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**Bio Meteorology and Insurance Index Desk**



**Climate Information**  
**For**  
**The Health Sector**

March 2024 Monthly Assessment and April 1-10  
Forecast

**March\_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](http://www.ethiomet.gov.et/bulletins/health_bulletins)

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# Part One

## 1. Weather Assessment of March

### 1.1 RTH Conditions for Malaria Transmission during March 2024

According to the collected and analyzed climate data for March 2024, there was a **low favorable to moderate** suitable climate conditions for the breeding and development of malaria over; places such as Eastern half Gambela region, South-west Ethiopia region, central and western Oromia, most of Afar and border parts of eastern Amhara and southern parts of Benishangul gumuz regions of the country as illustrated in Figure 1.

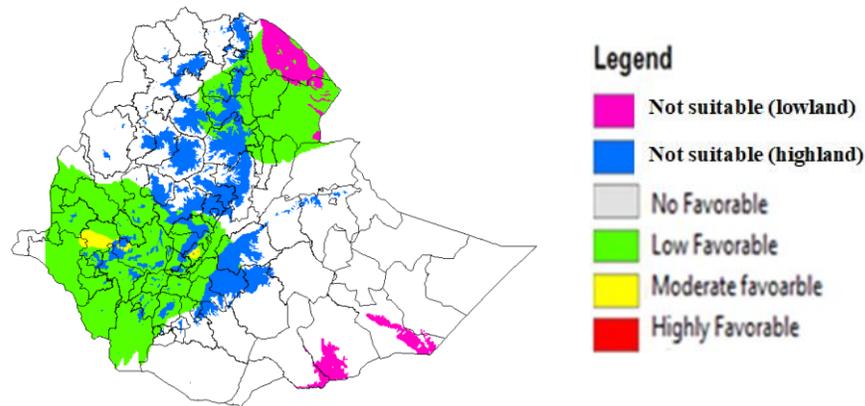


Fig 1:- Suitable weather conditions for malaria breaging site during March 2024.

### 1.2 THI Conditions during March 2024

#### 1.2.1 THI for Human

As a result of the Temperature-Humidity Index (THI) analysis of March 2024 heat stress was happened over a few places in the lowland parts of Gambela, western Amhara, southern Somali and Afar regions which contributed only 8% of the recorded stations; whereas the rest of most parts of the country (90% of the recorded stations) experienced comfortable and moderately comfortable weather conditions look at figure 2.

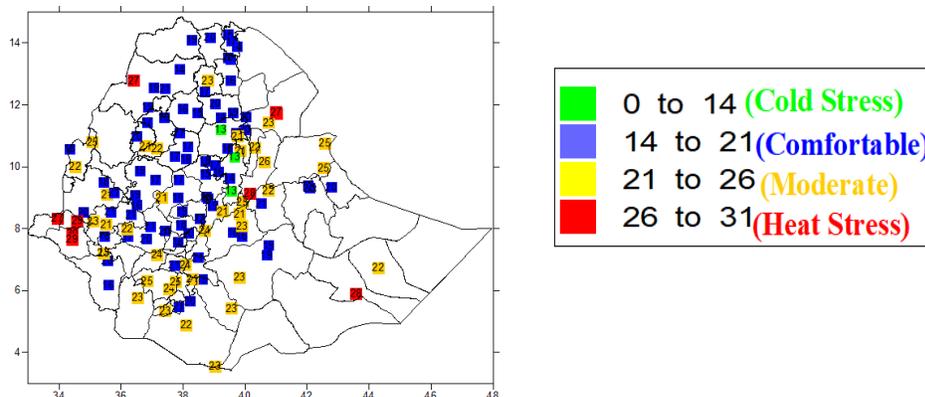


Fig 2:- Comfort index for humans during March 2024.

### 1.2.2 THI for Cattle

According to the collected meteorological data of March 2024, mild to moderate heat stress for Cattle was existed over most parts of Afar, southern and northern Somali, Gambela, Border of Western and pocket areas of central eastern Amhara, southern Oromia, northern Benishangul gumuz and South Ethiopia people regions. Whereas the rest parts of the country were dominated by threshold to Not-stress conditions as shown in figure 3.

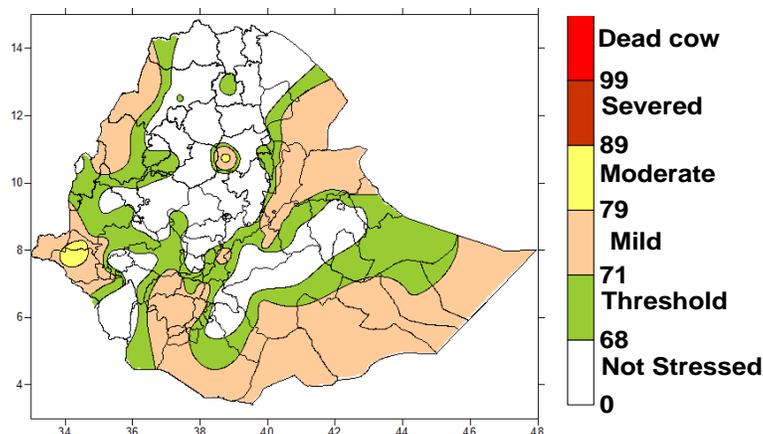


Fig 3:- Comfort index for Cattle during March 2024.

## Part Two

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

#### 2.1 Expected Mosquito Breeding Suitable Areas

During the upcoming first (1-10) dekad of April 2024; favourable climate condition for mosquito breeding and development will be expected in an expanded situation from the past over the Belg rainfall benefiting areas. Places that will be suitable for malaria prevalence are include southwest Ethiopia, south Ethiopia, Central Ethiopia, Sidama, southern, eastern and central parts of Oromia, southwestern Somali, a joint areas of Afar and Amhara regions as illustrated in figure 4.

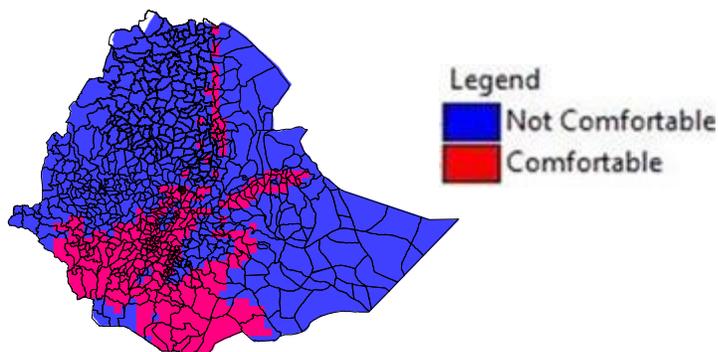


Fig 4: Suitable weather conditions for malaria incidence for April 1<sup>st</sup> dekad 2024

## 2.2 Temperature Humidity Index (THI)

### 2.2.1 THI for Cattle

During the coming first ( 1-10) dekad of April 2024, mild to moderate heat stress condition will be expected in most over half 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 of the country. Whereas no stress to threshold stress will be expected over high lands and adjacent mid high lands of the country for both dairy and non-dairy cattle's as shown in Figure 5.

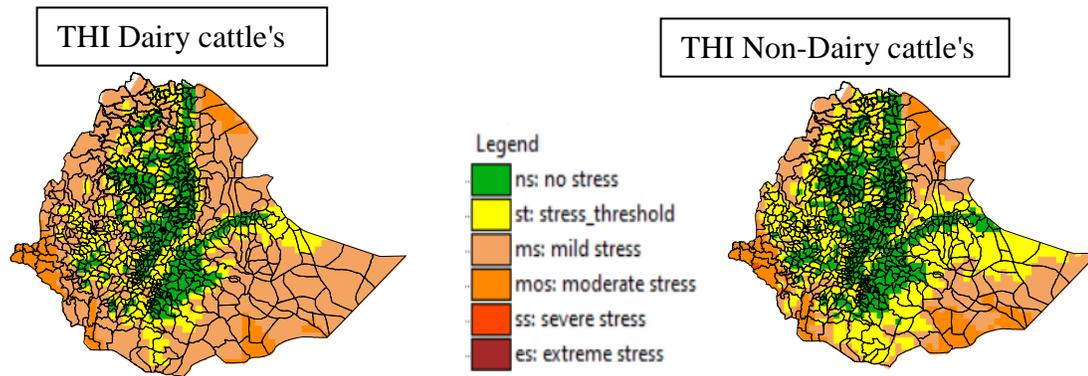


Fig 5: Comfort index for Cattle during 1<sup>st</sup> Dekad of April 2024

### 2.2.2 THI for Human

During the forthcoming first dekad of April 2024, 50%-100% uncomfortable weather conditions will be expected over most of Afar, all parts of Gambela, South Ethiopia people region, border parts of Benishangul gumuz and western Amhara and southern parts of Somali regions. On the other hand, the rest most parts of the country will be to enjoy partially comfortable to 100% comfortable weather conditions. In areas heat stress will be expected as mentioned below, people are advised to practice activities that help to reduce stress as shown in figure 6.

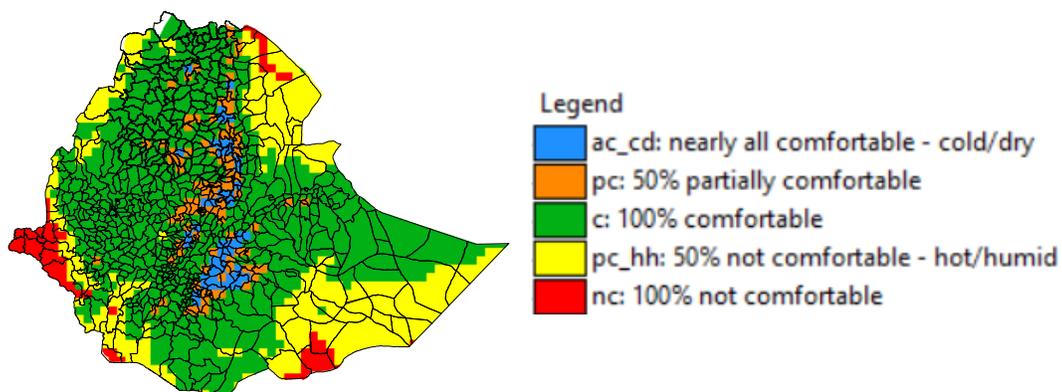


Fig 6: Comfort index for humans during 1<sup>st</sup> Dekad of April 2024

### **3. Conclusion**

Based on the climate health analysis for March 2024, it has been observed that, there were low to moderate suitable climate conditions to the breeding and development of vector-borne diseases, especially malaria and a like. Additionally, over the next 10 days, the Belg benefiting areas of will continue to experience expanded suitable conditions for the development and survival rate of mosquitoes.

In terms of weather comfort conditions, most parts of the country have experienced pleasant conditions for both humans and livestock. However, certain regions like Afar, Somali, and Gambela might be affected by heat stress. Looking ahead to the next 10 days of April 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.