

FDRE

Ministry of Water and Energy

EMI

Bio Meteorology and Insurance Index Desk



Climate Information

For

The Health Sector

May 2024; 10-20 Assessment and

21-30 Forecasts

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 tracking of Malaria outbreak areas based on the study 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](http://www.ethiomet.gov.et/bulletins/health_bulletins)

Director General

Ethiopia Meteorology Institute

P.O.Box 1090

Tel: 251(0)11 6615779

FAX 251(0)11 6625292

Web: [www.ethiomet.gov.et](http://www.ethiomet.gov.et)

Addis Ababa, Ethiopia

## 1. Weather Assessment of Last Dekade

### 1.1. Malaria suitable areas during May 2024 second dekad

The climate information that was collected and analyzed for the second dekad of May indicated low to moderate conditions that were suitable for mosquito vector expansion and the breeding over the following geographical areas such as most of western and southern Oromia, Eastern Gambela, Southwest and south Ethiopian region, eastern Somali and southern Benishangul Gumuz, as illustrated in figure 1 below.

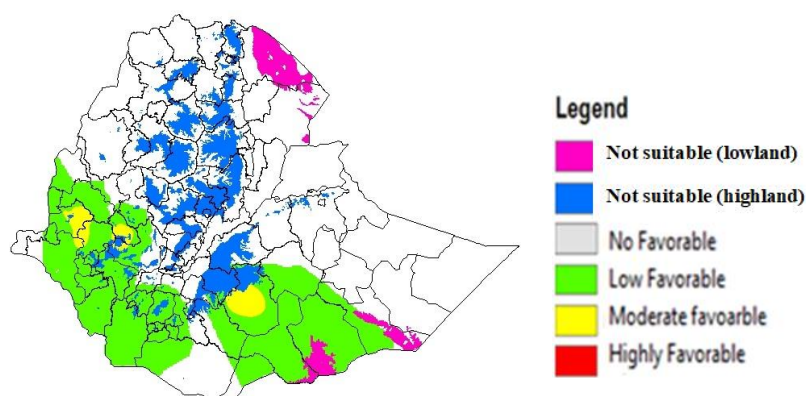


Fig 1:- Malaria suitability areas during May 2<sup>nd</sup> Dekada 2024.

## 2. Comfort conditions during the 2<sup>nd</sup> Dekad of May 2024

### 2.1 For Human

Heat stress was observed across various lowland regions of the country during the second dekad of May 2024, increasing from the previous dekad as a result of the Temperature-Humidity Index (THI) analysis. The results show that approximately 8% of the observed stations are located in the Gambela, Southern Somali, Western Amhara border, and Afar regions, each of which high levels of heat stress have. Whereas the majority of the remaining portions of the country (89% of the stations with records) experienced comfortable to very pleasant weather, the remaining highlands were experiencing chilly stress see Figure 2.

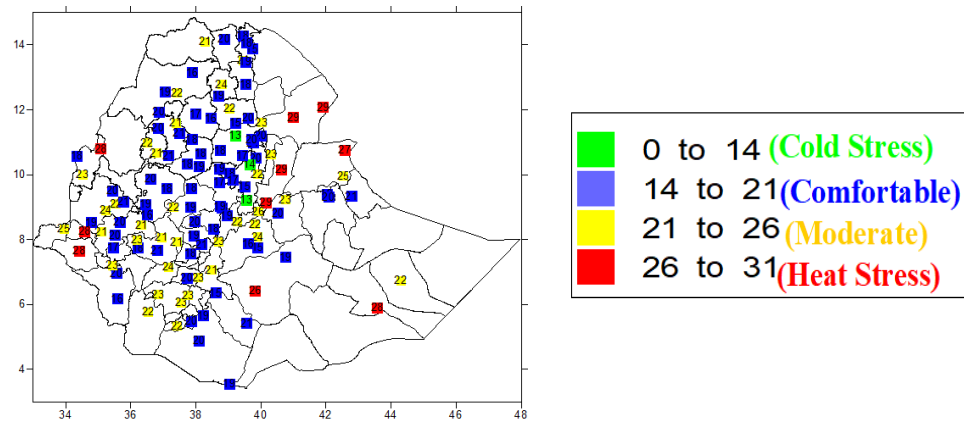


Fig 2; Comfort index for humans during May 2<sup>nd</sup> dekad 2024

## 2.2. For Cattle.

The second dekad of May 2024's meteorological analysis data indicated that mild to moderate heat stress was observed in most of Afar, the lowlands of western Amhara and Gambela, and most of Benishangul Gumuz, western Oromia, most of Somalia, and the South Ethiopian people regions. While not-stress-to-threshold weather conditions dominated the remaining sections of the country see Figure 3.

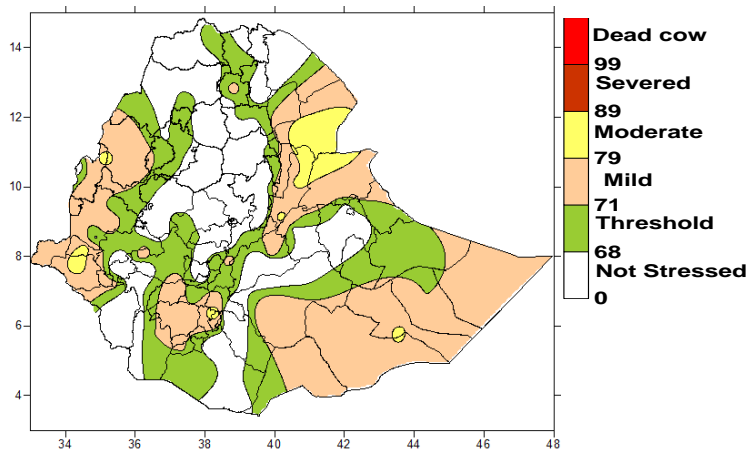


Fig 3:- THI values for Cattle during the 2<sup>nd</sup> dekad of May 2024.

## Part Two

### 3. Expected Weather Impacts on Health for Third (21-30) dekad of May 2024

#### 3.1. Expected Mosquito breeding suitable areas

For a majority of the western half of the country, the next ten days' weather conditions will be ideal for mosquito breeding and development is anticipated during the upcoming third dekad of May 2024. In the forthcoming third dekad of May 2024, the border of the southern parts of western Amhara, the Southwest, and south Ethiopia region, the Southern and western Oromia region, the Central Ethiopian region, Gambela, and Benishangul Gumuz regions will be in appropriate places for mosquito breeding see figure 4.

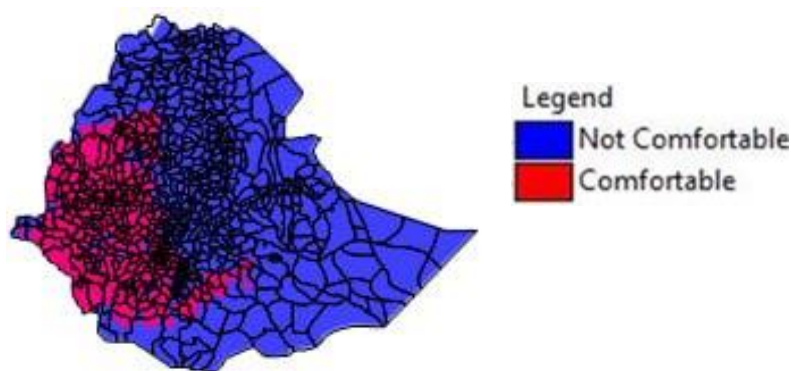


Fig 4: Malaria Suitable areas during May 3<sup>rd</sup> decade 2024

#### 3.2 Comfort conditions (THI)

##### 3.2.1 for Cattle

During the coming third dekad of May 2024, mild to moderate stress conditions will be expected over Afar, Somali, Benshangul gumuz, most lowlands of western Amhara, south and South-west Ethiopia region, western, Southern and eastern border of Oromia and Gambela regions for both dairy and non-dairy cattle's. But severe stress will be expected over northern Afar in non-dairy cattle. The rest highlands of the country will not be in stressful conditions see Figure 5.



Fig 5: Comfort index for Dairy and Non-dairy cattle during May 3<sup>rd</sup> dekad

### 3.2.2 for Human

During the coming third dekad of May 2024, 50%-100% uncomfortable weather conditions are expected over Gambela, Afar, South Ethiopia, Benishangul Gumuz, Western Amhara, and Southern Somali regions of the country. Unlikely, most of the rest parts of the country will enjoy 100% comfortable weather conditions. Cold and dry weather conditions will reduce in the highlands of the Northern, Central, and Southern parts of the country. In areas of heat stress, as mentioned above people are advised to practice activities that help to reduce stress see Figure 6.

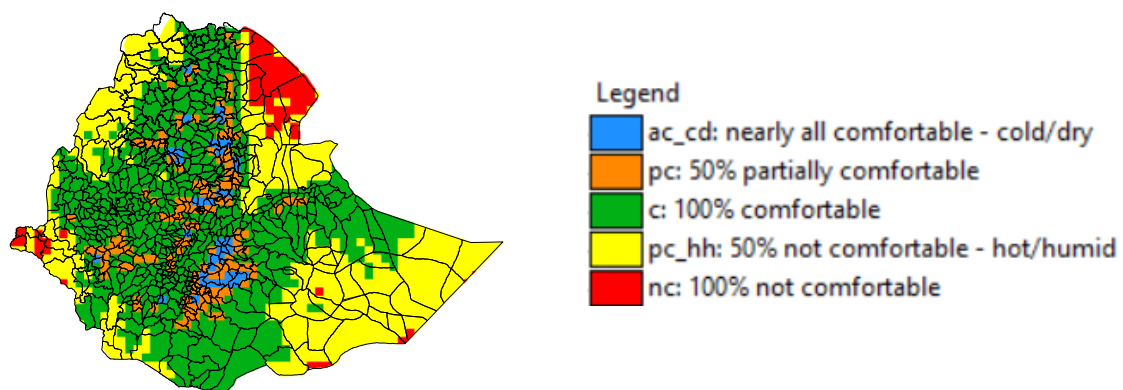


Fig 6: Comfort index for Humans during May 3<sup>rd</sup> dekad

## 4. Conclusion

Based on the collected climate data analysis for May 2<sup>nd</sup> decade, it has been observed that there was conducive weather to the breeding and development of vector-borne diseases, especially malaria in the Southwest and southeastern parts of Ethiopia. Additionally, over the next 10 days, there will be conducive weather for the development and breeding of mosquitoes in some pocket areas from the western half of Ethiopia.

In terms of weather comfort, most parts of the country have experienced pleasant conditions for both humans and livestock. However, certain regions like Afar, Gambela, western Amhara, and Somali regions might be affected by moderate heat stress. Looking ahead to the next 10 days of May 3<sup>rd</sup> dekad, the low-lying border areas of the country will experience uncomfortable conditions, which will affect both humans and cattle.

## 5. 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.