CrowdHydrology

Gage Station **Installation Guide**

CrowdHydrology is an experiment currently being run by Dr. Chris Lowry at the University at Buffalo Department of Geology and Dr. Mike Fienen at the U.S. Geological Survey. Our goal is to develop innovative methods to collect spatially distributed hydrologic data. If you have any questions or would like to join our CrowdHydrology network please contact Dr. Lowry.

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Supplies needed

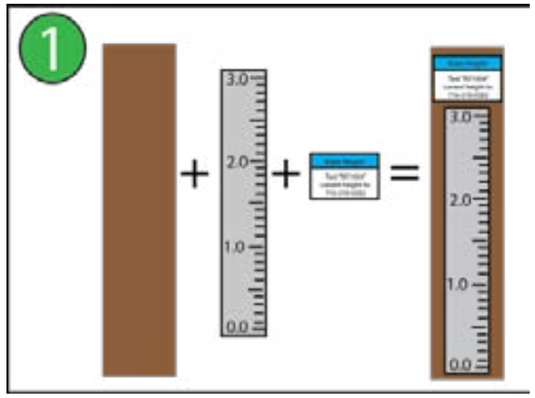
1. ***Wood:*** **Pressure-treated decking (6" x 1" x 48")**
   available at Home Depot/Lowe's

2. ***Screws:*** **Stainless steel (1.25" and 2.0")**
   available at Home Depot/Lowe's

3. ***Fence post:*** **Sturdy metal (6 feet in length)**
   available at Home Depot/Lowe's

4. ***Gage:*** **USGS Style A Staff**
   available from www.fondriest.com: use code "CrowdHydrology" for 10% off

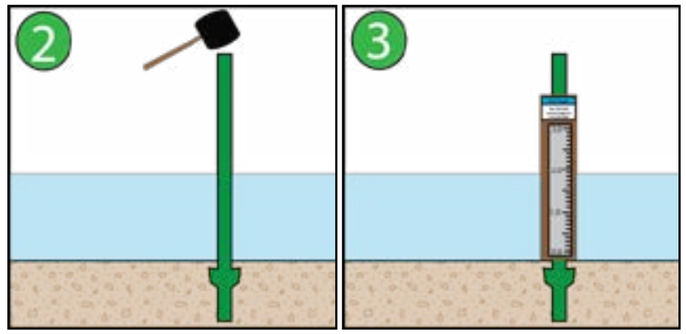
5. ***Level:*** **Small line level (Mason's level) and string**
   available at Home Depot/Lowe's



Attach the gage plate to the pressure-treated board.

We have found that it is best to use 1.25” exterior screws to attach the gage plate to the board. Make sure you leave room so the CrowdHydrology sign will fit above the gage plate when you screw it on to the board. It is also likely that you will need to drill new holes into the CrowdHydrology sign so that it will fit on the board.

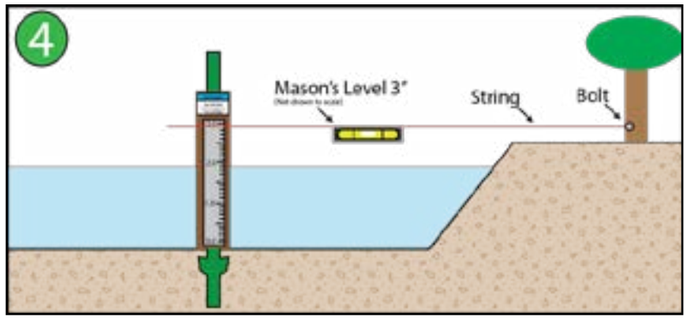
CrowdHydrology sign and gage plate ready to mount on the pressure treated board using 1.25” screws



Install the fence post securely into the streambed and attach the board.

We highly recommend that you drive the post at least two feet into the streambed sediment. It is also necessary to make sure the post is vertical. You can either use a small sledgehammer or a fence post pounder, which can be found at Home Depot for around $20.

Once the fence post is installed in the streambed, you can attach the wooden board with gage. It is best to use 2” screws to attach the board to the fence post. Again, exterior screws should be used because they are going to get wet. The gage should be mounted so that it spans the expected range of water level heights. It is also important to make sure the gage is vertical as you attach it to the post.



Set a reference elevation for the installed gage.

It is important to set a reference elevation in case the gage gets knocked over or washed away. First, you must find a reference location that will not move. The simplest method is to find a fixed point on the shore, such as the foundation of a dock. Your other option is to create a fixed point by screwing a bolt into a tree.

Using a simple string and a small line level, stretch the string from your fixed point out to the gage. Make sure the Mason’s level bubble is in the middle and then record the elevation where the string crosses the gage plate. If anything happens to the gage, you can come back and install the gage back at the same elevation.

You’re done!