

Climate Change-Related Declines in Water Availability Impact Child Health and Growth in the West African Sahel

Child health and growth suffer in the West African Sahel when the quality and quantity of surface water (waterholes) decline, new research shows. The results highlight the potential importance of waterhole monitoring and providing clean drinking water locally for the health of people and livestock.

Kathryn Grace of the University of Minnesota and Frank Davenport of the Climate Hazards Center at the University of California, Santa Barbara examined the ways households who live in communities that depend on livestock for food and money may be uniquely impacted by warming and drying conditions. They combined child health data from the Demographic and Health Surveys (DHS) and data on waterhole quality from the Water Point Monitor developed recently by U.S. Geological Survey scientists.

The interdisciplinary work focuses on people particularly at risk from a changing climate. Countries in the West Africa Sahel, including Burkina Faso, Mali, and Senegal, have rapidly growing populations dependent on livestock and crops in a region that is predicted to experience hotter and drier conditions. Already plagued by chronic food insecurity and childhood malnutrition, the research shows that child health improves when more water is available from waterholes.

Journal article: Kathryn Grace and Frank Davenport, "Climate Variability and Health in Extremely Vulnerable Communities: Investigating Variations in Surface Water Conditions and Food Security in the West African Sahel," *Population and Environment* 42, no. 4 (2021).