



MALARIA EPIDEMIC EARLY WARNING PREDICTION SYSTEM FOR WESTERN KENYA HIGHLAND FOR APRIL 2024

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1. Summary

The model outputs for the malaria epidemic early prediction system for the western highlands of Kenya indicate no risk of Malaria in all the three areas in the months of April 2024 and May 2024

2. Model Outputs

2.1 Malaria epidemic early prediction system for Kakamega

Table 1 below shows the malaria epidemic early prediction system for Kakamega for April 2024.

Table 1: MALARIA EPIDEMIC EARLY PREDICTION SYSTEM: KAKAMEGA

Yr.	Month	Tmax	Mean Tmax	Tmax Deviation /anomaly	R/fall (mm)	R/fall Code	Tmax Deviation /anomaly Code	Additive % Risk
2024	01	27.6	28.3	-0.7	239.5	4	0	36.4
2024	02	29.7	29.2	0.5	83.1	0	1	0.0
2024	03	31.3	29.1	2.2	156.7	1	9	9.1

The observed climate data for March 2024 indicates an increase in maximum temperature from 29.7°C in February 2024 to 31.3°C in March 2024. This observation in March 2024 was positive (2.2 above the mean of the month). Rainfall increased from 83.1mm in February 2024 to 156.7mm in March 2024. The additive model percentage risk in March 2024 was **9.1%**.

Box 1:
For Kakamega, the epidemic threshold level is 30%.

Consequently, there is low risk of Malaria Epidemic in Kakamega in the month of April 2024 and May, 2024(See Figure 1)

Table 2 below shows the malaria epidemic early prediction system for Kisii for April 2024.

Table 2: MALARIA EPIDEMIC EARLY PREDICTION SYSTEM: KISII

Yr	Mon	Tmax (°C)	Mean Tmax (°C)	Tmin (°C)	Mean Tmin (°C)	Tmax Dev./ anom	Tmin Dev ./ano m	Total Temp Dev./ Ano m	Temp Dev./ anom Code	R/fall (mm)	R/fall Code	Model Output
2024	01	26.2	26.1	16.4	15.7	0.1	0.7	0.8	0	121.3	0	0
2024	02	29.7	27.0	16.6	16.1	2.7	0.5	3.2	4	194.0	0	0
2024	03	28.8	27.0	16.1	15.9	1.8	0.2	2.0	3	185.7	0	0

The observed climate data for Kisii for March 2024 indicates a decrease in maximum temperature from 29.7°C in February 2024 to 28.8°C in March 2024. This observation in March 2024 was positive (1.8°C above the mean of the month). Rainfall slightly decreased from 194.0mm in February 2024 to 185.7 mm in March 2024. The Model output risk is **Nil**.

Box 2:

For Kisii, the epidemic threshold level is 20%.

Hence, there is no risk of malaria epidemic in Kisii in the month of April 2024 and May 2024. (See Figure 2).

2.2 Malaria epidemic early prediction system for Nandi

Table 3 below shows the malaria epidemic early prediction system for Nandi for April 2024.

Table 3: NANDI MALARIA EPIDEMIC EARLY PREDICTION SYSTEM

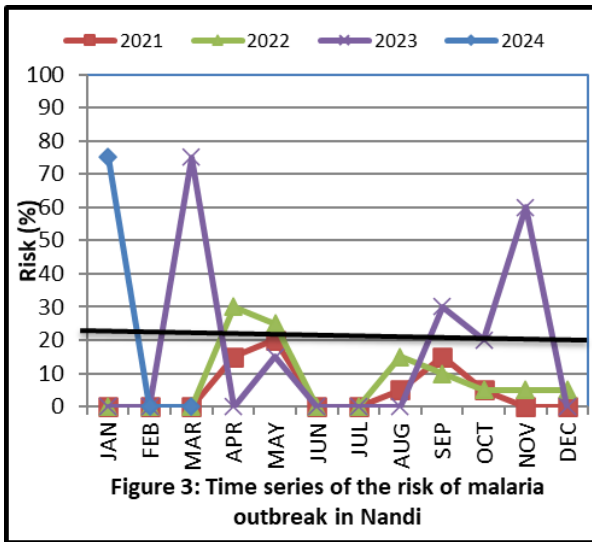
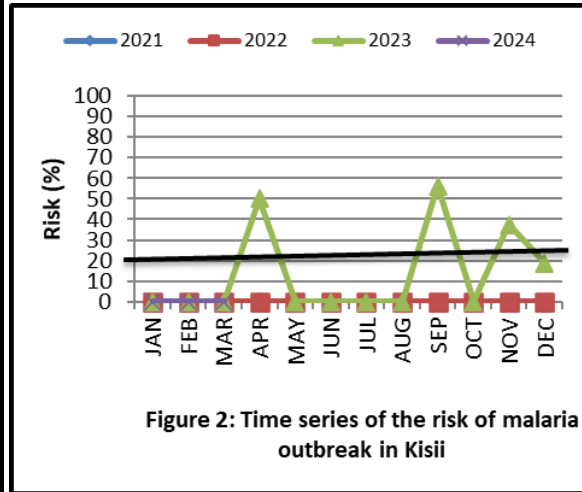
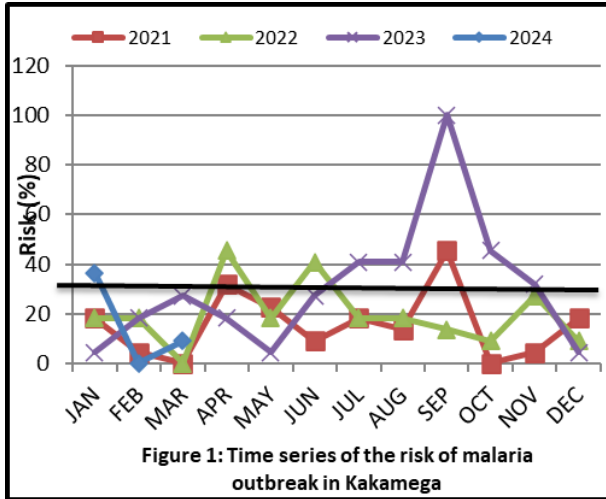
Yr	Mon	Tmax (°C)	Mean Tmax (°C)	Tmax Dev.	Tmin	Mean Tmin	Tmin Dev. /anom	Total Temp Dev. /Anom	R/fall (mm)	Temp Dev. Filters	R/fall Filter s	Multip licativ e Model
2024	01	24.4	23.3	1.1	13.3	10.9	2.4	3.5	303.8	4	3	75
2024	02	26.4	23.2	3.2	12.5	11.7	0.8	4.0	123.8	5	0	0.0
2024	03	27.7	23.0	4.7	12.1	11.5	0.6	5.3	150.3	5	0	0.0

The maximum temperature in Nandi indicates an increase from 26.4°C in February 2024 to 27.7°C in March 2024. This observation in March 2024 for Nandi was positive (4.7°C above the mean of the month). Rainfall increased from 123.8mm in February 2024 to 150.3mm in March 2024. The additive model percentage risk in March 2024 was **Nil**.

Box 3:

For Nandi, epidemic threshold level is 20%.

Hence, there is no risk of malaria epidemic in Nandi in the month of April 2024 and May 2024. (See Figure 3)



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