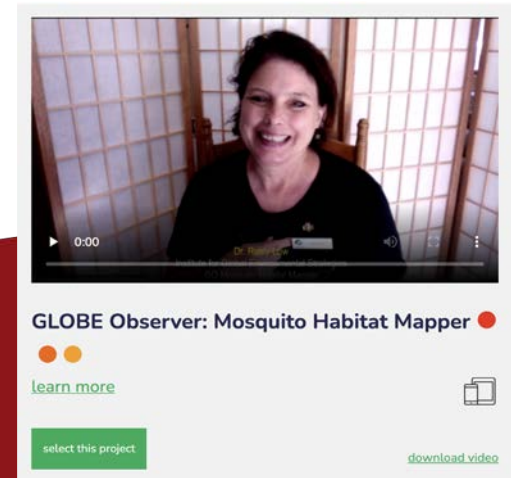




&



GLOBE
mosquito
habitat mapper

Girl Scouts and GLOBE Observer



The [Global Learning and Observations to Benefit the Environment \(GLOBE\) Program](#) is an international science and education program that provides students and the public worldwide with the opportunity to participate in data collection and the scientific process and contribute meaningfully to our understanding of the Earth system and global environment.



The [GLOBE Observer](#) app is a GLOBE's data entry tool that allows an international network of citizen scientists to work together to learn more about our shared environment and changing climate. *GLOBE Observer* currently accepts observations of Clouds, Mosquito Habitats, Land Cover and Trees.

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NASA GLOBE and Girl Scouts

GLOBE Observer Mosquito Habitat Mapper: Think Like a Citizen Scientist



Hear



Smell



Touch



See



Taste

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What's an Observation?

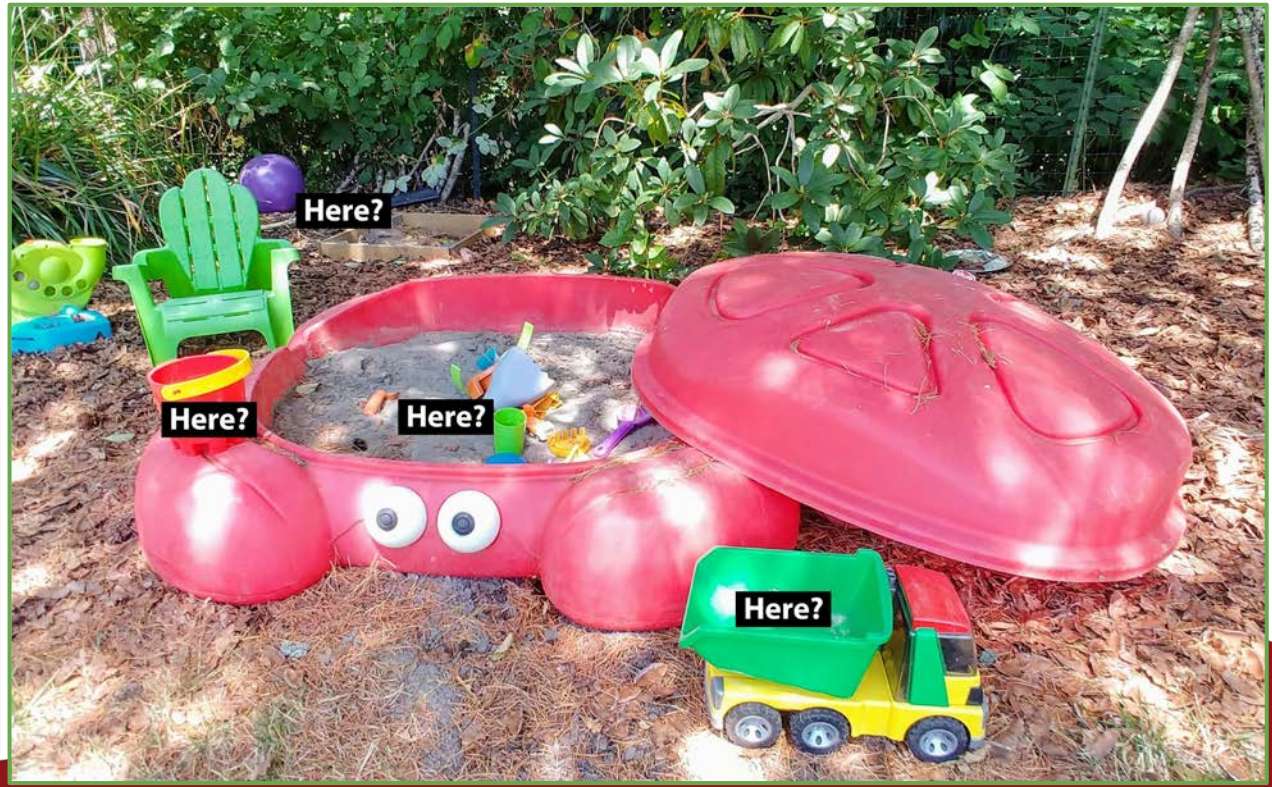
Observation

Mosquitoes need a source of water to breed. Anything that collects water could become a mosquito habitat.

Mosquito City!

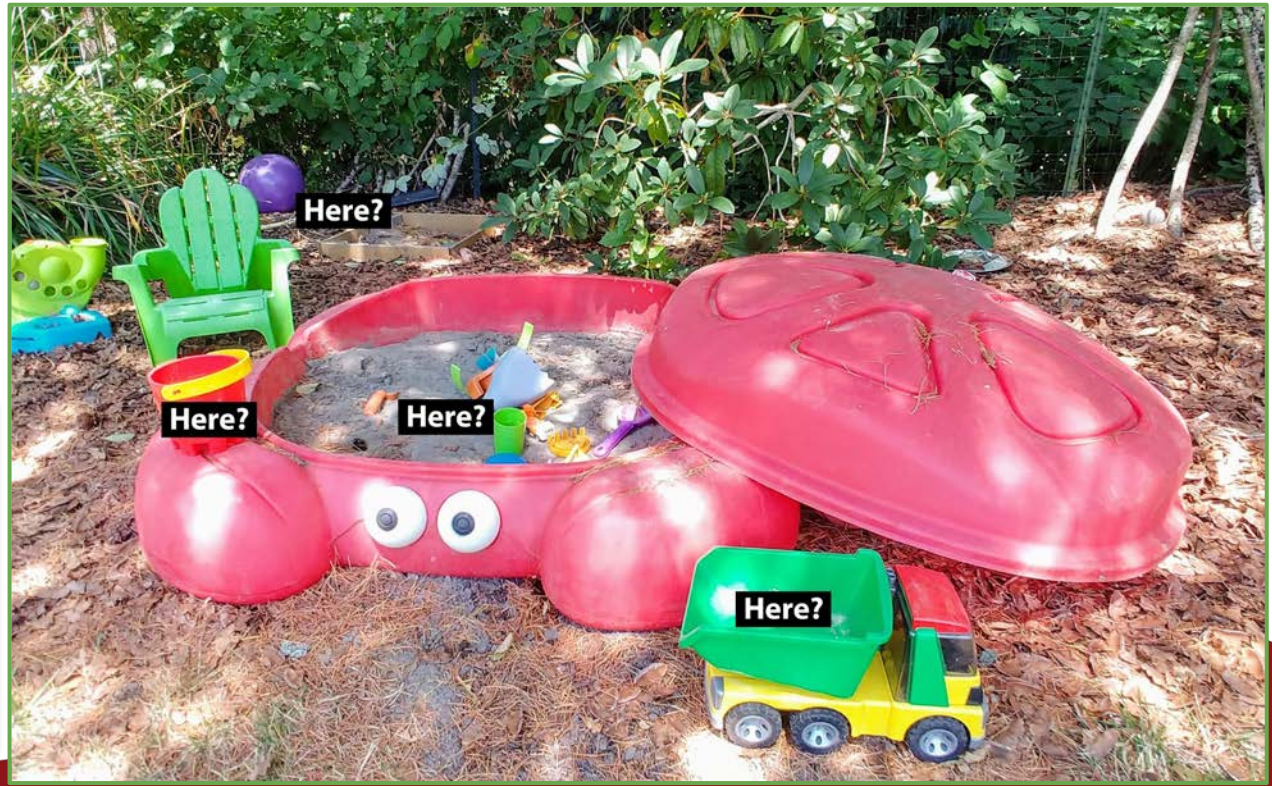
Let's look at a few pictures and use our sense of sight to make observations about where we might find breeding grounds for mosquitoes.





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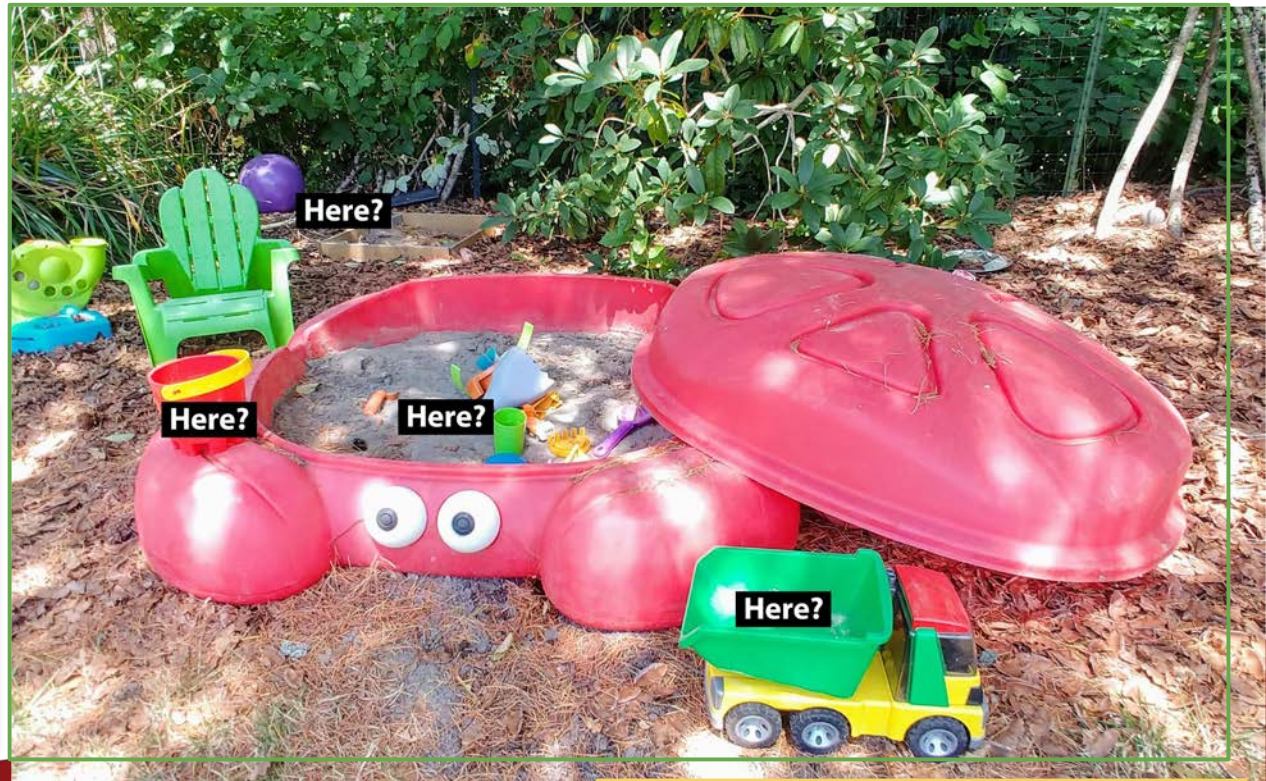
Go on a Mosquito Habitat Hunt
Where do mosquito larvae live? I Spy...



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Observations

- ☐ Conditions (temperature, precipitation, etc.)?
- ☐ Where were larvae present?



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Observations

- ☐ Conditions (temperature, precipitation, etc.)?
- ☐ Where were larvae present?



Press Pause while you discuss.

Observation:

Mosquito Larvae up close!



Observation: Virtual Mosquito Habitat Audit



Check off on your bingo card

Mosquito Habitats and Hideouts

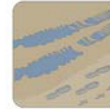
Bingo Call Sheet



Abandoned car



Animal dish or trough



Animal, people or tire tracks



Birdbath



Can, bottle, cup



Ditch



Estuary



Grill



Hollows in plants



Hollows in trees



House or structure



Lake or pond



Mosquito eggs



Mosquito larva



Mosquito pupa



Mosquito trap



Ovitrap



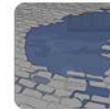
Plant pot



Pool



Public works



Puddle



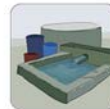
River or stream edge



Shells (animal or plant)



Swamp



Tank



Tire



Trash container



Trash/discarded objects



Water jars



Well or cistern

Observation: Mosquito Habitats and Hideouts (Your turn!)

You can do this on your own if you can go outside with an adult.

1. Bingo card Mosquito Habitats and Hideouts scavenger hunt: check off any mosquito habitats when you find them.
2. Mosquito Habitat Survey: identify any larvae, pupa, or mosquitoes that are present.



Tips on how to fill out your data

Mosquito key

- Larva
- Pupa
- Adult

Artificial container			
Animal trough			
Bucket	X		X
Cement, metal, or plastic tank			
Flowerpot	X		

Date: Sept. 3, 2020	Date: Sept. 14, 2020	Date: Sept. 23, 2020
Temperature: High: 75 F Low: 55 F	Temperature: High: 78 F Low: 52 F	Temperature: High: 68 F Low: 50 F
Rain today? Yes	Rain today? No	Rain today? No
Any mosquitoes observed? Yes	Any mosquitoes observed? Yes	Any mosquitoes observed? No

Record the date, temperature, rain, and mosquitoes observed

Sheet has room for three separate observation days

Mosquito Habitats and Hideouts

Playing Cards

GLOBE Observer

Abandoned car	Animal dish or trough	Animal, people, or fire tracks	Birdbath	Can, bottle, cup
Ditch	Estuary	Grill	Hollows in plants	Hollows in trees
House or structure	Lake or pond	Mosquito eggs	Mosquito larva	Mosquito pupa

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LEARN MORE • observer.globe.gov

GLOBE mosquito habitat mapper

Page 5

What does a Scientist Do?



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Press Pause while you discuss.

What does a Scientist Do?



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What does a Scientist Do?



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1. Observe
2. Ask a Question
3. Make a Hypothesis



What does a Scientist Do?

1. Observe ✓
2. Ask a Question
3. Make a Hypothesis



Did you know:
Vector borne illness mosquitoes usually
prefer breeding in artificial containers.



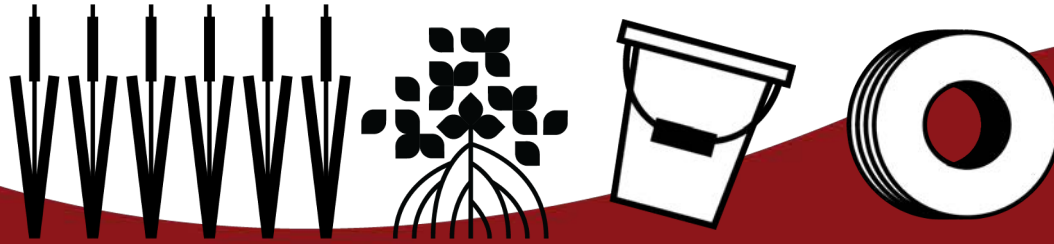
Did you know:

Vector borne illness mosquitoes usually prefer breeding in artificial containers.



Press Pause while you discuss.

**Near where you live, are there more
artificial or natural habitats for
mosquitoes?**



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Formulate a Question

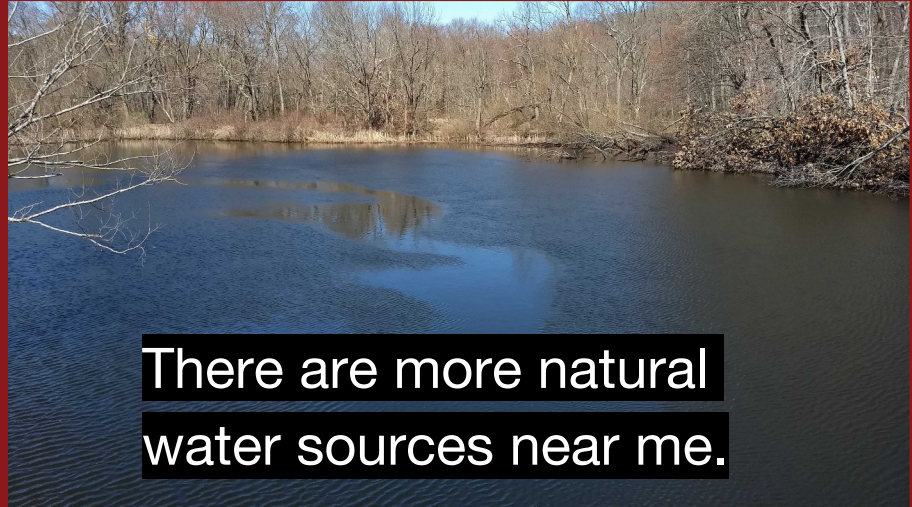
Create a question based on your observations

Make a Hypothesis

Answer your question based on observations.



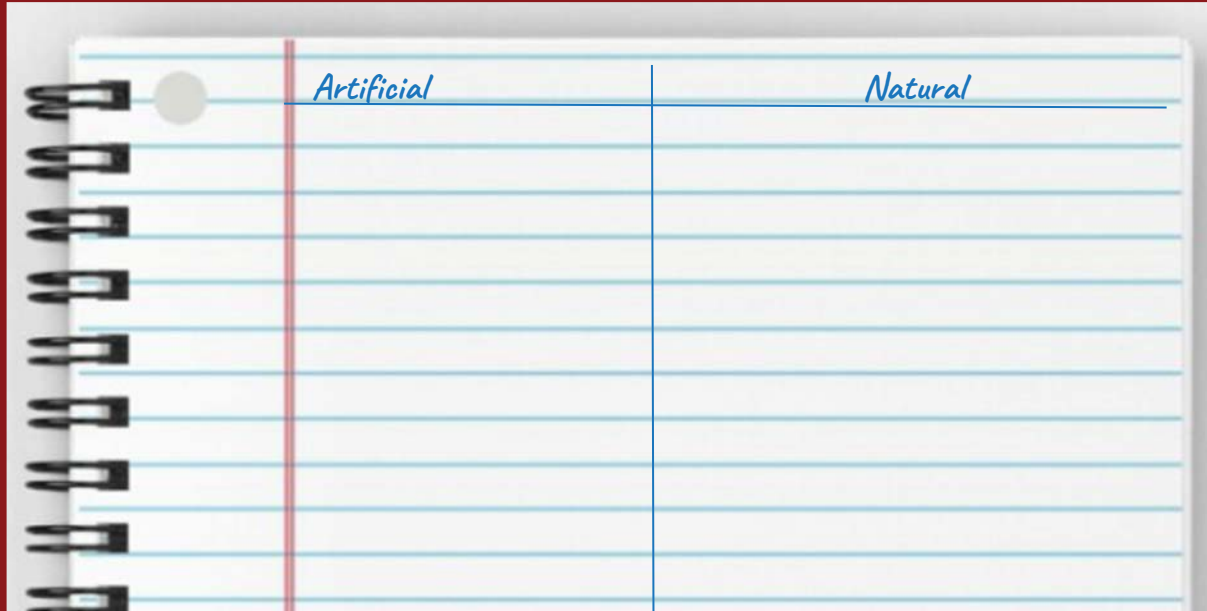
There are more artificial
containers near me.



There are more natural
water sources near me.

Make a Hypothesis, then Collect Data

- 1) Answer your question based on observations.
- 2) Collect data to see if your hypothesis is correct.

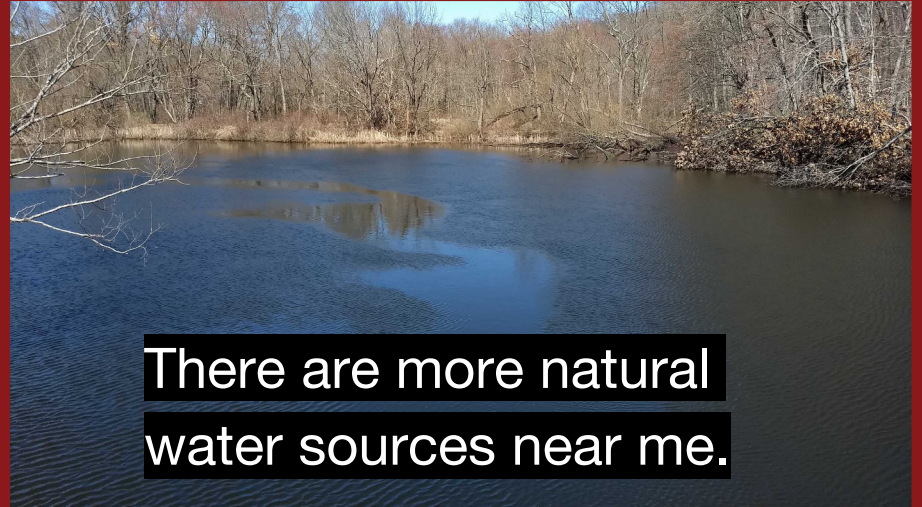


Make a Hypothesis

Answer your question based on observations.



There are more artificial
containers near me.



There are more natural
water sources near me.

How do scientists know if their hypothesis is correct?

Collect and Analyze Data

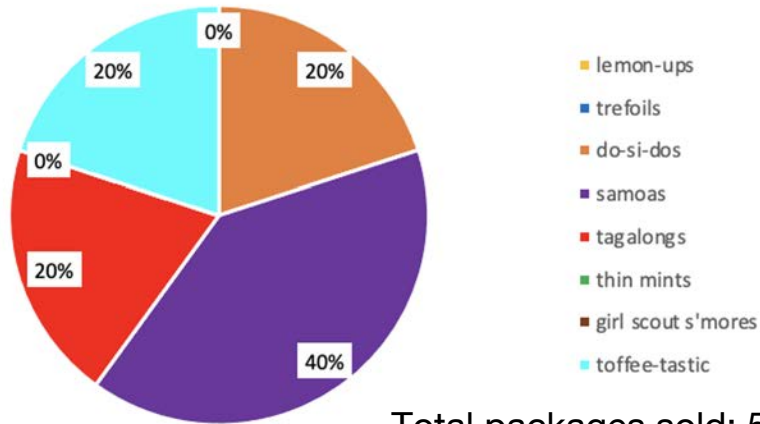


Collect and Analyze Data

Girl Scout Cookie Sales

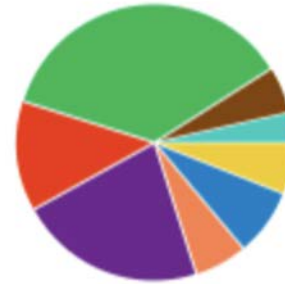
Single Sale

Single Family



Total packages sold: 5

Troop Sales



Total packages sold: 1,559

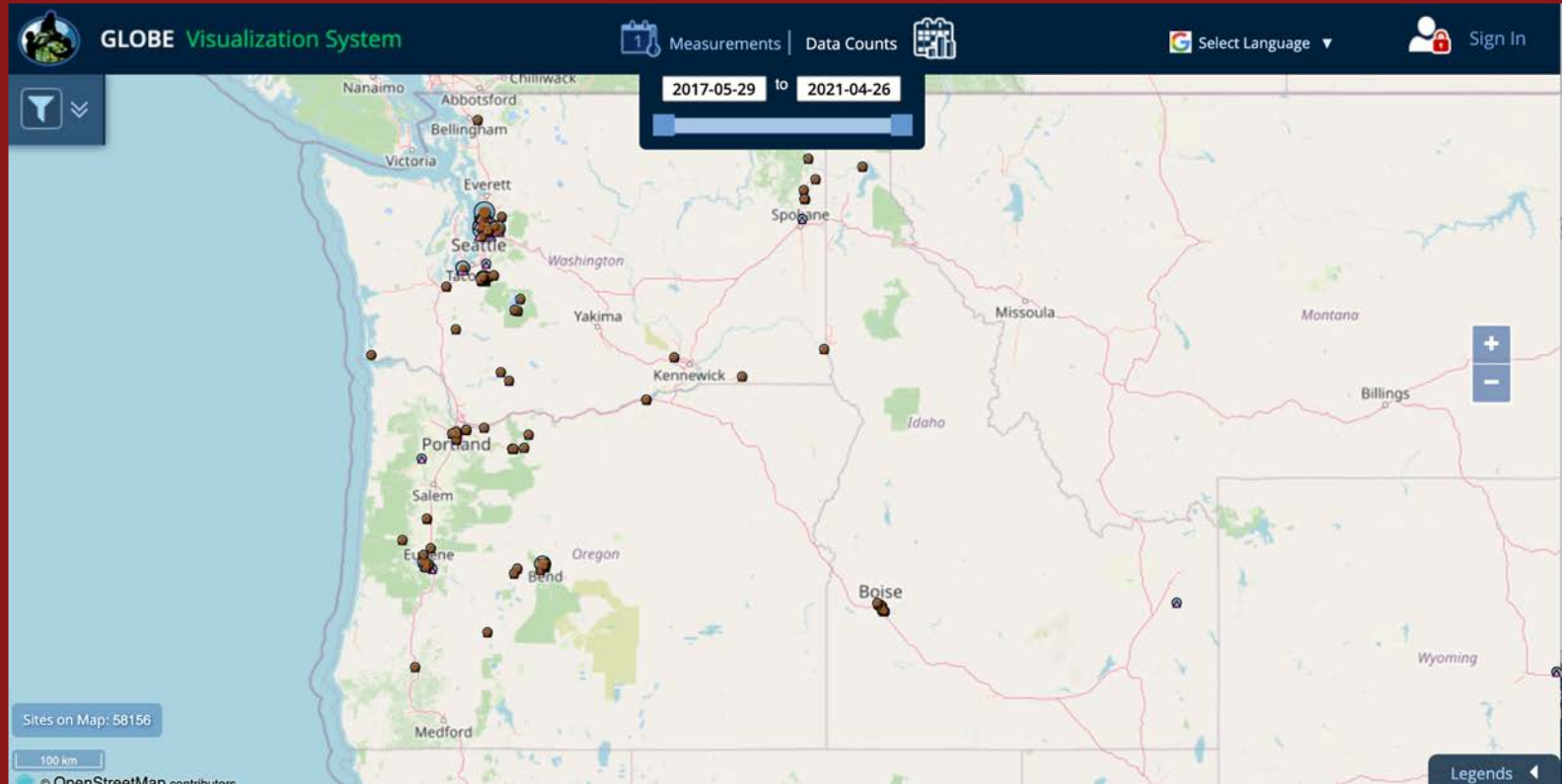
What about around in Oregon and SW Washington?

My yard is not a large data set.



We need MORE data!

Mosquito Habitat Data



<https://vis.globe.gov/mosquithabitats>

The more data we get, the better the science can be.

And that's why
NASA GLOBE
needs you!



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We need your data!

Join GLOBE Observer: Mosquito Habitat Mapper



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Mosquito Habitats Girl Scout Intro

<https://youtu.be/YobgJJmN7YA?t=905>



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Mosquito Habitat Mapper Intro

<https://youtu.be/YobgJJmN7YA?t=1055>

Build a Mosquito Trap

Materials:

- clear plastic bottle
- netting (like tulle)
- rubber band
- tape
- scissors or craft knife
- dark paper or fabric
- water



Above: Steps 1-3 for building the mosquito trap.



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Make Your Own Mosquito Trap

<https://go.nasa.gov/3aGgU1S>



Welcome, Girl Scouts!

This is the sign up page for Troop Leaders/Volunteers. If you're a Girl Scout, you'll need to wait for an email from your troop leader to get started.

Sign Up For A SciStarter Account

email

How should we refer to you on the site?

password

re-enter password

zipcode or postal code

☒ Sign up for our newsletter

☒ By signing up, I agree to SciStarter's Terms of Use.

Log In With A SciStarter Account

email

password

[Forgot your password?](#)

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Register your Troop on SciStarter

<https://scistarter.com/girlscouts/volunteer/landing>

Choose GLOBE Observer: Mosquito Habitat Mapper

Your Citizen Science Project:

GLOBE Observer: Mosquito Habitat Mapper



Description

Welcome to GLOBE Observer: Mosquito Habitat Mapper (GO Mosquito), an international citizen science initiative to understand our global environment.

Locate and map locations of mosquito breeding sites (standing water), destroy container habitats so that mosquito larvae don't develop into adults that spread disease, and learn more about mosquito prevention and control in your area.

Besides promoting the collection of critical data for use by scientists and health officials, GO Mosquito helps us understand how we can make a difference to reduce the local risk and spread of mosquito-borne diseases.

Safety checkpoint! Biting insect warning.

Project Instructions

Your troop volunteer will guide you in choosing a site and getting ready. Then, together, you will collect data for the first time.

You need to be 13 or older to log data yourself.

[log data](#)[log data \(android\)](#)[log data \(iOS\)](#)

Take Action

What can you do?

- ☐ Find mosquito habitats and dump the standing water if you are able.
- ☐ Create a program to teach other Girl Scouts about mosquitos
- ☐ Start a hiking group and take mosquito habitat observations as part of your walk.
- ☐ Take mosquito habitat and land cover observations from the same place in different seasons, then compare the changes from year to year and look for differences between the images to learn more about seasonal effects on the mosquito habitats and mosquito populations.
- ☐ Participate in the data challenges when they occur!
- ☐ Use the “[Conducting a Mosquito Habitat Survey](https://bit.ly/MosquitoHabitatSurvey)” (bit.ly/MosquitoHabitatSurvey) activity and data sheet to survey any mosquito habitats near you!



@TheGLOBEProgram



@GLOBEProgram

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Questions? Share your projects.

- ❑ [GLOBE Observer app link](#) or download from the App Store or Google Play.
- ❑ [GLOBE Visualization System](#) to see other citizen science data from GLOBE observers around the world. You can look for mosquito habitat pictures or check out data from the other GLOBE tools.
- ❑ [NASA Worldview](#) to explore current and past satellite data (yes, you can view data as early as today in near real time.)
- ❑ Video about [how to take a mosquito habitat observation](#)
- ❑ [GLOBE Teams](#)