



## Want to Learn Do-It-Yourself Environmental Monitoring?

ATTENDING AN ENVIRODIY WORKSHOP MIGHT BE YOUR NEXT STEP!

The vision of the EnviroDIY project at [Stroud Water Research Center](#) is healthier freshwater systems made possible by trained people collecting and using data to make informed decisions as environmental stakeholders. To accomplish this, the Stroud Center empowers a knowledgeable public network with innovative digital and electronic tools and training that enable people to collect impactful water data.

### EnviroDIY Workshops Offered by Stroud Water Research Center

There is a growing community of people around the world who are assembling and programming their own water monitoring equipment to save money, increase flexibility, and learn new skills. But getting started with do-it-yourself (DIY) environmental monitoring can be difficult. That's why the Stroud Center offers workshops to help jump-start people's learning about DIY monitoring. Our workshops cover these topics:

- Introduction to EnviroDIY – Introduction to programming electronic data loggers for environmental monitoring and working within the [EnviroDIY.org](#) community.
- Building an EnviroDIY CTD monitoring station – Connecting a Conductivity/Temperature/Depth sensor to electronic data loggers for measuring environmental parameters. Assembling, deploying, and maintaining weather-proof hardware for unattended water monitoring (see the [EnviroDIY Mayfly Sensor Station Manual](#) for more details).
- Maintaining an EnviroDIY monitoring station – Maintenance and upkeep, quality control, and technical troubleshooting to support sustained long term data collection.

**OUR GOAL** is for workshop participants to leave with the skills necessary to assemble, program, and deploy a water monitoring station, but with the understanding that the DIY journey has just begun! As you continue to learn on your own, you may want to customize your monitoring with features like remote data telemetry using cellular radios that stream your data to the web, or you might install a different sensor or change the measurement cycle of your data logger. Furthermore, developing skills for high level technical troubleshooting when things go wrong is a toolkit to develop over years of real-life DIY experience. *We can't squeeze all of that instruction into one workshop, but we'll give you the foundational knowledge and resources to continue learning EnviroDIY on your own!*

**IS ENVIRODIY RIGHT FOR ME?** Consider these questions:

- Do I like learning new skills? Am I ready for a new learning experience with DIY electronics?
- Am I interested in and committed to learning to use resources from the internet to troubleshoot issues with hardware and software?
- Am I willing to do extra work building and maintaining my own equipment to collect water data if it means I have more control over how it works via EnviroDIY?

IF YOU ANSWERED YES TO ALL THESE QUESTIONS, please read on!

## Frequently Asked Questions about EnviroDIY Workshops

**HOW LONG IS A WORKSHOP?** The workshop is two full days, from 9 a.m. to 5 p.m. each day.

**WHAT DO I NEED TO BRING?** We loan participants all of the electronics and hardware needed to follow the classroom curriculum. However, if you'd like to leave the workshop with a functional water monitoring station, you'll need to purchase items in advance (see workshop registration steps). Participants should wear comfortable clothes and shoes for walking on dirt trails; raingear may be necessary as a portion of the class will occur outdoors. Some workshops include lunch; if yours doesn't, bring a bag lunch or cash for ordering from a local deli (selection is limited).

**HOW MUCH DOES REGISTRATION COST?** Workshop registration is \$475 per person. If you are participating on behalf of a watershed protection organization located in Pennsylvania or your organization is part of the Delaware River Watershed Initiative you may qualify for financial assistance; contact David Bressler ([dbressler@stroudcenter.org](mailto:dbressler@stroudcenter.org)) for details.

**ARE THERE PREREQUISITES FOR ATTENDING A WORKSHOP?** No, however you should seriously consider the "Is EnviroDIY right for me?" questions prior to signing up. We recommend that participants who represent a watershed group, school, or other program bring two attendees to maximize the information assimilation and shared responsibility after the workshop.

**WHAT SHOULD I EXPECT (AND NOT EXPECT) FROM THE WORKSHOP?** You should expect hands-on experience using data loggers, sensors, and laptop computers for logger programming. Participants work in groups of two to build a water monitoring station that measures temperature, conductivity, and water depth and transmits that information via cell signal to the [Monitor My Watershed](#) data portal. You should expect instruction on how to find and use online resources for replicating this monitoring station on your own after the workshop.

Participants should not expect one-on-one support from the Stroud Center after the workshop; we can't guarantee your ability to monitor exactly where or how you want and we only warranty the Mayfly Data Logger against manufacturing defects. Participants should not expect to be experts on DIY electronics at the conclusion of the workshop. The workshop will not provide instruction on building or fixing sensors; we rely on commercially-available sensors only.

**HOW MUCH DOES IT COST TO SET UP AN ENVIRODIY MONITORING STATION?** There are many possible configurations of sensors and telemetry used in a monitoring station, so costs can range from about \$1000 for a conductivity, temperature, and depth monitoring station to over \$5,000 for dissolved oxygen and turbidity measurement. Real-time data transmission to the web requires a cellular data plan and SIM card to use in the Mayfly Data Logger; the monthly cost can exceed \$10 per month.

**HOW DO I SIGN UP FOR A WORKSHOP?** Check [www.stroudcenter.org/events/](http://www.stroudcenter.org/events/) for the next scheduled workshop, and follow instructions for paying the registration fee. If you would like to leave the workshop with your own monitoring station, you can purchase a monitoring kit (\$400) when registering and purchase a conductivity/temperature/depth sensor (~\$500) prior to the workshop (see workshop registration page for details). For more information email David Bressler ([dbressler@stroudcenter.org](mailto:dbressler@stroudcenter.org)).