

The Origin and Influence of Citizen Science

Citizen science, at its core, is involvement by the general public in scientific projects and research. This collaboration between scientists and ordinary citizens has resulted in significant advancements within the scientific field as well as meaningful personal impacts on hundreds of thousands of people. These projects, now often found on the internet, have titles as diverse as “Send Us Your Skeletons,” “Darwin’s Dogs,” and “Track a Tree,” and usually have minimal prerequisites for those interested in contributing. This means that groups who participate in citizen science projects can include anyone from committed amateurs with high tech equipment to elementary school students armed with just a pen and paper.

The first examples of citizen science projects in the United States emerged in the late 19th century and involved a network of volunteers analyzing bird migration patterns based on their personal observations. In fact, one of the most enduring and well-known programs that is designed for citizen scientists is the annual Christmas Audubon Bird Count. Beginning in 1900, citizens from all over the world made the effort to collect data about the kinds of birds they were able to spot during a set duration. However, as early as almost two centuries before this event, other projects were also designed to utilize the power of citizen science. For example, Founding Father Thomas Jefferson sought to implement initiatives that would provide every citizen in Virginia with a weathervane, thermometer, and instructions on how to log atmospheric data.

With these historical precedents, citizen science, already prevalent in the 20th century, began to truly flourish near the end of the century with the advent of the internet. As the National Geographic Society notes, “Modern advances in technology make citizen science more accessible today than ever before.” With the help of these citizen scientists, the speed at which scientific discoveries can be made has increased greatly. One project, which focused on analyzing images of a Canadian lake, resulted in over 2,000 hours of work from citizen scientists and one million images uploaded online. By easing the burden on the scientists directing the program, participants truly fulfilled the meanings of both helping to build a research-based partnership and engaging with scientific projects through hands-on activities.

By Scout Meredith Best '21, Clarke Forum Student Project Manager

Information gathered from: Chandra Clarke’s *Be the Change: Saving the World with Citizen Science* (Fractal Moose Press, 2013); Christy Ullrich’s “Citizen Science” (www.nationalgeographic.org); Caren Cooper’s *Citizen Science: How Ordinary People are Changing the Face of Discovery* (Harry N. Abrams, 2016); and “Education: Citizen Science” (www.scientificamerican.com).