Citizen Science

What can we do to contribute?
Why Citizen Science?

- Scientists are seeing changes around the world: on the land and in the oceans and air.
- To be certain those changes are related to climate change, scientists need observations from around the world for extended periods of time.
Why Citizen Science?

- Instead of working alone, some researchers and scientists will invite volunteers to help.
- These are called Citizen Science Projects.
What is Citizen Science?

- Public volunteers assisting scientists in their research
- “Scientists can’t be everywhere, so kids from all over can record data and send it in.” Heidi, grade 7
- Citizen science is important! It’s a partnership between the public and professional scientists that can help answer questions scientists couldn’t answer on their own. Citizen science encompasses a broad range of topics, geographic settings, and strategies.
- It’s easy to participate
Project Budburst

- Mission Statement: "Engage people from all walks of life in ecological research by asking them to share their observations of changes in plants through the seasons."
- We are a national field campaign designed to engage the public in the collection of important ecological data based on the timing of leafing, flowering, and fruiting of plants
- Project BudBurst is open to people of all ages and abilities
- [http://budburst.org/](http://budburst.org/)
Nature’s Notebook

• When you participate in the program, you’ll go outside to observe nature in your backyard or nearby area weekly and enter this information online.
• As part of Nature’s Notebook, you are invited to observe both plants and animals. Observing phenology is very similar for both, however, because animals move around and plants do not, there is one important difference in the way we ask you to observe the two groups.
• [https://www.usanpn.org/nn/become-observer](https://www.usanpn.org/nn/become-observer)
Cornell Lab (Bird Sleuth)

- **Project FeederWatch**: Help scientists track bird population movements and monitor long-term trends in the distribution and abundance of birds in winter.

- **NestWatch**: You’ll keep track of what kinds of birds are using the nests, how many eggs were laid, and the number of chicks hatched.

- **Celebrate Urban Birds**: Look for 16 species of birds for 10 minutes anywhere, any time, and share your observations.

- **YardMap**: innovative web tool you use to tell us about the habitat available to birds in your backyards, local parks, schools, and favorite birding spots.

- **Great Backyard Bird Count**: Take part in this free, annual event that compiles bird counts from around the world to create a snapshot of bird populations in winter.

- **eBird**: a simple way to record your observations online and share what you’ve seen with scientists, educators, and other bird watchers.

# Cornell Bird Citizen Science Programs

<table>
<thead>
<tr>
<th>Project</th>
<th>NestWatch</th>
<th>Celebrate Urban Birds</th>
<th>YardMap</th>
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<th>eBird</th>
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</thead>
<tbody>
<tr>
<td><strong>Focal Species</strong></td>
<td>Birds at feeders</td>
<td>Any species</td>
<td>16 focal species</td>
<td>Any species</td>
<td>Any species</td>
</tr>
<tr>
<td><strong>Season</strong></td>
<td>November-April</td>
<td>Spring &amp; Summer</td>
<td>Any season</td>
<td>Any season</td>
<td>Mid-February</td>
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<tr>
<td><strong>Required Tools</strong></td>
<td><img src="image" alt="Bird Feeder" /></td>
<td><img src="image" alt="Computer Mouse" /></td>
<td><img src="image" alt="Computer Mouse" /></td>
<td><img src="image" alt="Computer Mouse" /></td>
<td><img src="image" alt="Binoculars" /></td>
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<tr>
<td><strong>Key to Tools</strong></td>
<td>Required Tools: Bird Feeder(s), Internet, Binoculars</td>
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CoCoRaHS

- CoCoRaHS: Community Collaborative Rain, Hail and Snow Network

- Volunteers of all ages and backgrounds working together to measure and map precipitation

- Each time a rain, hail or snow storm occurs, volunteers take measurements of precipitation from as many locations as possible

- Only requirements to join are an enthusiasm for watching and reporting weather conditions and a desire to learn more about how weather can affect and impact our lives.

Citizen Stream-Monitoring

• The Citizen Stream-Monitoring Program (CSMP) combines the knowledge and commitment of interested citizens with the technical expertise and resources of the Minnesota Pollution Control Agency (MPCA).

• Any person or group willing to devote a small amount of time and energy to conduct simple stream checks on a regular basis can become a volunteer monitor.

• Program Goal: Help determine the condition of Minnesota streams by expanding our water-quality monitoring network.

Citizen Lake Monitoring

• The CLMP is a cooperative program combining the technical resources of the Minnesota Pollution Control Agency (MPCA) and the volunteer efforts of citizens statewide who collect water-quality data on their lakes.

• Any person or group willing to devote a small amount of time and energy to conduct simple water-quality checks on a regular basis can become a volunteer monitor.

• The only restriction is that volunteers need to have access to a boat or canoe in order to take the transparency readings.

mPing

• The NOAA National Severe Storms Laboratory is collecting public weather reports through a free app available for smart phones or mobile devices.

• The app is called “mPING,” for Meteorological Phenomena Identification Near the Ground.

• To use the app, reporters select the type of weather that is occurring, and tap “submit.” The anonymous reports can be submitted as often as every minute.

• [http://mping.nssl.noaa.gov/](http://mping.nssl.noaa.gov/)
GLOBE

• GLOBE is proud to partner and interact with a worldwide community of teachers, students, scientists and organizations from around the world through hands-on investigation and engagement with Earth.

• Once teachers have attended a GLOBE training event, they are provided with the knowledge and tools to implement GLOBE protocols and learning activities in a classroom setting

• https://www.globe.gov/join
Which one should we choose?

- With a partner, write down two projects that interest you.
- For each one write the following:
  - two pros and two cons
  - what information you will find while participating
  - how this project will help monitor the repercussions of climate change
- Share your thoughts with the class
- Vote for the one that interests you the most