MONTHLY WEATHER BULLETIN

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FEBRUARY – HIGHLIGHTS

- Slight increase in rainfall but with poor distribution over central and southern coast
- Land preparations continued and a few farmers started planting Masika crop over areas in the bimodal rainfall regime
- Herds emaciated and decimated

SYNOPTIC SUMMARY

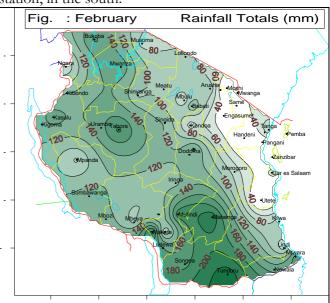
The Azores and Siberian anticyclones over the ■ northern hemisphere indicated some slight relaxation as from 1050 hPa during January to 1030 hPa for February although the Arabian ridge was still occupying the horn of Africa and some parts of the northeastern highlands of Tanzania. The southern hemisphere anticyclones (St. Helena and Mascarene) gradually intensified giving way to an East African ridge organizing northwards. A series of tropical depressions and tropical cyclones continued over southwestern Indian Ocean, thus on 25th February 2006 the tropical cyclone Carina was observed at 13 °S and 79 °E with central pressure of 993 hPa. The cyclone enhanced the pulling of the moist Congo air mass to the eastern coast which was associated with the low level moisture convergence and thus thundershowers over some areas of northern coast and northeastern highlands. The zonal component of the Inter-Tropical Convergence Zone (ITCZ) was active over the southern sector of the country, while its meridional arm was prominent and active over western parts of the country.

WEATHER SUMMARY

RAINFALL

While most parts of the country recorded a slight increase in rainfall activities during the month, much of the northern coast and a few areas of northeastern highlands in the bimodal rainfall regime remained generally dry with total rainfall less than 40 mm (Fig. 1). Significant increase was recorded over areas with a unimodal rainfall pattern (western,

southern, southwestern highlands and parts of southern Iringa region). The highest rainfall amount recorded during the month was 234.8 mm at Tunduru station, in the south.



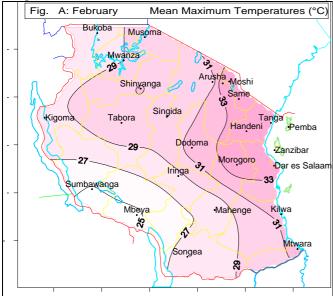
Besides the observed rainfall increase during the period, its distribution has remained poor over most areas in the central and southern coast. The observed rains over the bimodal rainfall sector were generally off-season as the long rains season (*Masika*) is due to start in the second week of March.

MEAN AIR TEMPERATURE

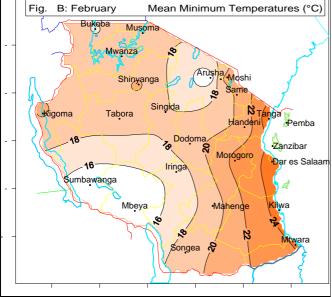
Temperature conditions for the month of February were expressed as mean air maximum and minimum temperatures as shown in Figs. 2A and 2B respectively. Observed mean maximum temperature ranged between about 25 °C over areas in Rukwa and Mbeya regions and just above 33 °C over areas in the northern coast and northeastern highlands (Arusha, Kilimanjaro, Morogoro north, Coast and Dar es

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Salaam regions) (Fig. 2A). The highest maximum temperature across the country



was reported over areas surrounding the Kilimanjaro Airport (KIA) in the northeastern highlands, where a mean value was 34.9 °C and the absolute maximum temperature of 35.5 °C was observed during the third dekad of the month.

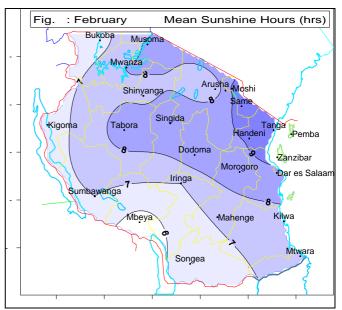


The mean minimum air temperatures ranged from just below 16 °C to slightly above 24 °C (Fig. 2B). The highlands areas in the southwestern parts of the country (Rukwa, Mbeya and Iringa regions) and Arusha town in the northeastern highlands recorded the lowest mean minimum air temperature of about 16 °C. Mbeya town experienced the lowest minimum temperature values of about 13 °C during the third dekad of the month. Generally, temperature

conditions for February did not change significantly from that of January 2006, except for the north eastern highlands which indicated a slight warming of about 2 °C for the night temperatures due to increase in cloud activities in the area.

SUNSHINE HOURS

Figure 3, indicates the spread of mean sunshine hours across the country during February.



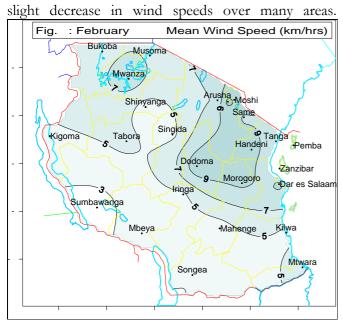
Durations of mean bright sunshine ranged between 6 hrs/day and about 9 hrs/day. The shorter durations of about half daylight hours were observed over southwestern areas where Mbeya reported the minimum mean value of 5.6 hrs. Most of the areas in the unimodal rainfall regime had bright sunshine durations less than 8 hours/day, except for the central regions (Dodoma, Singida and eastern Tabora).

The longest durations of about 9 hrs/day dominated mainly over northern coast and northeastern highlands.

MEAN DAILY WIND SPEED

Mean wind run across the country ranged from just below 3 km/hr to just above 11 km/hr as shown in Figure 4. The core of maximum speed of about 11 km/hr was located over KIA. Lower wind speeds of less than 3 km/hr dominated over Sumbawanga district in the western areas. The month experienced a

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For those areas that experienced high wind speeds, the condition led to high evaporation rates, increased presence of dust devils and enhanced wind erosion on bare grounds.

SATELLITE INFORMATION

Figure 5 depicts vegetation greenness as indicated by the NOAA Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor for the third dekad of February. Fig. 5: 2006 Feb 21 - 28 NOAA NDVI very low medium high very high clouds / water Water Mask

The period indicated very high vegetation greening (indices) over the southern sector of the country generally from perennial plants. However other areas of the country have remained with very low to low vegetation cover due insufficient moisture in the soil caused by prolonged dry period that has been experienced in those areas. The affected areas include Shinyanga, Mwanza, Mara and northern Morogoro regions, central and most areas of the northeastern highlands.

AGROMETEOROLOGY

The observed soil moisture replenishments during the last two dekads of the month brought relief to some field crops that were under water stress. Such replenishments also made some farmers start planting their *Masika* crop, over bimodal rainfall areas, while for several areas of the unimodal rainfall regime the condition was favourable for crop growth and development.

Over the bimodal rainfall regime areas, although some planting of crops took place to utilize the off-season showers, the major activity was land preparations. Planting of maize and beans was reported over Ngara and Karagwe districts in Kagera region, Rombo in Kilimanjaro region and Pangani in Tanga region.

Over unimodal rainfall areas of the western part of the country (Kigoma, Rukwa and western Tabora regions), maize crop was in good state between earing and wax ripeness stages. The observed low night temperatures over those areas were conducive for maize crop to improve its quality during its postanthesis stages including grain filling. Over several parts of the southwestern highlands maize crop ranged from late vegetative to earing stages and in moderate state. Over few areas of Mtwara (Newala district) and Lindi regions in the southern coast, the crop was in moderate state in late vegetative stage.

Pasture conditions improved slightly, although most areas of the central and northeastern highlands have continued reporting poor pasture supply to livestock/wild animals. The income of livestock keepers in these areas has been affected due to decrease in herd numbers and low priced animals as a result of loss of weight to animal (emaciation).

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Poor pasture conditions at Chipogoro area in Dodoma region as it was pictured during the mid of February 2006

HYDROMETEOROLOGY

Water levels in rivers, lakes and dams remained generally low during the period. Water for domestic and industrial purposes should be used sparingly.

ENVIRONMENTAL

Warm/hot conditions and high evaporation rates were experienced over the Lake Victoria bain, central, northern coast and northeastern highlands areas.

EXPECTED SYNOPTIC SITUATION DURING MARCH

The Siberian and Azores anticyclones over the northern hemisphere are expected to continue relaxing slowly while over the southern hemisphere, the Mascarene and St. Helena anticyclones are expected to intensify. The meridional arm of the ITCZ is expected to remain active with considerable east /westward oscillations at times.

The westerly wind flow from the Congo basin is expected to persist with low level convergence over western, southern and some parts of central Tanzania. Northerly to northeasterly wind flow from western Indian Ocean will be maintained, creating an offshore flow over the coast and reducing the level of rainfall activities over northeastern highlands and some areas of northern coast. There are still possibilities of occurrences of the tropical cyclones over southwest Indian Ocean near east coast of Madagascar which will continue to enhance the pulling of the moist air from the Congo forest leading to rainfall activities over some areas in our country.

EXPECTED WEATHER SITUATION DURING MARCH

****/\estern parts of the country (Kigoma and Tabora regions) and Lake Victoria basin (Kagera region) will feature partly cloudy to cloudy conditions with isolated thundershowers over some areas and sunny intervals. Southwestern highlands (Sumbawanga and Mbeya regions), southern region (Ruvuma) and southern coast are expected to experience cloudy conditions at times with showers and thunderstorms over most areas and sunny intervals. Northeastern highlands (Arusha, Manyara, and Kilimanjaro regions) and some areas over extreme northern coast (Tanga region and Pemba Island) will experience partly cloudy conditions with showers and thunderstorms at times and sunny periods. Central areas (Dodoma and Singida regions) and Morogoro region will feature to cloudy with showers partly cloudy thunderstorms over few areas and sunny periods. The northern coast (Zanzibar Island, Coast and Dar es Salaam regions) will feature partly cloudy conditions with occasional showers and thunderstorms over few areas and sunny periods.

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