

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



Climate Information
For
The Health Sector

February Monthly Assessment and March 1-10 Forecast

Febraury_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. Weather Assessment of February

1.1 RTH Conditions for Malaria Transmission during February 2024

According to the collected and analyzed climate data for February 2024, there was a **low favorable** climate conditions for the breeding and development of malaria over; Eastern Gambela region, South-west Ethiopia region, Southern and Western Oromia, central Afar and border parts of eastern Amhara regions of the country as illustrated in Figure 1.

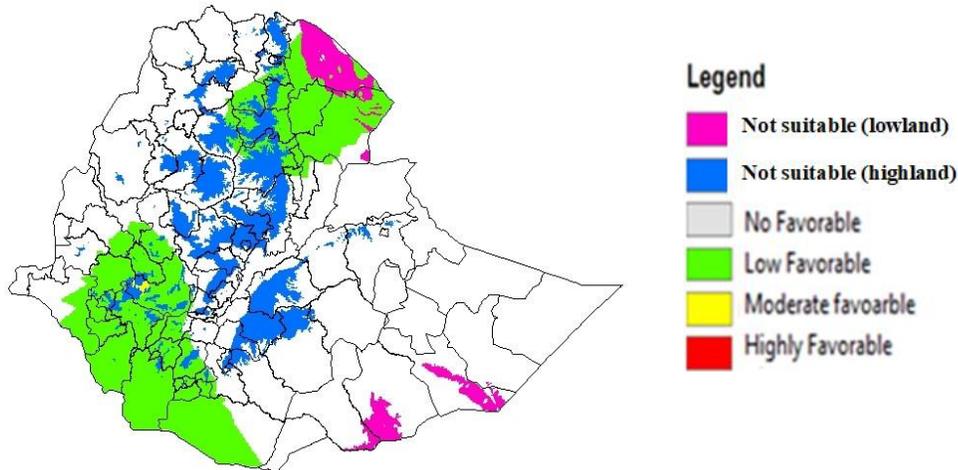


Fig 1:- Suitable weather conditions for malaria breaging site during February 2024.

1.2 THI Conditions during February 2024

1.2.1 THI for Human

As a result of the Temperature-Humidity Index (THI) analysis, during February 2024 heat stress was observed over a few places in the lowland parts of Gambela, and Southern Afar regions which contributed only 6% of the recorded stations; whereas the rest of most parts of the country (89% of the recorded stations) experienced comfortable and moderately comfortable weather conditions look at figure 2.

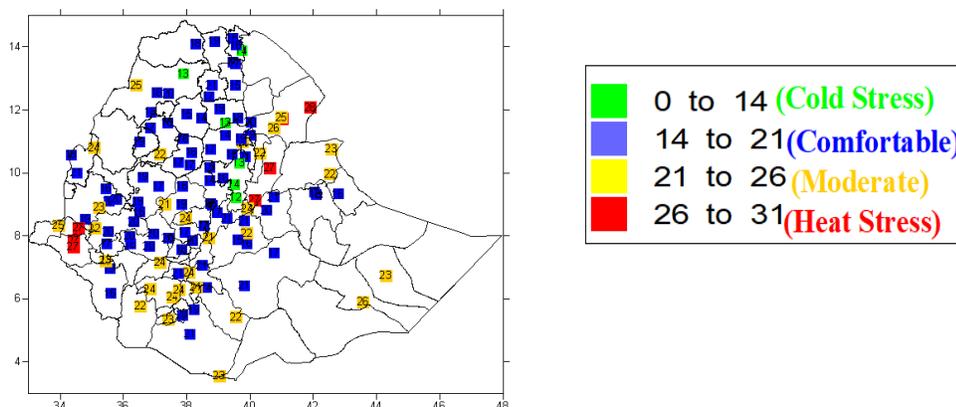


Fig 2:- Comfort index for humans during February 2024.

1.2.2 THI for Cattle

According to the collected meteorological data of February 2024, mild heat stress for Cattle was observed over most parts of Afar, southern Somali, Gambela, Border of West Amhara, 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.

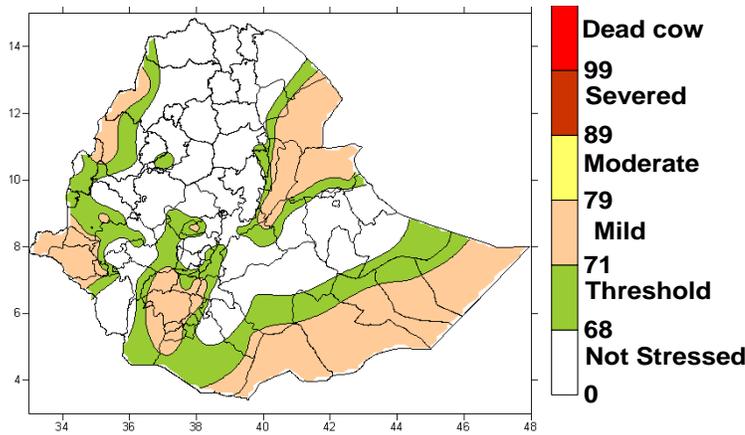


Fig 3:- Comfort index for Cattle during February 2024.

Part Two

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

2.1 Expected Mosquito Breeding Suitable Areas

During the upcoming first dekad of March; favourable climate condition for mosquito breeding and development will expected to prevail along the Rift Valley start from south Ethiopia people region through Afar as illustrated in figure 4.

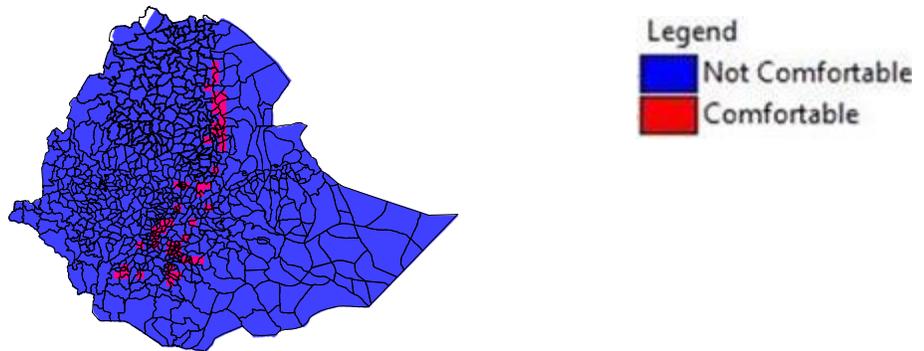


Fig 4: Suitable weather conditions for malaria incidence for March 1st dekade 2024

2.2 Temperature Humidity Index (THI)

2.2.1 THI for Cattle

During the coming first dekad of March 2024, mild stress condition will be expected in most low lands of the country, whereas no stress to threshold stress over high lands and adjacent mid high lands for dairy cattle. In case of non-dairy cattle's threshold stress more expands to the low lands, reducing mild stress to the eastern half of the Afar region, all of Gambella, southern people region and southern Somali. For this expanded stress threshold, a wide area for non-dairy cattle is compared to dairy. Also, no stress condition over the highland will extend to adjacent mid high lands and cover wide areas compared to dairy cattle as shown in Figure 5.

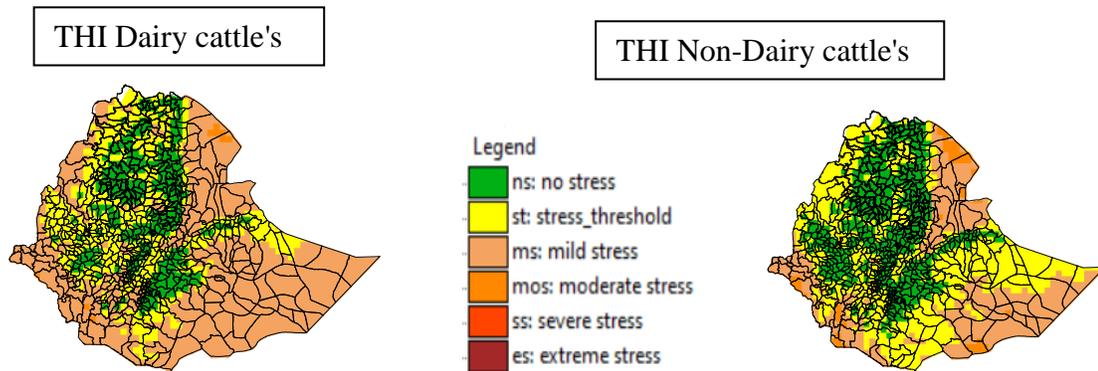


Fig 5: Comfort index for Cattle during 1st Dekad of March 2024

2.2.2 THI for Human

During the forthcoming first dekad of March 2024, 50%-100% uncomfortable weather conditions will be expected over Afar, Gambela, South Ethiopia people region and southern 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 where heat stress is expected as mentioned above, people are advised to practice activities that help to reduce stress as shown in figure 6.

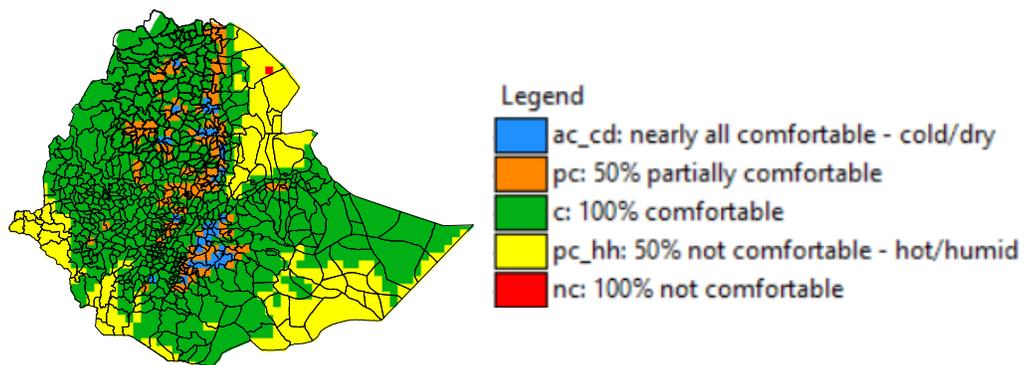


Fig 6: Comfort index for humans during 1st Dekad of March 2024

3. Conclusion

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

In terms of weather comfort, most parts of the country have experienced pleasant conditions for both humans and livestock. However, certain regions like Afar, Southern Somali, and Gambela might be affected by heat stress. Looking ahead to the next 10 days of March first dekad, the low-lying border areas of the country, especially Afar, Gambela and Somali 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.