

Heat Waves Occurrence Analysis Between 2017-2020 in São Paulo, Brazil

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CONTEXT

The heat waves pose a substantial risk to human health. In 2020, Brazil experience extreme temperatures with a historical national record of 44.5°C and the second highest temperature in São Paulo with 37.4°C after the record of 37.8 in 2014.

CITY OF SÃO PAULO IN BRAZIL



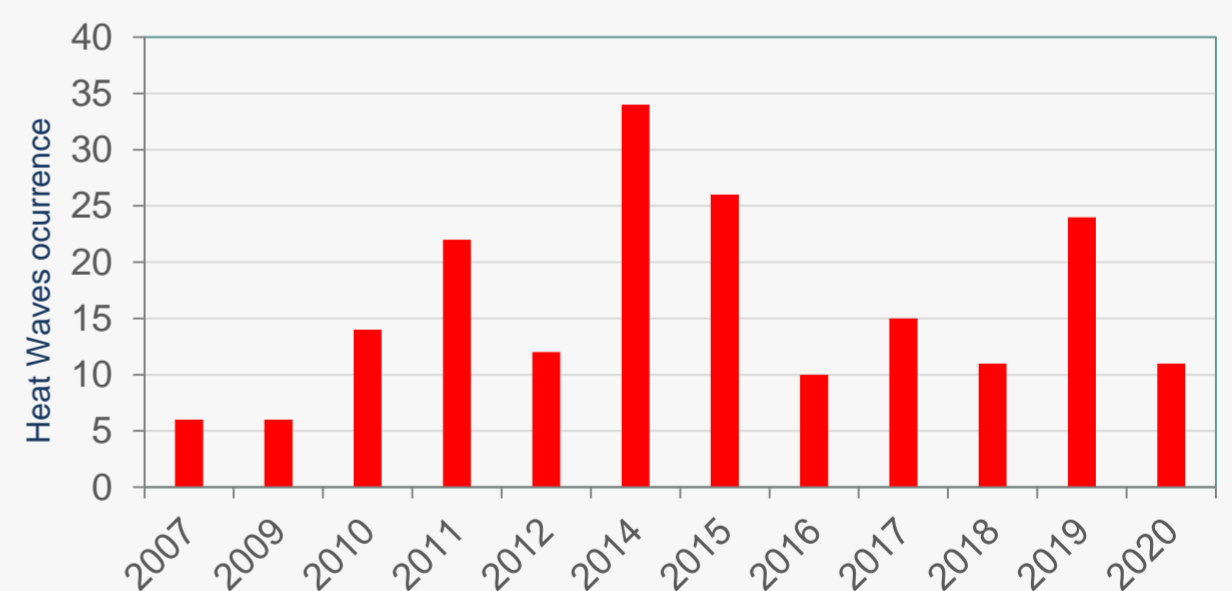
Source: Author

The goal of this study is to provide an analysis of the heat wave observed in 2020 for São Paulo compared with previous years. The method are based on quantitative data on daily values of maximum temperature between 2007 and 2020 obtained at the National Meteorological Institute of Brazil. A complementary data analysis was made using hour resolution for 2020. Different definitions of a heat wave exist, this study use the World Meteorological Organization definition as a sequence of five or more consecutive hot days during which the daily maximum temperature exceeds the average maximum air temperature by 5°C.

RESULTS

In general, results indicate 2014 as the record year with 34 days of heat waves and 2015 with the highest temperatures of 36.7°C. During 2020 a total of 2 heat waves were observed for eleven days, one in September during 5 days with 33.4°C (maximum hour temperature with 34.1°C) and the second on November during 6 days with 32.4°C (maximum hour temperature with 33.6°C). Even though the national temperature record were registered in 2020, the heat waves observed were not the longest and strongest register in the particular case of São Paulo city.

HISTORICAL HEAT WAVES OCCURENCE IN SÃO PAULO BETWEEN 2007-2020 (IMNET)



Source: Prepared by the author basdon on data from IMNET

