

Building an EnviroDIY Monitoring Station: Virtual Workshop

This document follows the workshop videos recorded on May 13-14, 2020, and provides links to required resources. See also: <https://www.envirodiy.org/mayfly-sensor-station-manual/>

DAY 1 / VIDEO 1

Watch: https://youtu.be/u_PESTdMqD4

Session 1: EnviroDIY Drivers, Libraries, and Introductory Materials

- Welcome (0:00:00–0:17:58): Overview, goals, and introductions
- Lesson 1 (0:18:00–0:45:10): Introduction to Arduino IDE (upload button, setup, functions). Resource link: <https://www.envirodiy.org/mayfly/software/>
- Lesson 2 (0:45:10–1:08:00): Installing Arduino libraries. Resource links:
 - <https://github.com/envirodiy/>
 - <https://github.com/EnviroDIY/Libraries/>

Session 2: Registering and Setting up the Online Components

- Lesson 1 (1:18:00–2:11:25): Introduction to Monitor My Watershed; creating a station; adding parameters; getting UUIDs. Resource link: <http://monitormywatershed.org/>
- Lesson 2 (2:11:25–2:23:25): Hologram walkthrough; registering a SIM card. Resource link: <https://www.hologram.io/>
- Lesson 3 (2:23:25–2:52:32): Reviewing the Mayfly worksheet
- Lesson 4 (2:54:00–3:06:00): Connecting the Mayfly to Data Logger to a laptop and interacting with it (kit boards programmed with welcome sketches)

DAY 2 / VIDEO 2

Watch: <https://youtu.be/iN44TuevuyQ>

Session 3: Programming and Configuring a Mayfly Data Logger

- Lesson 1 (0:00:00–1:01:00): Installing the watch battery in the Mayfly Data Logger and programming the clock. Resource links:
 - https://github.com/EnviroDIY/Sodaq_DS3231/tree/master/examples/adjust/
 - https://github.com/EnviroDIY/Sodaq_DS3231/tree/master/examples/now/
 - <https://time.gov/>
- Lesson 2 (1:01:00–1:19:10): Programming the Mayfly to change the CTD SDI-12 channel number (CTD comes on channel 0). Resource link: https://github.com/EnviroDIY/Arduino-SDI-12/tree/master/examples/b_address_change/

Session 4: Assembling the Monitoring Kit

- Lesson 1 (1:49:20–2:35:10): Programming the Mayfly Data Logger with the Monitor My Watershed Arduino sketch; copying UUIDs; pasting into sketch from GitHub and uploading. Resource link: https://github.com/EnviroDIY/ModularSensors/tree/master/examples/DRWI_LTE/
- Lesson 2 (2:35:10–3:04:33): Assembling the Pelican case; reviewing the overall process; final monitoring kit support documents (kit contents, Mayfly anatomy, and quick start guide).