Rain Gage Download and Maintenance Instructions

Remember to Bring;

1. Telog Computer
2. Hobo waterproof shuttle with black usb cord
3. Field notebook with pen/pencil
4. Extra Lithium batteries (CR-2032 3V)
5. Small Philips screwdriver

Download Steps:

1. Create a folder named the date in the WY 2019 folder on the desktop of the Telog laptop
2. Open Hoboware and plug in shuttle to computer
3. Take pendant out of capsule and put the capsule in the waterproof shuttle lining up the ridge on the pendant with the groove in the shuttle
4. Press down black lever for one second keeping the shuttle out of the light
5. Wait for green light on shuttle and check the bottom of the window on hoboware to read out the device with pendants serial number is connected. (Serial number is the 8 digit number on pendant)
6. Once the device is connected, press control R or navigate to Device>Readout
7. Save the data with the name *date\_location* in the folder you created
8. The “Plot Setup” window will pop up after saving the data file
9. Select the “Plot” button in the window (no need to change any settings in the window)
10. Once the graph shows up, make sure that the blue line (called “event, units”) in the legend has plotted the rainfall data throughout the week and values on the right y-axis (which are inches of rain) are consistent with the standard gauge measurement.
    1. If there seems to be something wrong with the plot (such as only a point on the graph instead of a blue line or the plotted data ends before the date of the download) describe the issue in the field notebook and take photos of the computer screen.
    2. Also take photos and take notes in field notebook of any error messages that might pop up when doing the download.
11. After data is saved, press control L or select Device>Launch to Launch logger
12. In Launch Logger window, under Configure Sensors to Log make sure increment is set to 0.01 and logging interval is set to **1 hour**
13. Select start and wait till message “Launch Successful” reads out on the bottom of the screen

Standard Gage

1. Use dipstick to measure inches of rain in inner black tube
2. Dump water out
3. Funnel any water excess water in white outer cylinder into black cylinder in increments and measure with dipstick.
4. Keep dumping and repeat measuring for all the water that was collected in the standard gauge.
5. Record total inches under “CV” in the field notebook.

Things to Check On:

1. When device is connected, in hobo ware navigate to status under device tab and check battery level
2. Replace battery if less than 40%
3. Make sure desiccant (small packet bellow battery in the pendant) is bright blue, if its pink, replace desiccant packet. Heat up pink packet till its blue
4. Clean debris or sticks out of funnel on both standard gage and tipping bucket
5. Make sure tipping mechanism in tipping bucket works
6. If the pendant is not recording rainfall data, check the connection of the pendant wires inside the tipping bucket

* Test the connection by launching the pendant, tipping the bucket manually several times and replotting the data.

Saving Data

1. At the end of each day of data collection export each log as a .csv file and
2. Save .csv files with the same name as the hobo files (*date\_location)* and in the same folder
3. Save the folder with all .csv and .hobo files in the R:drive under the file path: R:\Data\Watershed Data\WY 2019
   * Use a flash drive to transfer folder on telog computer to a computer connected to R:drive
4. If there was any issues with a download, create a .txt file in the folder you have uploaded to the R:drive. Include the rain gauge location that had an issue, a description of the problem and any photos in the .txt file.
5. If you do not have access to the R:drive, compress the folder with the data and/or .txt file and email it to [msavan@calpoly.edu](mailto:msavan@calpoly.edu) or [gfhayes@calpoly.edu](mailto:gfhayes@calpoly.edu)

Rain Gage Location Descriptions

Notes:

-Abbreviation column contains the name that it will automatically save the file to when you download the gauge on hoboware

- This document is a work in progress, needs update to location description and a map

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| Abbreviation | Name | Location Description |
|  | Waterlab | Parking lot in front of Little Creek Great Room |
| HS | Hillslope | Near lions flat |
| Al’s | Al Smith House |  |
| Landing | Landing 23 | Above orchard trail, at end of road if you follow trail that passes tranquility flat |
| LQC | Lower Queseria Creek | Behind Long Barn |
| RLSM | Ridgeline General Smith | General Smith stand |
| UNF | Upper North Fork | Clearing at bottom of General smith trail |
| RLNF | Ridgeline North Fork | Sempervirens property |
| RLSF | Ridgeline South Fork |  |
| UQC | Upper Queseria Creek | Strawberry Hill/Shack |