

# CHESAPEAKE WATER WATCH



Smithsonian  
Environmental Research Center



Partner

## Collecting Data with the HydroColor App: Getting Started

Contact: Shelby Brown brownsh@si.edu or 443-482-2270

STEP  
01

Download the Hydrocolor App (free) from the app store to your smartphone.



**HYDROCOLOR:**  
A WATER QUALITY APP

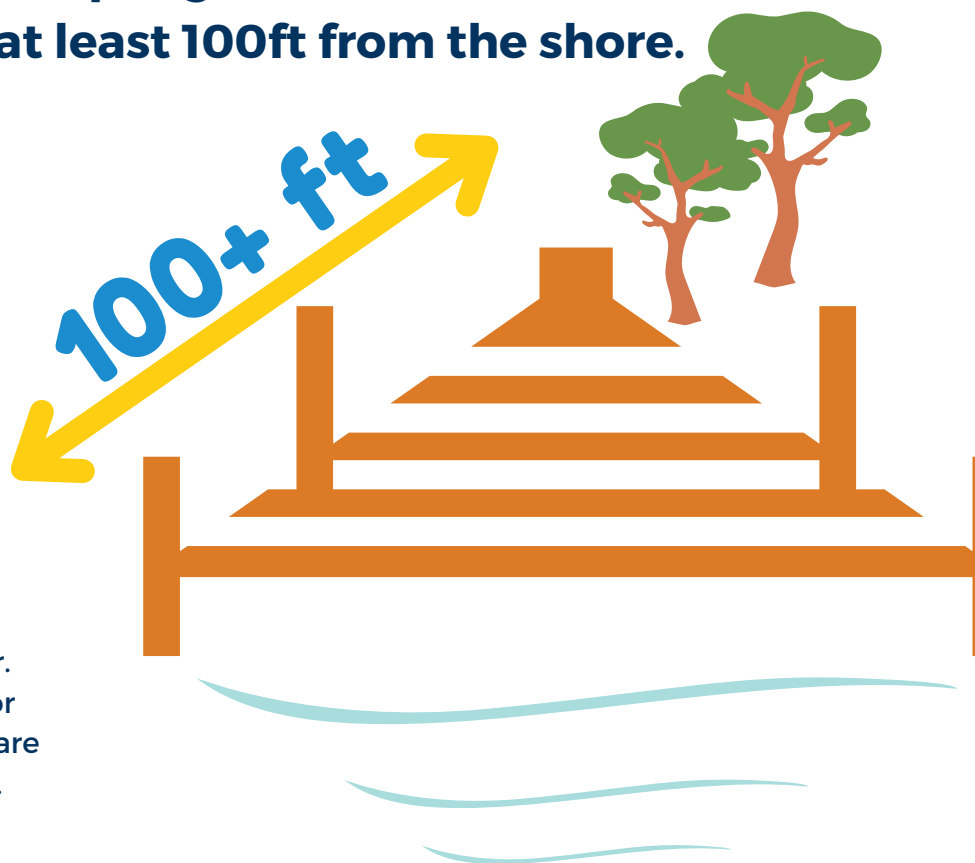
STEP  
02

Check your local weather to make sure it's safe to go out! Your safety is a priority, please do not go out if there is severe wind, rain, or temperatures.



STEP  
03

Go out to your sampling location. We want to make sure it's at least 100ft from the shore.



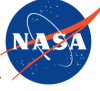
\*\*\*Scan the QR code\*\*\*

to see the NASA satellite calendar. Ideally, you would take HydroColor data on the days that the satellites are passing over, but it's not required.

**All data is good data!**



Smithsonian  
Environmental Research Center



Partner

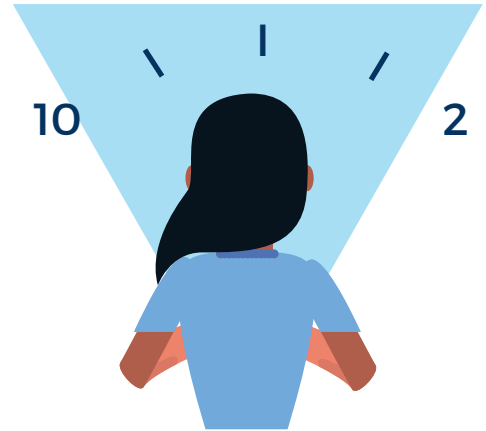
## Collecting Data with the HydroColor App: Getting Started

Contact: Shelby Brown [brownsh@si.edu](mailto:brownsh@si.edu) or 443-482-2270

### STEP 04

#### Position the Sun behind you.

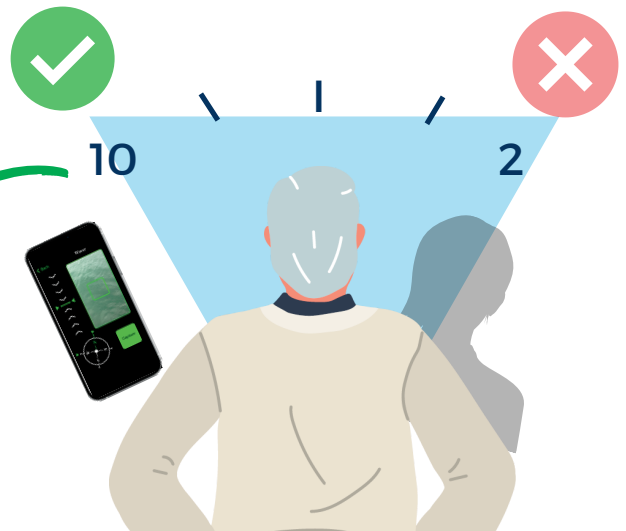
It's best to not go out at midday as the sun will be directly overhead. Next, look in front of you between your 10 o'clock and 2 o'clock.



### STEP 05

#### Take a moment and see which side is clear from shadows or objects.

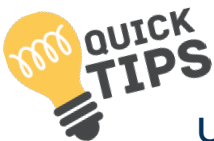
This will be the side we use to take photos for data collection.



### STEP 06

#### With the sun behind you, take the gray card out of the plastic covering and place on a flat surface.

Use a clipboard or something heavy so the gray card doesn't blow away!





Smithsonian  
Environmental Research Center



Partner

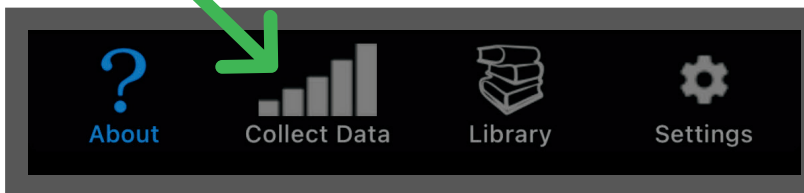
## Collecting Data with the HydroColor App: Using the App

Contact: Shelby Brown brownsh@si.edu or 443-482-2270

**STEP 07**

**Open the Hydrocolor App to collect data.**

At the bottom there will be 4 options, click "Collect Data" and follow the prompts.



**STEP 08**

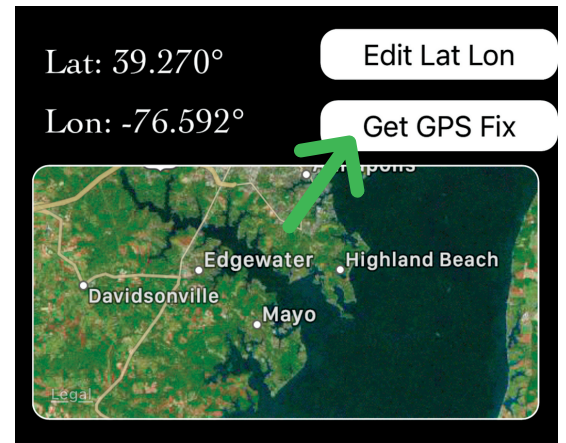
**Make sure your latitude and longitude are accurate.**

Click "Get GPS Fix" for the app to automatically pick up your location or click "Edit Lat Lon" and enter it manually.



You may need to click "Get GPS Fix" a few times and zoom in on the map to make sure that the location is accurate.

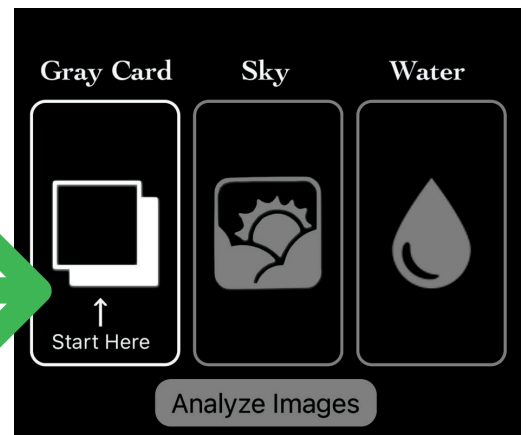
Just be patient!



**STEP 09**

**You will take three photos for the app to analyze water quality.**

**First, let's click on the gray card rectangle.**





## Collecting Data with the HydroColor App: Using the App

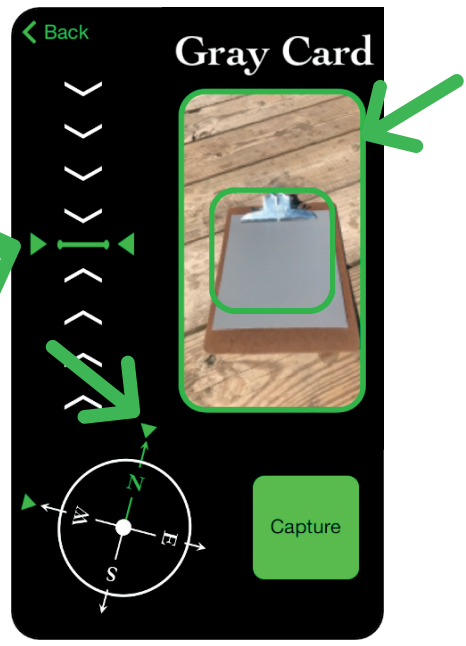
Contact: Shelby Brown brownsh@si.edu or 443-482-2270

### STEP 10

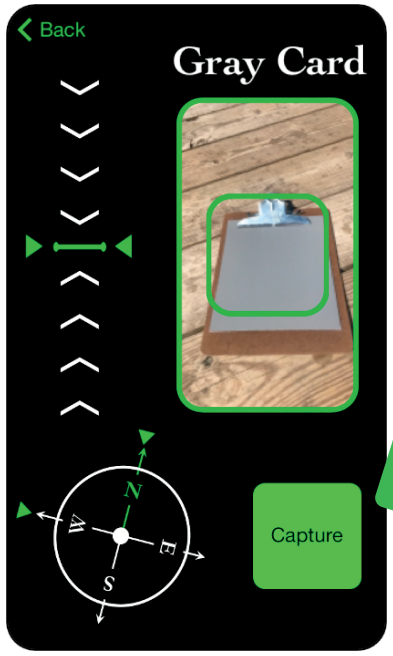
Tilt your phone up and down and rotate it side to side until the green arrows line up and there is a green box around the photo.

### QUICK TIPS

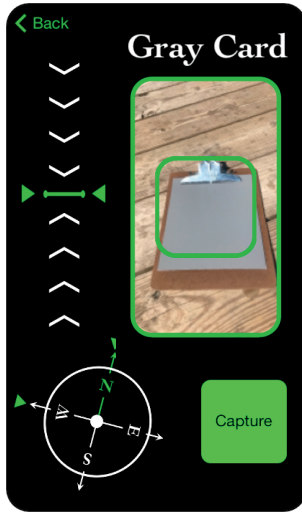
You may need to bend down to get the right alignment and to get as much of the gray card in the smaller box as possible!



### STEP 11



When the arrows are lined up and there is a green box highlighted, click "Capture."



\*\*If you do not get a green box around the photo, click on the outer edge of the photo to try again. Adjust until you get a green box and capture again\*\*

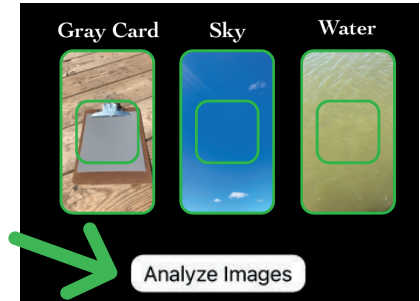


# Collecting Data with the HydroColor App: Using the App

Contact: Shelby Brown brownsh@si.edu or 443-482-2270

## STEP 12

Repeat steps 9 - 11 for Sky and Water so you have all three photos taken.  
Then, click "Analyze Images"

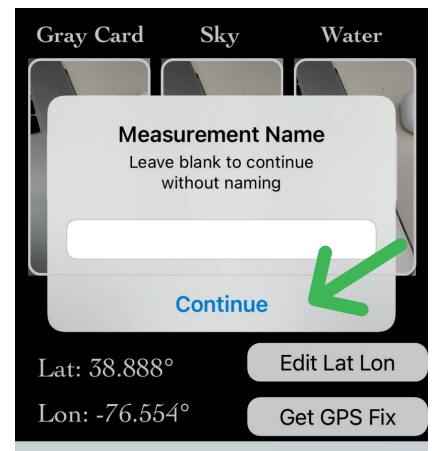


## STEP 13

You will be prompted to name the entry.

Enter: **the initials of the body of water**\_your initials\_**unique identifier for your location**\_the measurement number

For example: this is Jane Doe's first measurement on the Rhode River at her pier so her entry will read: **RR\_JD\_JanesPier\_1**



Click "Continue"

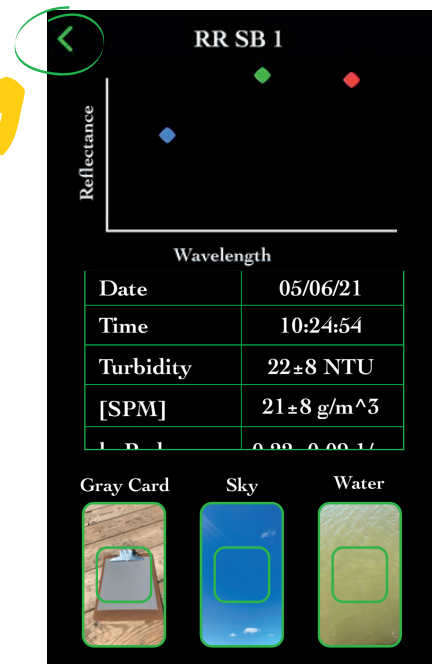
## STEP 14

Repeat steps 9 - 13 above for two more measurements at the same location!  
Click "Back" to do this.

You will see this information analyzed by the app.

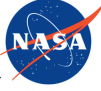


Having 3 entries per location is important so we can get an average of the numbers for each location. If you're only able to do one trial at this location that's still great!  
**All data is good data!**





Smithsonian  
Environmental Research Center



Partner

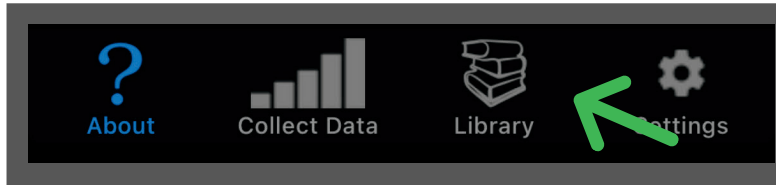
## Collecting Data with the HydroColor App: Entering Data

Contact: Shelby Brown brownsh@si.edu or 443-482-2270

### STEP 15

Now we will check all of our data before we enter it into Fieldscope.

At the bottom of the screen click "Library" and scroll to the bottom to see the most recent measurements you've taken.



### STEP 16

Compare the turbidity of all 3 measurements from the day.

Your highest and lowest measurements of turbidity should be within a range of 5 from each other.

For example: I got turbidity readings of 19, 23, and 22. My lowest value is 19, my highest value is 23, and  $23 - 19 = 4$  so they are within a range of 5. If I have readings that are outside the range of 5, I need to take another trial until I have at least three measurements with turbidity readings that are within my range of 5.

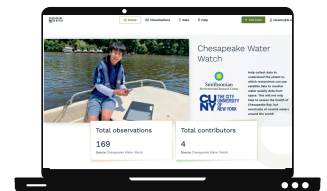
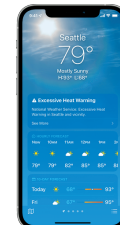


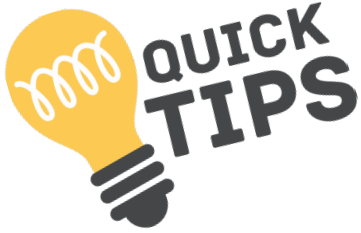
Ignore the +/- NTU. All we are looking for is the whole number for turbidity!

### STEP 17

Enter all Hydrocolor data on Fieldscope site: [serc.fieldscope.org](http://serc.fieldscope.org)

Note your turbidity measurements, the date, time, and environmental conditions including air temperature.



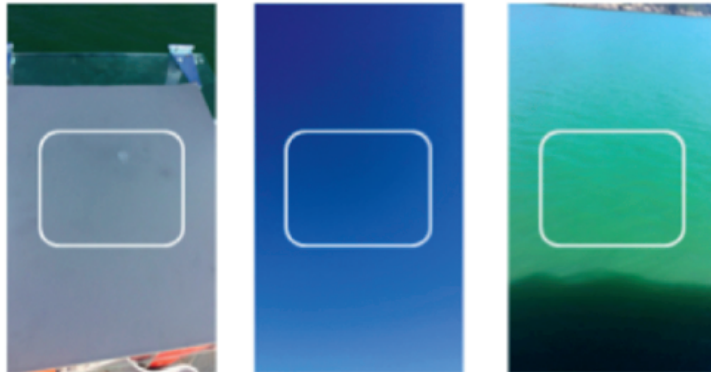


## Things to avoid in your photos:

- Shadows
- Dock, shoes, or other objects
- Debris (leaves/sticks/trash)
- Glare from the sun
- Lots of bubbles
- Whitecaps
- Foam

## Example of Quality of Images

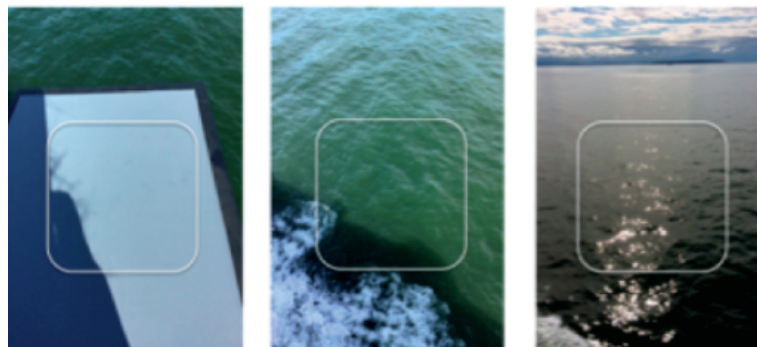
Perfect!



Good



Bad = redo





# Collecting Data with the HydroColor App: FAQs

Contact: Shelby Brown [brownsh@si.edu](mailto:brownsh@si.edu) or 443-482-2270

## Hydrocolor:

### What day is the best to collect data?

- A clear sky day when the satellite is passing over is best. See page 1 or go to our website for the satellite calendar!

### What time of day is the best to collect data?

- 11AM
- November to early March: 9AM - 3PM
- Late March to October: 10AM - 4PM.

### My smaller square didn't turn green, how do I retake a photo?

- Tap at the top of the photo you want to retake a picture of

### Why is the compass not responding?

- We have found androids respond a little slower than iOS, be patient and it should work. Let us know if there are any major issues that you have with the app.

### What is turbidity?

- Turbidity is the cloudiness or haziness of the water.



Scan for more FAQs!

## Fieldscope Site:

### How do I sign up for a Fieldscope account?

- Go to [serc.fieldscope.org](http://serc.fieldscope.org) and in the top right-hand corner click "Log In." Then click "Create an Account." After you fill in the information, click "Sign up."
- Once you have created an account on Fieldscope, the managers will get a notification and approve you to be a part of the project. You'll receive a confirmation email, click the link in that email to confirm your account. Only then is your account fully activated.

fieldscope



Scan to go to Fieldscope site