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)
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=eUFmbXZLbmRibVcxardtNVhzRmNvZz09

- 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.)
*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/](https://wikiwatershed.org/drwi/)
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

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
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](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
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**


?? 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?
Temperature Monitoring and Station Maintenance for Citizen Science

Robert Sarnoski, PA Master Naturalist, Angelica Creek Watershed Association, 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
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

*Lock on lower latch*
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=eUFmbXZLbmRlbVcxa1dtNVhzRmNvZz09](https://us02web.zoom.us/j/81881801310?pwd=eUFmbXZLbmRlbVcxa1dtNVhzRmNvZz09)
- 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, 610-659-7477
- George Seeds (MWS), geoseeds@verizon.net, 484-886-9586
- Rachel Johnson (Stroud Center), rjohnson@stroudcenter.org, 973-557-8995
- Christa Reeves (Stroud Center) (in the north, situational), 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/](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/](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, 410-456-1071
• Shannon Hicks, shicks@stroudcenter.org, 610-268-2153 x267
• Rachel Johnson, rjohnson@stroudcenter.org, 973-557-8995
• Christa Reeves, christa@musconetcong.org, 908-537-7060

Master Watershed Stewards, EnviroDIY-DRWI contacts:
• Carol Armstrong, mnem.np@gmail.com, 610-659-7477
• George Seeds, geoseeds@verizon.net, 484-886-9586