

FDRE
Ministry of Water and Energy
EMI
Bio Meteorology and Insurance Index Desk



Climate Information
For
The Health Sector

May 2024 Monthly Assessment and June 1-10 Forecast

May_2024

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Foreword

This "Climate Information for the Health Sector" Bulletin has been designed to convey essential information regarding the monitoring of human comfort conditions based on the analysis of temperature and humidity data and also for the monitoring of Malaria outbreak areas based on the analysis of temperature and precipitation data. Since the monitoring of temperature and rainfall over a given area can be used to assess the likelihood of an outbreak of Malaria with a lag of two months, this information can be an important early warning tool if used judiciously.

The major objective of this bulletin is in line with the Ethiopia Meteorological Institute's strategy of diversifying climate application products to the basic developmental sectors (such as the Health, water, agricultural sector, etc...). This bulletin can be a very important source of information to Health professionals engaged in the monitoring of Public Health, to Tourism Agents and institutions who advise tourists regarding the comfort conditions of the places to be visited by the tourists, and to the researcher who is interested in the field of Bio-Climatology.

We have the opinion that careful and continuous use of this bulletin can benefit the improvement of early warning and preparedness in the health sector.

Meanwhile, your comments and constructive suggestions are highly appreciated to make the objective of this bulletin a success, This same bulletin can be accessed online at: http://www.ethiomet.gov.et/bulletins/health_bulletins

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Part One

1. Climate-Health Assessment of May 2024

1.1 Suitable weather conditions for Malaria Transmission during May 2024

According to the collected and analyzed climate data for May 2024, there was a **low favorable to highly favorable** suitable climate conditions for the breeding and transmission of malaria over southern half of the country. Regions such as Eastern half Gambela region, south and South-west Ethiopia region, Sidama and central Ethiopia, most parts of Oromia, western parts of Somali and southern half of Benishangul Gumuz regions of the country was very conducive for malaria transmission as illustrated in Figure 1.

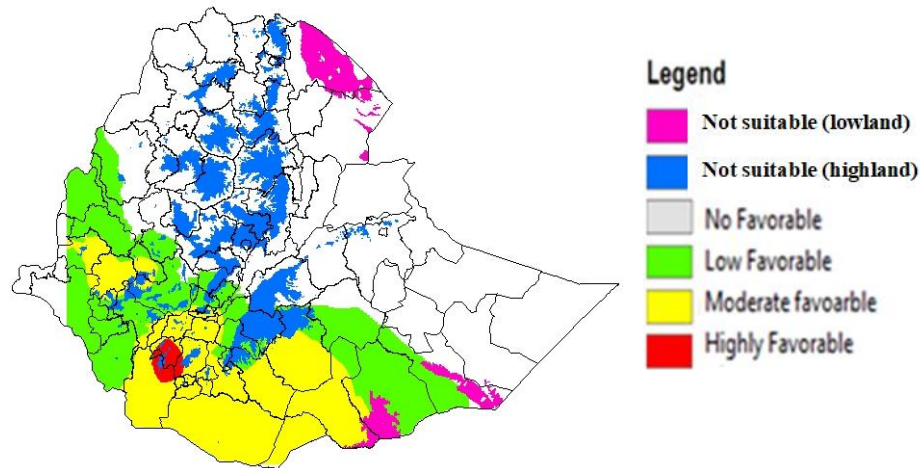


Fig 1:- Suitable weather conditions for malaria breaging site during May 2024.

1.2 Climate comfort Conditions during May 2024

1.2.1 Comfortability for Human

As a result of the Temperature-Humidity Index (THI) analysis of May 2024 heat stress was happened over a few places in the lowland parts of Gambela, lowlands of south Ethiopia region, southern Somali and Afar regions was experienced heat stress condition; whereas the rest of most parts of the were experienced comfortable and moderately comfortable weather conditions looking at figure 2.

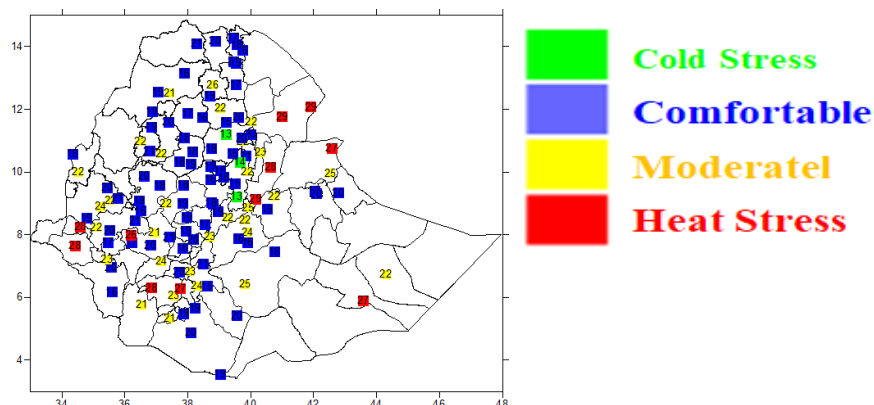


Fig 2:- Comfort index for humans during May 2024.

1.2.2 Comfortability for Cattle

Moderately heat stress was experienced in Afar, Gambela and the pocket lowland areas of south Ethiopia regions. Non-significant heat stress condition was observed in Somali, the rest of Afar, most of Gambela, western Oromia and the rest parts lowlands of south Ethiopia regions. Whereas the rest parts of the country were dominated by non-stress climate conditions as shown in figure 3.

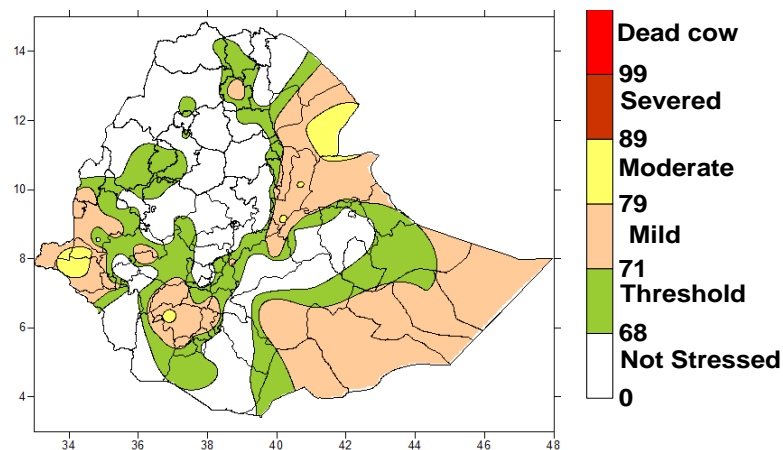


Fig 3:- Comfort index for Cattle during May 2024.

Part Two

2 Expected Weather Impacts on health for first (1-10) dekade of June 2024

2.1 Expected Mosquito Breeding Suitable Areas

During the upcoming first (1-10) dekad of June 2024; encouraging climate condition for mosquito breeding and development will expected over most of south Ethiopia, Central Ethiopia, Sidama southwest Ethiopia, Gambela, Benishangul, most parts of western Oromia regions. This expanded and amplified situation, of previous month flattering climate effect will be aggravation incidence cases. For this, concerned bodies and communities as a whole attentively follow up situation, monitor and take controll measure in areas illustrated in red in figure 4.

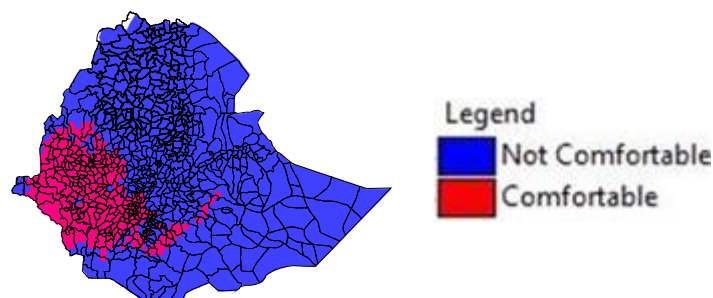


Fig 4: Suitable weather conditions for malaria incidence for June 1st dekade 2024

2.2 Temperature Humidity Index (THI)

2.2.1 Comfortability for Cattle

During the succeeding first (1-10) dekad of June 2024, mild to moderate heat stress condition will expected in over most low lands of the country, which includes Somali, Afar, Gambela, Benishangul Gumuz, South Ethiopia, Southwest Ethiopia, Southern, Eastern and western lowlands of Oromia, and western Amhara regions with stress threshold over southern Oromia and northern Somali. Whereas stress free will expected over high lands and adjacent mid high lands of the country for both dairy and none dairy cattle's which more extended for latter as shown in Figure 5.

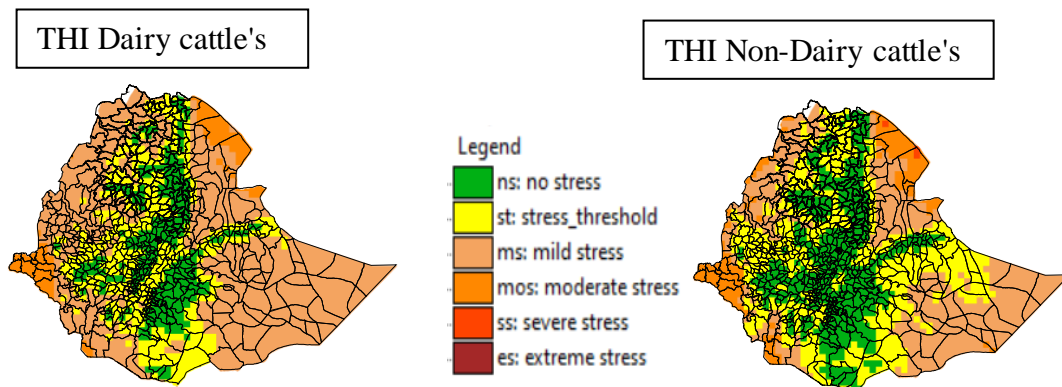


Fig 5: Comfort index for Cattle during 1st Dekad of June 2024

2.2.2 Comfortability for Human

During the impending first decade of June 2024, 100% uncomfortable climate circumstances 100% most of wetern and central Gambela north eastern tip of Afar. Whereas 50%-uncomfortable weather and climate situation will expect over most of Southern and eastern Somali, central Afa, Western Amhara, and Tigray , all parts of Gambela, South Ethiopia people region, border parts of Benishangul gumuz and western Amhara and limited places of southern people, and Benshangul -Gumz regions. Conversely, most of the rest parts of the country will be to enjoy 100% comfortable weather conditions with negligible partially comfortable. In areas heat stress will expect, people are advised to practice activities reduce stress as shown in figure 6 below.

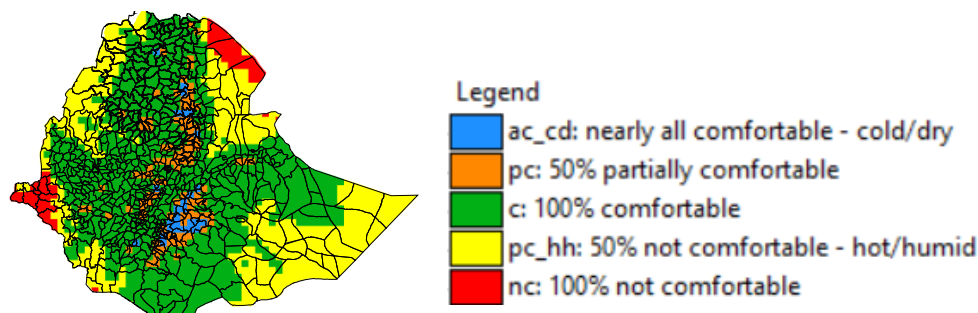


Fig 6: Comfort index for humans during 1st Dekad of June 2024

3. Conclusion

Based on the climate-health analysis for May 2024, it has been observed that, there were low to highly suitable climate conditions to the breeding and transmission of vector-borne diseases, especially malaria and a like. Additionally, over the next 10 days, the western half of the country will continue to experience expanded suitable conditions for the breeding and development mosquitoes.

In terms of climate comfortability conditions, most parts of the country have experienced pleasant conditions for both humans and livestock. However, certain regions like Afar, Somali, south Ethiopia and Gambela might be affected by heat stress in some hotspot lowland areas. Looking ahead to the next 10 days of June first dekad, the low-lying border areas of the country, especially Afar, Gambela, south Ethiopia, border of Benishangul gumuz and western Amhara and Somali region will experience moderately heat stress, which will affect both humans and cattle.

4. Recommendations

Use and implement the following recommendations in places that are favorable for the development of malaria and other vector-borne related diseases;

- Attention to any incidence, especially for malaria disease in such favorable areas
- Controlling measures and activity are advised
- Reducing the environmentally aggravating condition
- Awareness creation campaign to the community and sharing of the climate-health update
- As per the threshold of malaria, the impact will start after the end of this month, and be ready to respond before it leads to significant impacts
- Avoid any exposure of the community to mosquitoes by ensuring a clean environment and using mosquito nets.