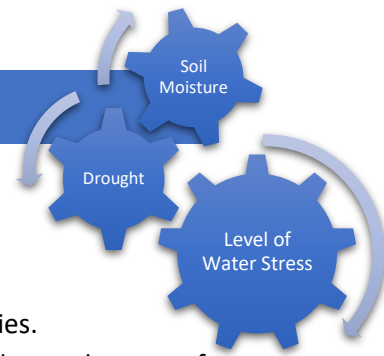


EFFECTS OF WATER STRESS LEVELS ON CLIMATE



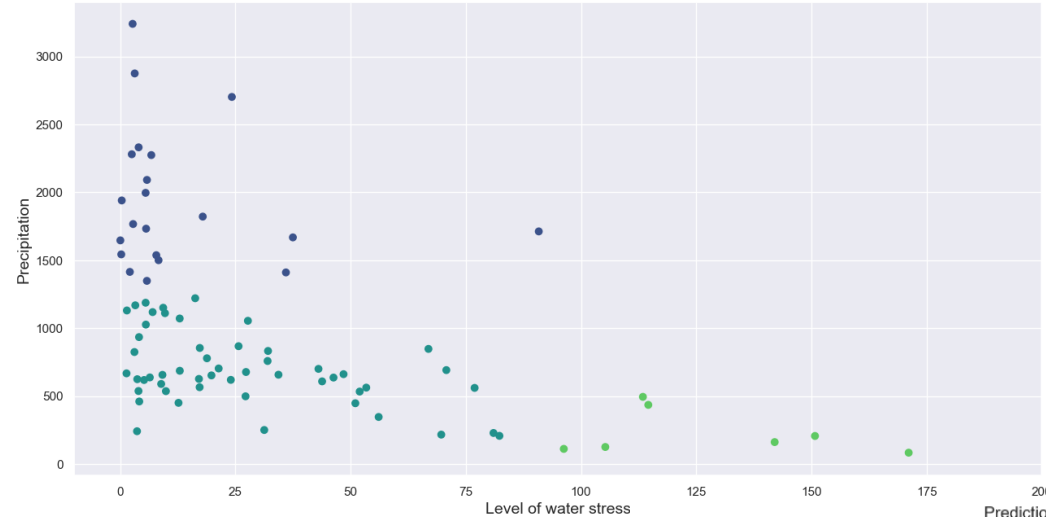
There is research evidence that this cycle is a major player in climate change [2]. Let's observe the effects, below is a graph of precipitation and level of water stress of

some countries.

There are three clusters of countries, we'll be observing countries with low precipitation (less than 1000 mm annually) and high water-stress (greater than 75).

One of the countries from the subset is Pakistan with varying degrees of water stress, reaching extreme values between 2013 and 2019. Let's observe the trends of water

Level of water stress Vs. Precipitation



Level of Water Stress:

Annual Freshwater Withdrawal / Available Internal Resource

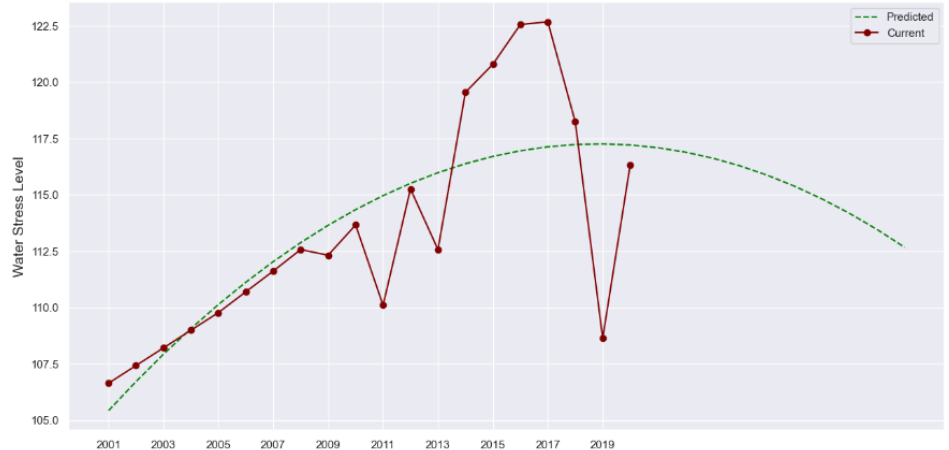
Precipitation (millimeters):

Annual water formation from natural source e.g. rain, snow etc.

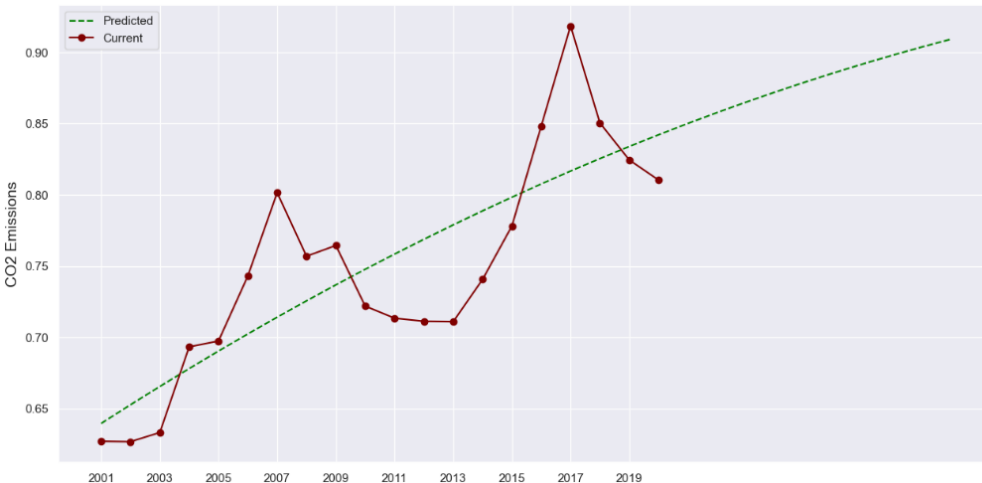
Effect of Water stress:

Lack soil moisture leading to microbial activity and increased carbon emission.[1]

Prediction Curve for Water Stress Level



Prediction Curve for CO2 Emissions



stress to solidify the observation.

Although water stress plays a role in the country's climate, we can see in the carbon emission trends of Pakistan that the impact is in significant because with a prediction for 2030 showing a drop in water stress levels carbon emission is observed to rise at a steady pace.

References:

1. <https://www.nature.com/articles/nature04514>
2. <https://link.springer.com/article/10.1007/s00382-007-0340-z>

Github: <https://github.com/MShoaibManzoor/ADS-Assignment-3>