

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



Climate Information

For

The Health Sector

**March 2024; 10-20 Assessment and
20-30 Forecasts**

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 outbreak of Malaria with a lag of two months, this information can be an important for early warning tool if used judiciously.

The major objective of this bulletin is in line with the Ethiopia Meteorological Institute strategy of diversifying climate application products to the basic developmental sectors (such as the Health, the water, the 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 to 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 Last Dekade

1.1. Malaria suitable areas during March 2024 second dekad

The climate information that was collected and analyzed for the second dekad of March 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 Oromia, Eastern Gambela, Southwest Ethiopian people region, and southern Benishangul Gumuz, as illustrated in figure 1 below.

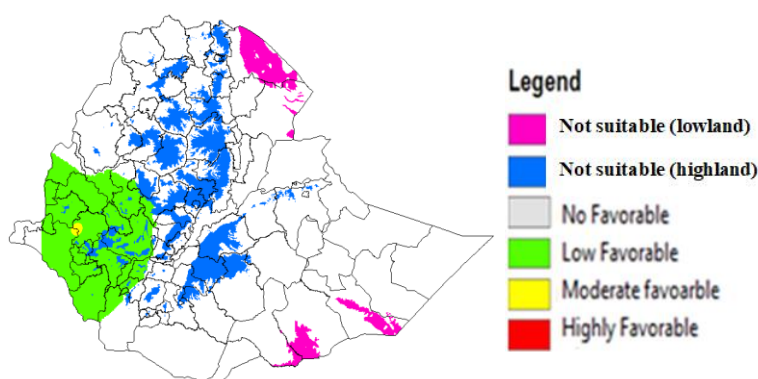


Fig 1:- Malaria suitability areas during March 2nd Dekada 2024.

2. THI Conditions during 2nd Dekad of March 2024

2.1 THI for Human

Heat stress was observed across various lowland regions of the country during the second dekad of March 2024, increasing from the previous dekad as a result of Temperature-Humidity Index (THI) analysis. The results show that approximately 10% 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 (87% of the stations with records) experienced comfortable to very pleasant weather, the remaining highlands were experiencing chilly stress.

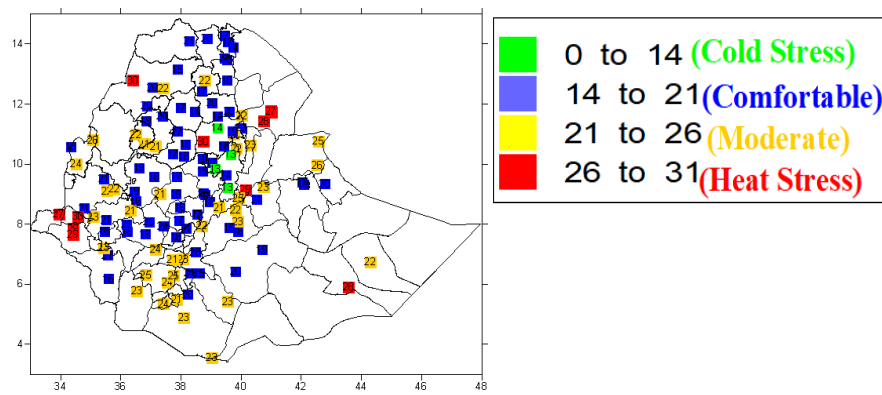


Fig 2; Comfort index for human during March 2nd dekad 2024

2.2. THI for Cattle.

The second dekad of March 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, Southern and Western Oromia, most of Somalia, and the South Ethiopian people regions. While not-stress-to-threshold weather conditions dominated over the remaining sections of the country.

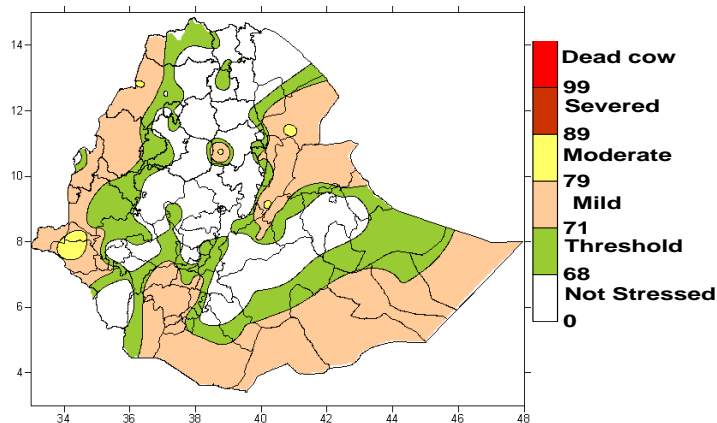


Fig 3:- THI values for Cattle's during the 1st dekad of March 2024.

Part Two

3. Expected Weather Impacts on health for Third (21-30) dekad of March 2024

3.1. Expected Mosquito breeding suitable areas

For a majority of Belg rainfall-benefiting areas, weather conditions that are ideal for mosquito breeding and development are anticipated during the upcoming third dekad of March 2024. In the forthcoming third dekad of March 2024, the border of the Eastern Amhara and Afar regions, the Southwest Ethiopian people region, the Southern and Central Oromia people region, the South Ethiopian people region, and the Central Ethiopian people region will be in appropriate places for mosquito breeding.

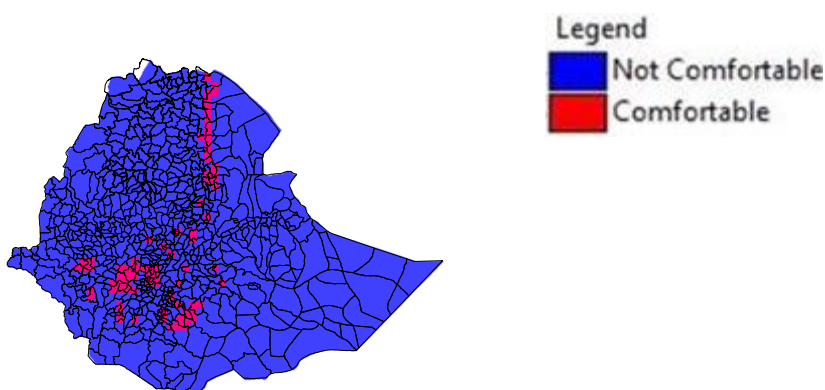


Fig 4: Malaria Suitable areas during March 3rd dekad 2024

3.2 Temperature Humidity Index (THI)

3.2.1 THI for Cattle

During the coming third dekad of March 2024, mild to moderate stress condition will expected over Afar, Somali, Benshangul gumuz, most lowlands of western Amhara, south Ethiopia people region, South-west Ethiopia people region, Central Ethiopia region, western, Southern and eastern border of Oromia and Gambela regions for both dairy and non-dairy cattle's. The rest highlands of the country will not in stress conditions.



Fig 5: Comfort index for Dairy and Non-dairy Cattles during Mar 1st dekad

3.2.2 THI for Human

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

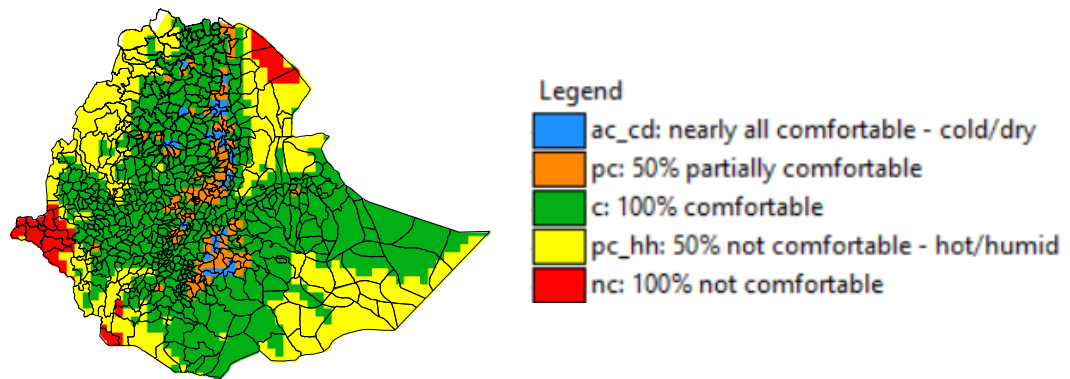


Fig 6: Comfort index for Humans during Mar 1st dekad

4. Conclusion

Based on the collected climate data analysis for March 2nd dekad, it has been observed that there were a conducive weather to the breeding and development of vector-borne diseases, especially malaria in the Southwest parts of Ethiopia. Additionally, over the next 10 days, there will be a conducive weathers for the development and survival rate of mosquitoes in some pocket areas from Southwest to Northeast 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 moderately heat stress. Looking ahead to the next 10 days of March 3rd 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.