FDRE

Ministry of Water and Energy

EMI

Bio Meteorology and Insurance Index Desk

Climate Information For The Health Sector

March 2024; 1-10 Assessment and 11-20 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 Heath 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

According to the collected and analyzed climate data for March first dekad, **low** favorable climate conditions for the breading and developments of mosquito vector were observed over**;** southern Benishangul Gumuz, Eastern Gambela, Central Ethiopia, South Ethiopia people region, Southwest Ethiopia people region, Western and southern Oromia, Afar regions with some border places of eastern Amhara as illustrated in figure 1 below.

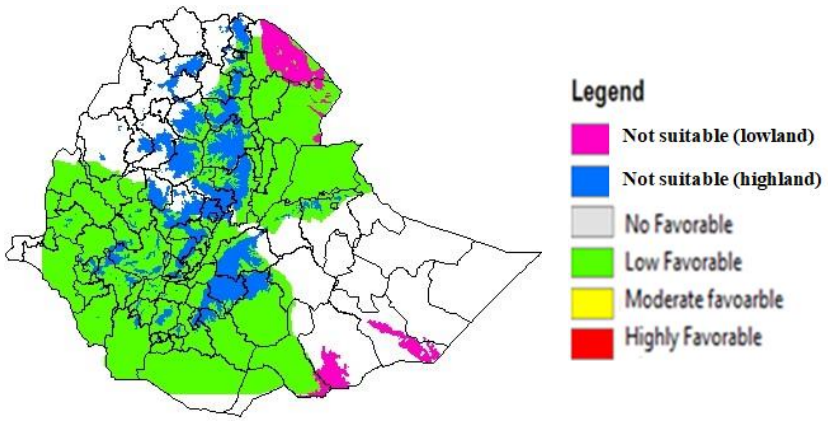

Fig 1:- Malaria suitability areas during March 1st Dekada 2024.

2. THI Conditions during 1st Dekad of March2024

2.1 THI for Human

As a result of Temperature-Humidity Index (THI) analysis, during the 1st dekad of March 2024 heat stress was observed over few places in the of Central Gambela, Southern Somali and Afar regions and which contributes only 7% of the recorded stations. Whereas, most the rest parts of the country (90% of the recorded stations) experienced comfortable and moderately comfortable weather conditions with the rest highland parts were in cold stress.

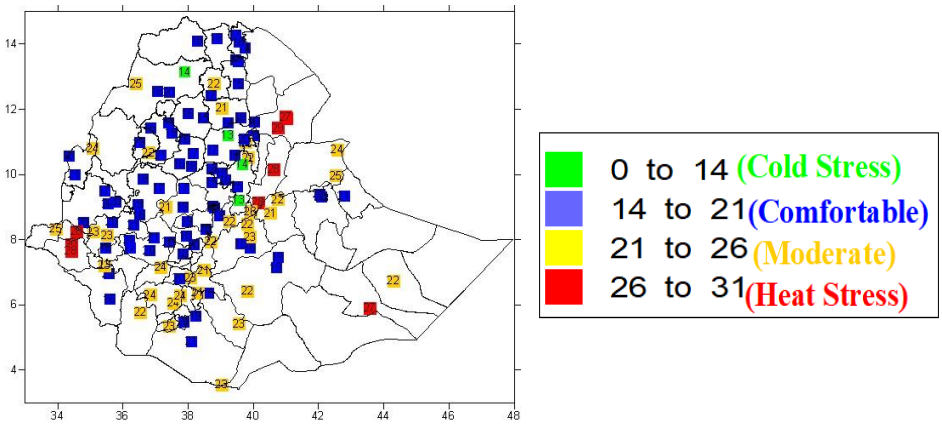

Fig 2; Comfort index for human during March 1st dekad 2024

2.2. THI for Cattle.

According to the collected meteorological data of March 2024 second dekad, Mild to moderate heat stress was observed in most parts of Afar, Northern Benishangul Gumuz, Southern Oromia and South Ethiopia people regions, lowlands of western Amhara, Gambela and most southern and northern Somali regions; while the rest parts of the country was dominated by not-stress to threshold conditions

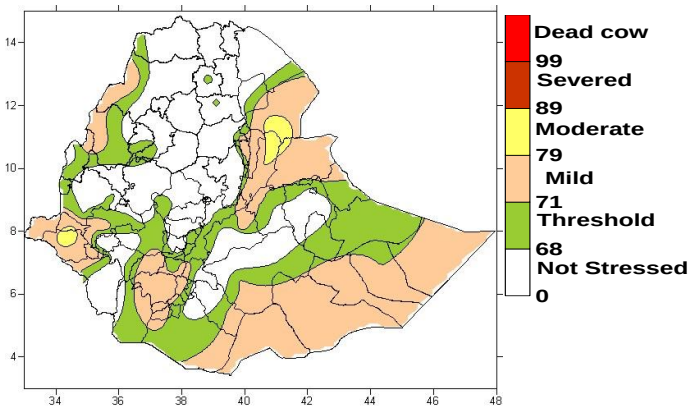

Fig 3:- THI values for Cattle's during the 1st dekad of March 2024.

Part Two

3. Expected Weather Impacts on health for Second (11-20) dekad of March 2024

3.1. Expected Mosquito breeding suitable areas

During the upcoming second dekad of March 2024; favourable climate condition for mosquito breeding and development will be expected over Southwest Ethiopia region and border of the Eastern Amhara.

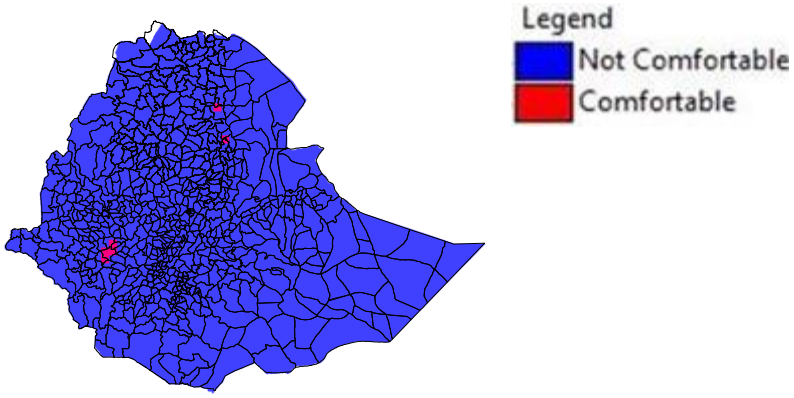

Fig 4: Malaria Suitable areas during March 2nd dekade 2024

3.2 Temperature Humidity Index (THI)

3.2.1 THI for Cattle

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

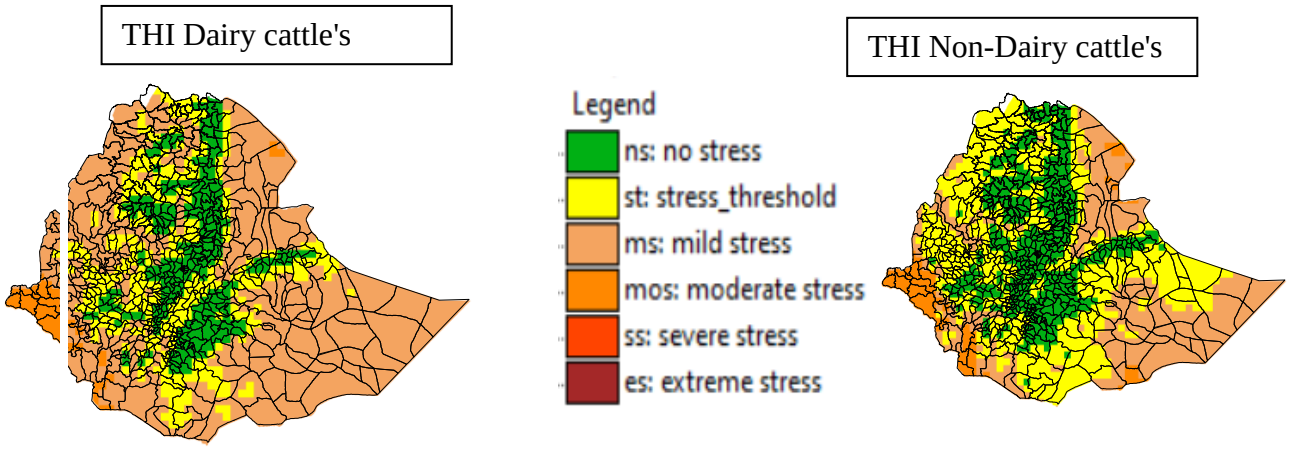

Fig 5: Comfort index for Diary and Non-diary Cattles during Mar 2nd dekad

3.2.2 THI for Human

During the coming second dekad of March 2024, 50%-100% uncomfortable weather conditions will expect over Gambela, Afar, South Ethiopia, 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 reduces in highlands of Northern, Central, and Southern parts of the country. In areas heat stress will expect as mention above people are advised to practice activities that help to reduce stress.

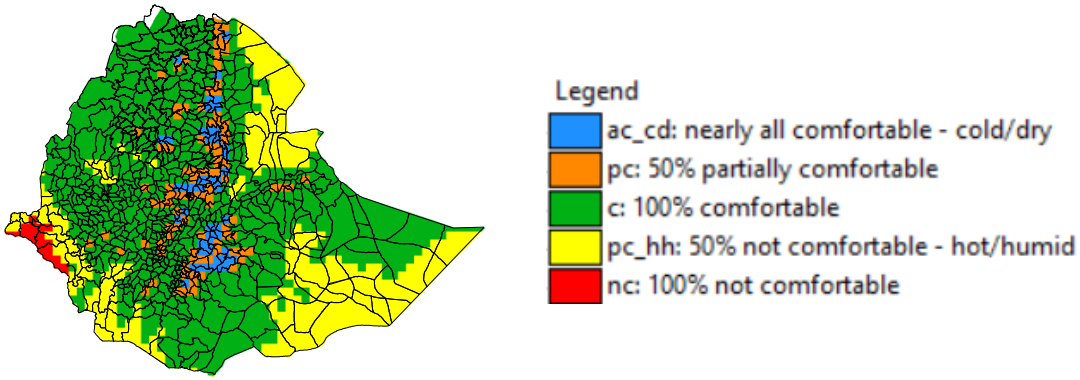

Fig 6: Comfort index for Humans during Mar 2nd dekad

4. Conclusion

Based on the collected climate data analysis for March 1st dekad, it has been observed that there were a conducive climate to the breeding and development of vector-borne diseases, especially malaria in the Southern half and Northeast 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 of Southwest and 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, and Somali regions might be affected by moderately heat stress. Looking ahead to the next 10 days of March 2nd 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.