TAutoCorr

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1 Question

Are temperatures of one year significantly correlated with the next year (successive years), across years in a given location?

2 Materials & Methods

I first draw the scatter plot of temperature in each year to glimpse the trend of the temperature during these year. Then I used "pearson method" of cor() function in R to calculate the coefficients and p-value. Pearson correlation coefficient (PCC) is also referred to as Pearson's r, which is a measure of the linear correlation between two variables X and Y.

3 Discussion

It is unable to observe the trend of temperature by eye via the scatterpoint. The Pearson's r value calculated via cor1() in R is 0.33. The positive of r indicated temperature of successive year has the positive relationship with the temperature of this year. The P-value is 5e-04, which is smaller than 0.05, indicating temperatures of one year significantly correlated with the successive years, across years in a given location. The positive pearson r value and the P-value smaller than 0.05 in somehow implicates the increasing temperature in West during these year.

4 Results

In conclusion, temperatures of one year significantly correlate with the successice years across years in a given location.