Capstone Two: Project Ideas & Proposal

Proposal 1: Statewide Impact Study of Forest cover on rainfall data in India.

In the above mentioned the idea is to analyze the rainfall data in India from the year of 1987 till 2013 along with the forest cover to understand if there is any impact/correlation between rainfall ,and the change in Forest cover.

Question we try to answer/understand:

1) If there is any impact on the rainfall in India related to change in forest cover positive or negative?

2) Rainfall will be assessed state wise and nation wise to understand the impact on state level and national level?

3) Will try to come up with a heat map to show the change in rainfall pattern, across the country and if it attributes to change in forest cover.

Theory & Background:

Idea that Forest are must for a particular area to receive good rainfall is very dominant however there are two sides to this debate, supply and demand.

Supply side has an argument that forest are required as they enhance the rainfall or in other words magnifies for the particular area however demand side has an argument that forest are the net user and the reason for the shortfall in the catchment area of the total net we receive.

This scientific debate has significant implications for the development of policies to manage forests and water.

Research & Result:

Theories connecting forests with rainfall peaked in popularity in the 1850s to 1880s, a period when scientists expressed alarm that deforestation caused regional declines in precipitation. Forests were understood to create rain within a locality and region.

Scientific consensus shifted by the early twentieth century to the view that forests did not play a significant role in determining rainfall. The forest-rainfall connection reemerged in the 1980s alongside advances in climate modelling and growing fears of anthropogenic global warming and tropical deforestation.

Using new data and theories, supply-side advocates have once again placed a strong forest-rainfall connection into prominence.

With this particular activity/research we are trying to understand the situation in our country where we will be using the rainfall data for each and every state along with the Forrest cover to understand if there is any impact on the quantum of rain received for the change in forest cover within the said region.

Conclusion & word of caution.

Supply-side management policies have a checkered history that should elicit caution, while demand-side policies, should not be overturned quickly in regions that faces potential water scarcity before more research is conducted.

As part of research the constraint is with data, we have reliable sources to get it like IMD etc. but the scale is missing and it's not much. Another thing is it might never be easy to generalize the result of this study for all the areas included in the study as a good rainfall can be attributed to various other factors and not only appropriate forest cover .

The idea here is to not refute the Supply or demand but to understand if there is any significant change in net rainfall due to change in Forest cover for the specific region and the country overall.

Data sources: Kaggle, IMD, frienvis.nic.in.

Links : https://www.kaggle.com/lamdadev/state-wise-tree-cover-india

https://www.kaggle.com/rajanand/rainfall-in-india

http://frienvis.nic.in/Database/ForestCoverinIndianStatesandUnionTerritories(1987-2013)_1825.aspx?format=Print