

Fighting ticks with a few taps of the phone

July 10 2018, by Kyu Lee



For years on Block Island, RI, Diuk-Wasser and her team have been studying ticks to understand their movements and interaction with people. Here a researcher counts every tick that's attached to this bird's eye, revealing another way of how they may be spreading. Credit: State of the Planet

Summer has arrived and so, unfortunately, have the ticks. On top of this, warmer temperatures throughout the US have opened entirely new areas

for them to flourish.

According to the Center for Disease Control, the number of people getting diseases transmitted by ticks, mosquitoes and fleas has tripled in recent years. Many believe climate change is to blame; as temperatures warm, the insects expand their range, bringing with them diseases not seen in many northern parts of the country.

This season, however, researchers from Columbia University have stepped in and developed a smartphone app they hope will give us a way to stem the spread of diseases like Lyme and provide some peace of mind in the process. [The Tick App](#), developed in collaboration with researchers from the University of Wisconsin-Madison, was recently launched on Staten Island, NYC but can be used by anyone anywhere.

By allowing users to log their daily activity, the Tick App can help provide some answers to why tick exposure has increased so dramatically. It's designed to give us a sense of overall tick populations and a better understanding of how people interact with their surroundings and get tick bites. The app also contains useful information about ticks: preventions, removal and identification. The goal is to develop strategies to prevent tick bites and tick-borne diseases.

"The app helps identify where, when and how people are getting ticks, while helping educate and inform the user," said Maria Diuk-Wasser, associate professor in the Dept. of Ecology, Evolution and Environmental Biology at Columbia University and co-producer of the app.

As researchers collect more data their hope is to turn the app into a citizen science tool to engage affected communities in tick research and the search for solutions

"So far our field work has gone exceptionally well and the people of Staten Island have been very responsive to the app," said Maria del Pilar Fernandez, an Earth Institute post-doc and lead researcher for the project. "We're hoping as more people use the app, we'll get richer data that can be put to good use."

Researchers are hoping to match people's activity patterns with tick exposure. "Since we are also doing studies on tick distribution and ecology on Staten Island parks and homes, we can use the app info to understand how people's activities affect their risk based on where they live," said Diuk-Wasser.

Users can also report any ticks they find and send pictures of the tick. For non-app users, people can sign up on the website www.thetickapp.org to receive the surveys by email or download a paper survey package to complete and mail back. The researchers ask that participants complete one tick diary a day for 15 days. The tick diary has short questions asking whether you've found any ticks that day, your activity and whether you used any preventative measures.

Much of the work behind the app comes from years of studying ticks by Diuk-Wasser and her team. "We chose Staten Island to start because it is a chance to study how tick populations move and spread into urban populations, which are the next 'frontier' for tick expansion," she said, "so we hope to help stop the invasion in its tracks."

The app is available at the app store or google play. How people are exposed to ticks is a key piece of information to understand how different interventions to reduce the [tick](#) burden will impact on human health.

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