



Universidad de  
**SanAndrés**

COMPUTATIONAL TOOLS FOR RESEARCH

PROFESSOR: PhD AMELIA GIBBONS

**Work N<sup>o</sup>3**

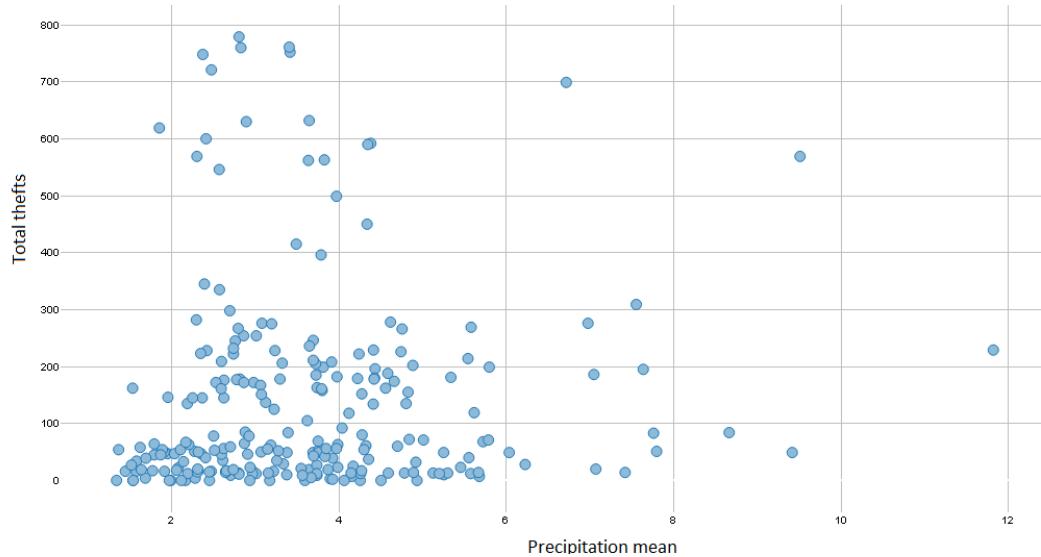
**PERUCHIN TOMÁS  
FRANCO RIOTTINI DEPETRIS**

July 17, 2022

## Graphs between rainfall and the four crimes.

Here we will show four graphs that describe the relationship between thefts, assaults, robberies, and breaking entering with precipitation mean to characterize crime in Maryland.

Figure 1: Thefts and precipitation mean in Maryland



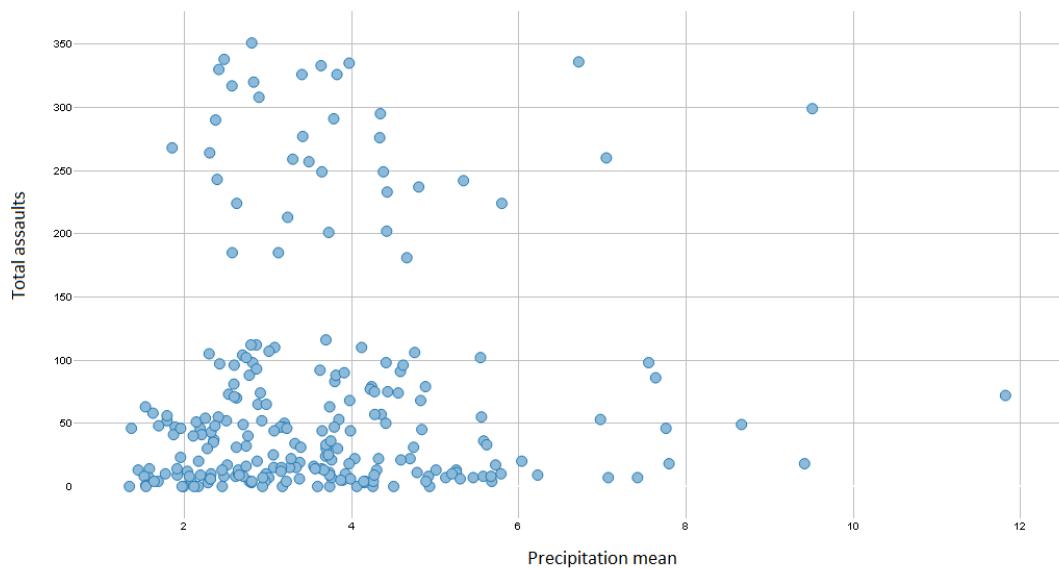
Source: Own elaboration based on weather data of Maryland and National Police Department Crime Rates data from Socrata.

In Figure 1 we show the total thefts and precipitation mean. In general, the points are strongly concentrated in low values of precipitation (around 3) compared to values of thefts less than one hundred. There is a second group of dots, on average, two hundred thefts and the same low precipitation values as the first group.

In Figure 2 we show the total assaults and precipitation mean. In this graph, we identify two different groups, with a gap in the middle of the transition between the groups.

The first group is characterized by low precipitation mean, between zero and six, and assaults between zero and one hundred. Then, we have a second group of data that respond to the same interval of precipitation mean, between zero and six but with a level of assaults higher than the first group, close to two hundred and fifty.

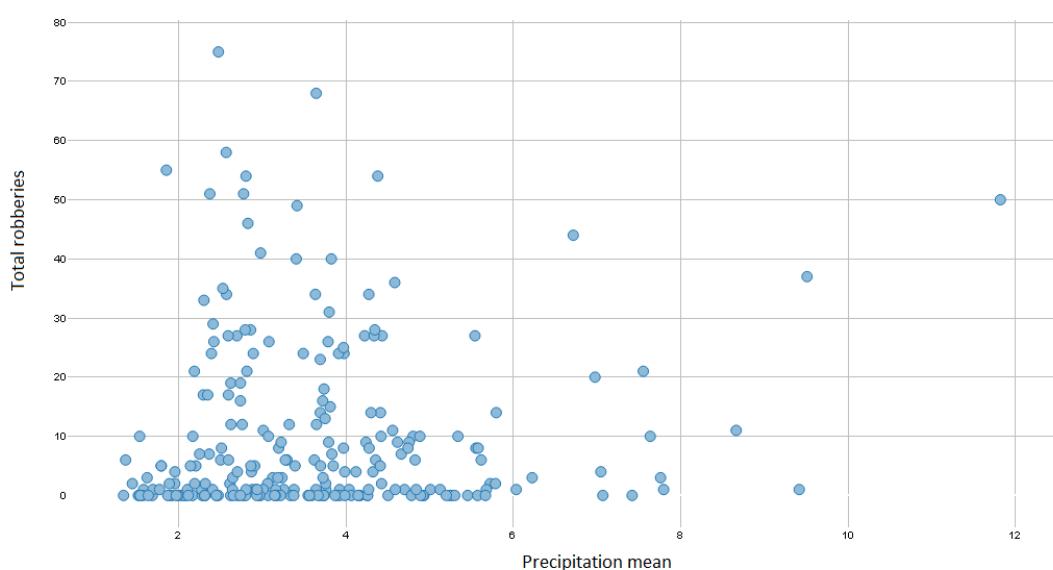
Figure 2: Assaults and precipitation mean in Maryland



Source: Own elaboration based on weather data of Maryland and National Police Department Crime Rates data from Socrata.

In Figure 3 we show (on the vertical axis) the total robberies and precipitation mean (on the horizontal axis). In this graph, the dots concentrate in the range between two and five precipitation mean that responds to a robbery level of less than 10, with a strong focus on zero to four robberies. Then we can identify that for the same range of low precipitation levels, the distribution verticalizes for those dots of robberies that increase from ten to fifty, responding to average rainfall between two and four.

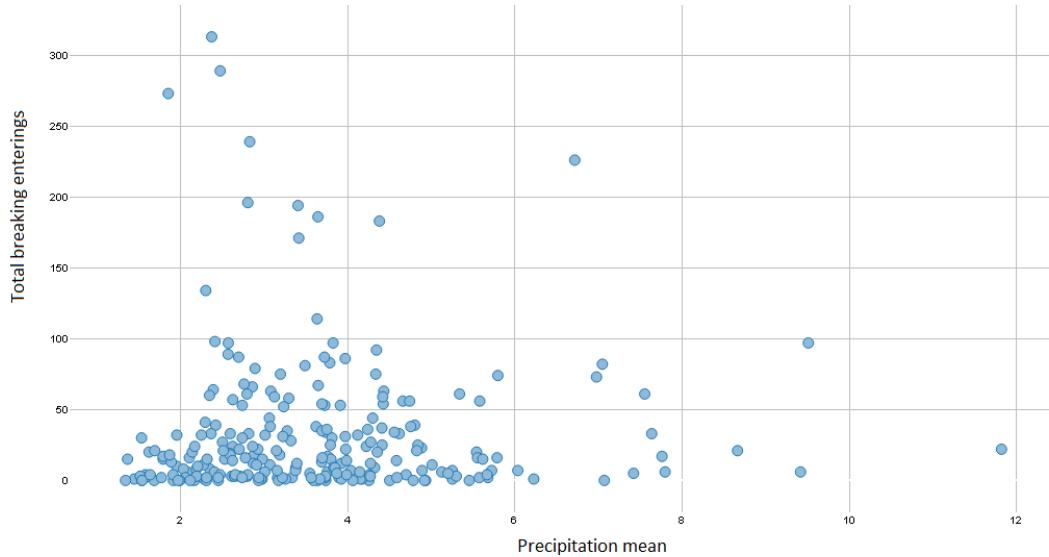
Figure 3: Robberies and precipitation mean in Maryland



Source: Own elaboration based on weather data of Maryland and National Police Department Crime Rates data from Socrata.

In Figure 4 the graph presents the total breaking entering and precipitation mean in Maryland. The distribution of dots is grouped in the range between one to six precipitation mean and zero to one hundred breaking entering. Then we find two small groups of points, the first one, precipitation mean with average values between six and eight with a low level of breaking entering. In the second group, we found only nine dots with breaking entries greater than one hundred and fifty and low average of precipitation mean.

Figure 4: Breaking entering and precipitation mean in Maryland

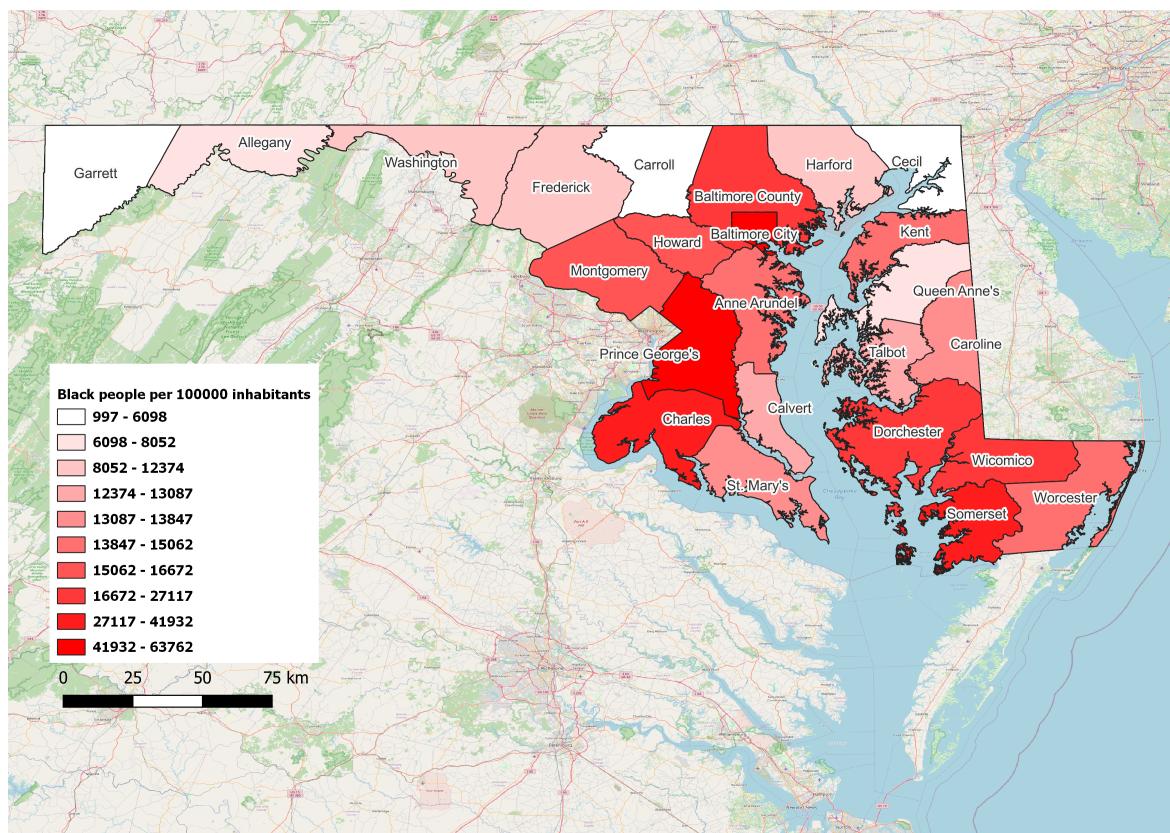


Source: Own elaboration based on weather data of Maryland and National Police Department Crime Rates data from Socrata.

## Map of Black people.

In Figure 5 the map shows the distribution of black people per hundred thousand inhabitants. The states that have the most significant number of people are Charles, Prince George's, and Baltimore. It would be inappropriate to draw any conclusions from the relationship of this graph with the previously analyzed variables. To have a complete analysis on which we can conclude something, we should be able to analyze the link between crimes and the population density of this minority.

Figure 5: Map of Black people per one hundred thousand inhabitants



Source: Own elaboration based on weather data of Maryland and National Police Department Crime Rates data from Socrata.