

“Drought and Its Effect on Infectious Diseases”
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Abstract

The purpose of the study is to examine the effects of drought on different infectious disease processes. The aim is to provide a much-needed synthesis of drought-driven changes to disease risk. A tremendous amount has been written about potential effects of climate change on disease, but the vast majority of the work focuses on effects of temperature and/or short-term precipitation events. Very little synthesis has been done looking at longer-term effects of drought. By identifying themes of how drought can influence disease transmission, the hope is to increase interest and research on this important but often overlooked topic. Initially, a search through three databases was conducted using key terms like “climate change,” “drought,” “infectious disease,” “malaria,” “cholera,” and a combination of similar terms. About 800 articles were identified and downloaded. From those 800 articles, 350 were chosen based whether or not there was a comparison between weather variables and disease processes. Criteria was based on disease process being compared to moisture index, dryness index, ENSO, or precipitation. A literature review was conducted based off those results. Findings suggest that the increase in vector borne diseases during periods of drought are driven by human behavior change and mosquito’s behavior change. Mosquitoes increase blood feeding during dry periods and the development of drought resistant eggs. Finally, humans increase their storage in water sources increasing the proximity between mosquitoes and human.

*There are no conflicts of interest to report.