Title:

Using citizen science and meteorological data to describe the distribution of tick bite and exposure to tick-borne diseases in France.

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Abstract

Knowing the distribution and density of ticks in our environment, at the national level, is not possible using the only strengths of academic researchers. Citizen participatory sciences took over by feeding databases containing location-based reports of bites using a web and mobile app. In France, since July 2017, 22,000 reports on humans have been acquired. To understand the mechanisms of distribution of these tick-bites over time and in space, we found it important to couple them with the prevailing weather conditions at the place and date of the sting. These meteorological determinants stem from the search of vast data warehouses. It is the automation of this classification of bites reporting, which goes through computer development, which is discussed here.

Key words:

Environment. Spatial epidemiology. Data analysis. Data visualization. Meteorology. Citizen sciences.

1. Background

1.1. Tick borne diseases