

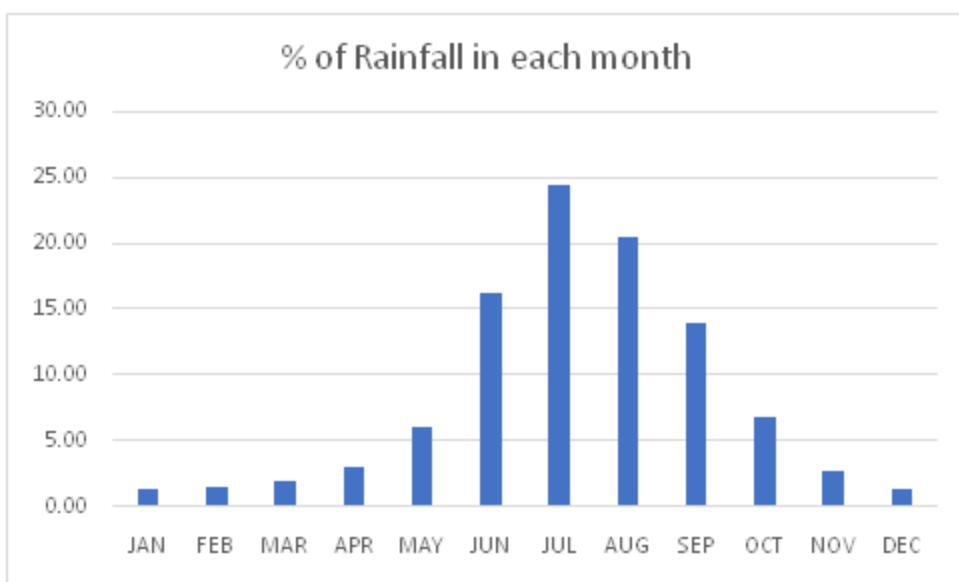
LITERATURE SURVEY

Exploratory Data Analysis of Indian Rainfall Data for agriculture

India is an agricultural country and secondary agro based market will be steady with a good monsoon. The economic growth of each year depends on the amount of duration of monsoon rain, bad monsoon can lead to destruction of some crops, which may result in scarcity of some agricultural products which in turn can cause food inflation, insecurity and public unrest. In our analysis we are trying to understand the behavior of rainfall in India over the years, by months and different subdivisions.

Annual rainfall by months:

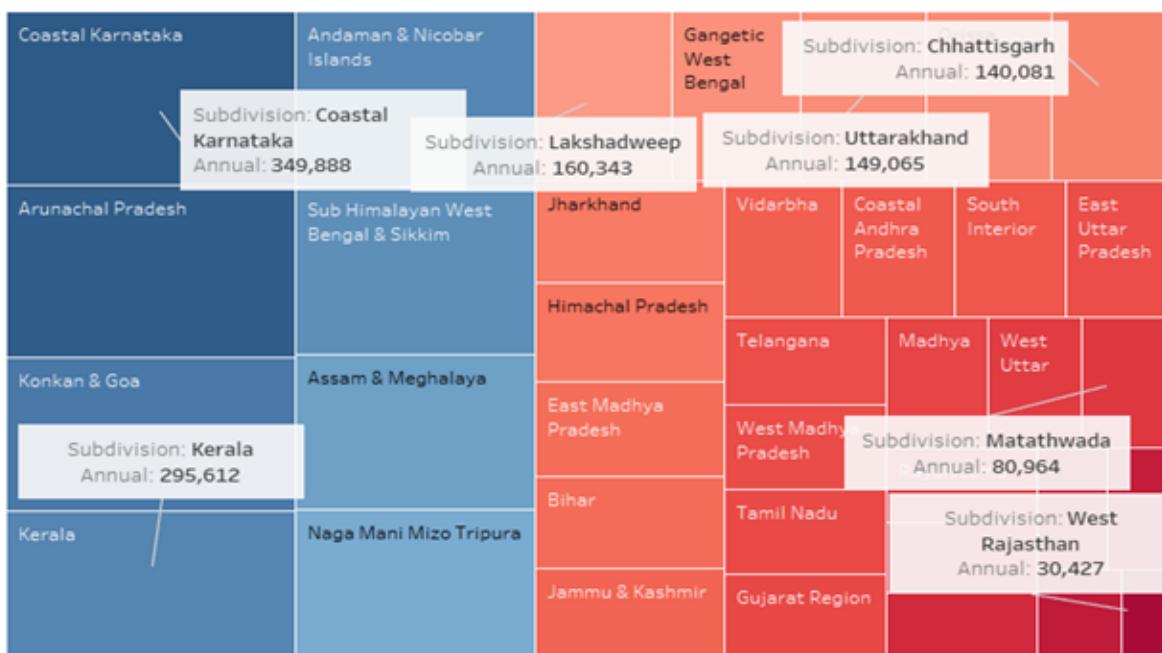
The below graph shows the percentage of rainfall each month receives when we consider India as a whole. The rainfall in the months of June, July, August and September together contribute to almost 80% of the annual rainfall.



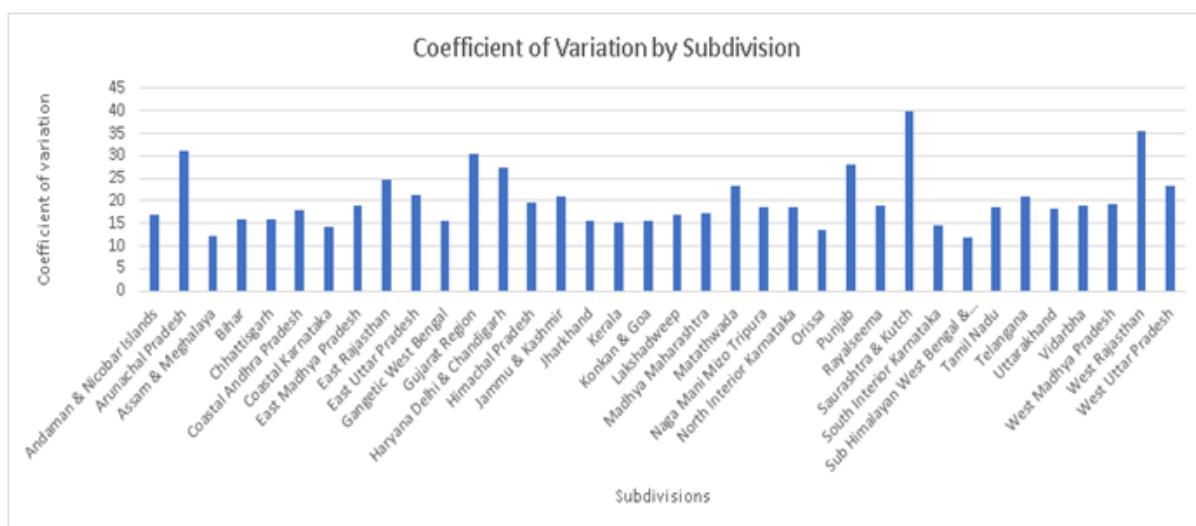
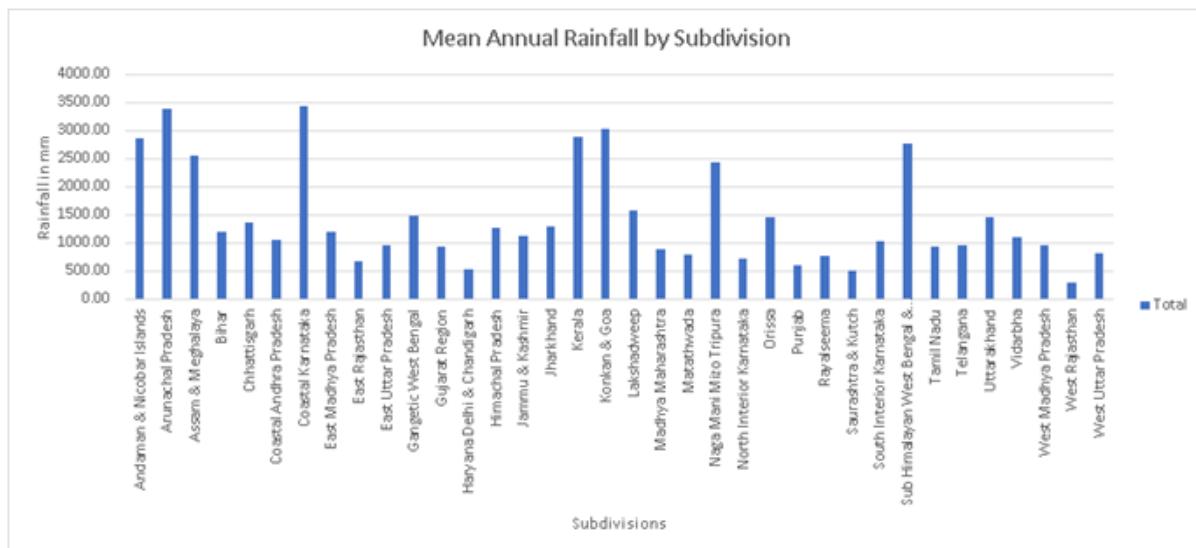
Annual rainfall by subdivision

The following is a heat map plotted based on sum of rainfall received by each subdivision for all these years. The subdivisions with large area represents high rainfall and with small boxes represent less rainfall. We can see that the subdivision located at Southwest and Northeast part of India have received more rainfall compared to central India.

Heat Map of Rainfall in all the Subdivisions



The average rainfall and variation values are plotted for each subdivision on different graphs which are given below. We can see that the subdivision which receive High rainfall have less variation seen over years whereas the subdivisions receiving low rainfall showed more variation over the years.



Annual Rainfall trend over the years for whole India

10 years moving average was plotted, we can see that there is a decreasing trend in rainfall in the recent years.

