cassava crops were generally doing well.

Pasture conditions and water availability for livestock was very good across the country.

HYDROMETEOROLOGY

Rains have boosted water levels in rivers, lakes and dams over most areas in the country and eased off the acute load shedding experienced in the second half of 2006.

ENVIRONMENTAL

Temperatures are warm and uncomfortable mainly over coastal areas with low wind speeds over much of the country, thus reducing prospects for diseases such as coughs, colds, pneumonia and asthma

EXPECTED SYNOPTIC SITUATION DURING FEBRUARY 2007

The Siberian and Azores anticyclones together with Arabian ridge over the northern hemisphere will remain relatively strong, hence maintaining the position of meridional and Zonal Arms of the I T C Z. to the south.

The anti-cyclonic flow over the northwestern Indian Ocean will influence diffluent pattern over northern coast, northeastern highlands and giving dry condition over those areas. The St. Helena and Mascarene anticyclones and the East African ridge over the southern hemisphere will continue to relax due to tropical cyclones which will continue to propagate in a southwest direction inducing warm SSTs over southern Indian Ocean to erode subtropical high systems, hence maintaining the position of the zonal arm of ITCZ over the region. During February, the northwesterly to westerly flow will be dominant over southern areas.

EXPECTED WEATHER SITUATION DURING FEBRUARY 2007

Western (Kigoma and Tabora regions) areas together with Lake Victoria basin (Kagera, Mwanza, Shinyanga and Mara regions) will feature partly cloudy conditions with thundershowers over few areas and sunny periods. Central areas (Dodoma and Singida regions), southwestern highlands (Iringa, Mbeya and Rukwa regions), southern region (Ruvuma and Morogoro (south) regions) and southern coast will feature partly cloudy to cloudy conditions with thundershowers over some areas and sunny interval. Northern coastal (Pwani, Dar es Salaam, Morogoro (north) and Tanga regions, and Islands of Zanzibar and Pemba) and northeastern highlands (Arusha, Kilimanjaro and Manyara regions) will experience partly cloudy conditions with isolated showers and sunny periods.

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