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SPOTLIGHT

# Residents become citizen scientists during pandemic isolation

By ASHLEY REZACHEK ashley.rezachek@apgsomn.com
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Amid the COVID-19 pandemic, some residents are spending their time contributing to science.

Whether it's identifying wildlife in Africa for conservation purposes, classifying galaxies by their shapes to understand galaxy formation, tagging local trees to help monitor invasive diseases and pests, or simply snapping pictures of flora and fauna via the iNaturalist app, regular people everywhere are adding important data to archives for scientists to use, analyze and make discoveries.

As COVID-19 restrictions forced many places to close their doors to the public, people began looking for alternative activities to fill their time. For some that meant spending more time outdoors exploring natural areas, with national parks reporting record-breaking numbers of visitors. As more people go outside, more are choosing to observe their environment and participate in citizen science projects.

In fact, Cornell Lab of Ornithology's eBird saw a 29% increase in reports as of September 2020, compared to the previous year. Another citizen science website, NestWatch, saw a 41% increase. SciStarter, a citizen science hub with over 3,000 searchable projects, saw a 480% increase in participation in projects in April 2020 compared to April 2019, the National Geographic reports.

Recently the National Audubon Society has launched its winter Climate Watch, a biannual community science project. The project, which began Jan. 15 and runs through Feb. 15, calls on volunteers to identify 12 targeted bird species within a prearranged Climate Watch square. Targeted species are used because the society's climate models for these birds have a strong

predicted range of shifts and because they are easily identifiable. Species include eastern bluebird, mountain bluebird, western bluebird, painted bunting, white-breasted nuthatch, brown-headed nuthatch, red-breasted nuthatch, pygmy nuthatch, eastern towhee, spotted towhees, lesser goldfinch and American goldfinch, although every bird identified regardless of whether it's a targeted species should be recorded in the survey.

Although the society encourages citizens to connect with their local Climate Watch coordinator, the nearest Minnesota coordinator to southeastern Minnesota is in Farmington. Despite the lack of a local coordinator, people are welcome to participate as individuals or as a group with COVID-19 precautions.

Collected bird data is important because bird population is an indicator of a changing environment. Climate change is the biggest threat to birds, according to the National Audubon Society. The data collected during this nearly month-long project will help scientists better understand the status of the environment, including how birds are adapting or responding to climate change.

It would be best to check out the Climate Watch website and read up on the instructions before deciding to participate, however the following is a brief set of instructions:

Determine your targeted species: Use Climate Watch resources and maps to understand which species is most likely to appear in your area.

Sign up for a Climate Watch square: Use the Audubon's ESRI GIS tool to claim your area and coordinate with other participants in our area.

Plan your survey locations: Choose 12 points within your square, a minimum of 200 meters away from each other and with the best habitat for your targeted species. The ESRI planning tool can be useful in determining the location of each point.

Survey: Over the course of a single day within the Climate Watch season, participants are asked to spend five minutes looking and listening for birds in a 100-meter radius of each point. The number of identifiable birds of all species should be recorded, with an emphasis on collecting information on your target species.

Submit recorded data: Submit the data via an app or online.

More detailed information, resources and tools can be found by visiting audubon.org/news/participant-resources-climate-watch, including a recorded webinar for people who are new to the Climate Watch project, protocols, planning and mapping tools, bird identification guide and more. The next Climate Watch season will be May 15 through June 15.

If birds aren't your thing, there are plenty of other citizen science projects to engage in.

SciStarter.org lists thousands of citizen science projects to join, including projects exclusively online. Visitors can search for projects on topics such as astronomy, health, ecology, nature, environment and climate.

Zooniverse.org also has a number of citizen science projects from identifying pollinators to helping researchers transcribe early astronomers notebooks to classifying humpback whale vocalizations among other projects in the discipline of arts, history, language, physics and nature.

Cocorahs.org, Community Collaborative Rain, Hail and Snow network uses citizen science to map precipitation. Citizens submit precipitation measurements to the website, and data is then displayed on the website's map.

GlobeAtNight.org is an international citizen science project with the goal of raising awareness about the impact of light pollution. Citizens are asked to submit brightness measurement of the night sky.

CitizenScience.gov is another resource to find projects to participate in.

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Reach reporter Ashley Rezachek at 507-444-2376. ©Copyright 2020 APG Media of Southern Minnesota. All rights reserved.

## Ashley Rezachek