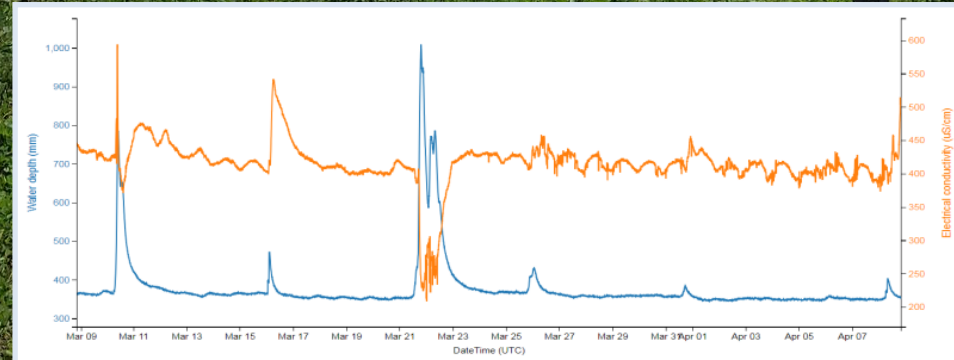


# WELCOME!

## Monthly EnviroDIY-DRWI User Group Meeting

*Online, Thursday October 15, 2020, 2:30-3:30p*





# Monthly EnviroDIY-DRWI User Group Meeting

## Third Meeting!

# REMINDER

- This is a time for anyone working with EnviroDIY monitoring stations in the Delaware River Basin to check in with Stroud, ask questions of the group, bring up issues, network, and learn
- Attendees include:
  - Groups working directly in Delaware River Watershed Initiative
  - Groups working in Delaware Basin but not specifically in the context of the DRWI
- Stroud Center is able to support groups in using the stations via DRWI Funds (and also Consortium for Scientific Assistance to Watersheds, C-SAW)



# Delaware River Watershed Initiative

**4States1Source**

The Delaware River Watershed Initiative

[OUR WATER](#) [OUR WORK](#) [FIELD NOTES](#) [TAKE ACTION](#)

DELAWARE RIVER WATERSHED INITIATIVE

Working across four states to  
protect one shared source of clean  
water

# Goals for these monthly meetings

- **Time/space to check-in, ask questions, report issues, network, etc.**
- **Station Owner/Manager Presentations** – communicate about individual situations, local work
- **Focus Topic Presentations** – guest presenters talk about technical/ecological/other focus topics each month
- **Updates** from Stroud Center

***\*All of this to support gathering good data and using it purposefully***

# These Monthly Meetings

- Every third Thursday of the month
- 2:30-3:30p
- Zoom link will remain the same:  
<https://us02web.zoom.us/j/81881801310?pwd=eUFmbXZLbmRibVcxa1dtNVhzRmNvZz09>
- Reminder email will be sent one week prior to each month's meeting
  - Station owners/managers organize volunteers/others to attend and share Zoom link

# Facilitators

## Stroud Center Facilitators:

David Bressler, Rachel Johnson, Christa Reeves, Shannon Hicks



## Master Watershed Steward Facilitators:

Carol Armstrong, George Seeds (Chester & Delaware Co.)





# Zoom Orientation



**\*We WILL be recording presentations but  
WILL NOT be recording the Questions  
section**



**\*Everyone should be  
muted other than current  
speaker**

\*Other than zoom logistics, audio, video etc. please save  
questions for the question period



# These Monthly Meetings

- Recordings available at: <https://wikiwatershed.org/drwi/>



Search



August 2020 EnviroDIY-DRWI Monthly Meeting

15 views • Aug 25, 2020

0 0 SHARE SAVE ...

# Monthly Meeting Agenda Format

1. Introduction – 5-10 min
2. Monthly station owner/manager presentation – 10 min
3. Monthly focus topic – 10 min
4. Open discussion – 20-25 min
5. Fail topic of the month! – 5-10 min
6. Conclusion – 5-10 min

***\*Adjust this format according to natural progression/development/needs of meetings***

# Today's Agenda

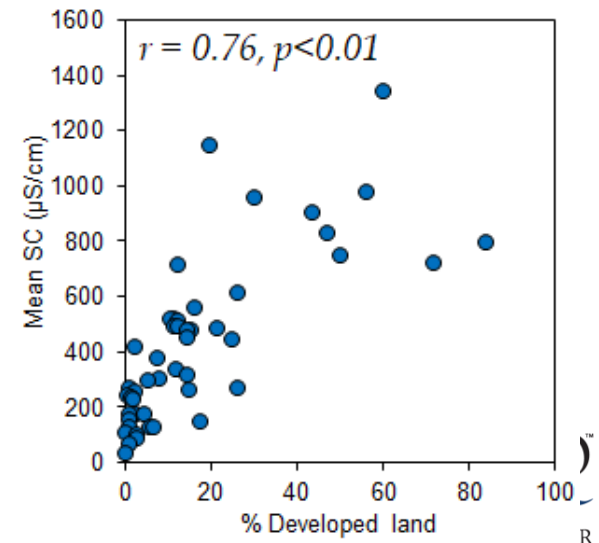
## Agenda

1. Introduction, review agenda, updates – 5-10 min
2. Monthly station owner/manager presentation – 10 min
  - Watershed Stories - Temperature Monitoring and Station Maintenance for Citizen Science – Robert Samoski, Angelica Creek Watershed Association
3. Monthly focus topic – 10-15 min
  - Water temperature questions, issues, and recommendations – Dr. John Jackson, Stroud Water Research Center
4. Open discussion – 25 min
  - Discuss questions from attendees, address technical issues, review projects, goals, logistics
  - Fail of the Month: Water in my logger box! The vandals destroyed my station! The vines and ants and rodents are relentless! Tips and Solutions
5. Conclusion – 5-10 min



# Stroud Center Perspective – EnviroDIY in DRWI

- **Primary Goal**
  - Support Station owners, managers, and volunteers
    - Maintaining stations
    - Using stations for their own purposes
- **Secondary Goal**
  - Analyze basin-wide data set
  - Develop tools for station owners to characterize and contextualize watersheds

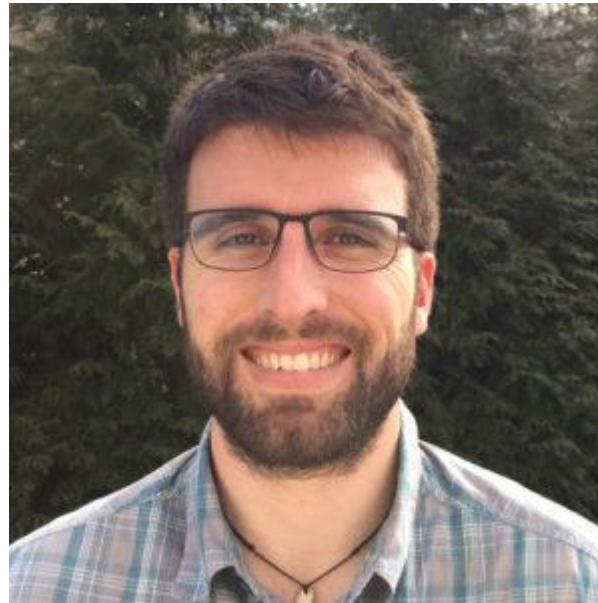


# Stroud Center Updates

- Watershed Congress, Sept 2020: **Spatio-Temporal Patterns of Stream Conductivity and Temperature in the Delaware Basin**, Oviedo-Vargas, Peipoch, and Bressler
- Recording at <https://wikiwatershed.org/drwi/#conference-presentations>



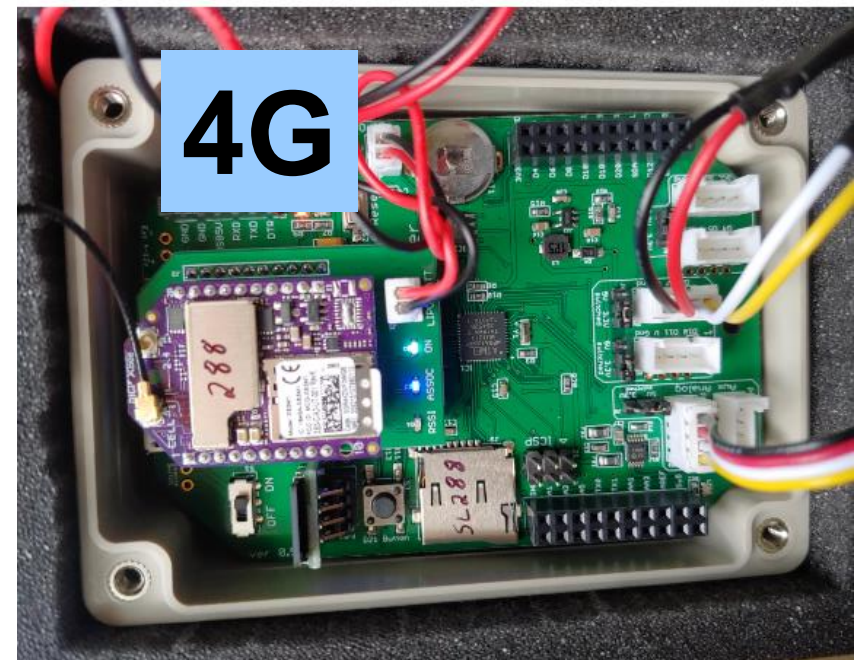
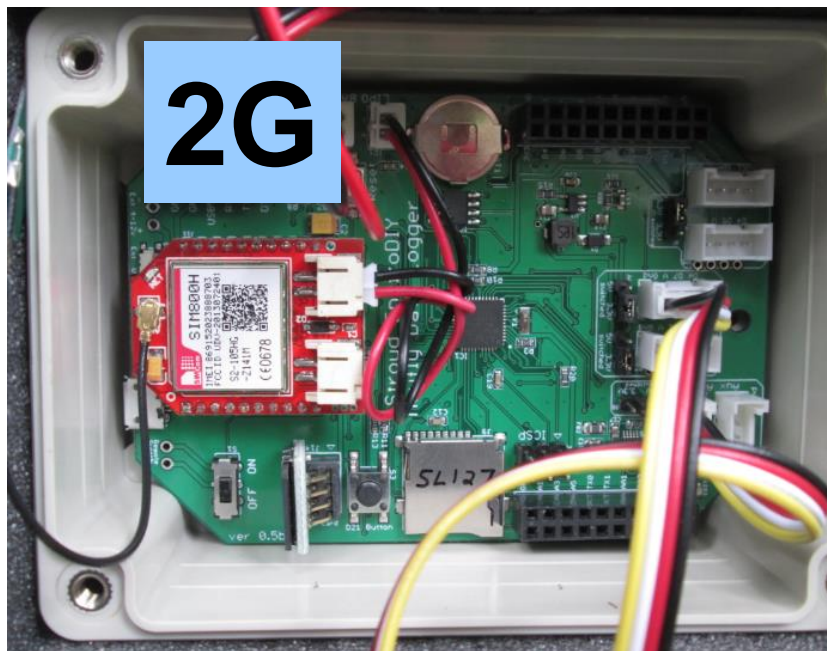
**Diana Oviedo-Vargas, PhD,  
Assistant Research Scientist,  
Stroud Water Research Center**



**Marc Peipoch, PhD,  
Assistant Research Scientist,  
Stroud Water Research Center**

# Stroud Center Updates

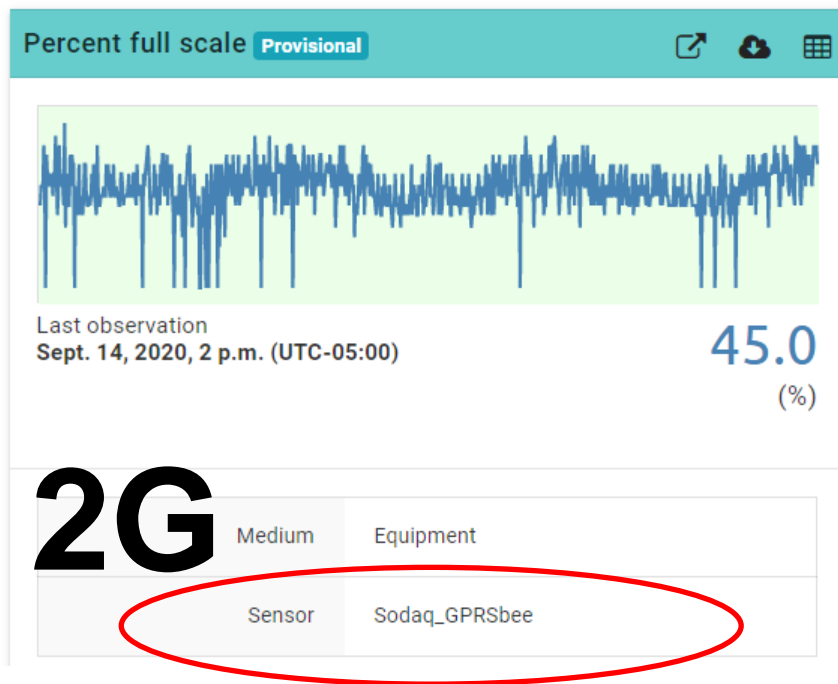
- 2G to 4G in 2020
  - 2G cell coverage phased out entirely by end of 2020
  - Stroud Center upgrading all Delaware Basin stations to 4G (with approval from station owners)





# Stroud Center Updates

- 2G to 4G in 2020
  - To confirm your station's 2G or 4G status check MonitorMW, "Percent full scale" panel
    - 2G = Sodaq\_GPRSbee (\*a few have been upgraded but have not been changed on MonitorMW)
    - 4G = Digi\_Digi XBee3™ Cellular LTE CAT 1



# Stroud Center Updates

- Fall is leaves in the stream fouling sensors time



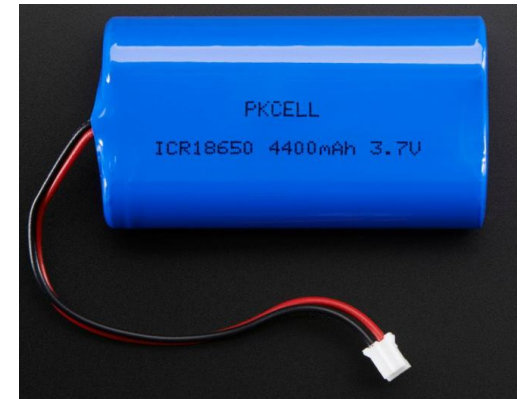
- This is just another example of the need to:
  - **Check Monitor My Watershed regularly (daily is ideal)**
  - **Visit station regularly (weekly or biweekly)**
  - **Conduct QC quarterly AND/OR when sensor readings look suspicious**

# Stroud Center Updates

- New battery charger available – AVAILABLE IN LIMITED SUPPLY FROM STROUD (requires modification from supplier)



Recommended 4400 mAh battery,  
<https://www.adafruit.com/product/354>





# Stroud Center Updates

- PLEASE, take and **share** photos of damage, infestation, logger box leaks, and any other site-specific occurrences – VERY USEFUL FOR COMMUNICATION AND EDUCATION

**<http://bit.ly/2SmhZBK>**



**?? Thoughts on utility of this for this group? – Discuss later today**

**Possibly allocate time to show/share photos during this meeting? “Photos of the Month”???**



Any questions before we move on?





# Monthly station owner/manager presentation

## Temperature Monitoring and Station Maintenance for Citizen Science



**Robert Sarnoski, PA Master Naturalist,  
Angelica Creek Watershed Association,  
[movingplaid@gmail.com](mailto:movingplaid@gmail.com)**



# Monthly Focus Topic

## Water temperature questions, issues, and recommendations



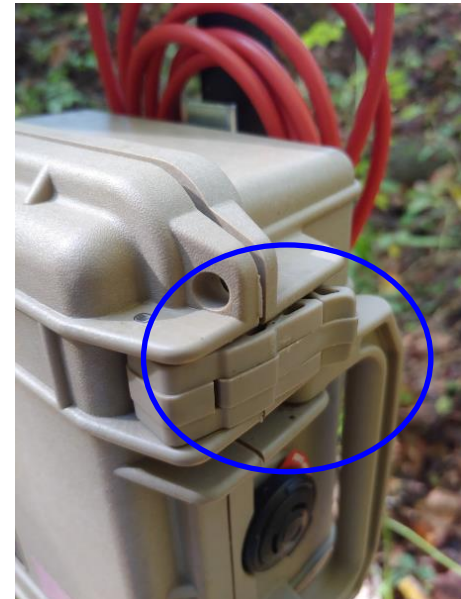
**Dr. John Jackson, Senior Research Scientist,  
Stroud Water Research Center,  
[jkjackson@stroudcenter.org](mailto:jkjackson@stroudcenter.org)**

# Fails of the Month!

- Water in my logger box! The vandals destroyed my station! The vines and ants and rodents are relentless! Tips and Solutions
- -9999.0 on MonitorMW data panels

# Fails of the Month!

- Water in my logger box!
  - Debris between seams – Open box and make sure no debris between the seams
  - Unsecured latches – Make sure latches are latched
  - Improper locking – Make sure lock is placed correctly and locked
  - \*Use desiccant for minor condensation issues





# Fails of the Month!

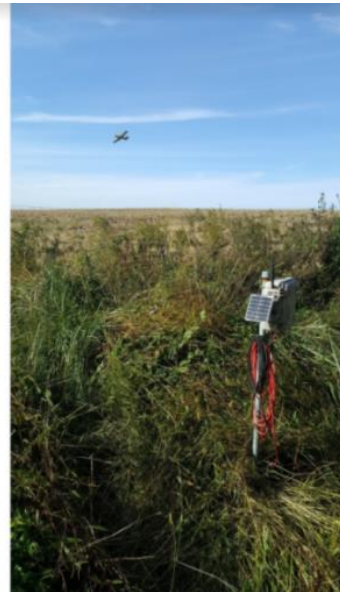
- The vandals destroyed my station!
  - Solutions
    - Make sure logger box is locked
    - Make sure there is a sign
    - Check on the station regularly – evaluate risk





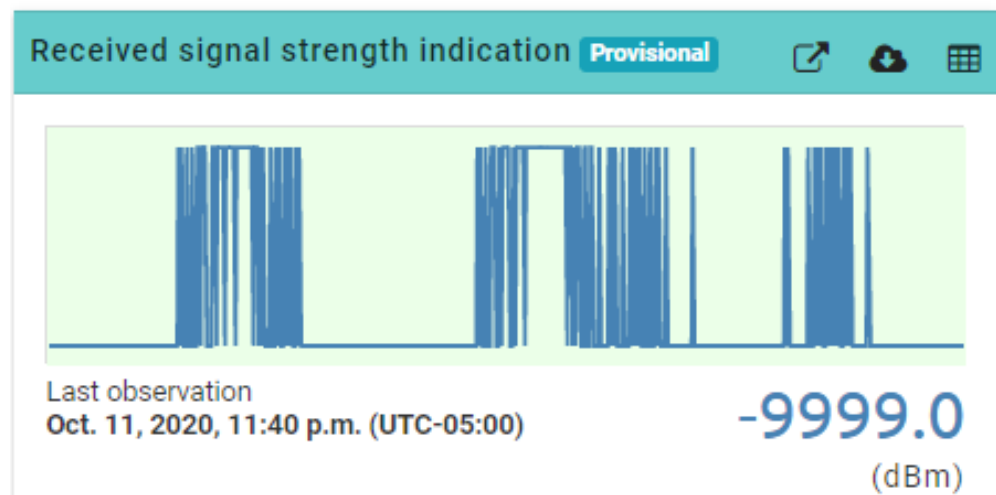
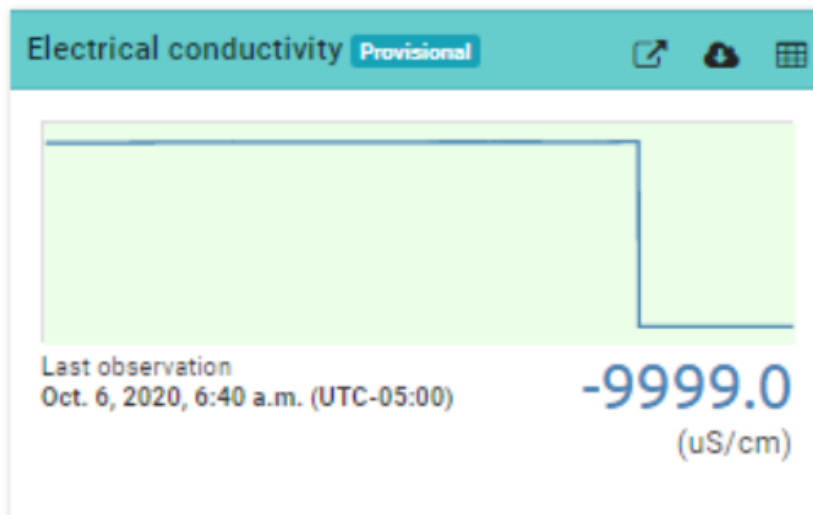
# Fails of the Month!

- The vines and ants and rodents are relentless!
  - Solutions
    - Clear vegetation and debris from around logger box
    - Make sure box is latched and clear of debris
    - Protect wires with metal conduit when necessary
    - \*Do not spray pesticide, cleaner, or chemicals into logger box



# Fails of the Month!

- “-9999.0” on panels in Monitor My Watershed
  - Indicates Mayfly not properly communicating with the sensor or cell module
    - Head phone jack issue – make sure good connection and not damaged
    - Sensor wire is cut or damaged – replace sensor (CTD, Meter Hydros 21 CTD) or wire (Turbidity, Campbell OBS3+)
    - Coding issue – consult with Stroud Center



# Fails of the Month!

- All of these Fails point to the need to:
  - **Check Monitor My Watershed regularly (daily is ideal)**
  - **Visit station regularly (weekly)**
  - **Conduct QC quarterly AND/OR when sensor readings look suspicious**



# Questions/Discussion

- Questions for today's presenters?
- Questions about your station(s)?
- Questions about field visits and Quality Control?
- Questions about Monitor My Watershed?
- Questions about data patterns, ecology?
- Questions about troubleshooting?

# Back up discussion topics

- Assistance/support needs?
- Covid-19 issues
- 4G upgrades by end of 2020
- Recent storm issues
  - Checking stations in person
  - Importance of latching logger boxes
  - **Importance of checking stations even if data look good, e.g., Reeves recent turbidity sensor burying situation**
  - Channel changes, e.g., Valley Creek at Valley Creek Park
  - Importance of QC depth, e.g., Taylor Run
- Conductivity, temperature, depth, turbidity data in ecological context
- Preparing for winter – station maintenance, road salt issues



# Conclusion

Next month's meeting will be on:

**Thursday November 19, 2020,  
2:30-3:30p**



# Monthly Meetings

- Every third Thursday of the month
- 2:30-3:30p
- Zoom link will remain the same:  
<https://us02web.zoom.us/j/81881801310?pwd=eUFmbXZLbmRibVcxa1dtNVhzRmNvZz09>
- **Station owners/managers organize volunteers/others to attend and share Zoom link**



# Future meeting presenters

- Monthly station owner/manager presentations
  - Nov 19 – Derron LaBrake, Darby Creek Valley Assoc.
  - Dec 17 – Francis Collins, Primrose Creek Watershed Assoc.
  - Jan 21 – Juniper Leifer and Kristine Rogers, Lopatcong Creek Initiative and Wallkill River Watershed Management Group
  - Feb 18 – Dr. Paul Wilson(?), East Stroudsburg University
- Monthly focus topics
  - Nov 19 – Conductivity
  - Suggestions???

**\*Please be in touch if you'd like to do an owner/manager presentation or a focus topic presentation**

# Mentors currently available

- Carol Armstrong (MWS), [mnem.np@gmail.com](mailto:mnem.np@gmail.com), 610-659-7477
- George Seeds (MWS), [geoseeds@verizon.net](mailto:geoseeds@verizon.net), 484-886-9586
- Rachel Johnson (Stroud Center), [rjohnson@stroudcenter.org](mailto:rjohnson@stroudcenter.org), 973-557-8995
- Christa Reeves (Stroud Center)(in the north, situational), [christa@musconetcong.org](mailto:christa@musconetcong.org), 727-520-5849

***\*Anyone else interested? If so get in touch with Stroud Center or Carol or George***

# Resources to Support the Work

<https://wikiwatershed.org/drwi/>

Delaware River Watershed Initiative Resources

## General Resources

- ▼ EnviroDIY Field Visit Data
- ▼ EnviroDIY Monitoring Station Help Resources
- ▼ Data and Data Visualization Resources
- ▼ Project Updates and Station User Monthly Meetings
- ▼ Volunteer Management Guidance Materials
- ▼ WikiWatershed Toolkit

## Workshop Resources

- ▼ Delaware Watershed Research Conference
- ▼ EnviroDIY Monitoring Station Management Workshop
- ▼ EnviroDIY Monitoring Station User Group Gatherings
- ▼ Master Watershed Steward Workshops
- ▼ Teacher Workshops
- ▼ Watershed 101, 102, and 201



# Resources to Support the Work

- **Delaware Basin EnviroDIY Monitoring Stations**, private online group (<https://wikiwatershed.org/groups/delaware-basin-sensor-stations/>)

## Delaware Basin EnviroDIY Monitoring Stations



- Pose questions to the user group community
- Check for updates and new posts
- Set it for daily or weekly email updates



# Onward!

## Stroud Water Research Center, EnviroDIY-DRWI contacts:

- David Bressler, [dbressler@stroudcenter.org](mailto:dbressler@stroudcenter.org), 410-456-1071
- Shannon Hicks, [shicks@stroudcenter.org](mailto:shicks@stroudcenter.org), 610-268-2153 x267
- Rachel Johnson, [rjohnson@stroudcenter.org](mailto:rjohnson@stroudcenter.org), 973-557-8995
- Christa Reeves, [christa@musconetcong.org](mailto:christa@musconetcong.org), 908-537-7060

## Master Watershed Stewards, EnviroDIY-DRWI contacts:

- Carol Armstrong, [mnem.np@gmail.com](mailto:mnem.np@gmail.com), 610-659-7477
- George Seeds, [geoseeds@verizon.net](mailto:geoseeds@verizon.net), 484-886-9586