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The temporal structure of the urban heat island in Lagos state, Nigeria

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The temporal structure of the urban heat island (UHI) intensity of Lagos State, Nigeria, is investigated using the dry bulb temperature data measured at 4 different synoptic weather stations in the Lagos State area for a one-year period of March 2003 to February 2004. The analysis result reveals noticeable temporal variability in the urban island of Lagos State. The daily urban heat island intensity is defined as the temperature difference between the urban station and the rural station (or suburban station, as used here-in) during a day. The urban heat island intensity is found to be pronounced during the nighttime, tends to be strong in the warm seasons of the year, and weak in the cold seasons of the year. The diurnal march of the urban heat island of Lagos State is revealed to have a close link to the diurnal cycle of human activities as well as the meteorology characterizing daytime and nighttime.