Autocorrelation in Temperature data from Key West

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The results of the autocorrelation practical indicate that temperatures in a given year are dependent on the previous year - statistically significantly so.

My estimated p-value is $3e - 04$, as the correlation coefficient of the un-jumbled years fell within the top 2.5 percent of all correlation coefficients found from ten thousand randomised samples - this means that the correlation found is not just random, or that it would've occured by chance at this level with a propability of $3e - 04$.

The below density plot (Figrue 1.) shows where the correlation coefficient found from the non-random sample falls in the continuum of correlation coefficients found from ten thousand randomised samples (which produce a near-normal distribution).

1

wrapfigurer0.25

Figure 1: Correlation coefficients of randomised temperature data year pairs, showing the non-random datas correlation coefficient