

KEY HIGHLIGHTS



As temperatures rise, **new challenges to prevent and treat malaria** across the continent will emerge.



By 2030, increased temperatures will likely put **more people across Africa at risk from exposure to malaria**, while at the same time reducing, though in many cases not eliminating, the risk to others.

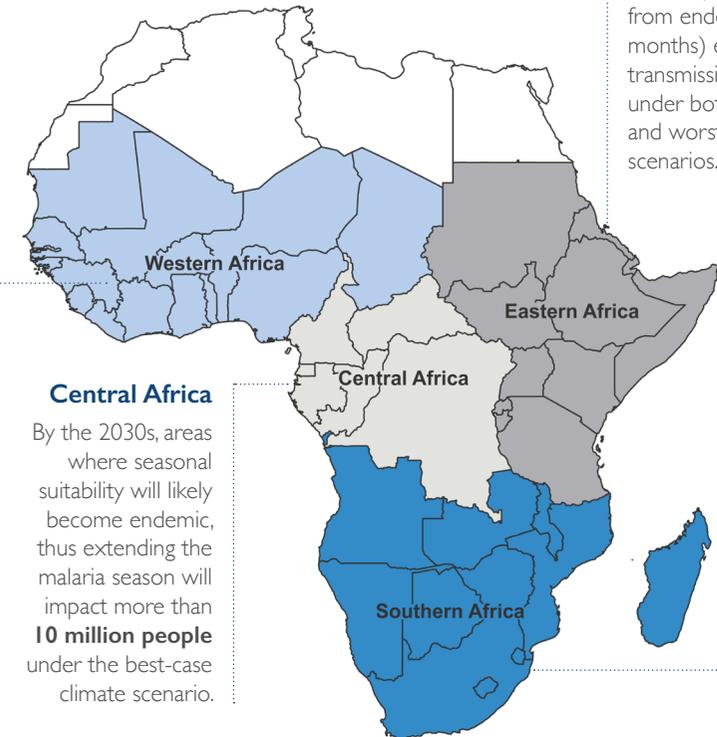


Improved understanding of the influence of temperature on malaria can lead to **improved public health planning and response**, while safeguarding current investments in malaria control and prevention.

REGIONAL HIGHLIGHTS

West Africa

By the 2030s approximately **47 to 58 million people** in West Africa will see reduced endemic (10-12 months) risk due to temperatures exceeding the thermal thresholds for mosquitoes. However, 65 million will remain in marginal to moderate (1-6 months) risk.



Highlands of East Africa

By the 2030s, approximately **34-40 million people** currently living in areas with no suitability will be at risk from endemic (10-12 months) exposure to transmission in East Africa under both best-case and worst-case climate scenarios.

Southern Africa

Between the 2030s and 2050s, rising temperatures will likely add approximately **3 to 26 million people** at risk from seasonal (7-9 months) malaria.

Central Africa

By the 2030s, areas where seasonal suitability will likely become endemic, thus extending the malaria season will impact more than **10 million people** under the best-case climate scenario.

DEFINING SUITABILITY

Endemic: 10-12 months Seasonal: 7- 9 months Moderate: 4-6 months Marginal: 1-3 months

PATHWAY OF RISK



TEMPERATURE DRIVES MALARIA SUITABILITY

Temperatures are expected to increase throughout sub-Saharan Africa due to climate change. This may **reduce the months of optimal malaria transmission when temperatures become too high, or increase malaria where it was previously too cool** for the malaria-carrying *Anopheles* mosquito.



SUITABILITY DRIVES THE NUMBER OF PEOPLE AT RISK

As temperatures rise, **more people will be at risk overall in various geographic areas**, putting greater emphasis on surveillance, predictive tools, and policy and program responses to address these risks.

1

New areas of malaria suitability that were previously unsuitable.

2

Extension of the number of months for malaria suitability.

3

Reduction of the number of months for malaria suitability.

POSSIBLE CHANGES

RECOMMENDATIONS AND OPPORTUNITIES FOR ACTION

Understanding the changing seasonality of malaria, particularly for new areas at risk of transmission or areas where the length of the season may shorten or extend, can help inform malaria programs and policy reach the goal of elimination. Addressing this changing risk profile will require modifying current interventions and designing new ones that can adaptively respond to changing climate conditions. Illustrative opportunities for information action include:



TARGET | Knowing where and when changes in burden are likely to take place offers the opportunity to geographically target monitoring programs to achieve the highest impact with limited resources.



ANTICIPATE | When local populations have little or no immunity to the disease, malaria suitability changes can often lead to epidemic conditions, especially among vulnerable groups such as pregnant women, children, and the elderly. Surveillance data allows for the preparation of a timely response before the outbreak of epidemics and can guide decisions around distribution of malaria services and their use by impacted communities.



ADJUST | Surveillance information offers an opportunity to adjust the investment time frame to optimize vector control and improve case management. Pinpointing regions where transmission could be reduced lowers the cost of interventions and provides an opportunity to reach pre-elimination or elimination.