

Ministry of Agriculture Reinforces Its Agro-meteorological Services



The Ministry of Agriculture has been providing timely rainfall report and forecast to the public through the national media outlets. An interview has been conducted with Mr. Tekeste Weldegebriel, head of the agro-meteorology unit with regards to the general activities of the unit.

Question: Could you tell us about the general background of the Agricultural Meteorology Unit?

Answer: Agricultural meteorology unit (AMU) is part of the Agricultural Strategic Information System Division of the Ministry of Agriculture which was established in 2019. Its main task is to collect agro-meteorological and climate data and distribute information to potential users.

Historically, the MoA has been collecting meteorological data during the pre-independence period under the Commission of Agriculture. After the total liberation of Eritrea, the MoA established the National Early Warning and Food Information Unit (EWFISU) in 1993. Between the years 1997 and 2000, the EWFISU gradually evolved into a National Food Information System (NFIS).

The NFIS was active until 2006. However, its services diminished due to different reasons including financial and technical matters. In 2019, the MoA institutionally rearranged and upgraded the NFIS to a division level; and the

Agricultural Strategic Information System Division (ASISD) was established. It is after this time that the AMU was organized as a unit with specified functions.

Q: What is the source of information for the unit?

A: The unit collects relevant data and information from inside and outside the country. So far, forecast and other related relevant information has been collected from the World Meteorology Organization (WMO) regional office – ICPAC which is IGAD Climate Prediction and Application Center (ICPAC), and other international meteorological centers. The national ground data is collected from Zoba and Sub-zoba MoA Offices. Currently, the ministry administers 154 rain gauge stations and five full set weather stations (Automatic Weather Station and Non-Automatic Weather Stations) all over the country.

Q: Let's come to this summer's rainfall situation. What was the rainfall forecast for summer 2022 with regard to our region in general, and to Eritrea in Particular?

A: Generally, the Kiremti (summer) season that extends from June to September constitutes more than 70% of the total annual rainfall of the country. According to ICPAC's Bulletin of May 2022, this year's kiremti season was forecasted with confidence level 55 to 60% to be above normal indicating a wet season .

ICPAC as WMO regional center provides three seasonal forecasts namely; Azmera (March-May), Kiremti June-September and winter (kiremti bahri) October-December. Accordingly, this year's Kiremti season forecast indicated that wet situation over the eastern and northern part of Great Horn Africa region. The GHACOF 61 is a code given for 2022 Kiremti season forecast released on May 2022. As part of the region, Eritrea also expected to have a similar situation. The forecast marked the prevalence of 55-60% probability above normal situation in the region.

Q: How do you evaluate the rainfall we are getting compared to the forecast?

A: Usually, seasonal forecast is given continuously in two-dimensional views and in probability terms while rain is measured with instruments securely fixed in specified and selected places as points of measurement. Although their comparison is difficult, as a practice, station long term record is compared with current year record so that it gives a general picture of the situation.

This year's ground report from weather stations has been so far similar to the amount of near and above long-term average. Fifty percent of the stations recorded near long term average and forty percent of station reported above the long term average. Only 10% of stations reported below the long term average.

According to the reports, Dibarawa, Adi-Qula, Dase Derabush, Tserona, and Adi Tekelezan stations registered highest record with 728.9, 718.5, 713.7, 712.0 and 682.4 mms respectively. The number of rainy days for the same stations vary from 22 to 34. When it comes to daily maximum recorded rainfall, the top five records are 123.5 mm (Dibarawa), 105.0 mm (Adi-Qula), 105.0 mm (Mai-Dima), 101.5 mm (Kehawta-Asmara), and 100.8 mm (Halhale, Research Station). Therefore, it can be deduced that the season more or less echoed ICPAC's forecast.

Q: What is the peak rainfall ever registered in the country?

A: Our culture of data recording and management is still at its early stage. Attainment of peak rainfall or maximum record is not easy when the entire data is summed and stored as data. So, it is better to talk about generally good rain seasons than about peak rainfall record of a station which is also relatively difficult to define using only a single station record. If we review Asmara air port's rainfall record before independence, it shows 1979 rain record as the highest for the period, while the after-independence record shows extraordinary amount recorded in 1998 and 2007.

Q: How does this compare to this summer's amount?

A: Seasonal performance can be evaluated based on different means of measurements. It is difficult to compare the performance of one season with another season because they have their own characteristics, behavior, input and

output. Anyway, this year's Kiremti season can be qualitatively taken as one of the best seasons.

Q: What is the forecast for the coming months?

A: Until the end of September we expect normal and above normal rainfall. However, GHOCOF 62- October, November and December seasonal forecast indicates there will be relatively dry period in the mentioned months.

Q: If you have final word to say?

Weather and climate data are key factors in defining the right strategy in the agricultural planning process. Our current status is not absolute by itself. So, it needs continuous investment and organizational improvement parallel to the technological development.

Other important point that needs to be mentioned is that agricultural management requires short and medium range weather forecast more than seasonal forecast. So far, the regional forecast given by ICPAC shows only limited information with respect to our country for different reasons. Hence, it is inevitable to initiate country-based forecasting skill.

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16/9/2022