Citizen Water Monitoring Programs at the Minnesota Pollution Control Agency
*Laurie Sovell - Minnesota Pollution Control Agency*

The Minnesota Pollution Control Agency's (MPCA) Citizen Lake and Stream Monitoring Programs combine the knowledge and commitment of citizens with the technical expertise of the MPCA. Volunteer monitors track the Secchi water clarity of lakes and streams, collecting data that are used to make decisions on watershed protection and restoration.

Sound Around Town - Twin Cities
*Caren Cooper - North Carolina State University and SciStarter*

Sound Around Town launches in early 2017, a collaboration of the National Park Service, the North Carolina Museum of Natural Sciences, and SciStarter. The goal is to improve the soundscape map of the United States released in 2014 by the NPS's Dark Skies and Natural Sound division. The protocol engages volunteers in select cities in borrowing project sound recording equipment from their local public libraries, calibrating the devices, deploying the devices for 2 weeks, carrying out several 'attended listening' sessions in which they record the start/end times of every sound they can identify and report their feelings towards each sound.

HerpMapper.org
*Christopher Smith - HerpMapper.org*

HerpMapper is a not-for-profit cooperative project, designed to gather and share information about reptile and amphibian observations across the planet. Using HerpMapper, you can create records of your herp observations and keep them all in one place. In turn, your data is made available for research, conservation, and preservation purposes.

Red-headed Woodpecker Recovery Project
*Caitlin Potter - University of Minnesota Cedar Creek Ecosystem Science Reserve*

Since 2008, citizen scientists have conducted research in university-owned oak savannas to learn about red-headed woodpecker habitat preferences and behavior. This project is notable since RHWO are declining in general, but are stable at Cedar Creek ESR. Trained volunteers monitor oak savanna landscapes and collect rigorous scientific data.

CoCoRaHS - The Community Collaborative Rain, Hail and Snow Network
*Noah Newman - CoCoRaHS*

The Community Collaborative Rain, Hail and Snow (CoCoRaHS) network provides high quality precipitation data to the scientific community (including the National Weather Service), and weather and climate educational opportunities to the public. Volunteers of any age, background and location in the U.S., Canada, Puerto Rico and Bahamas can measure and report precipitation from their homes, schools, public areas or businesses using the CoCoRaHS website http://www.cocorahs.org.
**CitSci.org - Helping You Do Great Science**  
*Sarah Newman - CitSci.org, Natural Resource Ecology Lab, Colorado State University*

CitSci.org provides a platform for organizations and individuals to create citizen science projects as well as join existing projects. CitSci.org provides tools to support the entire research process, from creating new projects to managing project members, building custom data sheets, submitting data, analyzing data, and gathering participant feedback. To date, our project coordinators have started 326 active projects that have contributed a total of 600,000+ scientific measurements. Collectively, these data are made available for analysis to answer local, regional and/or global questions.

**Cedar Creek Wildlife Survey**  
*Jonathan Poppele - Minnesota Wildlife Tracking Project*

A joint venture between the Minnesota Wildlife Tracking Project and the University of Minnesota's 5,400 acre Cedar Creek research station. This project offers a unique opportunity to explore the landscape, learn wildlife tracking, and help Cedar Creek inventory resident wildlife. Volunteers participate in quarterly surveys, supplemented by informal excursions.

**AIS Detectors & AIS Trackers**  
*Eleanor Burkett - University of Minnesota*

The AIS Detectors and AIS Trackers programs are new citizen science programs being launched in Minnesota. AIS Detectors are trained to identify aquatic invasive species (AIS) from their native look-alikes. With their new skills they will help respond to new reports of AIS, conduct new detection surveys, and complete education/outreach activities. AIS Trackers will be trained to collect data surrounding activities to control certain AIS. The data they collect will be used to help inform researchers, regulatory agencies, and the public on the conditions that are most likely to make a control effort successful.

**Zooniverse**  
*Julie Feldt - Zooniverse at Adler Planetarium*

The Zooniverse is the world’s largest and most popular platform for people-powered research. This research is made possible by volunteers’ hundreds of thousands of people around the world who come together to assist professional researchers. Our goal is to enable research that would not be possible, or practical, otherwise. Zooniverse research results in new discoveries, datasets useful to the wider research community, and many publications.

**Minnesota Bumble Bee Survey**  
*Elaine Evans - U of MN Department of Entomology*

Several bumble bee species are in decline in MN. Help track bumble bee populations by volunteering some time for the bees. Surveys take place in July and August. Volunteers collect bumble bees from flowers, identify or photograph them, record them, and release them back to the wild. Several bumble bee species appear to be in decline over the last decade. Multi-year surveys are needed to establish current population statuses and gauge variability between years. Plus, chasing bees through fields of flowers is a great way to spend a summer day.
**Minnesota Bee Atlas**  
*Rob Blair*

The Minnesota Bee Atlas uses citizen scientist volunteers to study the diversity and distribution of native bees. Volunteers may monitor a nesting block, adopt a survey route to sample bumble bees, or share photos of bees on the website and mobile app iNaturalist. The data we collect will be combined with existing data from the University of Minnesota Insect Collection and other sources to create an online, publicly available database that will be hosted by the Bell Museum of Natural History.

**Monarch Larva Monitoring Project**  
*Karen Oberhauser - University of Minnesota*

Monarch Larva Monitoring Project (MLMP) volunteers collect data on monarch distribution and abundance during the breeding season, and on milkweed habitat in North America. People participate because: 1) Participating in the MLMP makes a difference by contributing basic knowledge about monarch population dynamics, and fostering monarch habitat conservation. 2) MLMP volunteers are always learning about monarch biology, their local ecosystem, and scientific research. 3) Monitoring for the MLMP is a great way to foster science- and conservation-bonding with friends, family, or neighbors. It is a terrific way to introduce people of all ages to science and nature.

**Minnesota Dragonfly Society**  
*Ami Thompson - Minnesota Dragonfly Society*

Which dragonflies live where in Minnesota? Help us find out! The Minnesota Dragonfly Society organizes identification trainings, public survey outings, and hosts educational outreach events. We are home to a thriving community of dragonfly citizen scientists who support each other through social media and in-person gatherings. You can participate by surveying in your own backyard, local park, or by joining one of our organized events with experts there to help catch and identify. The more nets swinging in the state the more data we collect!

**NOAA Marine Debris Monitoring and Assessment Project**  
*Carlie Herring - NOAA Marine Debris Program*

The Marine Debris Monitoring and Assessment Project, or MDMAP, is a citizen science initiative that engages NOAA partners and volunteers across the nation to survey and record the amount and types of marine debris on shorelines. Our dedicated partners select a nearby site that they return to monthly to conduct marine debris surveys. This citizen science initiative is a great way to get outside, enjoy nature, pick up marine debris, educate others about the issue, and submit meaningful data to NOAA’s MDMAP Database. Humans are the source of marine debris, but can also be the solution!

**ScienceCache: Collecting Phenology Data Through Geocaching**  
*Tab Graves - U.S. Geological Survey, Northern Rocky Mountain Science Center*

Imagine this: As you browse the website of a local park, a family sees they can geocache for science. As they hike to the 'ScienceCache' they learn that summer temperatures are increasing and influencing when berries become ripe, which may affect birds, chipmunks, and bears. At the cache, they answer a few questions about the berry shrub to help scientists predict the berry crop. They learn that a scientist in Glacier National Park in Montana has 'ScienceCaches' to help predict huckleberry productivity for grizzly bears and decide to visit the caches on their summer vacation.
GLOBE Observer
Sarah McCrea - SSAI/NASA LaRC
GLOBE Observer (GO) is the public citizen science component of the GLOBE Program. It allows interested people in over 100 countries around the world to contribute to science. Upon launch in 2016, GO focused on cloud observation, with direct ties to satellite views of the Earth. Additional areas currently in development (at least one should be ready by the time of the CSA conference) include a protocol for identification of mosquito larvae and land cover. GO is implemented through an easy-to-use mobile app, which makes participating accessible and fun. The GLOBE website also provides additional information and resources.

NASA Solve -- public Participation Opportunities at NASA
Amy Kaminski - NASA
NASA Solve (www.nasa.gov/solve) is NASA's online "one-stop-shop" for current citizen science and prize competition opportunities at NASA. This table will introduce visitors to the NASA Solve portal and highlight some of the citizen science activities we currently offer across NASA's space and Earth science research areas. We will show visitors the portal and activities using iPads we bring and give them opportunities to try their hand at some of our image analysis projects on the spot.

CitSciBio: The Biomedical Citizen Science Hub
Katrina Theisz - National Cancer Institute
In an effort to help connect the widely dispersed practitioners and resources of biomedical citizen science, NIH have teamed up with HUBzero to build CitSciBio.org, a collaborative virtual environment, designed to be complementary to the existing citizen science/crowdsourcing websites and project databases. The field of biomedical citizen science is expanding and changing, and resources can be difficult to find as they tend to be scattered across different areas of the internet. We have created an online collaboration space for this growing field to enable the gathering of references, methods, and communities to be discovered and engaged by interested stakeholders.

Counting Birds for Science with the Cornell Lab of Ornithology
Robyn Bailey - Cornell Lab of Ornithology
The Cornell Lab of Ornithology has been monitoring bird populations with the help of volunteers for more than 50 years. Featuring a complement of projects to suit any type of birdwatcher, you can participate as little or as often as you like. Report a bird sighting, monitor a bird's nest, count birds at your birdfeeders, or join one of our bird celebrations across the country. We're looking out for birds, and with the public's help, we can track populations globally as never before. Learn how NestWatch, FeederWatch, eBird, and Celebrate Urban Birds can bring you closer to birds every day.

iNaturalist.org
Scott Loarie - California Academy of Sciences
iNaturalist is a citizen-science social network where participants record and share observations of living things to learn about the natural world and contribute to science. To date, over 250,000 people have contributed over 3 million wildlife observations to iNaturalist representing nearly 100,000 distinct species.
The Globe at Night Citizen-Science Campaign
Constance Walker - National Optical Astronomy Observatory
Globe at Night is an international citizen-science campaign to raise public awareness of the impact of light pollution by inviting citizen-scientists to measure and submit their night sky brightness observations. 180 countries over the last ten years have contributed more than 156,000 measurements of night sky brightness to Globe at Night. Data is open access and uses have included comparisons of global variations (Kyba et al.) as well as local work on lesser long-nosed bats.

SciStarter
Catherine Hoffman
SciStarter will help you find the perfect local or global project to get started in your citizen science adventure. The world is your lab! Identify clouds and help NASA calibrate their satellites, discover if your cat's hair is affected by her diet, or take a Facetopo selfie to help build a global database of facial structures. We'll get you started.

SciGirls
Leah Defenbaugh - SciGirls
We will be playing episodes of SciGirls Season 3, our season about Citizen Science. Additionally, we will be making nature journals. Using paper, markers, craft floss, and ideas for activities tailored to the Science Museum (like monarch butterfly habits, clouds, and dinosaurs), young scientists will construct journals that will help them observe the world around them.

Habitat Network
Megan C. Whatton - The Nature Conservancy
The Nature Conservancy joins the Cornell Lab of Ornithology to create the Habitat Network, which builds upon a pre-existing citizen science platform, YardMap, by expanding the focus into the urban arena to address environmental issues facing cities. Habitat Network aims to grow our Minnesota participation to bridge the online and on-the-ground worlds where environmental issues arise and are dealt with through the actions and choices of community members, like monarch and pollinator habitat creation, cleaner waterways, or clean energy, to benefit both humans and wildlife.

Bumble Bee Conservation in Your Garden and Beyond
Susan Carpenter - University of Wisconsin--Madison Arboretum
The University of Wisconsin--Madison Arboretum provides diverse pollinator habitat and is home to 12 kinds of bumble bees, including the imperiled rusty-patched bumble bee. Our native plant garden illustrates key features and practices that foster bumble bees and other important pollinators in home and community gardens. We will share resources you can use to create or enhance pollinator gardens, ways to monitor rare and common bumble bees you may find, and tools for sharing your observations widely. No matter where you live, join the bumble bee conservation community!