

Water Sampling Protocol for Citizen Science

For Citizen Science, you need to collect a sample of water from one freshwater source that is particularly important to you (e.g. river, stream, pond, or lake). For example, you can select a lake where you go swimming or a stream that you pass over every day. You will analyze aspects of your water sample during Citizen Science. Please do not sample saltwater or treated water (such as water from the tap or from a swimming pool).

Using a prepared water sample collection kit

1. If you wish, you can stop by RKC 120 to pick up a sampling kit containing these printed instructions as well as a sterile 50 ml tube for your water collection. If you are unable to pick up this kit, you will be required to provide your own sample collection bottle. Steps describing how to prepare your own bottle are listed below under 'preparing a collection bottle'.

Preparing a collection bottle (if you are unable to pick up a water sample collection kit as mentioned above)

1. If you collected a water sample collection kit from RKC 120, skip to "Collecting your water samples" below.
2. For each sample, obtain a **brand new, un-used** travel-sized plastic shampoo bottle (can be purchased at a store such as a CVS or aTarget) or a similarly small new glass jar with a tight-fitting lid that holds 3 to 4 tablespoons or ~50 ml (no more) of liquid.
3. Also, obtain a bottle of isopropanol (sometimes called isopropyl alcohol or rubbing alcohol).
 - a. Both are quite inexpensive items and are easy to find.
4. Before you collect your sample in that new bottle, rinse it first with the isopropanol and let it air dry.
5. Cap the bottle to keep it clean.
6. You are now ready to collect your water sample.

Collecting your water samples

1. Use only the tube in the water sample collection kit or the clean bottle that you prepared following the instructions above.
2. Label your tube/bottle with the following information using a permanent marker.
 - a. Your first initial and last name.
 - b. Your Bard E-mail address.
 - c. Date of the sample collection.
 - d. Time of the sample collection.

- e. Location of the sampled water, using GPS coordinates or as close to that as you can get (see below).
3. Open the clean tube/bottle and fill it with fresh water.
 - a. *Please do not sample saltwater or treated water (such as water from the tap or a swimming pool).*
4. Cap the tube/bottle tightly.
5. Before you leave the collection site take a cell phone picture of your sampling location with the location services turned on.
 - a. *If you do not have Internet access at your collection site, please still take the picture. If you do not have a phone with photo capabilities, no worries! Just please let us know when you submit your sample information on the Google Form (point 8 below).*
6. Observe and take notes of features of the location of your sampling that may call your attention such as trees or vegetation near the water, smell, water flow, pipes, houses, presence of animals (domestic & wild), garbage, proximity to roads, and evidence of recent human activities.
7. Store your tube at room temperature until you arrive at Bard.
 - a. If you are traveling to Bard by air, you can keep your water sample in your luggage or put it in your carry-on (you may need to pull it out at security!)
8. Fill out the Google form using the link below.
 - a. [LINK to Google Form](https://forms.gle/9JgFxFNpiYjSqFWQt5). (URL - <https://forms.gle/9JgFxFNpiYjSqFWQt5>)
9. Bring your sample to class on the first day.

Obtaining longitude and latitude coordinates for water samples with mobile phones

Apple iPhone

1. Open the Apple Maps application.
2. Touch and hold your finger on the location where the water sample was collected. If you are currently not at the location where you sampled the water, a red pin will appear. Proceed to Step 4.
3. If you are at the location where the water sample was collected, a pop-up will appear, and select 'My Location'.
4. Scroll down to find both the longitude and latitude of your current location or the location of the pin you placed on the map.

Android and Google Phone

1. Open the Google Maps application.
2. Touch and hold your finger on the location where the water sample was collected. A red pin will appear along with a description of the pin's location.
3. Expand the description of the pin's location by swiping up on the screen.
4. The longitude and latitude are indicated under the address of the dropped pin.