**R3 Monitoring System**

Providing Real Time Remote Sensor Data Monitoring, Validation, and Fault Notification

The initial system Roof Rainwater Runoff (R3) Monitoring System is intended to improve upon utilizes sondes provided by EnviroDiy ([www.envirodiy.org/](https://www.envirodiy.org/)). These sondes are based on an Arduino single board computer (SBC) called the Mayfly Data Logger ([www.envirodiy.org/mayfly/](https://www.envirodiy.org/mayfly/)). The Mayfly SBC runs an open-source script ([github.com/EnviroDIY/EnviroDIY\_Mayfly\_Logger](https://github.com/EnviroDIY/EnviroDIY_Mayfly_Logger)) that directs sonde data to the Monitor My Watershed ([monitormywatershed.org/](https://monitormywatershed.org/)) servers. Sensor data is discoverable from Monitor My Watershed. Monitor My Watershed does not facilitate real time data monitoring or generate any user notification if invalid sensor data is received. Currently Monitor My Watershed provides,

“Only the most recent 72 hours of available data are shown on the sparkline plots. The plots are broken when there are gaps in the data longer than 6 hours. Plots shaded in green have recent data. Plots shaded in red have not reported data in the last 72 hours.”

The Roof Rainwater Runoff (R3) Monitoring System is comprised of three primary components:

* Arduino Sondes deployed in field running a custom script
* A server that receives, validates, and stores sensor data
* A web interface for site/sonde management and data exploration