Using the CrowdWater App

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Download the CrowdWater App and set up an Account

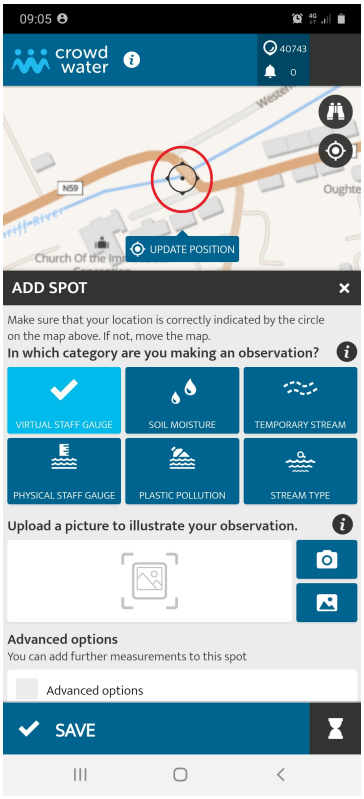
You can download the CrowdWater app from Google Play, or from the AppStore, by following the appropriate links here: https://crowdwater.ch/en/app-start-en/. To use the CrowdWater App you will need an account. You can set up an account by registering here: https://www.spotteron.com/crowdwater/auth/login, or when you first use the App on your phone.

Set up a New Monitoring Site

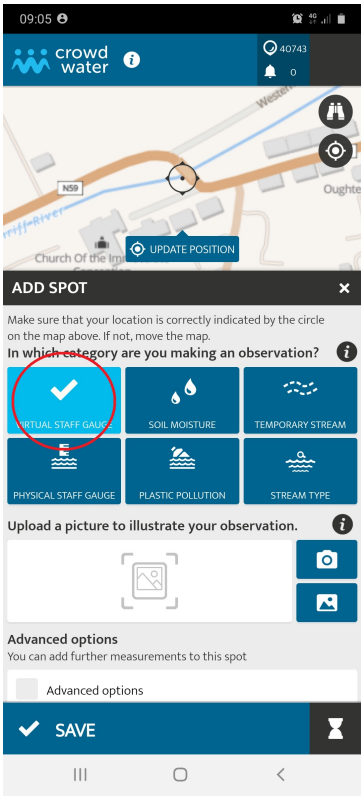
Once you have registered an account with CrowdWater, it is relatively simple to set up a new monitoring site using the App. Make sure that you select a site on your river that is easy to access, and where it is safe for you to record from the bank without any danger of slipping and falling into the water. You can set up a new site as follows:

1. Open the CrowdWater App on your phone and select the white plus sign (in the black rectangle) at the bottom of the screen (highlighted with a red circle in the image below).

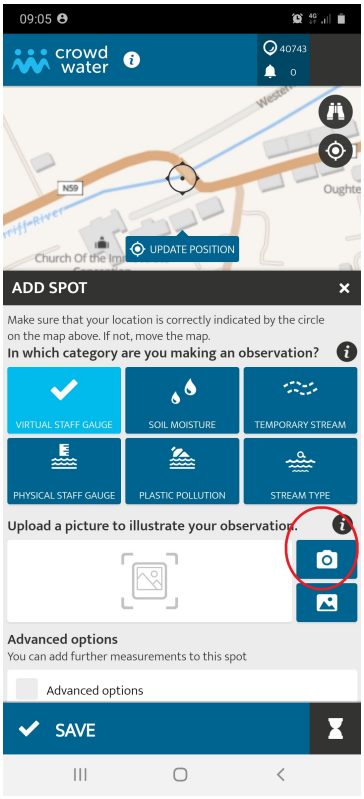
2. Make sure that the location of your site has been correctly selected by the App by checking the location indicator on the map (again, highlighted with a red circle in the image below). If the location of the site has not been correctly selected, then you should manually move the map until the location indicator is in the correct position.



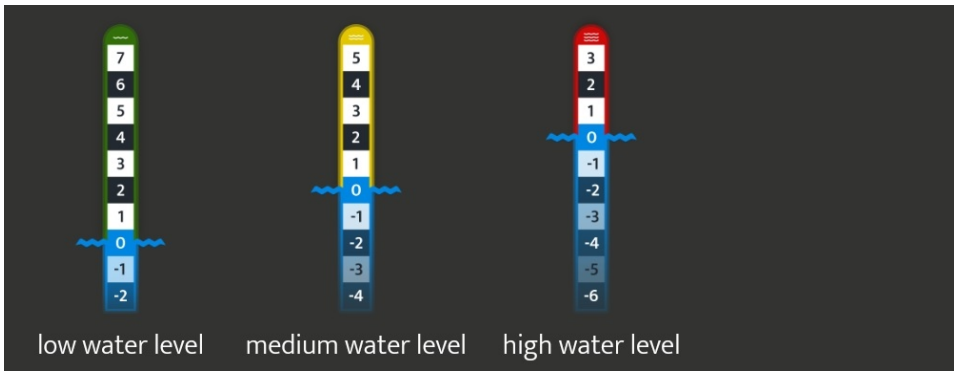
3. Select the virtual staff gauge as the category for which you will be making observations.



4. Take a photograph of the site by using the camera icon on the right of the screen. If you select the ***i*** symbol above the camera icon you will open some information about how you should take the photograph for the virtual staff gauge category. Basically, you need to take your photograph perpendicular to the direction of flow of the river, and include some reference objects (e.g. large rocks, walls, bridge pillars, etc.) in the background of the photograph that will allow you to estimate the water level at your site. Make sure that the reference objects can be clearly seen in the photograph. You also need to make sure that the water surface is horizontal in your photograph. If you are happy with the photograph that you have taken, then select **OK** to save it. If you are not happy with it you can select **RETRY** and take a new photograph.



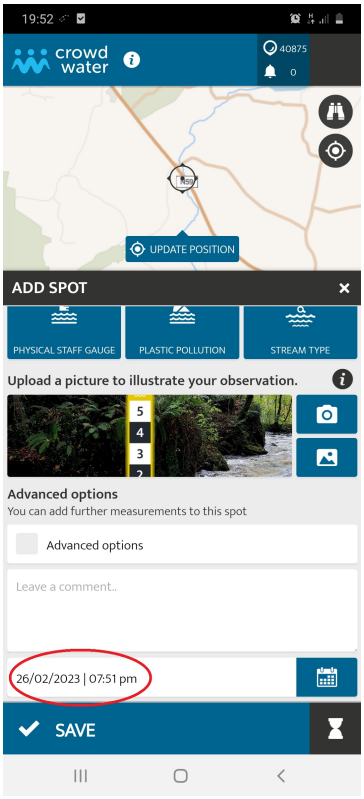
5. Once you have saved your photograph, the App will give you a choice of three virtual gauges to add to the photograph, and you will need to choose the most appropriate gauge. If you think that the water level in the river is currently at a low level, you should choose the green gauge. If you think that the water level in the river is currently at a medium level, you should choose the yellow gauge. If you think the water level in the river is currently at a high level, you should choose the red gauge. You need to choose the gauge that will allow you to record expected future rises and falls in water level at your site.



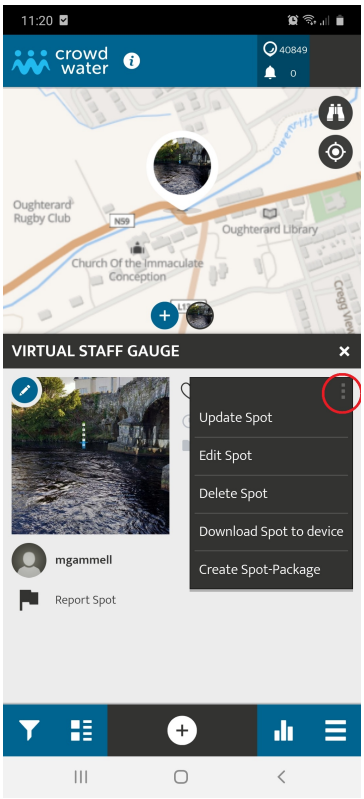
6. Once you have selected the appropriate gauge, the App will place it in the centre of your photograph. You then need to move the gauge, to line up the water level on the gauge (indicated by a blue wave at the mid-point of the zero water level category) with the water level of the river. Usually, the easiest way to do this is to line the blue wave up with the water level on the far bank of the river (as in the image below). You can zoom in on the image in the App if necessary. You will also need to adjust the size of the gauge so that it is of an appropriate size to record average changes in water level at your site. The gauge should not be **so small** that an average rise (or fall) in water level at your site will be outside the range of the gauge (but note that you do not need to make the gauge large enough to cover extreme rises/falls in water level - if there happened to be an extreme rise/fall in water level, outside of the range of the virtual gauge, you could note this in the comment box on the App). On the other hand, the virtual gauge should not be **so large** that you are not able to record an obvious rise (or fall) in water level when you visit your site, e.g. because the new water level of the river has not moved into a different water level category on the virtual gauge. Note that if the virtual gauge is too large then greater changes in river water level will be required before a new water level category can be selected on the App when making your observations.

7. One thing to note about the image above is that there are a number of obvious reference objects in the image, near the virtual gauge, that will help with tracking rises and falls in water level at the site on future visits (e.g. stones and a pipe on the bank of the river, stones on the bridge, and a bridge pier). Another thing to note is that the gauge has been positioned so that it does not obscure these reference objects. Once you are happy with your photograph, and with the position and size of your virtual gauge, you can save the photograph.

8. Finally, you should check that the location on the map is still correct, and that the date and time is correct (see image below), and then save your site.



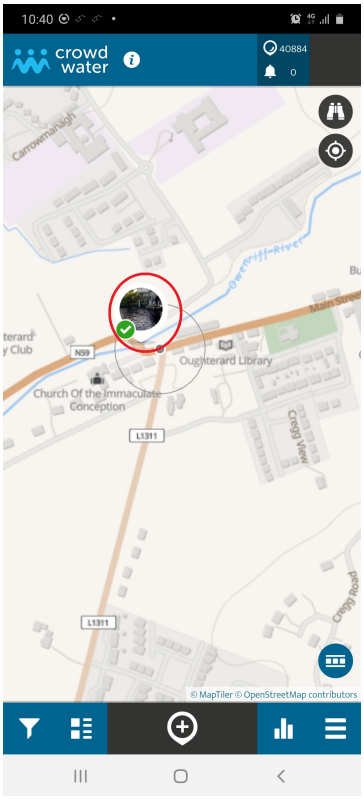
9. The site will be uploaded to the CrowdWater database for checking by the CrowdWater researchers. If, after you have saved your site, you decide that you are unhappy with something, you have a short time frame in which to delete the site and start again. You can do this by selecting your site on the map, and then using the settings menu for the site (see image below) to delete the site. But you should do this straight away, as once the CrowdWater researchers have accepted the site, it will be locked, and you will not be able to delete it yourself.



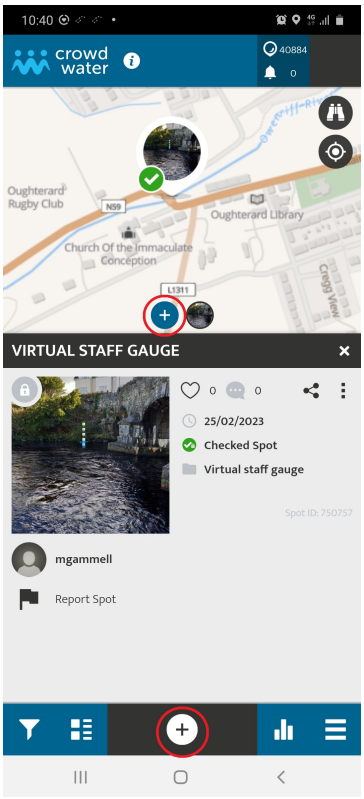
Take Water Level Measurements at a Site

For this project, water level measurements should be taken approximately weekly at your site, from the beginning of March until the end of November 2023, if possible. If it is not possible for you to take measurements for that entire period (e.g. if you are away for some of that time), that is fine. You can take water level measurements at your site as follows:

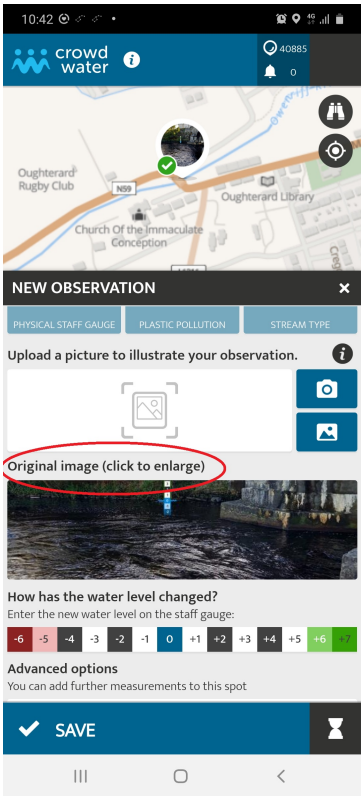
1. Go to your river monitoring site and open the CrowdWater App. If the GPS on your phone is turned on, it should automatically locate your monitoring site on the map in the App. If it does not automatically locate your monitoring site you can manually locate your site by moving the map and zooming in. Once you have located the correct site, select the icon on the map for your monitoring site (highlighted with a red circle in the image below), and the App will open up information about that site. Make sure that you have opened up the correct site before you take any new measurements.



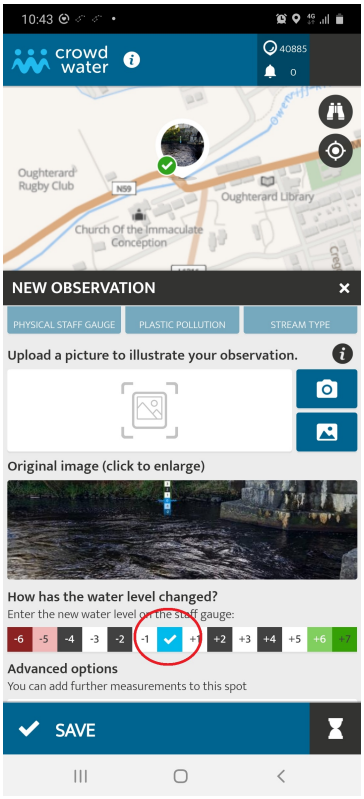
2. To take a new measurement at your site, press the plus button on the map in the App (or the plus button at the bottom of the App).



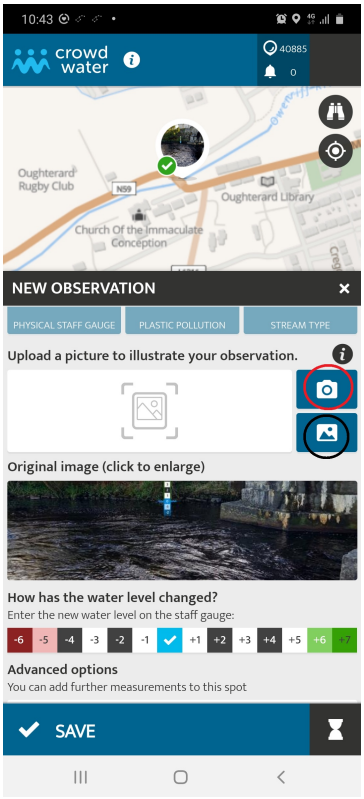
3. You should then scroll down on the App, and open the original photograph (with the virtual staff gauge) so that you can compare the current water level at your site with the water level when you originally set up the site. Using the reference objects in your original image, you should be able to determine whether the current water level at your site is the same as in your original image, or whether there has been a rise or fall in water level in comparison to the original image (you should be able to zoom in on the image if you need to). You are specifically trying to determine whether the water level has risen or fallen sufficiently so that the river level is now in a different water level category on the virtual staff gauge.



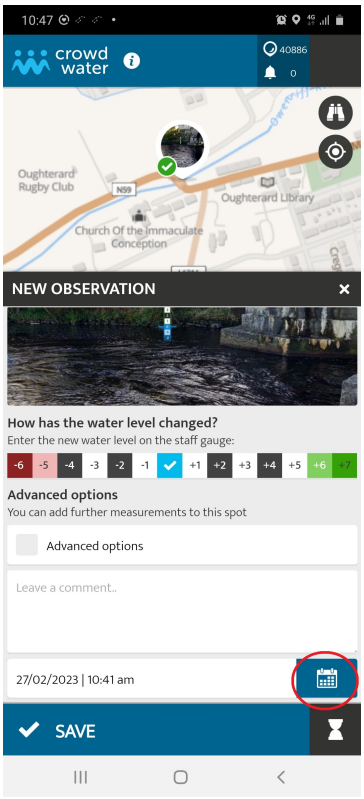
4. Close the image, and in the main screen of the App, beneath the original image, there is a measurement scale on which you can select how the water level has changed (if it has changed) in comparison to the original image. Once you have selected a water level category on the scale, it should change to a blue tick mark.



5. You then need to take a new photograph of your site (by selecting the camera icon on the main screen of the App, highlighted with a red circle on the image below). You should take a photograph that is as similar as possible to the original image, i.e. the new photograph should cover more or less the same field of view as the original image, and have the same reference objects in the background of the image. This will allow your new observations to be checked and validated by CrowdWater. If you are happy with the photograph that you have taken, then select **OK** to save it. If you are not happy with it you can select **RETRY** and take a new photograph. Note that instead of taking a photograph using the camera icon on the App, you could upload an image that you had already taken of the site before you opened the App, using the image upload icon on the App (highlighted with a black circle on the image below). This can be a useful option if you need to edit a photograph before uploading it to the App, e.g. if you need to brighten the image using editing tools in your phone's camera app, to make sure that the reference objects are clearly visible in the photograph.



6. Once you have selected **OK** to save your new image, you will return to the main screen in the App. Again, you can ignore the Advanced Options. If you want to leave a comment, you can do so in the comment box (but you do not need to leave a comment). You should then check that the date and time at the bottom of the main screen of the App are correct - they should be correct if the time and date on your phone is correct (note that the time should have been set to the time at which you opened the App and started making your observation - this is fine, you do not need to change it). If the date/time are not correct you can change them by selecting the calendar icon to the side of the screen (highlighted with a red circle in the image below).



7. Once you are happy with your measurements and photograph you can select **SAVE** to save your observations. Your observations will then be uploaded to the CrowdWater database for checking by the CrowdWater researchers. If, after you have saved your observations, you decide that you are unhappy with something, and that you need to take your measurements again, you have a short time frame in which to delete the observation and start again. As before, you can do this by selecting your site on the map, choosing the observation that you have just taken (check the date/time to make sure that you have selected the correct observation) and then using the settings menu (see image below) to delete the observation. But you should do this straight away, as once the CrowdWater researchers have accepted the observation, it will be locked, and you will not be able to delete it yourself.