

EnviroDIY Sensor Stations

Maintenance Quick Guide



Stroud Center contacts:

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Take the following to site:

- EnviroDIY Field Visit Data Sheet
- Waders or knee boots
- Clipboard
- Pencils
- Brush
- Phone or watch
- Other supplementary items
 - Loppers/clippers
 - Camera
 - First Aid kit

At the site do the following:

1. Fill in all header information on Field Visit Data sheet (see A, p. 9).
2. Inspect site and sensors and take photos for before/after perspective (when appropriate).
3. Clean sensors (see following Step 3 details) and record on data sheet (see B, p. 9).
4. Remove debris and vegetation from around logger and solar panel.
5. Complete Sensor Station Maintenance section on data sheet (see C, p. 10) .
6. Complete General Notes section on data sheet (see A, p. 9).
7. Take a strategic pause before leaving site.

At home/office do the following:

1. Enter Field Visit Data sheet into online form:
<https://wikiwatershed.org/drwi/>
(password: drwi).
2. Store hard copy data sheet in secure location.
3. Communicate with station owner and Stroud about any issues.

3. Cleaning sensors:

Use the soft long white bristles to remove debris from the entire sensor bundle.



3. Cleaning sensors:

The white disc ceramic coated pressure transducer can be easily damaged.

*Do not touch it with anything when you are cleaning the sensor.



3. Cleaning sensors:



Use the soft white bristles or Q-tip to *gently* clean the four screw heads (conductivity measured here).



3. Cleaning sensors:



Use the stiff gray bristles and/or your finger to clean the turbidity sensor “eye”.



Name(s):

Site ID:

LoggerID:

Stream Name:

Location:

GPS (Lat/Long):

Date: Arrival Time: AM/PM? *EST/EDT?

Photos? Yes/No *

*EST=Eastern Standard Time; EDT=Eastern Daylight Time (Daylight Savings)

Precipitation last 24 Hours? Yes/No Amount:

Water Clarity (Clear, Cloudy, Muddy):

General Notes/ Photo Descriptions:

* Upload photos to DRWI Sensor Station Photos folder (<http://bit.ly/2SmhZBK>)

SENSOR CLEANING (Recommended frequency: weekly or biweekly; monthly if only CTD sensor)

*Cleaned Sensors? Yes/No If Yes, exact time: AM/PM? EST/EDT? *Clean >5 min. before grab sampling

GRAB SAMPLES (Rec frequency: Situational; for rating curves, collect when water is highly turbid or higher than normal conductivity)

Grab Sample Taken? Yes/No

Time collected (to minute): AM/PM? EST/EDT?

Sample Number:

Volume:

Bottle Type:

Date Shipped:

Lab Sent To:

Notes:

*SENSOR STATION DATA TO MATCH WITH GRAB SAMPLE LAB RESULTS (Complete in field or office)

Sensor station Conductivity (uS/cm): Time (military): Not applicable Always EST

Sensor station Turbidity (NTU): Time (military): Not applicable Always EST

*For use in Turbidity/TSS and Conductivity/Chloride rating curve development. Record sensor station Cond and Turb data at time nearest to grab sample collection time. Can be completed in field (by accessing online data) or in office (online or download from microSD card). Acquire final grab sample lab results from Stroud Center (or lab that processed sample).

QUALITY CONTROL - WATER LEVEL DATA (Rec frequency: quarterly and/or more frequently as needed)

*Staff Gauge Height (m): Time: AM/PM? EST/EDT?

*Sensor Station Water Depth (mm): Time (military): Not applicable Always EST

*QC Sensor Station Water Depth (mm): Time: AM/PM? EST/EDT?

Offset (=Staff Gauge Height - Sensor Station Water Depth)(mm):

a - Staff Gauge Height and Sensor Station Water Depth readings should be from about the same time (+/- 5 minutes).

b - Use metric ruler to measure from pressure transducer (white disc in CTD sensor) to water surface. Note - this depth measure may be slightly different from the sensor-measured depth but should be consistent over time.

QUALITY CONTROL - CHEMISTRY DATA (Rec frequency: quarterly and/or more frequently as needed)

Parameter	QC Hand-held Meter Result	QC Time	QC AM/PM?	QC EST/EDT?	Sensor Station Result	Sensor Station-Time (Military, EST)
Conductivity (uS/cm):			AM/PM	EST/EDT		
Temperature (degC):			AM/PM	EST/EDT		
Turbidity (NTU):			AM/PM	EST/EDT		
Dissolved Oxygen (mg/L):			AM/PM	EST/EDT		

QUALITY CONTROL CHEMISTRY FIELD METER INFORMATION

Parameter	Field Meter Brand/Model/Serial # or unique ID	Meter calibrated?	Standard	Calibration
Conductivity (uS/cm):		Yes/No		
Temperature (degC):		Yes/No		
Turbidity (NTU):		Yes/No		
Dissolved Oxygen (mg/L):		Yes/No		

SENSOR STATION MAINTENANCE

<p>Sensors Submerged? Yes/No If no or partially, describe in Notes.</p> <hr/> <p>Location of Sensors Changed? Yes/No If yes, explain in notes. <i>*Please consult Stroud Center before changing location of sensors.</i></p> <hr/> <p>Retrieved Memory Card? Yes/No (Rec frequency for QC: quarterly if online; biweekly-monthly if not online)</p> <hr/> <p>Changed Batteries? Yes/No</p> <hr/> <p>Cleaned Solar Panel? Yes/No</p> <hr/> <p>Other sensor station maintenance? Yes/No (If Yes, describe in Notes)</p>	<p>Notes (Describe specific sensor station management actions and any other issues):</p>
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OTHER IN-SITU PARAMETERS (e.g., Nitrate, Phosphate, Chloride, pH, Dissolved Oxygen)

Parameter	Result	Brand/Model

OTHER INFORMATION

Field Duplicate Taken of Grab Sample? Yes/No	Flow Measurement w/ Neutrally Buoyant Object? Yes/No
Performed Cross Section Survey? Yes/No	Flow Measurement w/ another method? Yes/No
Flow Measurement w/ Flow Meter? Yes/No	If Yes, explain in Notes