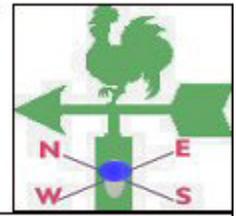




TANZANIA METEOROLOGICAL AGENCY



MONTHLY WEATHER BULLETIN

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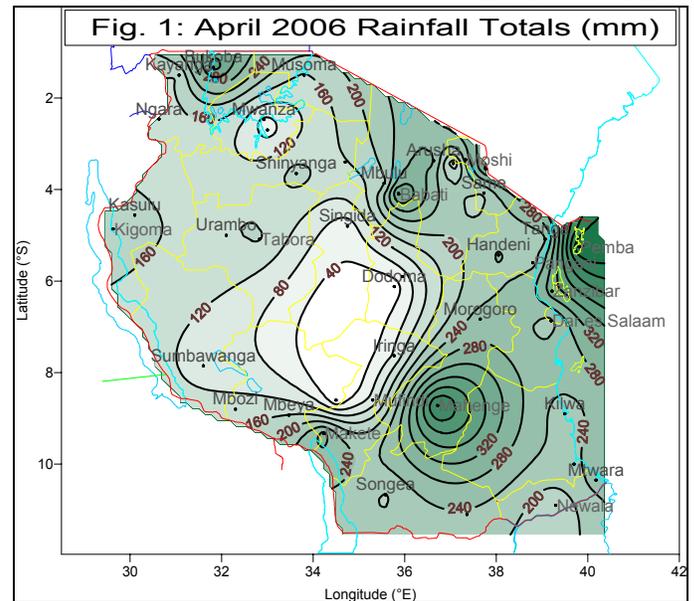
APRIL – HIGHLIGHTS

- Long rains (*Masika*) continued over much of the bimodal rainfall regime while rainfall activities tapered off over unimodal areas of the central and southwestern highlands
- Wet and cloudy conditions in May will further improve growth of immature crops but also impede drying and harvesting of matured crops

SYNOPTIC SUMMARY

The dominant feature for April was the non-propagating (stationary) easterly wave which maintained its position along the coast of East Africa thus advected moist air from the Indian Ocean towards northern coast and north-eastern highlands. During April, the Azores and Siberian anticyclones over the northern hemisphere relaxed while the Arabian ridge remained weak, thus allowing the southern systems especially the East African ridge to extend further north. In the southern hemisphere systems, the anticyclones (St. Helena and Mascarene) continued to intensify giving way to an East African ridge to dominate over most areas in the country. The zonal component of the Inter-Tropical Convergence Zone (ITCZ) was active over northern coast, northeastern highlands and Lake Victoria basin. The meridional component of the ITCZ was weak due to relaxation of the Azores high pressure cell. Towards the end of the month there were some influences of the southerly flow more over lower levels than upper levels.

amount recorded during the month was 563.3 mm at Pemba Airport, with about 360 mm reported during the third dekad. Over most of central region and parts of southern Lake Victoria basin

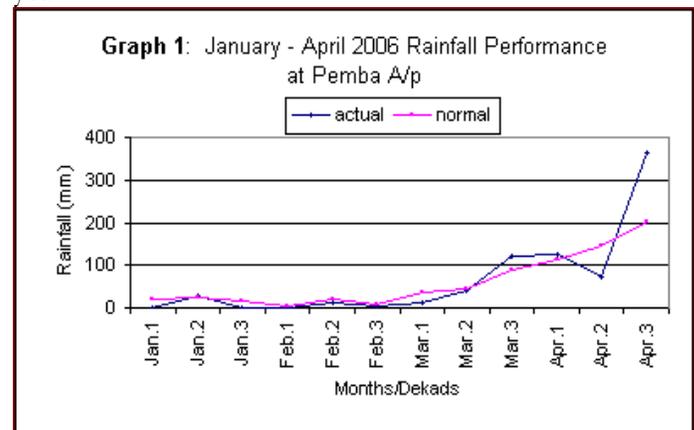


rainfall totals were generally less than 80 mm (Figure 1). The decreased trend in rainfall activities over central areas indicates a cessation of the rainfall season which is the norm for the area for this time of the year.

WEATHER SUMMARY

RAINFALL

The rains continued over much of the bimodal rainfall regime (*Masika*) while declined rainfall activities tapered off over unimodal areas of the central and southwestern highlands particularly during the third dekad of the month. However, during the third dekad most parts of the northern coast recorded substantial amounts of rainfall. The highest rainfall

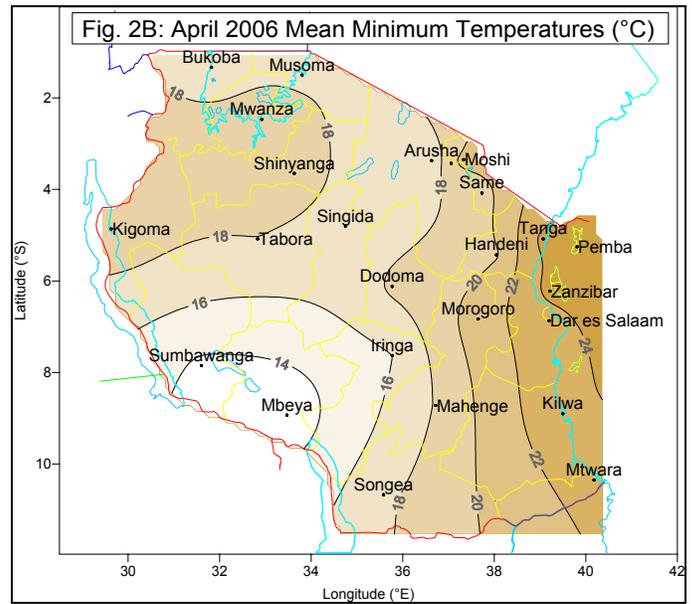


Graph 1 depicts rainfall performance at Pemba airport

from January to date. *Masika* rains over this area and parts of the northern coast started during second dekad of March with above normal levels for most of the period. The third dekad of April recorded the highest rainfall amount of about 160 mm above normal as shown by Graph 1.

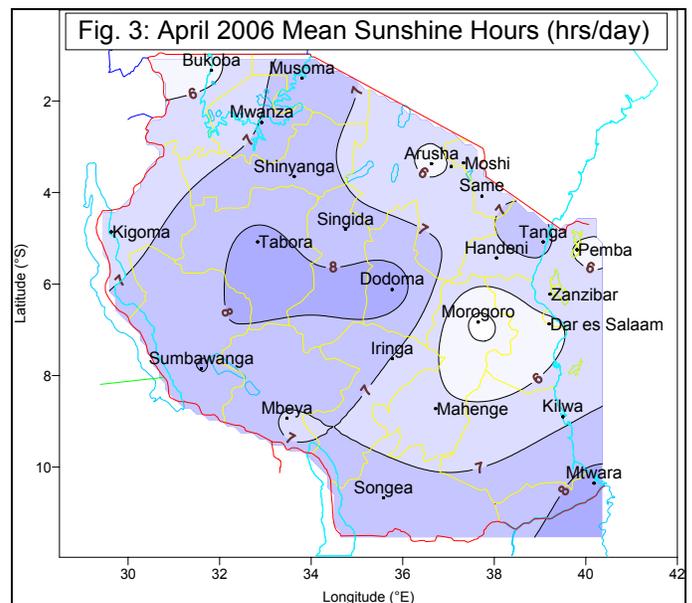
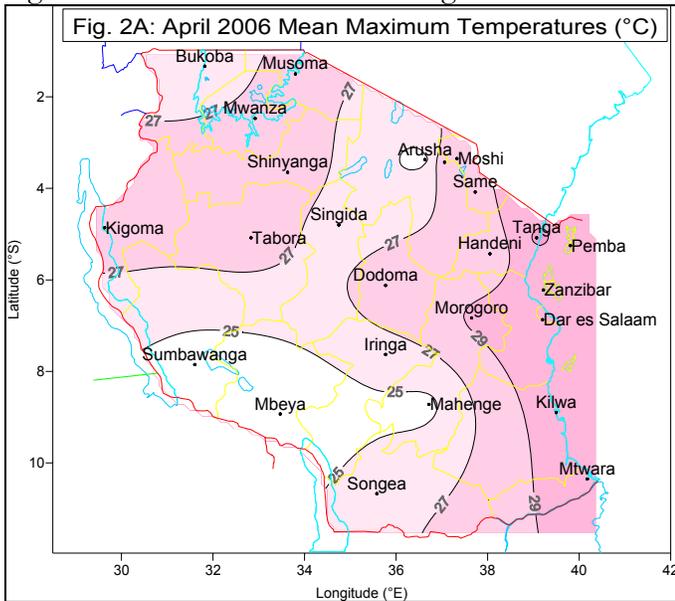
MEAN AIR TEMPERATURE

Temperature conditions for the month of April 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 southern Morogoro, Rukwa, Mbeya and southern Iringa regions and just above 31 °C over Tanga region in the northern coast (Fig. 2A). The highest maximum temperature recorded during the period was 32.7 °C over Tanga region in the northern coast during second dekad of



SUNSHINE HOURS

Figure 3, indicates the spread of mean sunshine hours across the country during April. Durations of mean bright sunshine hours ranged between about 5 and 8 hrs/day. A few pocket areas over Kagera, northern Morogoro and Arusha regions, and Pemba Island experienced shorter durations of about half daylight hours due to predominant cloudy activities in the areas.

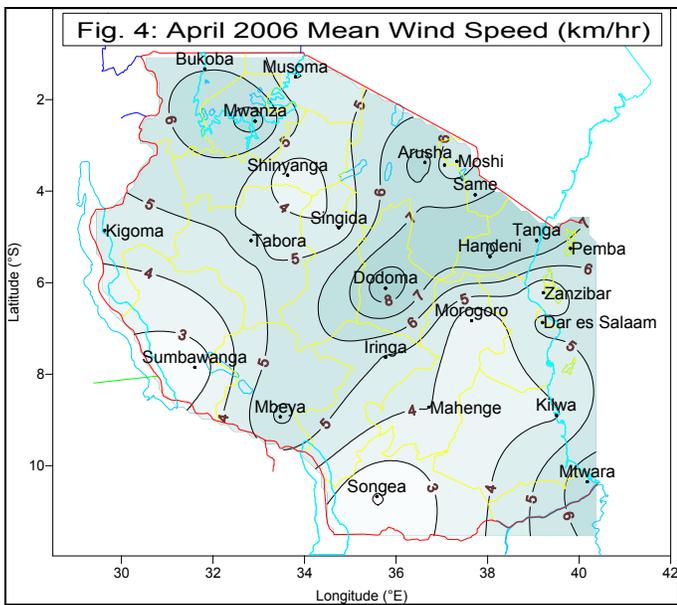


the month. The mean minimum air temperatures ranged from just below 14 °C to slightly above 24 °C (Fig. 2B). The highlands in the southwestern part of the country (Rukwa and Mbeya and Iringa regions) experienced cooler conditions, with Mbeya town recording the lowest mean minimum temperature of about 12.8 °C; the town had the lowest minimum temperature value of about 10 °C during the second dekad of the month. Generally, temperature conditions for April changed significantly from that of March 2006 as the southwestern highlands experienced cooler conditions during nights and early morning hours of about 3 °C lower than experienced during March.

The longest durations of about 8 hrs/day dominated mainly over Tabora, Dodoma, Tanga and Mtwara, areas enclosed by 8 °C isotherm in Figure 3.

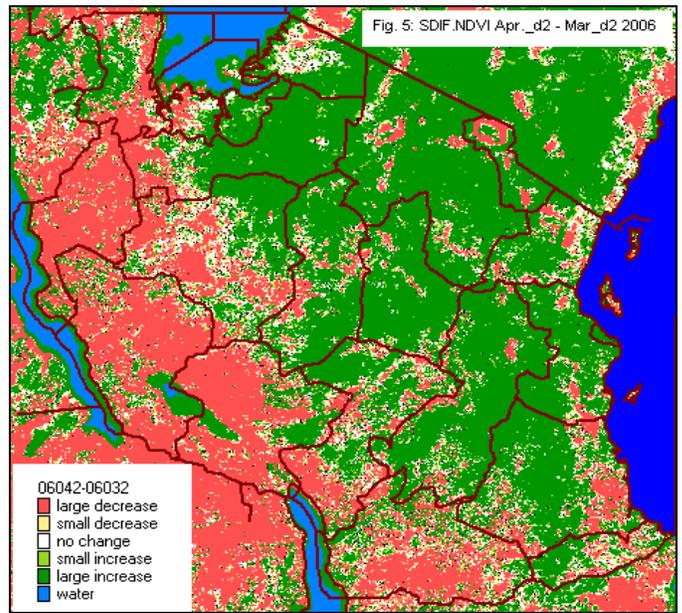
MEAN DAILY WIND SPEED

Mean wind speed across the country ranged from just below 3 km/hr to just above 8 km/hr as depicted in Figure 4. The core of maximum speed of about 8 km/hr was located over central areas (Dodoma region). Shinyanga, Rukwa and Ruvuma regions continued reporting lowest wind speeds of about 3 km/hr. The month indicated no significant changes in wind strength from that of the previous month, as such light winds which persisted during the period maintained conditions of decreased occurrence of dust devils, wind erosion and reduced evaporation rates.



SATELLITE INFORMATION

Figure 5 depicts vegetation greenness as indicated by the Spot Satellite Normalized Difference Vegetation Index sensor being a difference image of April second dekad from that of March dekad two. During April 2006, spread of vegetation cover when indicated as a difference between the states during mid April from that of mid March indicated a general decrease over the western sector of the country while areas over northern and eastern sectors experienced some increase. An increase in the greening cover was registered over areas that recorded increased soil moisture supply maintained from long rains that set in since mid-March after the failure of the 2005 short rains.



AGROMETEOROLOGY

Soil moisture levels over parts of the unimodal rainfall regime (southwestern highlands, southern, central and western) declined during the period following the decreased rainfall activities depicting a normal trend of cessation of the season at this time of year. The growing season over central areas (Dodoma and Singida regions) has performed poorly following a late onset of the season and inadequate soil moisture supply as well as uneven soil moisture distribution that resulted from poor rainfall distribution during the growing season, thus crop yield is anticipated to drop to below average. Wilted and stunted maize were reported over some parts of Kongwa districts (Mlali and Zasa), Mpwapwa west, Bahi and areas surrounding Dodoma Municipality where the crop was still at tasseling stage as soil moisture supply has started to decline, as the season ends, though over a few pocket areas, Iramba district in Singida region and Kondoa district in Dodoma region maize crop was fairly good at wax ripeness stage. However, millet and sorghum over central areas were near wax ripeness stage in moderate state. Over southwestern highlands and southern regions maize crop was in good state between tasseling to full ripeness. Second phase beans crop over the south western highlands (Mbeya, Iringa, and Rukwa regions) and southern (Ruvuma region) was reported at between flowering and ripeness, in good state. Most parts of the bimodal rainfall regime had soil moisture replenishment maintained throughout the period. Over Lake Victoria Basin,

northern coast and northeastern highlands the state of crops (maize and beans) was generally good. Maize crop was between tasseling and ripeness stages in the districts of Babati and Mbulu in Manyara region, Mwanza and Pangani districts in Kilimanjaro and Tanga regions respectively, with the state of the crop being generally good. The beans crop was reported to be in good state at between pod filling and ripeness stages in Kagera region (districts of Ngara and Karagwe) and Mbulu in Manyara region at early vegetative stage. Elsewhere the crop was generally in moderate state at vegetative growth stage. As for cassava, the state of the crop was good at various stages across the country.

Pasture and water for livestock/wildlife generally improved to a satisfactory level over bimodal areas.

The expected wet and cloudy conditions over bimodal areas during May will further improve growth of immature crops although over unimodal areas these conditions will impede drying and harvesting of matured crops.

HYDROMETEOROLOGY

Water levels in rivers, lakes and dams have continued to increase during the period except in the central belt. However, water for domestic and industrial purposes should be used sparingly.

ENVIRONMENTAL

Temperatures are getting lower as we get into a cool/cold season and winds are weakening while evaporation rates are also coming down in many parts of the country.

EXPECTED SYNOPTIC SITUATION DURING MAY 2006

The pressure systems on both northern and southern hemispheres are unstable. The northern

hemisphere systems the Arabian and Azores anticyclones are expected to continue relaxing while over the southern hemisphere, the Mascarene and St. Helena anticyclones are expected to intensify giving way to the East African ridge to dominate over the region. The ITCZ will shift further north of 5°N thus keeping rainfall active area within Lake Victoria basin. Meridional and zonal components of the ITCZ are expected to shift northwards. The southeasterly wind patterns over the northern coast and northeastern highlands will attain a southerly component during this month giving way to cold weather in regard to temperatures. Due to a southeasterly push, the westerly wind flow from the Congo basin will be weakened thus creating a low level convergence over western areas of our country towards Congo.

EXPECTED WEATHER SITUATION DURING MAY 2006

Lake Victoria basin (Kagera, Mwanza and Mara regions) will experience partly cloudy to cloudy conditions at times with showers and thunderstorms over few areas and sunny periods. Southwestern highlands (Rukwa and Mbeya regions), central (Dodoma and Singida regions), Morogoro region, southern (Ruvuma region) and southern coast are expected to experience partly cloudy conditions with light rains at times followed by chilly weather towards the end of the month. Northeastern highlands (Arusha, Kilimanjaro and Manyara regions) will experience partly cloudy conditions with light showers and thunderstorms at times mainly over high grounds and sunny periods. The northern coast (Tanga, Coast and Dar es Salaam regions, and Zanzibar and Pemba Islands) will feature partly cloudy conditions with light rain showers over few areas during the first two weeks of the month and sunny periods. Western parts of the country (Kigoma and Tabora regions) will feature partly cloudy conditions with light showers and few thunderstorms over few areas and sunny periods.

Prepared by

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