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Comparing the Standard Deviation from the Average Seasonal Surface Temperature Signal for Fourteen Years of Hourly Surface Temperature Data as Recorded at Twenty-Five Stations across the United States of America JOSEPH TROUT, Richard Stockton College of NJ — In this project, Wavelet analysis was used to analyze and filter fourteen years of hourly temperature data recorded at twenty-five stations across the United States of America. The temperature records were filtered using a fast, discrete wavelet transform, keeping the parts of the signal with periods of approximately twelve months. From these filters signals an average seasonal temperature pattern was produced for each station. The standard deviation for each year at every station was then computed. The trends of the standard deviations were examined for each station for evidence of climate change. Wavelet analysis was used because of the ability of wavelet analysis to analyze both periodic and non-periodic behavior at different time or length scales.

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