National Institute of Environmental Health Sciences

The impact of climate on Leptospirosis in Sao Paulo, Brazil

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Abstract:

In this work, we correlate the daily number of human leptospirosis cases with several climatic factors. We used a negative binomial model that considers hospital daily admissions due to leptospirosis as the dependent variable, and the climatic variables of daily precipitation pattern, and maximum and minimum temperature as independent variables. We calculated the monthly leptospirosis admission probabilities from the precipitation and maximum temperature variables. The month of February showed the highest probability, although values were also high during the spring months. The month of February also showed the highest number of hospital admissions. Another interesting result is that, for every 20 mm precipitation, there was an average increase of 31.5% in hospital admissions. Additionally, the relative risk of leptospirosis varied from 1.1 to 2.0 when the precipitation varied from 20 to 140 mm.

Source: http://dx.doi.org/10.1007/s00484-011-0419-4

Resource Description

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Precipitation, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban, Valley

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Central/South America

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: Leptospirosis

Model/Methodology: ☒

type of model used or methodology development is a focus of resource

Outcome Change Prediction

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Short-Term (

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content