

Team finds citizen scientists make excellent resources

March 5 2020, by Jim Rogers

From tracking the amount of rain in their backyards to monitoring the water quality in local streams, citizen scientists have collected data for as long as there has been curiosity. And, it turns out, their data can be just as valid as that collected by professionals.

Kelly Albus, a research scientist at the University of North Texas, spent four years as both a Ph.D. student and a professor sifting through decades of data collected by citizen science groups and comparing it to that collected by professional agencies. The goal of her project was to determine if the citizen scientist data reached a level of accuracy that can be utilized by professionals. The answer, she found, is yes.

"One of the citizen science groups whose data I studied is the Texas Stream Team. This is a volunteer organization that's been around since 1991 and has trained more than 10,000 [citizen scientists](#) to monitor [water quality](#) in lakes and streams across Texas. Their data is used by the state and can be a treasure trove for professionals," Albus said. "As part of my research into the quality of information collected, I reviewed years of Stream Team data, worked closely with their volunteers and went through the same training provided to their water samplers/testers."

Albus suggested that people who wish to become citizen scientists or have an idea for a project do a little research first to determine if there is already a group conducting research in their area of interest. For example, groups such as the National Audubon Society have nationwide events open to everyone.

"Every year, the National Audubon Society holds a citizen science event called the [Christmas Bird Count](#) where people sign up to cover an area and count the birds they see during the same time each year," Albus said. "This has been going on more than 100 years and the data has been used by scientists all over the world. People involved are not trained and the event can include everyone from elementary school students to retirees. But, because of the amount of data collected, any incorrect information tends to be averaged out and the sheer number of observers and the thousands of birds counted can tell us a lot about these populations over the years."

Albus also suggested [scistarter.org](#) as a great place to learn about ongoing citizen science projects and said there are even phone apps like [iNaturalist](#) to help people get started.

Albus's findings were published in the January 29, 2020, issue of the Public Library of Science journal *PLOS ONE* under the title "Accuracy of long-term volunteer water monitoring [data](#): A multiscale analysis from a statewide citizen science program."

More information: Kelly Hibbeler Albus et al. Accuracy of long-term volunteer water monitoring data: A multiscale analysis from a statewide citizen science program, *PLOS ONE* (2020). [DOI: 10.1371/journal.pone.0227540](#)

Provided by University of North Texas

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