

Snakebite Dynamics of Colombia: Effects of Precipitation Seasonality on Incidence

Carlos Cruz^{1,*}

¹ *Simon A. Levin Mathematical, Computational, and Modeling Sciences Center, Arizona State University, Tempe AZ 85282*

`cecruz4@asu.edu`

Snakebite is a neglected tropical disease that represents a significant public health issue in Colombia, particularly in rural areas. Studies in other countries have presented strong evidence to support the hypothesis that snakebite and rainy seasons are related. We aim to evaluate whether there is a strong correlation between precipitation and snakebite incidence in Colombia. Employing two datasets of monthly precipitation and reported snakebite incidence from 2007 to 2013, we performed cross-correlation analysis for 314 municipalities. Additionally, we use a zero-inflated Poisson Regression model to quantify the effects of location, time, and precipitation on incidence. Results showed a significant correlation between precipitation and snakebite incidence in 70.88% of the municipalities.