The impact of flood risk on malaria transmission in Sub-Saharan Africa

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Climate change projections for 2030 indicate a concerning increase in the frequency of floods in Sub-Saharan Africa. This increase is expected to result in the proliferation of epidemiological diseases such as malaria. Over the past few decades, the population in Sub-Saharan Africa has been strongly affected by the Plasmodium falciparum parasite. However, the specific impact of flood risk on the number of malaria cases in this region has not been thoroughly studied. We examined the temporal trends in health impacts resulting from flood risks, considering the drivers of hazard, exposure, and vulnerability between the years 2000 and 2018. To assess the flood hazard, we utilized satellite images, rainfall, and temperature data. Additionally, we used population data to determine the number of people and children affected by floods, socioeconomic data to evaluate vulnerability, and health data to analyze the prevalence of newly diagnosed Plasmodium falciparum cases. The study will provide support for decision-making regarding health risk mitigation.