

TERM PROJECT REPORT

Background

There is a constant debate going on in the World as to who is contributing more to Global Warming and who should pay for it? There is ample research done on this matter and the IPCC has clear views on this. Since this finding is available to us and this world wide data on temperature was made available to us, I decided to verify this point as "Term Project". In order to compare the warming between a Developing and a Developed Country I decided to compare the data provided on temperature for India and United States of America.

Procedure

Since comparing this data requires fixing of a parameter, I decided to compare the data of temperature between meteorological stations which are located on the same latitude. This was done by fixing the latitude between 20-30 N and choosing stations which are located on or as close as possible to 25N latitude. Accordingly 11 stations were selected in India and 11 in the U.S.A. Since it is difficult to get data for reasonable no of stations located on 25N latitude ,or any other latitude location for that matter , it was decided to go for locations of met stations as close as possible to 25N.

If we compare the average temperature in degree centigrade/ decade figures the Range between which the temperatures lie are as follows:

1850-2013:

INDIA- -0.03.....0.10, mean average temperature.....0.05

U.S.A- - 0.02.....0.20, mean average temperature.....0.10

1950-2013:

INDIA- -0.07.....0.18, mean average temperature.....0.06

U.S.A - -0.02.....0.28, mean average temperature.....0.15

1975-2013:

INDIA- -0.01.....0.34, mean average temperature.....0.18

USA - 0.16.....0.81, mean average temperature..... 0.36

The mean values are calculated on the records provided by the Climate Series as asked for. Depending upon the year range the data for temperature for some stations are not available.

What can we understand from this ?

We talk about mean temperatures for the entire earth though the surface temperatures are known to vary with a number of parameters and latitude is one of them. The attempt is being made here to fix this one parameter and compare the temperatures on the earth's surface on two locations which are located on almost opposite ends of the earth's chord. In terms of the economic conditions and development perspective, India is a developing country and U.S.A is a developed one. The range between which the temperatures were lying varied. However, the values of mean average temperatures of the stations on/ around 25N latitude are found to be double of those found in India. The value being almost 2.5 times during 1950-2013 period. Though the temperatures have been rising everywhere, the effects of the smoking gun are evident by the temperature range between 1975-2013, when the radiative forcing exhibits a steep rise. Though all temperatures in U.S.A show a rise, the temperatures recorded in the stations located in the Indian Gangetic plains show a fall and the fit shows a decline. This does not match with the trends in the station located in the desert on the west and hills on the right. The locations are totally landlocked in Indian locations whereas they are closer to ocean in U.S.A.

Despite a number of ifs and buts the claims of the IPCC appear to be correct. Figures for other latitudes can be compared accordingly, by the same method but are not being shown here due to the limitation on the length of the project.