

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



Climate Information
For
The Health Sector

October_2023

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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. RTH Conditions for Malaria transmission during October 2023

According to the collected and analyzed climate data for the month of October 2023, moderately favorable climate conditions for the breeding and developments of malaria mosquito vector were observed over western and southern parts of Ethiopia. Such as most parts of *wollega, Bale, Guji, Borena zones of Oromia region, Assosa zones in Benshangul gumuz, Dawa and Liben zones in Somalia regions. Whereas, low favorable conditions were observed over Somalia, most of oromia, southern Ethiopia, Central Ethiopia, south-west Ethiopia, Gambela, Benshangul Gumuz, and western Amhara* of the country as illustrated in figure 1.

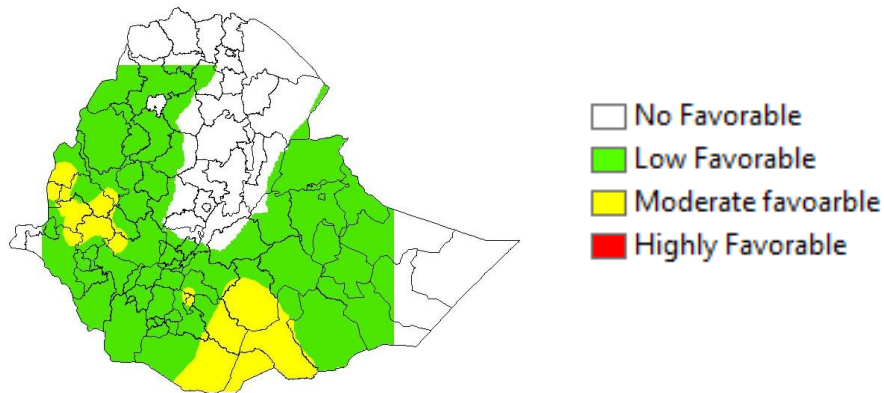


Fig 1:- Combined temperature, rainfall and relative humidity analysis for October 2023.

1.2. THI Conditions during October 2023

1.2.1 THI for Human

As a result of Temperature-Humidity Index (THI) analysis, during the month of October heat stress was observed over few places in the lowland parts of Somalia, Gambela and Afar regions and which contributes only 7% of the recorded stations. Whereas the rest most parts of the country (85% of the recorded stations) experienced comfortable and moderately comfortable weather conditions. Cold stress weather condition were observed in the highlands of northern Ethiopia.

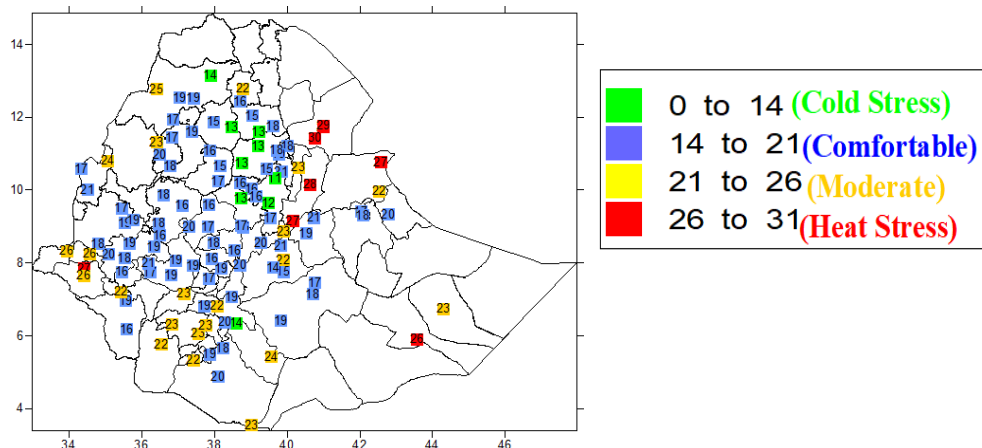


Fig 2; THI for human during October 2023

1.2.2. THI for Cattle.

According to the collected meteorological data of October 2023, moderate heat stress for Cattle's was observed over eastern Afar regions. Whereas the rest parts of the country was dominated by mild to Not-stress conditions.

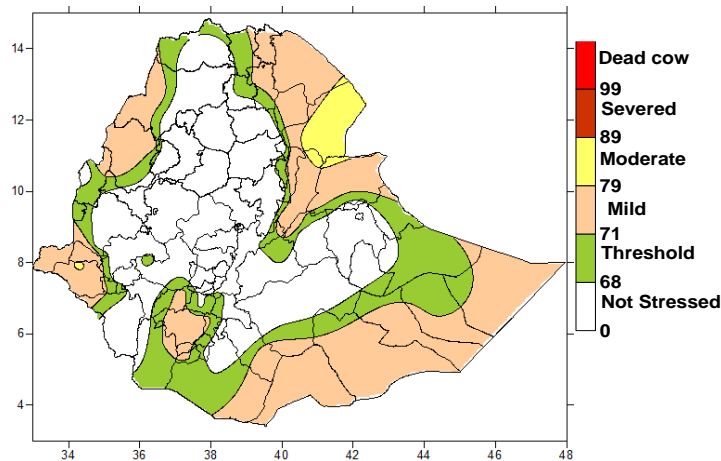


Fig 3:- THI values for Cattle's during the month of October 2023.

Part Two

2. Expected Weather Impacts on health for first(1-10) dekad of November 2023

2.1. Expected Mosquito breeding suitable areas

During the coming first dekad of November favourable climate condition for mosquito breeding and development will occurred over most parts of *Western half, Southern half and Eastern half*. particularly areas such as *Western, Southern and Eastern parts of Oromia, Southern Ethiopia, South-west Ethiopia, Sidama, Central Ethiopia Gambela, most parts of Western Amhara and Benshangul Gumuz regions* will more suitable areas for malaria transmission.

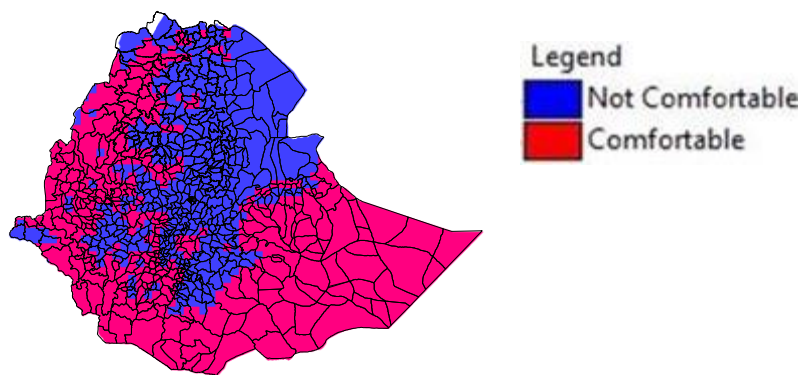


Fig 4: Suitable weather condition for malaria vector for November 1st dekade 2023

2.2 Temperature Humidity Index (THI)

2.2.1 THI for Cattle

During the coming first dekad of November 2023, Over the low land borders of the country threshold to moderate heat stress will expect whereas most central and highlands of the country will expect no heat stress weather conditions for dairy and non-dairy cattle's as shown in figure 5.

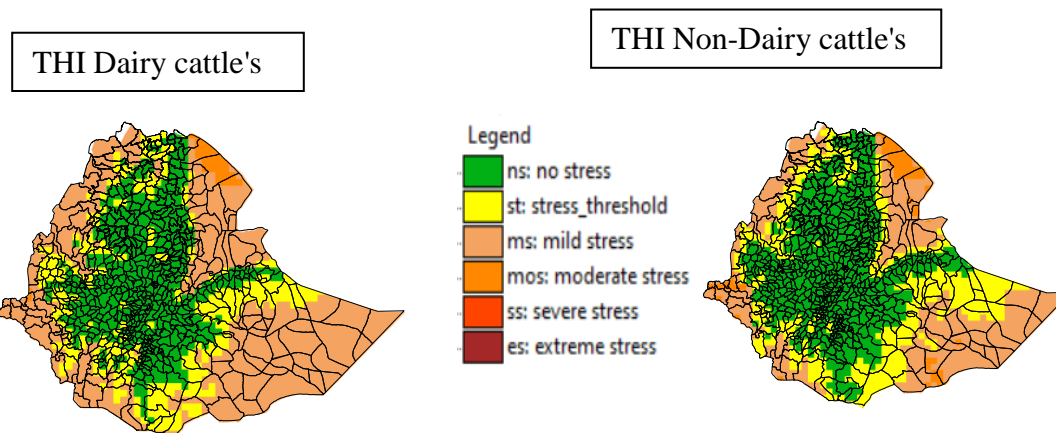


Fig 5: THI condition for Dairy and Non-dairy Cattles

2.2.2 THI for Human

During the coming first dekad of November 2023, 100% uncomfortable weather conditions will expect over northern Afar. And also hot and humid 50% uncomfortable conditions will expect over southern and northern Somali, Gambela, the rest parts of Afar, Lowlands of Western Amhara, northern Benshangul Gumuz and lowlands of Southern Ethiopia regions of the country. Whereas, the rest parts of the country will be comfortable weather conditions. Cold and dry weather conditions will happen in highlands of Northern, Central, and Southern parts of the country.

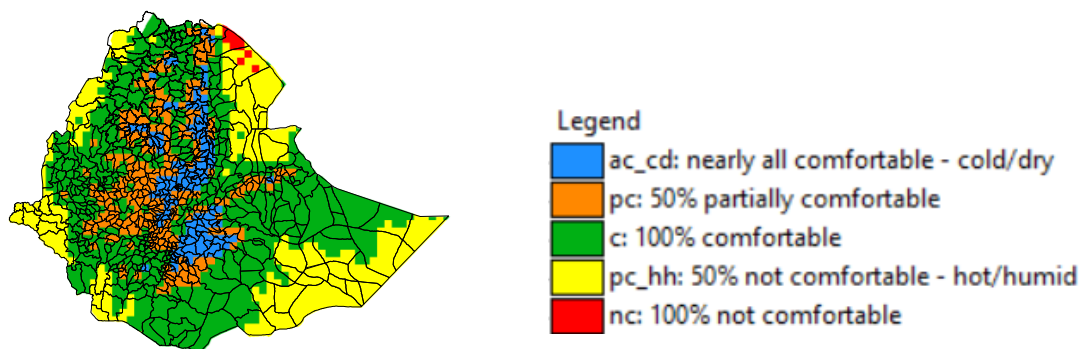


Fig 6 : THI for Human November 1st dekad 2023.

3. Conclusion

As the climate health analysis of this month, parts of Western and southern were the climate situation more conducive for the breeding and development of vector born diseases especially for the malaria mosquito. there will be moderate incidence of malaria in the moderately favorable areas and low incidence for the low favorable areas of the country. In the other way, for the next 10 day, most parts of the country will under suitable conditions for the development and survival rate of mosquito.

With regard to comfortability of climate situation, in most parts of the country was more comfortable conditions for both humans and cattle's. Exception of heat stress was observed in Afar regions.

4. Recommendations

As rainfall continues in most parts of the country, suitable conditions will be more favored for the development of vector-borne diseases. Therefore the following are suggested:

- 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 clean environment and using Mosquitoes nets.