A TESTED METHOD TO ASSESS AND PREDICT WEATHER-CRIME ASSOCIATION

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Abstract

Sociologists, criminologists and geographers have investigated the causes behind crime commission, and why common crime occurred in some societies more than others. Each group has been researched depending on their specialization. Some tend to seek the influence of climate on crime and human behaviour. Many studies have been conducted on climate and weather elements such as temperature, humidity and precipitation. However, view studies which focused on haze as one of weather elements and gave a measurable correlation with crime. Studying crime and weather-association for a short period, seasonally or monthly could be more accurate than annual or long term analysis to assess the effects of weather elements on criminal activities. We added the haze as one of the weather variable to investigate its effects on criminal and compare its effects with temperature and humidity. We have used both monthly crime data and monthly weather records to build a tested regression model to get as much as possible accurate result, including a prediction model that can predict crime cases under the three weather factors which are temperature, humidity and haze values. We have applied this model in two different climate provinces in Saudi Arabia which are Riyadh and Makkah, where Riyadh is a desert area and has observed haze on average around 17 days a month, while Makkah is a coastal area and it had observed haze on average around 4 days a month. We found that there was a measurable relationship between each of those three variables and criminal activities. However, haze was the most variable affect theft, drug and assault in Riyadh comparing with other elements. Temperature and humidity were the efficacious variables in Makkah province, while there was no effective influence of haze, where it does not have the amount of haze that can be effective variable on crime rate.

Keywords: Crime, Human Behaviour, Crime & Weather Association.