

Earth Citizen Science with GLOBE Observer

Thursday, August 27

The webinar will begin at 12 pm MT and will be recorded

While you're waiting:

- 1) Find the toolbar – it will either be on the bottom or top of your Zoom window
- 2) Introduce yourself in the chat box (**please select “All Panelists and Attendees” not “All Panelists”**)
- 3) Click audio “Join by Computer” – you won’t have microphone access

Tip for viewing: You can resize and move the location of the video and slide screens by clicking and dragging them

Expectations / Guidelines

- **Try to use the Q&A feature for questions**
- **When using Chat, make sure your messages are being sent to “All Panelists and Attendees”**
- **We are all working from home: tech problems may happen!**
- **Call in #'s:**
 - +1 646 876 9923 ; +1 669 900 6833 ; +1 253 215 8782 ; +1 301 715 8592 ; +1 312 626 6799 ; +1 346 248 7799 ; +1 408 638 0968
 - Webinar ID: 928 879 002

Facilitator Introductions

Claire Ratcliffe (Space Science Institute)

Theresa Schwerin (Institute for Global Environmental Strategies)

Vivienne Byrd (Los Angeles Public Library)

Donna Blomquist (LaSalle Public Library)

Brittany Blomquist (LaSalle Public Library)

Today's Agenda

Poll Questions

Citizen Science and GLOBE
Observer

Citizen Science at Libraries
Los Angeles Public Library
LaSalle Public Library

Group Discussion

Q&A



Photo Credit: NASA GLOBE

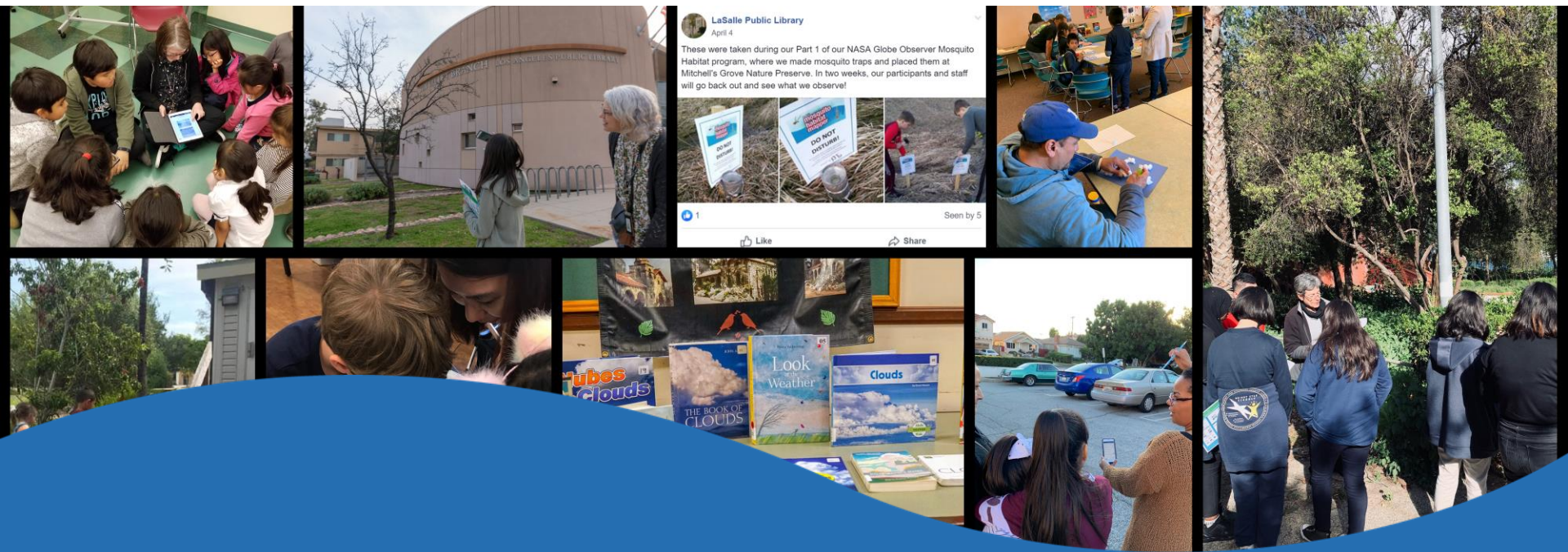
Ice Breaker

What is a new
hobby you've tried
during quarantine?

Poll Question

How long have people been participating in and contributing to citizen science?

- a. Late 1800s
- b. 1920s
- c. 1990s
- d. 2006



Earth Citizen Science with GLOBE Observer

Theresa Schwerin

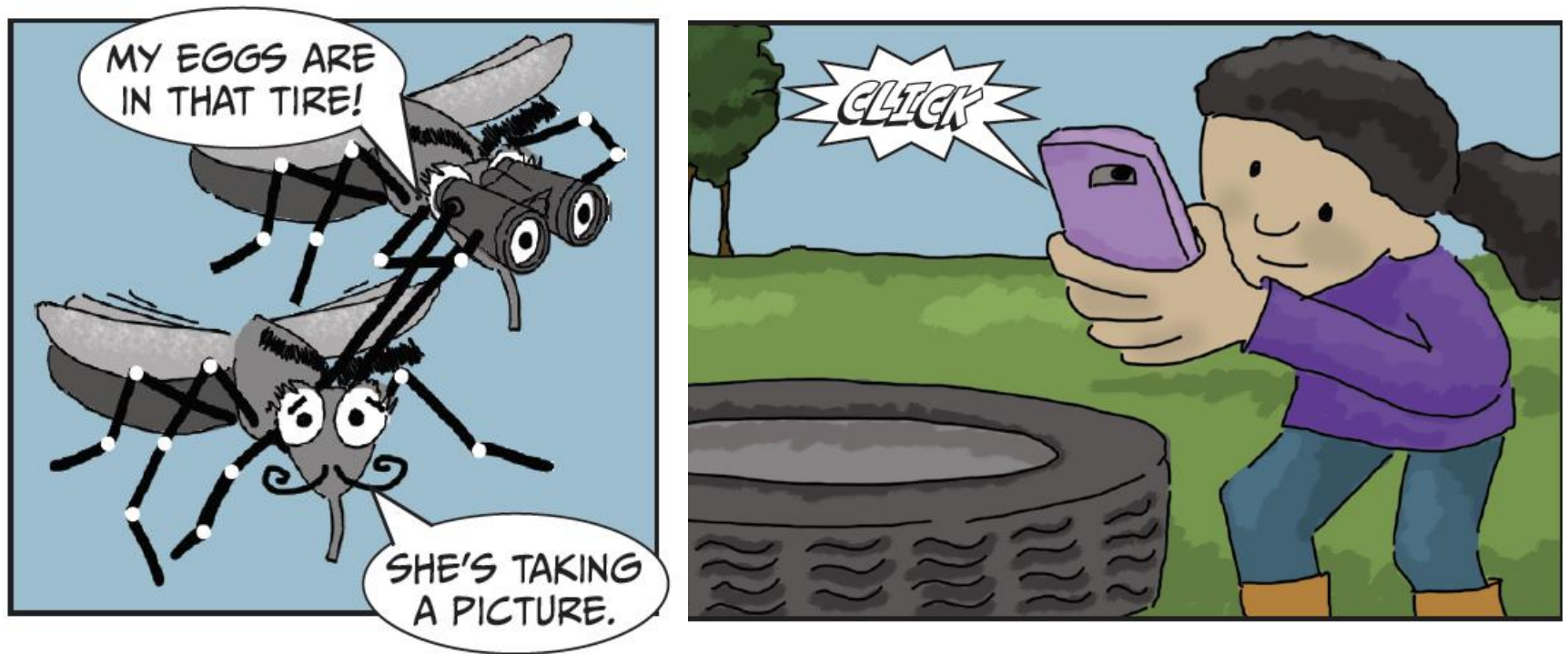
Institute for Global Environmental Strategies



nesec
NASA Earth Science
Education Collaborative

What is a Citizen Scientist:

*A person who **volunteers with science research** – for example by making and recording observations*



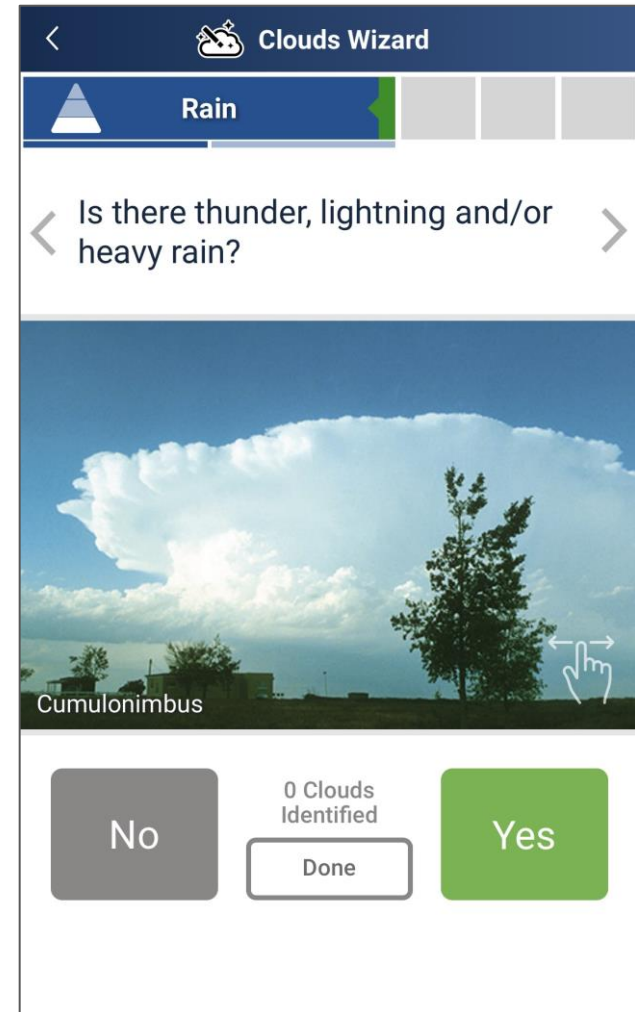
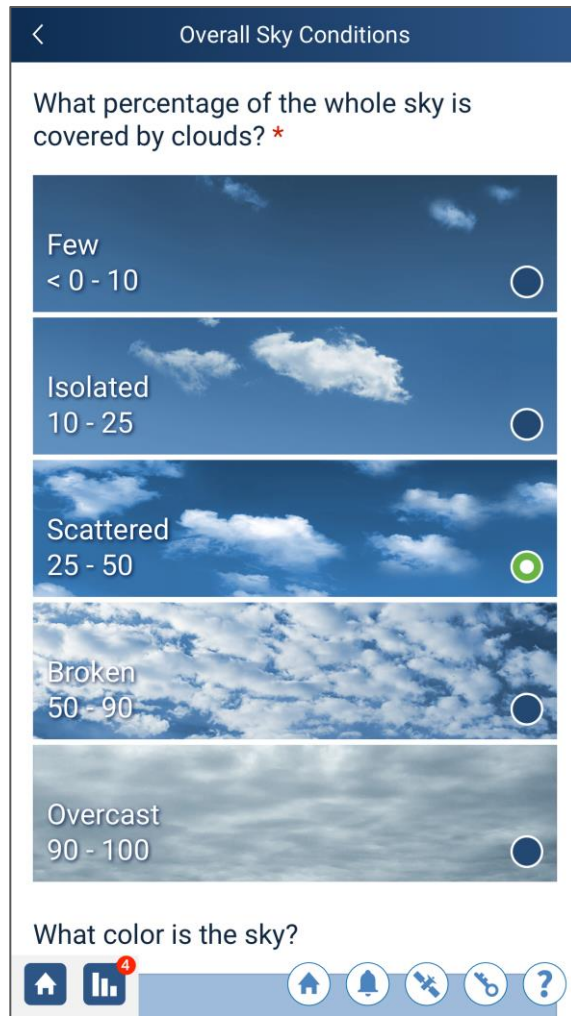
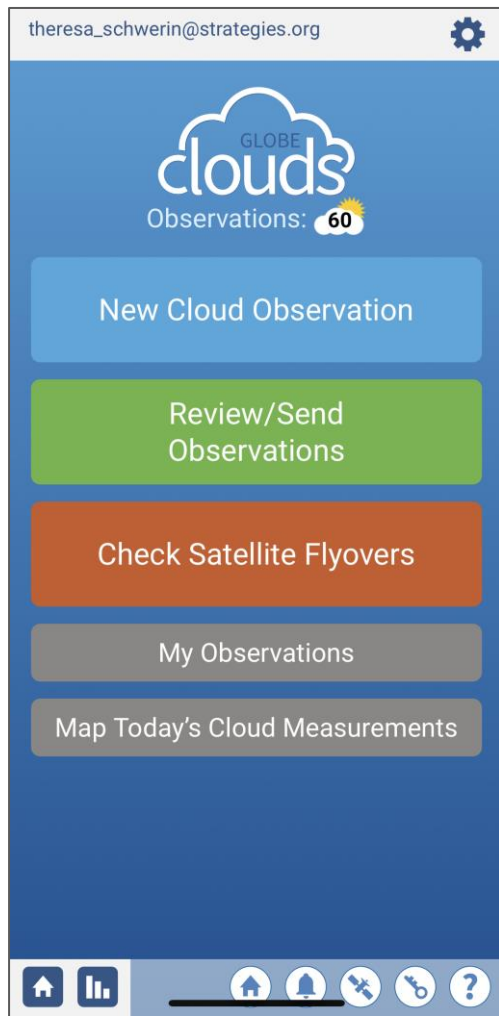
From Zika Zine: *The Story of Three Aedes Mosquitoes and the Zika Within Them*, <https://scied.ucar.edu/zikazine>



THE
GLOBE PROGRAM 

<https://observer.globe.gov/about/get-the-app>







Choose your protocol:



08/26/2017 Clouds

North

Time (UTC): 17:16:00

Site: 18SUJ341186

Total Sky

Cloud Cover: **Isolated (10-25%)**

Sky Color: **Light Blue**

Sky Clarity: **Clear**

High Level Clouds (not observed)

Mid Level Clouds

Cloud Types: **Altostratus**

Cloud Cover: **Few (1-10%)**

Opacity: **Translucent**

Low Level Clouds

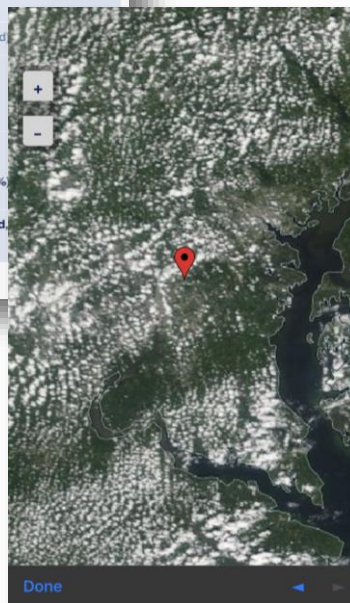
Cloud Types: **Cumulus**

Cloud Cover: **Isolated (10-25%)**

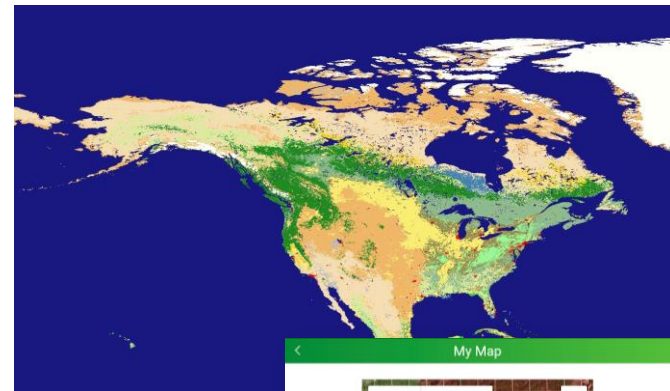
Opacity: **Opaque**

Surface Conditions: **Dry Ground, Trees**

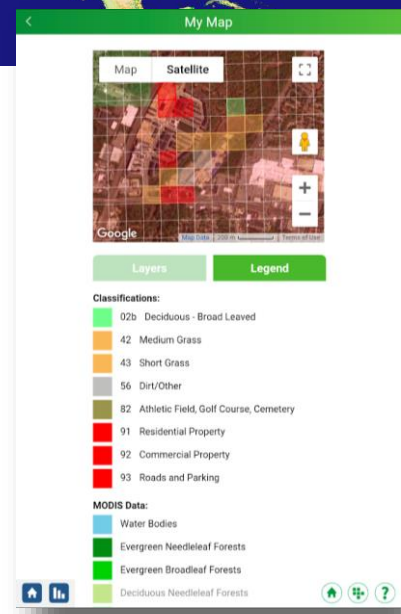
NASA Satellite View

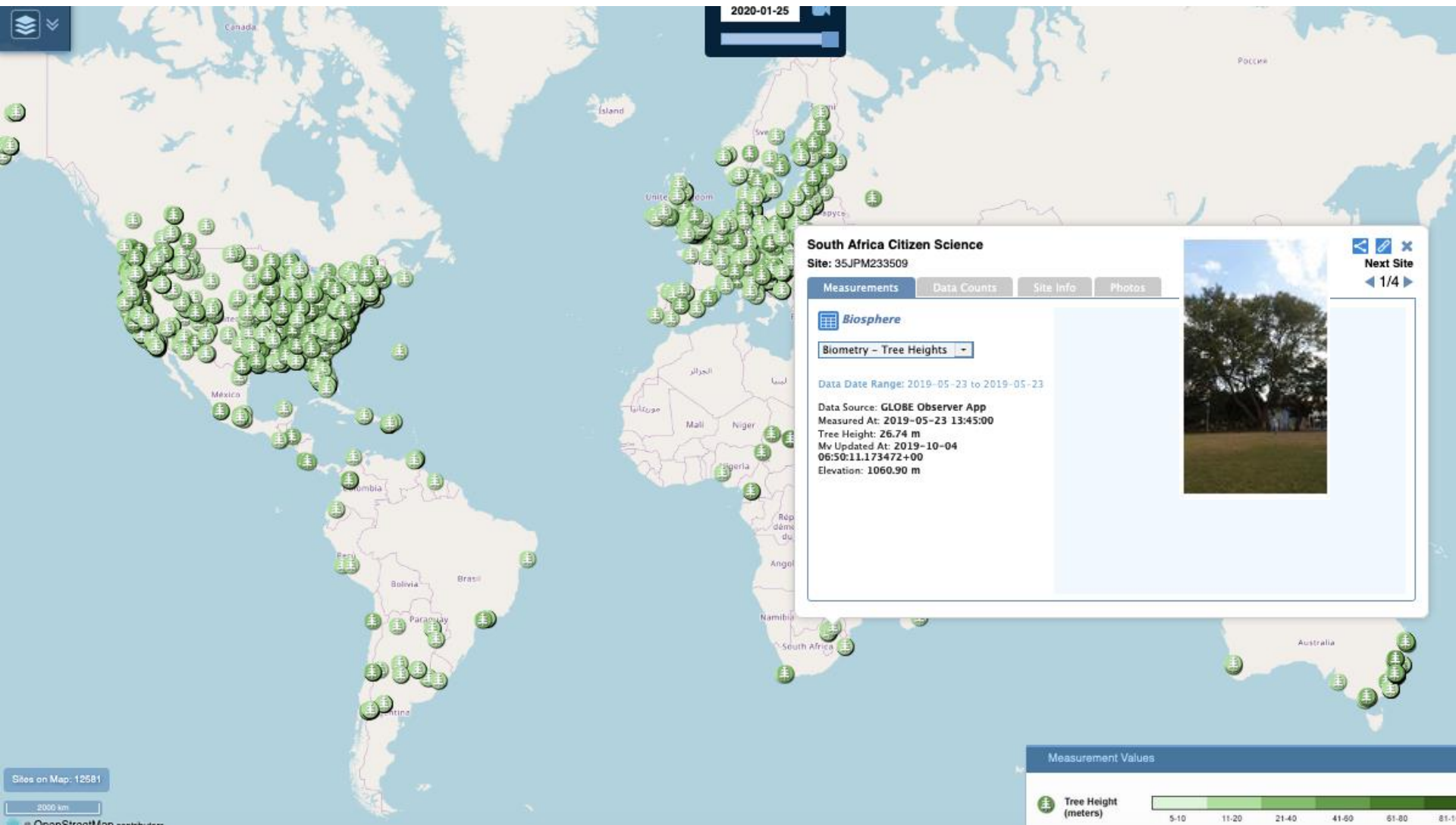


User cloud observation (left) and satellite cloud image (below)



Satellite-based land cover map (top) and user-created map (right)





Resources to support Earth citizen science In your library programs

- Go to <http://www.starnetlibraries.org/our-planet-earth/>
- Scroll down to GLOBE at Home Section



★ Activity	📷 Taking Observations	📄 Program Ideas
Cloud in a Jar:		
<ul style="list-style-type: none">• Download Activity (English Version) Download Activity (Spanish Version)• View Video Demo (North Hollywood Branch/Los Angeles Public Library)• View Toolkit to discover more activities, book and other resources		



★ Activity	📷 Taking Observations	📄 Program Ideas
Build a Mosquito Larvae Trap:		
<ul style="list-style-type: none">• Download Activity (English Version)• View Video Demo (Dr. Russanne Low, IGES)• View Toolkit to discover more activities, book and other resources		



★ Activity	📷 Taking Observations	📄 Program Ideas
Build a Clinometer:		
<ul style="list-style-type: none">• Download Activity (English Version)• View Video Demo (Coming Soon)• View Toolkit to discover more activities, book and other resources		



★ Activity	📷 Taking Observations	📄 Program Ideas
Make a Map:		
<ul style="list-style-type: none">• Download Activity (English Version)• View Video Demo (Coming Soon)• View Toolkit to discover more activities, book and other resources		

Simplified hands-on activities

- Take and Make
- Do not require special equipment
- Short video demos
- Link to more



Video/photo courtesy N. Hollywood Branch of Los Angeles Public Library

Cloud in a Jar

Materials

- ☐ clear glass jar
- ☐ metal tray or plate
- ☐ ice cubes
- ☐ hot water
- ☐ matches (optional)

Creating Your Cloud

1. Fill the jar with about 2 inches of hot water and stir.
2. Light a match, blow it out, and drop it into the jar (optional).
3. Once the smoke clears, place the ice tray on top.
4. Watch a cloud form!

What's Happening?

In this activity, stirring the water increases the amount of water vapor in the jar. As the water vapor rises towards the cool tray, it condenses onto particles in the air. If you used a match, this effect will be even more dramatic because of the smoke particles.

Sketch what you see happening inside of the jar and label the parts of the water cycle.

How do clouds form?

Our atmosphere is full of water vapor, but we can't see it. So why can we see clouds? Clouds form when water vapor condenses onto solid particles in the air, just like how water vapor condenses onto the side of a cool glass on a warm day.

Build a Mosquito Larvae Trap

Materials

- ☐ clear plastic bottle
- ☐ netting
- ☐ rubber band
- ☐ tape
- ☐ scissors or craft knife
- ☐ dark paper or fabric
- ☐ water

What does the trap do?

Container-breeding mosquitoes lay their eggs in standing water that collects in puddles, buckets, and even trash! This trap tricks mosquitoes into laying their eggs in a container that the larvae can't escape. You can then report the larvae using the GLOBE Observer app.

Remember, this trap isn't for trapping adults. You should still protect yourself from bites by wearing long sleeves and applying effective insect repellent.

Building the Trap

1. Cut the top off of the bottle using scissors or a craft knife.
2. Use the rubber band to attach the netting to the mouth of the bottle.
3. Invert the top and tape it to the bottom.
4. Fill the trap with water until the water is right below the netting.
5. Wrap with dark paper or fabric.

Using the Trap

1. Put the trap in a protected place outside.
2. Check the trap every few days.
3. If there are adult mosquitoes in the trap, shake gently to drown them.
4. Share your observations using the GLOBE Observer app. Select OVTTRAP as the habitat type.

Build a Clinometer

What is a clinometer?

A clinometer is a tool for measuring angles of slope or elevation. You will need this angle to calculate the height of trees and other objects.

Materials

- ☐ Straw
- ☐ String

Making a Map

Extent and Scale

Map extent is the area that your map shows, and that area must be scaled to the size of your map.

What will the extent of your map be?

Getting Started

When you think of a map, you might think of different elements, like a grid, a compass, a scale, a key, symbols, and labels that show how different things relate to each other. However, the most important part of a map is its purpose. The purpose of a map drives choices such as the scale and what information to include.

Use this page to plan your map and then draw it on the back.

Purpose

How will your map be used?
It might help to start with one of these verbs:

find navigate study document teach

Map Data

Map data is the information that your map includes, like points of interest, boundaries, physical features, and statistics.

What information will you include in your map?

Want to do more? Place a piece of clear plastic over your map and assign a color to each type of surface. Now by coloring the squares of the grid with just one color each. These squares are similar to the pixels that make up satellite imagery.

observer.globe.gov

★ Activity

📹 Taking Observations

✍️ Program Ideas

Taking Observations

Links and videos related to:

- How to take observations
- Why NASA wants your observations
- Science background and related information



★ Activity

📹 Taking Observations

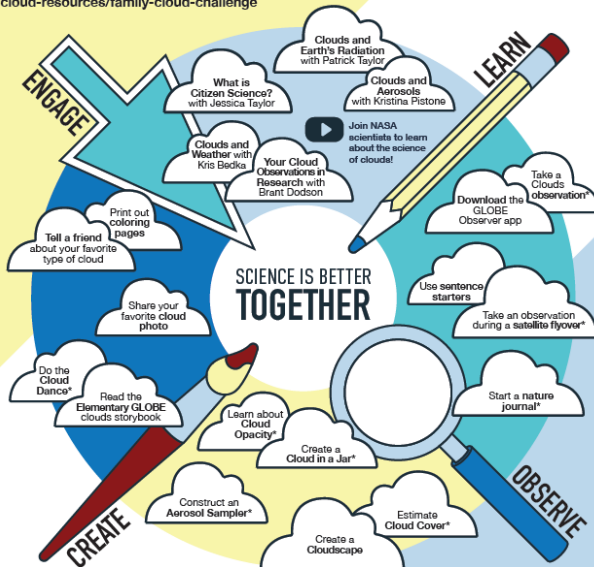
✎ Program Ideas

National Aeronautics and Space Administration



NASA GLOBE Clouds: Choice Chart

Use this choice chart to keep track of which activities you complete. See how many clouds you can shade! Learn more at <https://www.globe.gov/web/s-cool/home/family-cloud-resources/family-cloud-challenge>



*Step-by-step videos are available for these activities at go.usa.gov/xJfU.

Safety first! Always follow guidelines from your local officials when taking observations. You may receive a NASA personalized email with your observations compared to satellite data if you take cloud observations during a satellite flyover.

www.nasa.gov

Community Cloud Challenge

🔗 Learn about clouds

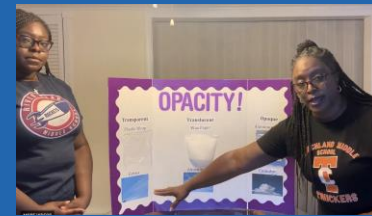
🔗 Create with clouds

🔗 Engage with the cloud observer community

🔗 Observe clouds

nesec  NASA Earth Science Education Collaborative

- 🔗 **Satellite Matches to GLOBE Cloud Observations**
- 🔗 **What is Citizen Science?**
- 🔗 **Clouds and Weather from 22,000 miles away**
- 🔗 **Clouds and Earth's Climate**
- 🔗 **Aerosols and Air Quality**
- 🔗 **Impact of Your Observations in Research**



Using the GLOBE Teams Tool

What is a GLOBE Team?

Teams can be used to set up a competition, coordinate a community's citizen science efforts, support an educational or corporate initiative, or simply enable a group of people to work together (including virtually).

Who can join or create a GLOBE Team?

- Anyone with a GLOBE or GLOBE Observer login
- You can join or create as many teams as you wish
- Data collected counts in the total for every team you are on.



Teams of Scouts and their adult leaders collected nearly 200 land cover observations during a 3-month competition in 2019.

How to Create a Team (using the app)

- Download the app, register and login
- Click on the gear icon (top right)
- Select Create a GLOBE Team
- Enter a team name (screened)
- Select your country (required) and city and zip code (optional). This info will be public on the GLOBE Teams page.
- Email confirmation that you successfully created a team & instructions for managing.

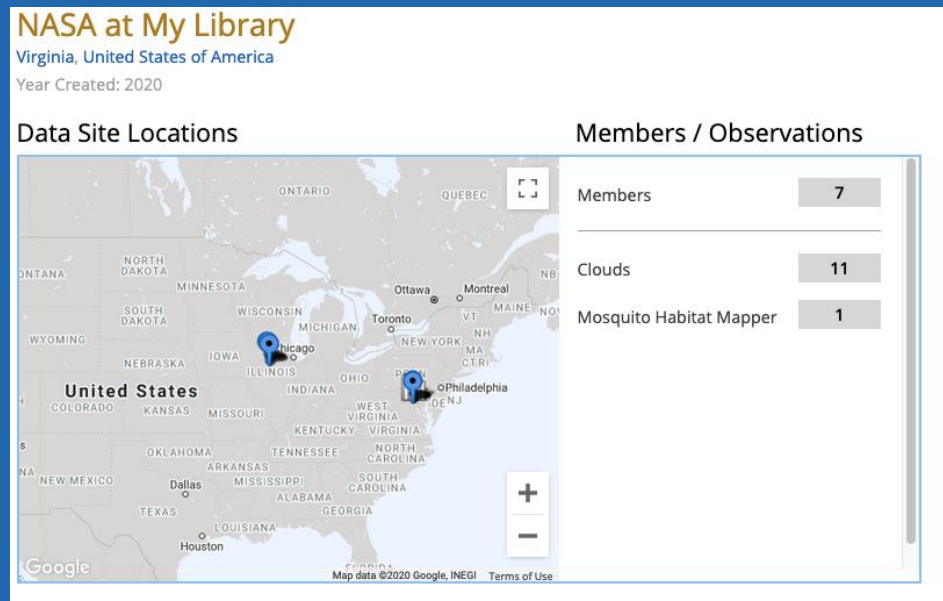
Learn more about teams

<https://observer.globe.gov/do-globe-observer/do-more/teams>



How to Join the NASA@ My Library Team (using the app)

- Log in to the app
- Join the NASA@ My Library Team:
 - Click on the gear icon (upper right)
 - Select "Join a GLOBE Team"
 - Under "Referral code" enter team code: GLIDEVQX



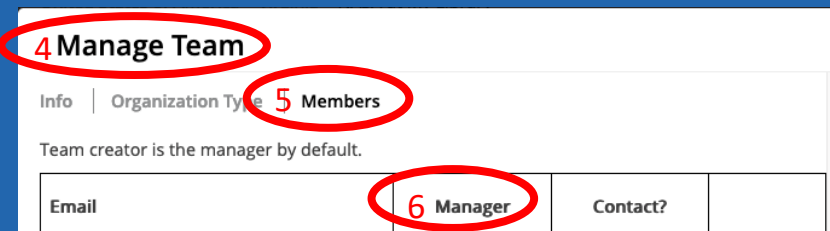
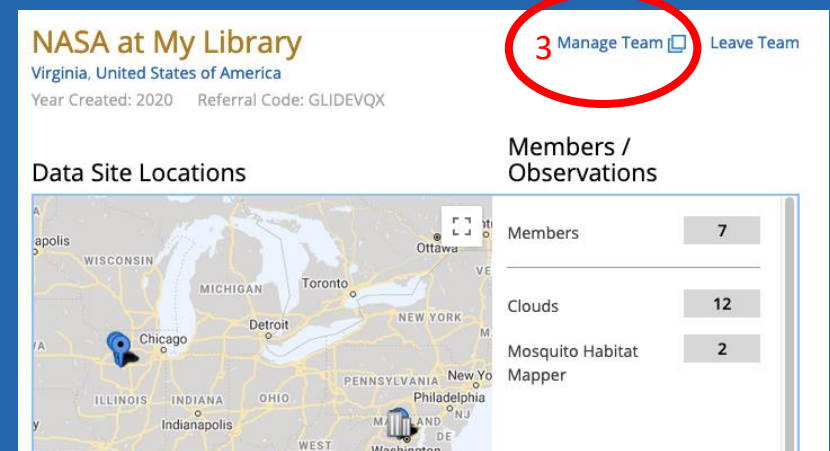
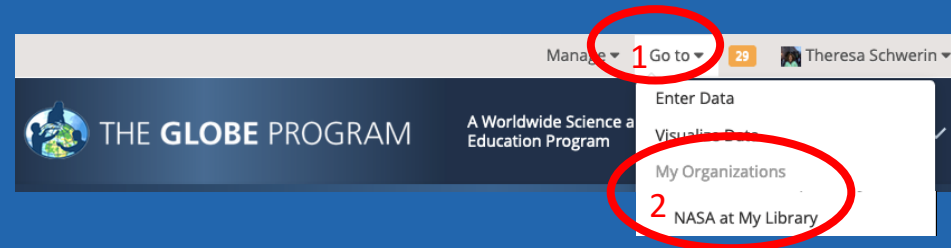
Learn more about the NASA @ My Library Team: <https://observer.globe.gov/naml>

Learn more about teams: <https://observer.globe.gov/do-globe-observer/do-more/teams>

Managing your Team

Go to globe.gov and login

1. Click on “Go to” in the top white bar.
2. My Organizations → Select team
3. Select “Manage Team” to →
4. See all options to manage team
5. Select “Members” to see a list of members and email addresses.
6. Manager is the team creator (by default) can change to another group member.



Benefits of Creating a Team

- Track impact from an event or training
- Invite patrons to take science home and maintain connection to your library
- Set up a competition
- Coordinate volunteer efforts


NASA at My Library

Virginia, United States of America

Year Created: 2020 Referral Code: GLIDEVQX

[Manage Team](#) [Leave Team](#)

Data Site Locations



Members / Observations

Members	7
Clouds	12
Mosquito Habitat Mapper	2

DATA SITES

☒ Include citizen science sites

Site Name	Organization Name	Investigation Area	# Observations	Created	Last Used
16TBL936858	United States of America Citizen Science	Atmosphere	1	07/16/2020	07/16/2020
16TBL979798	Illinois GLOBE v-School	Atmosphere	1	07/18/2020	07/18/2020
16TCL081709	United States of America Citizen Science	Atmosphere	1	08/25/2020	08/25/2020

Tips for Teams

- Setting up multiple teams? Start each team name with the same string to make it easier to group your teams together: e.g., library name + event name
- Keep your team private if you want to use the tool to track engagement
- Distribute your team name, referral code, and URL to your patrons with event information

Learn more about teams

<https://observer.globe.gov/do-globe-observer/do-more/teams>

SCIENTIST, AUTHOR, & ILLUSTRATOR DR. LISA GARDINER



SCIENTIST DR. RUSTY LOW



SEPT 3 @ 2 PM CT

For you and your patrons!

Register at: <https://bit.ly/StarNetGO>



LOS ANGELES PUBLIC LIBRARY

Neighborhood Science

Investigate • Share • Transform

Presented by Vivienne Byrd
08.27.20



LOS ANGELES PUBLIC LIBRARY

Neighborhood Science

Investigate • Share • Transform

Before There Was COVID-19...

In-Branch Programs





LOS ANGELES PUBLIC LIBRARY

Neighborhood Science

Investigate • Share • Transform

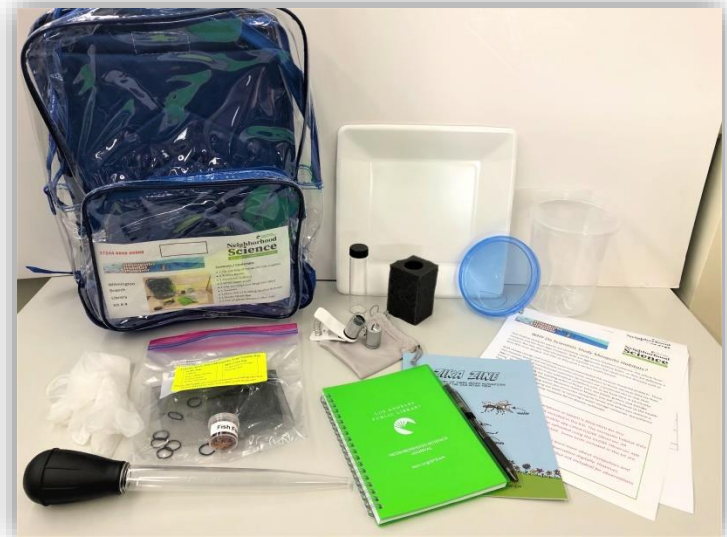
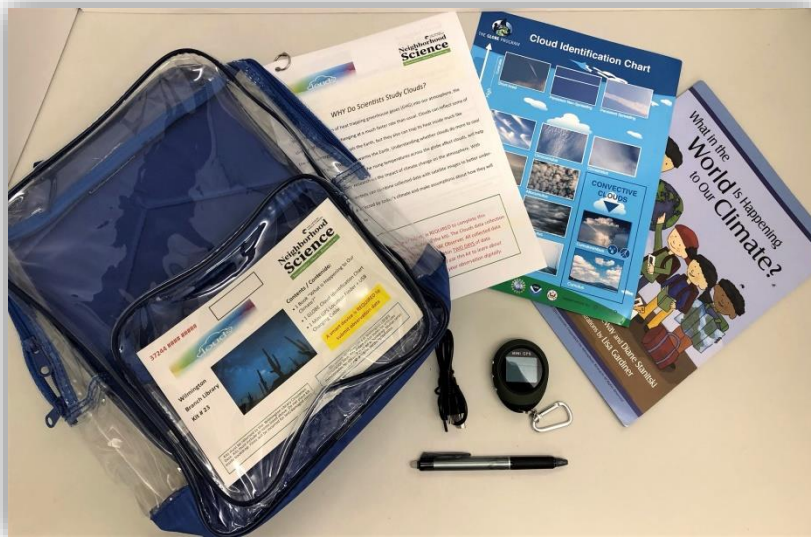
In-Branch Programs



In-Branch Programs



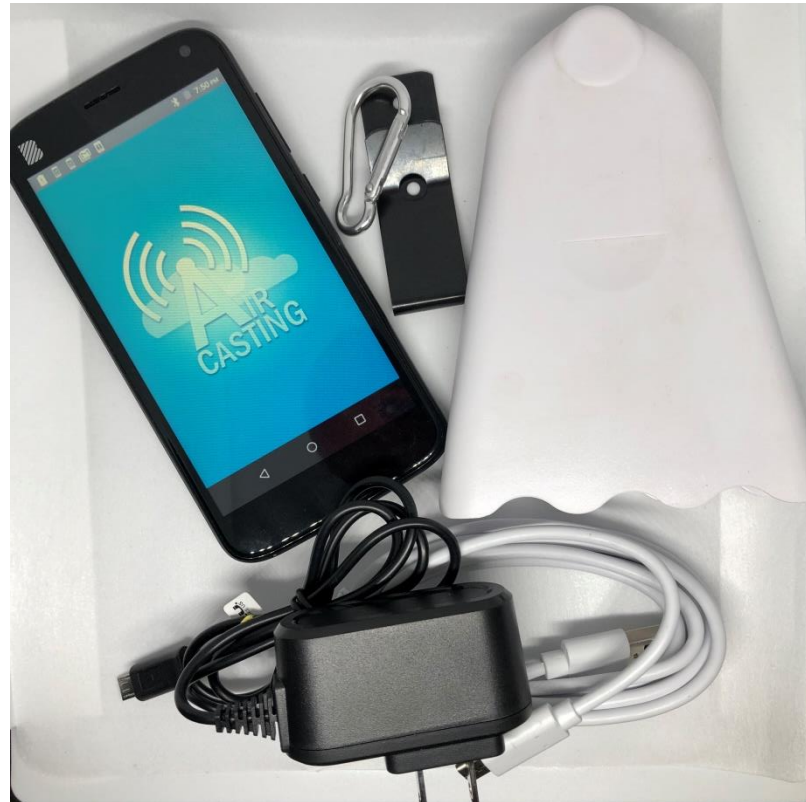
Neighborhood Science Programs Before COVID



Neighborhood Science Programs Before COVID



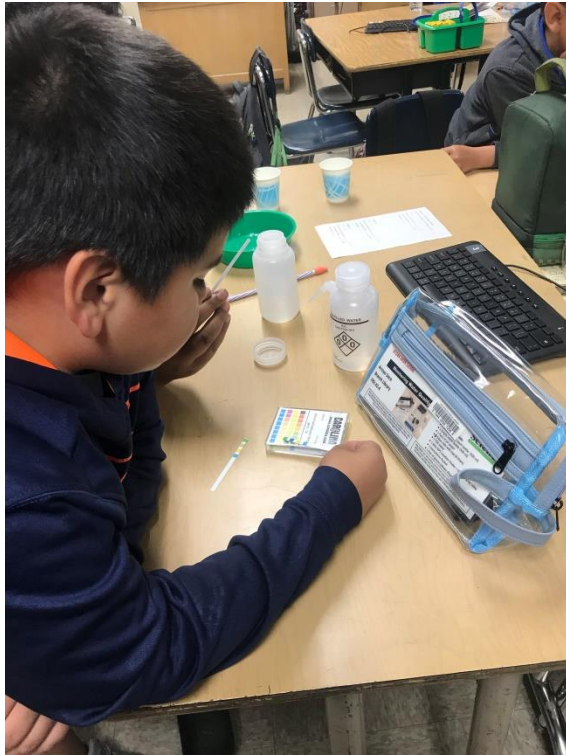
Neighborhood Science Programs Before COVID



Outreach Programs Before COVID



Outreach Programs Before COVID





LOS ANGELES PUBLIC LIBRARY

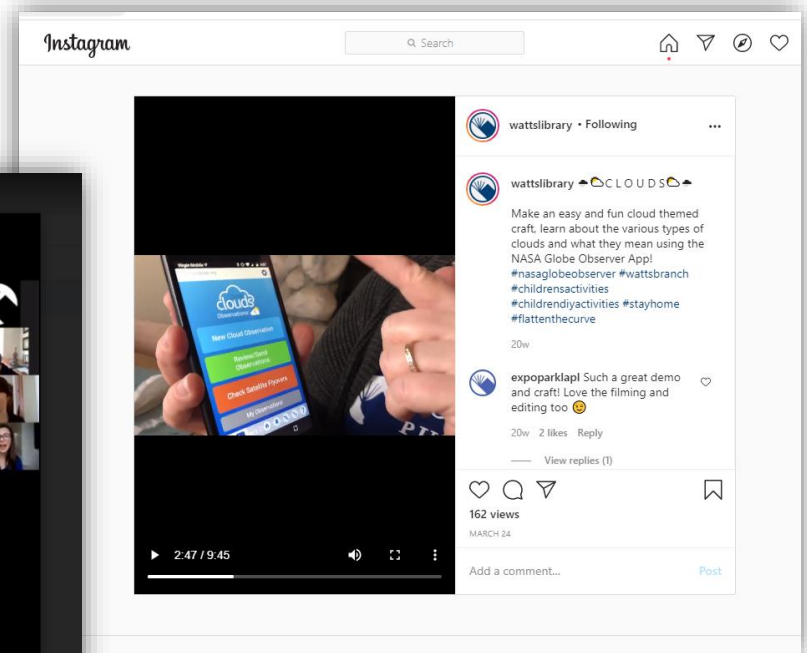
Neighborhood Science

Investigate • Share • Transform

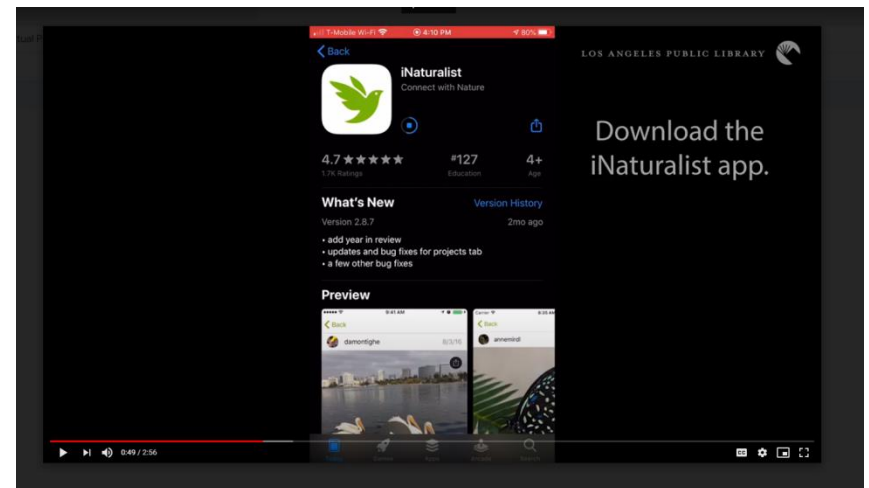
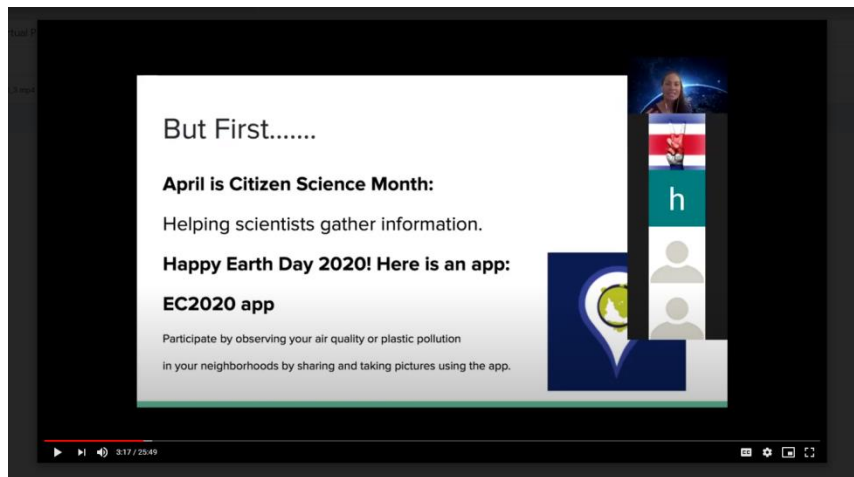
And Then, There Was COVID-19...



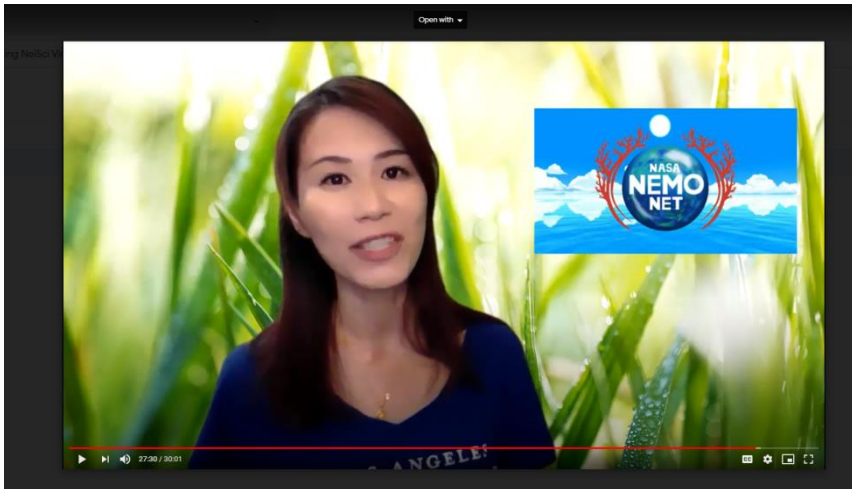
Virtual Neighborhood Science Programs



Virtual Neighborhood Science Programs



Virtual Neighborhood Science Programs



REC LIVE on YouTube

A small video player showing a woman with glasses speaking. The video player has a "REC LIVE" button and "on YouTube" text.

Q&A

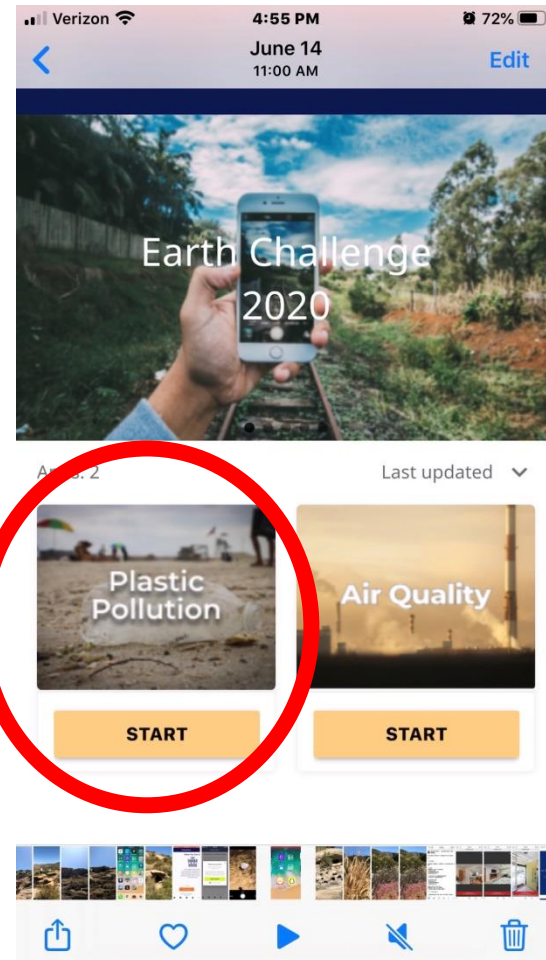
A portrait of Brian Koepnick, a man with a beard and glasses, wearing a plaid shirt.

Brian Koepnick,
Foldit

A portrait of Charlene Nichols, a woman with glasses, wearing a black and white patterned shirt.

Charlene Nichols, Children's Librarian
at the Watts Branch Library at the Los
Angeles Public Library

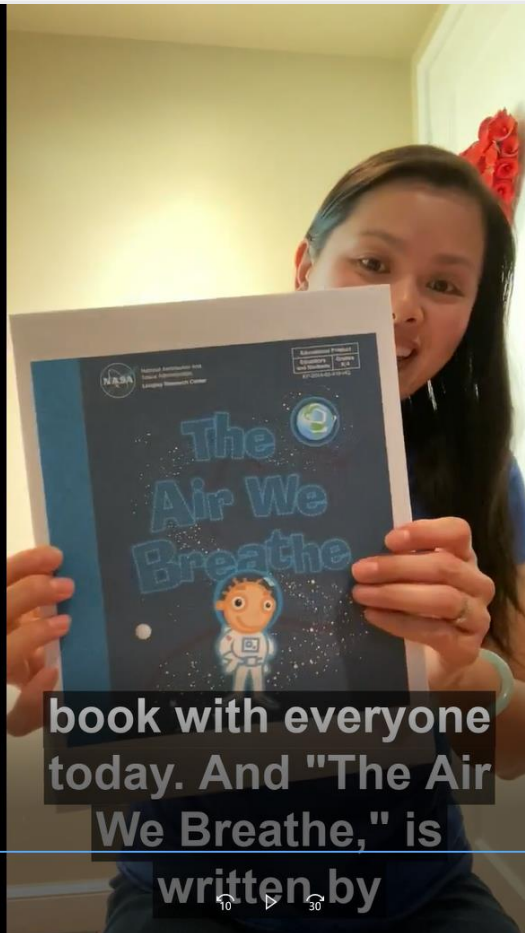
Virtual Neighborhood Science Programs



Virtual Neighborhood Science Programs



Virtual Neighborhood Science Programs



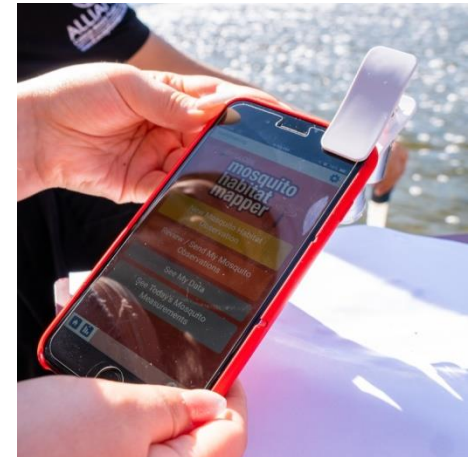


The Opportunities with Virtual Neighborhood Science Programs

- Broadened audience beyond local communities
- Connect and "meet" with subject matter experts
- Parent/intergenerational participation increased
- Enhance school's curriculum
- Willingness to search for and try out other citizen science projects increased.
- People are willing to turn their smart device into a convenient and an effective scientific device.

The Challenges with Virtual Neighborhood Science Programs

- Competing with other virtual events
- Zoom/content/social media fatigue
- Much shorter program time
- Difficult to collect certain demographic data from virtual participants (e.g., age, gender, etc.)
- Technical issues
- Digital divide and readiness
- Inaccessibility to library's loanable kits
- ADA compliance



Some Tips for Virtual NeiSci Programs

- Take advantage of the GLOBE's resources
- Do a virtual school or classroom visit and spin it into a citizen science activity time!
- Align your citizen science program to teachers' science curriculum.
- Create your virtual/digital content around environmental or health awareness days, holidays, etc.
- This is the best time to reach out to the speakers you've been wanting to invite to your program! Email, call, private message them!
- Create a GLOBE Team for your branch and give out the unique ID to participants who really don't want to create a GO account.

Where to Find Speakers for Your Program?

- The NASA Speakers Bureau
- Citizen's Climate Lobby - local chapter near you
- Climate Reality Leadership Corps – local chapter near you
- Sidewalk Astronomers/Planetary Society
- Skype a Scientist
- Search for and reach out to local science/STEM-topic meetup groups using Meetup.com
- Reach out to local schools/universities, museums, arboretum/nursery, etc.
- City's department of sanitation, waste management, etc.
- Ask your friends and family members!

Creating Flexible & Inclusive Programming

BRITTANY BLOMQUIST & DONNA BLOMQUIST

LASALLE PUBLIC LIBRARY

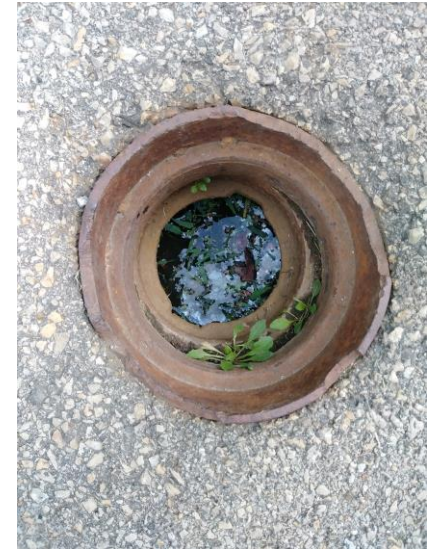
Adapting Traditional Library Programs

Previous Considerations

- Weather
- Technology
- Public Location

New Considerations

- Location Access
- Facility Operation
 - Remote
 - Curbside
 - Open to the Public
- Locations of Program Participants



Going Digital

Make Your Program Virtual

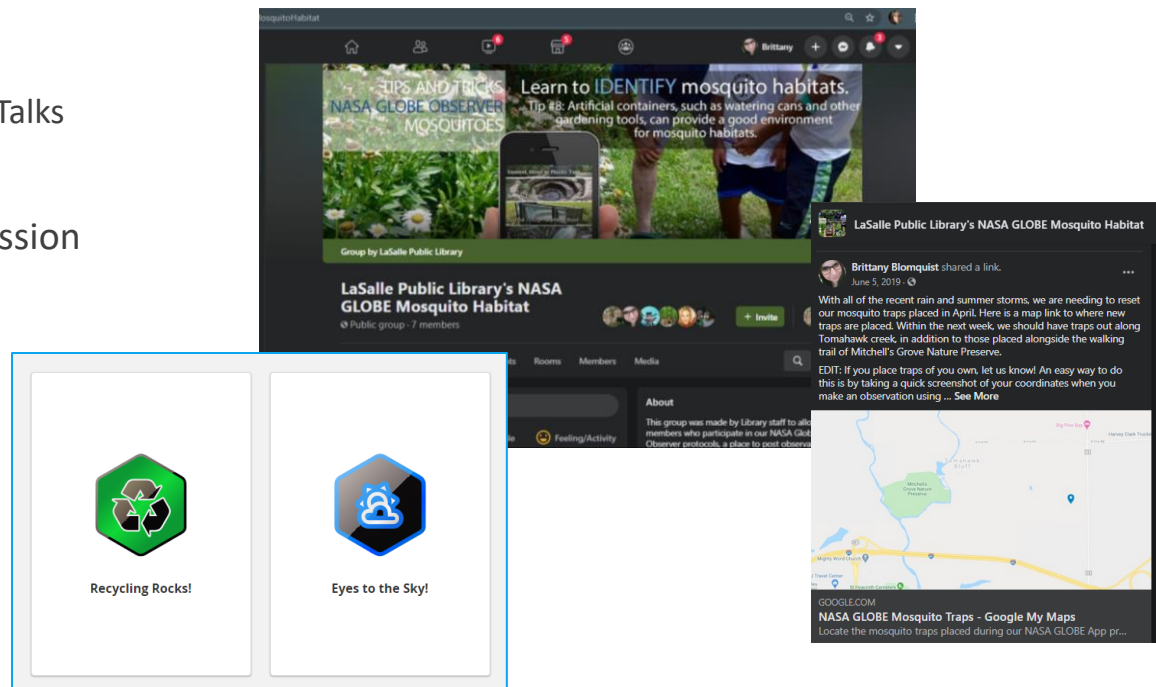
- Zoom Webinars
- Facebook Live
- Facilitating Recorded TED Talks

Use Social Media for Discussion

- Facebook Groups
- Google My Maps

Continuity Programs

- Digital Achievements



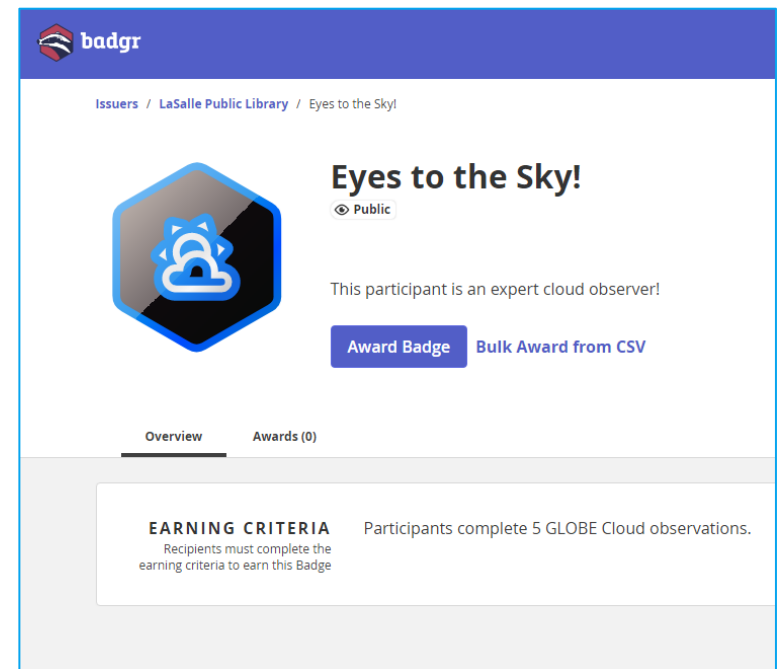
Going Digital

Badging Programs

- Flexible Technology
- Free Access & Easy Design
- Digital Participant Backpacks for Awards
- Achievements Awarded via Email or Text

Program Structure

- Set Goals for Program
- Tracking of Participation
 - GLOBE Teams
 - Facebook Group Posts
 - Paper Tracking



Remaining Hands-On



Remaining Hands-On



Discussion

Please share your ideas for doing Earth and Citizen Science during COVID-19 in the chat.

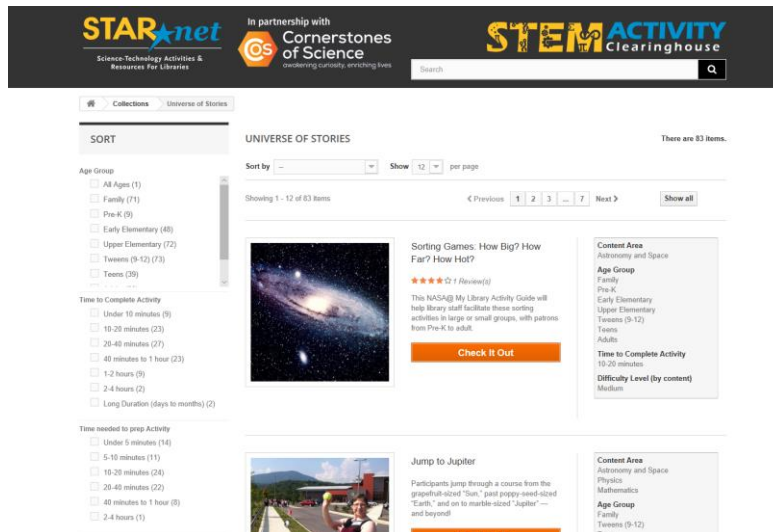


Photo Credit: NASA GLOBE



GLOBE Observer Citizen Science Public Training
September 3rd
1:00 pm Mountain Time

STEM ACTIVITY Clearinghouse



Our Planet: EARTH

Like an activity and think other library staff should know how great it is? Didn't like an activity or have modifications to make it better? **Make sure to leave a review!**



Thank you!

Any
Questions?

