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

Climate Information
For
The Health Sector

January 2024; 11-20 Assessment and 21-30 Forecasts

JANUARY- 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

Director General
Ethiopia Meteorology Institute
P.O.Box 1090
Tel: 251(0)11 6615779
FAX 251(0)11 6625292
Web: www.ethiomet.gov.et
Addis Ababa, Ethiopia

Part One

1. Weather Assessment of Last Dekade

1.1. Malaria suitable areas during January 2024 second dekad

According to the collected and analyzed climate data for January second dekad, favorable climate conditions for the breading and developments of mosquito vector were **not** conducive for breeding and developments of mosquito vector over the rest most of parts of the country during January 2024 as illustrated in figure 1 below

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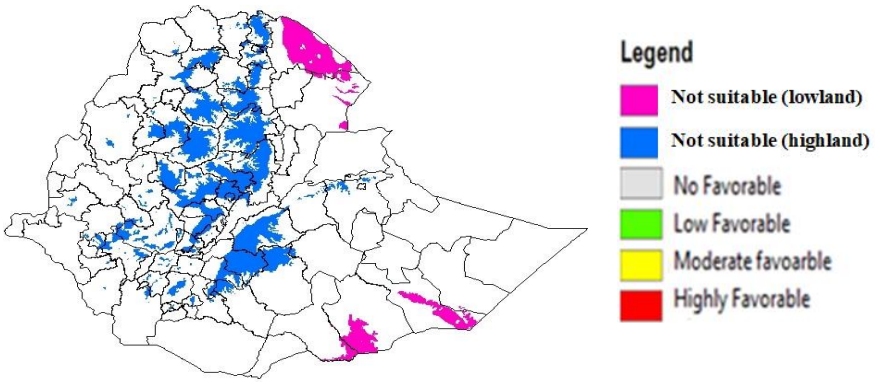

Fig 1:- Malaria suitability areas during January 2nd Dekada 2024.

2. THI Conditions during 2nd Dekad of January2024

2.1 THI for Human

As a result of Temperature-Humidity Index (THI) analysis, during the 2nd dekad of January 2024 heat stress was observed over few places in the lowland parts of Central Gambela and eastern Afar regions and which contributes only 2% of the recorded stations. Whereas, most the rest parts of the country (84% of the recorded stations) experienced comfortable and moderately comfortable weather conditions with the rest highland parts were in cold stress.

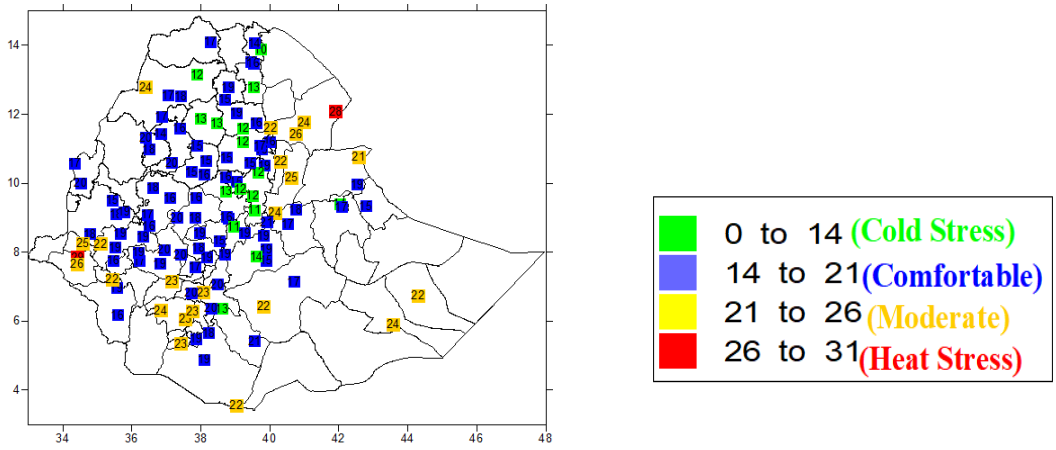

Fig 2; Comfort index for human during January2nd DK 2024

2.2. THI for Cattle.

According to the collected meteorological data of January 2024 second dekad, Mild to moderate heat stress was observed in few pocket areas of Afar and Southern Somalia, lowlands of western Amhara, Gambela and central parts of Southern Ethiopia regions, while the rest parts of the country was dominated by not-stress conditions

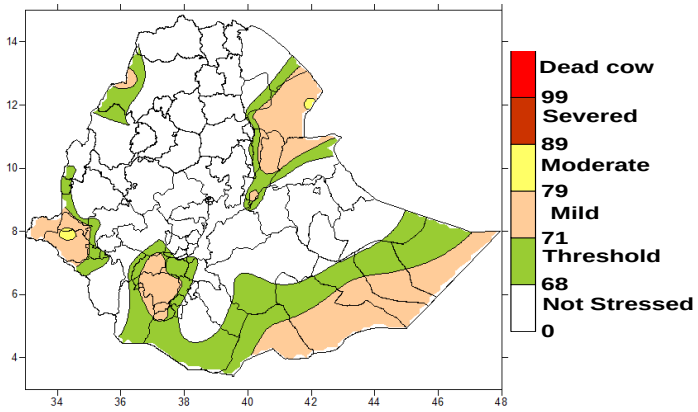

Fig 3:- THI values for Cattle's during the 2nd dekad of January 2024.

Part Two

3. Expected Weather Impacts on health for Third dekad of January 2024

3.1. Expected Mosquito breeding suitable areas

During the upcoming third dekad of January; favourable climate condition for mosquito breeding and development will expected to restrict to some places of Jimma zone of Oromia regions, and central Ethiopia regions will expect to more suitable for malaria development and transmission. As a result concern bodies and communities in these areas are advised to monitor the situation and take control action.

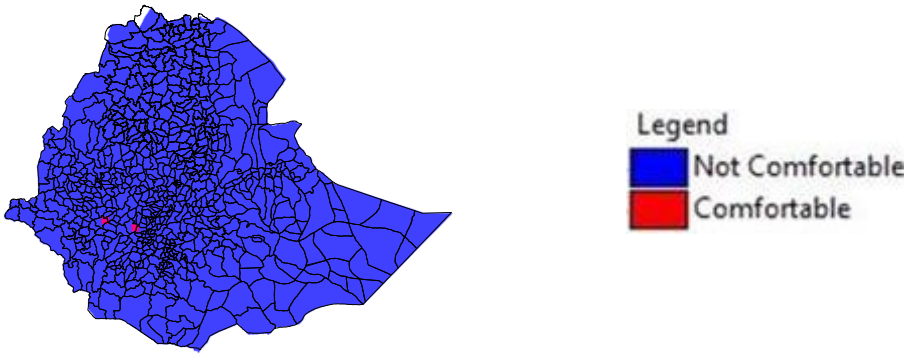

Fig 4: Malaria Suitable areas during January 3rd dekade 2024

3.2 Temperature Humidity Index (THI)

3.2.1 THI for Cattle

During the coming third dekad of January 2024, mild to stress-threshold 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. For this expanded stress threshold cover wide area for non-dairy cattle compared to dairy. The rest highland portion of the country will expect to be under none stress conditions.

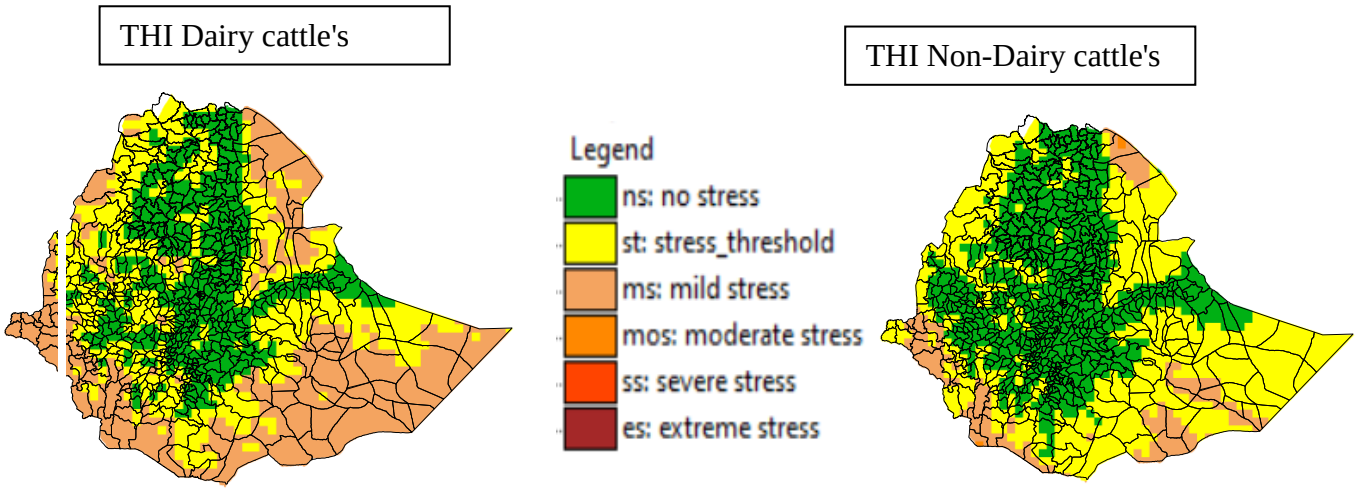

Fig 5: Comfort index for Diary and Non-diary Cattles during Jan 3rd Dk

3.2.2 THI for Human

During the coming third dekad of January2024, 50% uncomfortable weather conditions will expect over pocket areas of Eastern Gambela, South Ethiopia, Southern Somali, and Northern Afar regions of the country. Unlikely, most the rest parts of the country will be enjoy comfortable weather conditions. Cold and dry weather conditions will happen 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. Similarly citizens in areas cold stress will expect must protect themselves by wearing coldness protecting clothes.

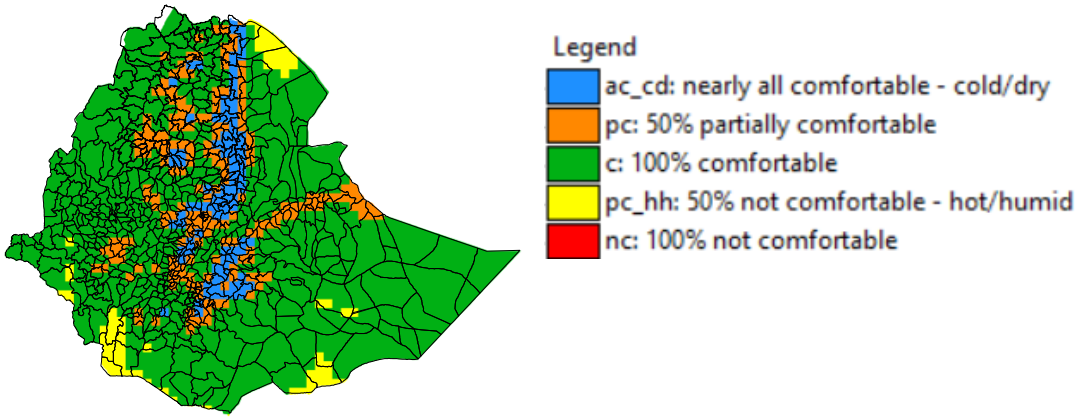

Fig 6: Comfort index for Human during Jan 3rd Dk

4. Conclusion

Based on the climate health analysis for January 2nd Dekad, it has been observed that there were not conducive to the breeding and development of vector-borne diseases, especially malaria. Additionally, over the next 10 days, some pocket areas of western parts of Ethiopia 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, Gambela, and Somali regions might be affected by moderately heat stress. Looking ahead to the next 10 days of January 3rd dekad, the low-lying border areas of the country will experience stress-threshold to mild heat stress, 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.