FDRE

Ministry of Water and Energy

EMI

Bio Meteorology and Insurance Index Desk

Climate Information For The Health Sector

April 2024 Monthly Assessment and May 1-10 Forecast

April_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 April

1.1 RTH Conditions for Malaria Transmission during April 2024

According to the collected and analyzed climate data for month of April 2024, there was a **low favorable to moderate** suitable climate conditions for the breeding and development of malaria transmission over; places such as Eastern half Gambela region, south and South-west Ethiopia people region, Sidama and central Ethiopia people region, all parts of Oromia region, Most parts of Somali region, central parts of Afar and border parts of eastern Amhara and southern parts of Benishangul gumuz regions of the country as illustrated in Figure 1.

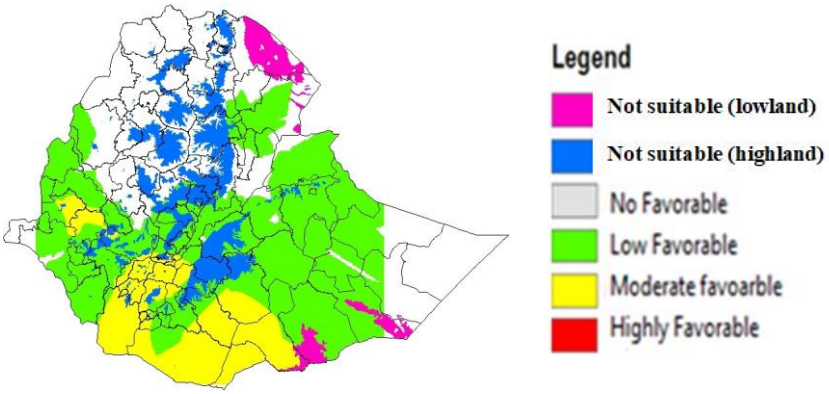

Fig 1:- Suitable weather conditions for malaria breaging site during April 2024**.**

1.2 THI Conditions during April 2024

1.2.1 THI for Human

As a result of the Temperature-Humidity Index (THI) analysis of April 2024, an expanded of heat stress was happened over a few places in the lowland parts of Gambela region (***Lare, Abobo, Fugnuido and Gambela)***, western Amhara region (***Metema***), Somali region (***Aysha and Gode***) and Afar region (***Gewane, Awash Arba, Mille and Semera***) and which covers 10% of the recorded stations; whereas the rest of most parts of the country (87% of the recorded stations) experienced comfortable and moderately comfortable weather conditions and the remaining 3% of the recorded station was in a cooled conditions as shown in figure 2.

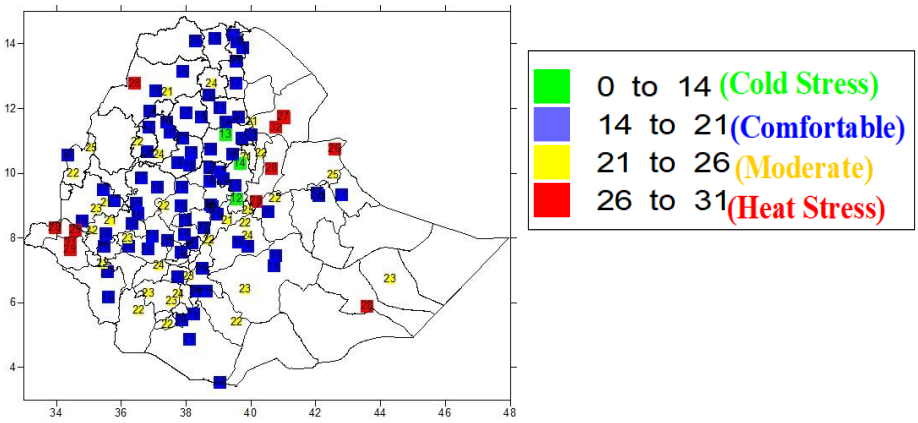

Fig 2:- Comfort index for humans during April 2024.

1.2.2 THI for Cattle

Based on the collected meteorological data of April 2024, mild to moderate heat stress for Cattle was existed over central parts of Afar, southern Somali, Gambela, and Gambela regions. A less significant impact of heat stress was occurred in the rest parts of Afar, Somali, Gambela, western Amhara and border of Benishangul Gumuz, South Ethiopia People regions and some pocket lowland areas of western Oromia regions. Whereas the rest highland and midland parts of the country were dominated by none-stress conditions as shown in figure 3.

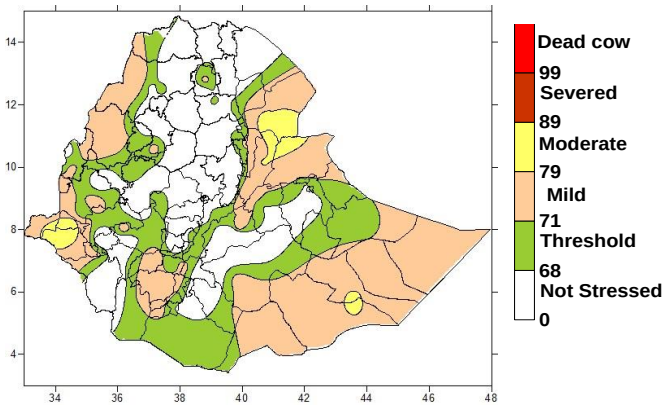

Fig 3:- Comfort index for Cattle during April 2024.

Part Two

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

2.1 Expected Mosquito Breeding Suitable Areas

During the upcoming first (1-10) dekad of May 2024; favourable climate condition for mosquito breeding and development will expected an expanded situation from the past over the Belg rainfall benefiting areas. Places that will be suitable for malaria prevalence are include southwest and south Ethiopia region, Central Ethiopia and Sidama region, southern and eastern parts of Oromia, most parts of Somali region, and a joint areas of Afar and eastern Amhara regions as illustrated in figure 4.

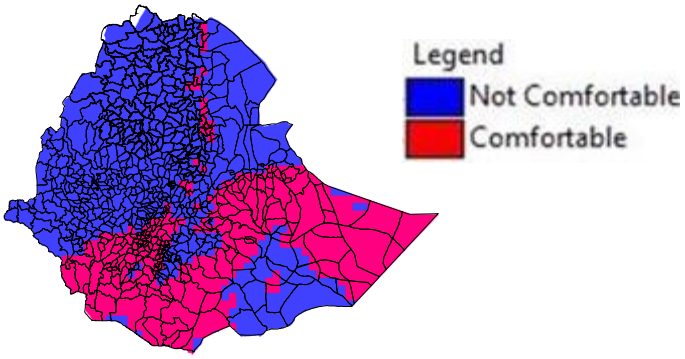

Fig 4: Suitable weather conditions for malaria incidence for May 1st dekade 2024

2.2 Temperature Humidity Index (THI)

2.2.1 THI for Cattle

During the coming first (1-10) dekad of May 2024, mild to severe heat stress condition will expected in most parts of the country, which includes Somali, Afar, Gambela, Benishangul Gumuz, South and Southwest Ethiopia people region, Southern, Eastern and western lowlands of Oromia, and western Amhara regions of the country. Whereas none stress weather conditions will expected over highland parts of the country for both dairy and none dairy cattle's as shown in Figure 5.

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

2.2.2 THI for Human

During the forthcoming first dekad of May 2024, 50%-100% uncomfortable weather conditions will expect over most of Afar, all parts of Gambela, South Ethiopia people region, border parts of Benishangul gumuz and western Amhara and south and northern parts of 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 heat stress will expect as mention below people are advised to practice activities that help to reduce stress as shown in figure 6.

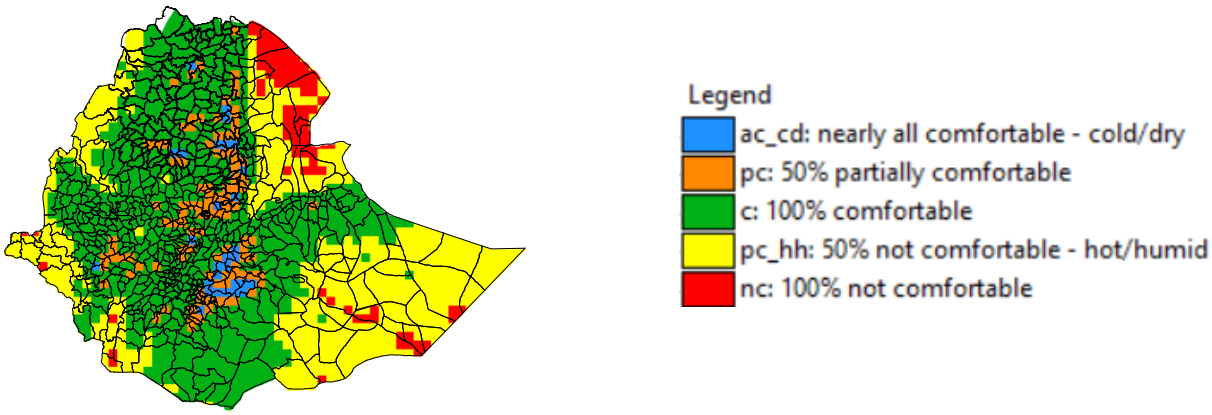

Fig 6: Comfort index for humans for 1st Dekad of May 2024

3. Conclusion

Based on this climate health analysis for April month 2024, it has been observed that, there were low to moderate suitable climate conditions to the breeding and development of vector-borne diseases, especially malaria and a like. Additionally, over the next 10 days, the Belg benefiting areas of the country will continue to experience expanded suitable conditions for the development and survival rate of malaria mosquitoes.

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

and western Amhara and Somali region 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.