



Anthropogenic signals in Iranian extreme temperature indices

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Studies from throughout the world indicate that maximum and minimum temperatures are rising during the period of historical records; urbanization has contributed to some extent to these increases. In this investigation, we analyzed patterns in temperature extremes for stations located throughout Iran. We found that the number of days (a) with high maximum temperatures was increasing, (b) with high minimum temperatures was rising, and (c) with low minimum temperatures is declining. Based on population records at the station locations, we found that population growth was positively related to the increase the number of days with high maximum temperatures and negatively related to days with low maximum temperatures. A day-of-the-week signal also appeared in the number of days with high maximum temperatures. Our research shows a number of identifiable and statistically significant anthropogenic signals in the temperature records from Iran, but unlike most other studies, the signals are stronger with indices related to maximum, not minimum, temperatures.