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A Correlational Analysis of the Relationship between Weather and Crime in Region 4, Guyana

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Investigations into the relationship between weather and crime in tropical countries have received limited attention in the past. This study examined the relationship between weather and crime in Region 4, Guyana; a region which experiences hot and humid weather conditions all year long as opposed to the temperate regions where most prior studies have been done. Monthly and annual recordings of temperature and precipitation for Region 4, Guyana for 2008 to 2019 were selected as the independent variables, whilst the monthly and annual reports of murder, robbery, rape, burglary, and breakage were used as the dependent variables. A correlational analysis was performed, and the correlation coefficients were calculated. It was revealed that there is indeed a relationship between weather and crime in Region 4, Guyana. This study highlighted that precipitation had a surprisingly strong positive correlation ($r = .590, p < .05$) with the occurrence of murders and a weak positive correlation ($r = .193, p < .05$) with property crimes. Temperature was found to be negatively correlated with violent crimes, specifically rape and several types of robberies, contradicting the conventional view that warmer temperatures facilitated the occurrence of these violent crimes. These findings highlight the complex weather-crime relationship which exists in tropical countries and emphasise the need for further similar research in the Caribbean and South America.

Keywords: Weather, Crime, Climate