Field SWAT is designed to map SWAT simulations from a HRU layer to a user-defined field boundaries layer. The tool ingests spatial and nonspatial SWAT outputs and helps in visualizing them at the field scale using four different aggregation methods.

https://saraswat-swat.rcac.purdue.edu

Field SWAT

User Manual

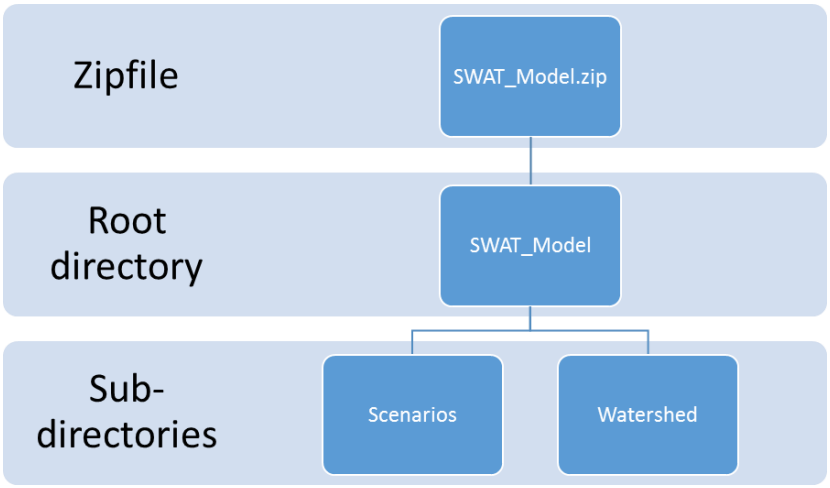
Last Revised: 05/17/2016

PURDUE UNIVERSITY®

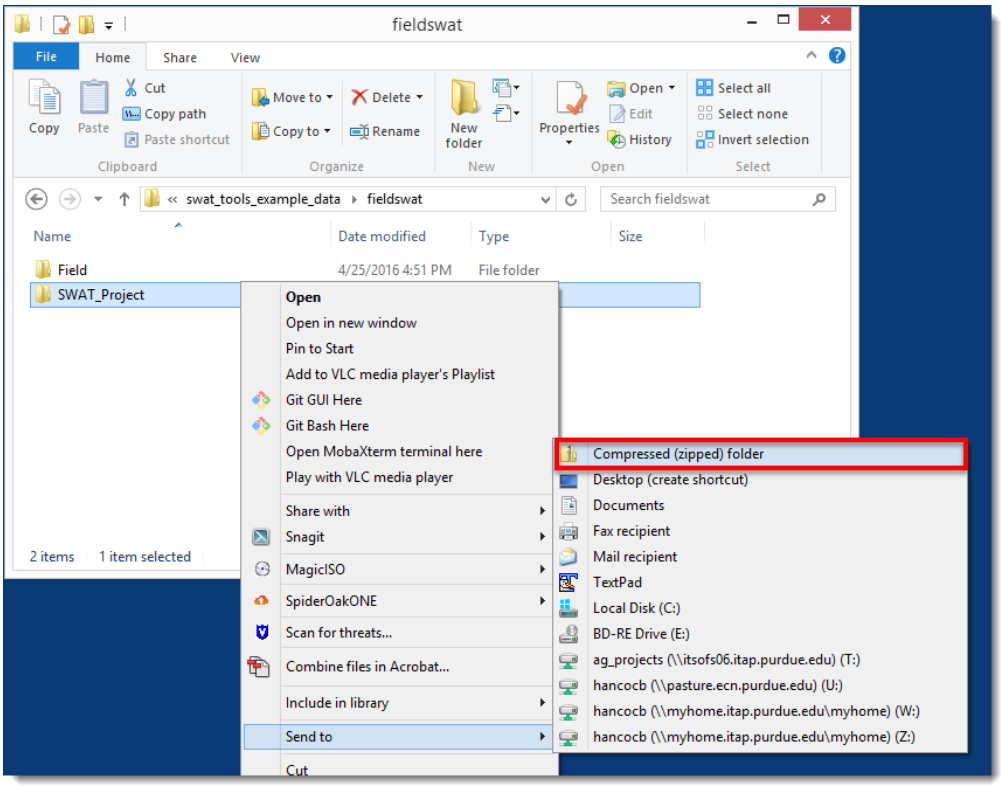
ARKANSAS NATURAL RESOURCES COMMISSION

Step 1 – SWAT Model Input

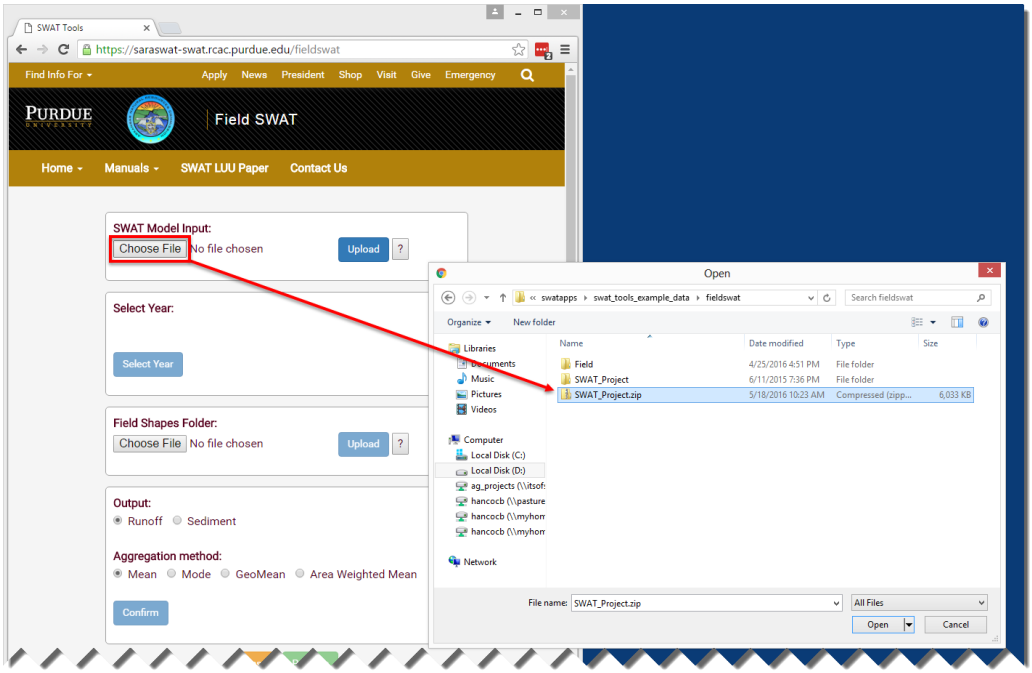
1. The first file you will need to upload is a zipped copy of your SWAT model. The zipfile should be provided with the same name as the directory containing the SWAT model. For example, if your SWAT model is in a directory named "SWAT_Model", the zipfile should be named "SWAT_Model.zip." It is necessary that the SWAT model directory has the "Scenarios" and "Watershed" sub-directories and that those two directories contain all of their associated sub-directories and files. The next step will demo how to create a zipfile.



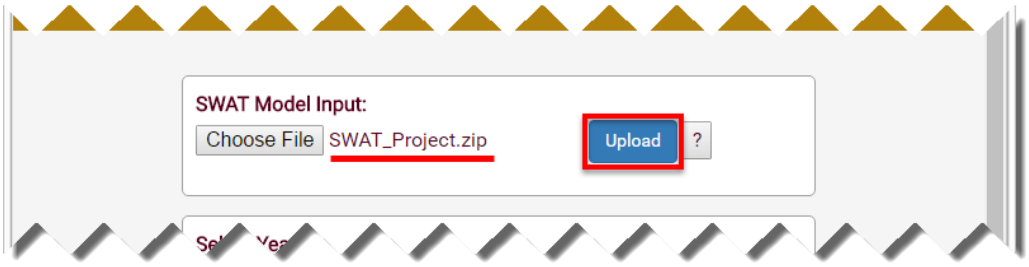
2. Make sure your SWAT model directory matches the above requirements. You can use any software you like to create the zipfile. In Windows 7 and up, you can simply right-click the directory and then select **Send to -> Compressed (zipped) folder** in the menu that appears. The zipfile name should match the SWAT model directory name.



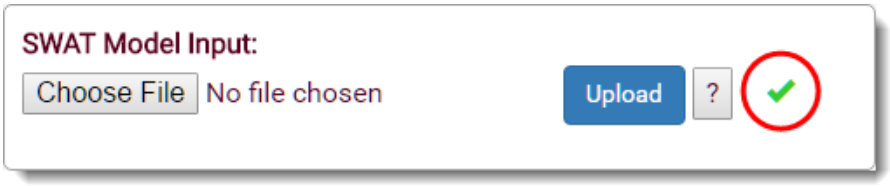
3. Click the **Choose File** button in the **SWAT Model Input** section to start the process of uploading your zipped SWAT model. Navigate to the location of your zipped SWAT model and double-click it, or click it once and click the **Open** button.



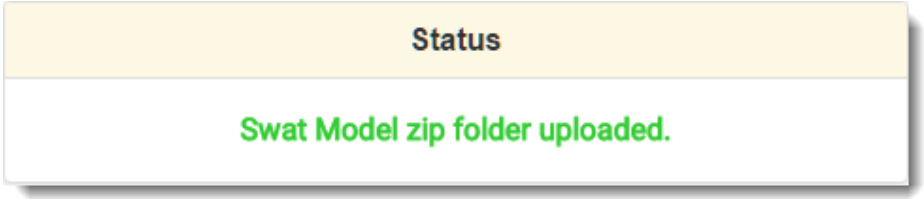
4. After selecting the zipped SWAT model, click the **Upload** button.



5. The speed it takes to upload and unzip the file will be dependent on the transfer speed and the size of the file. A green checkmark will appear when the upload has successfully finished.

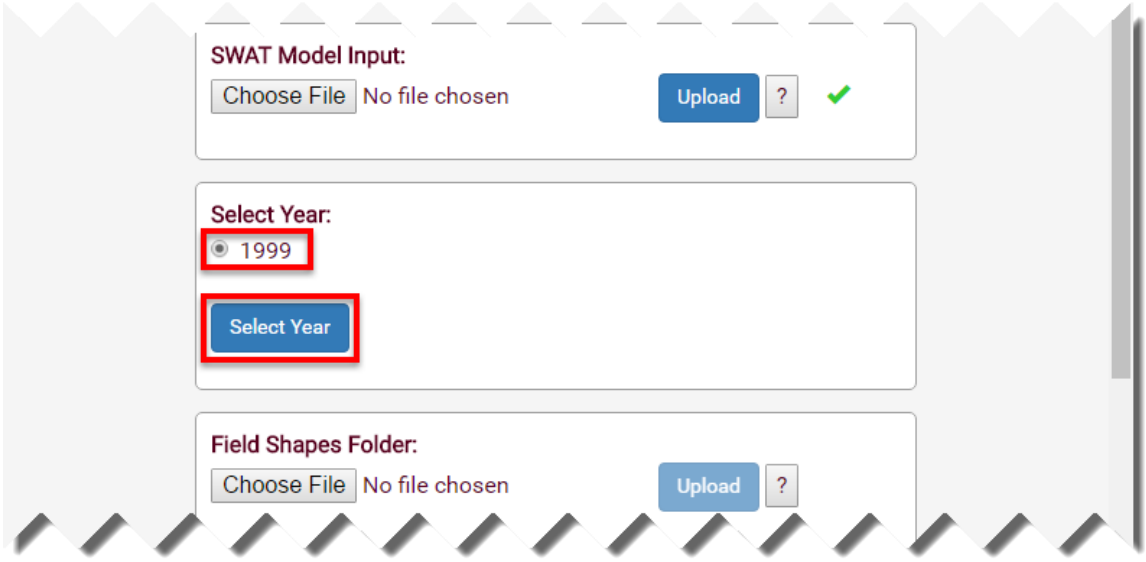


The **Status** frame located at the bottom of the page will be updated with relevant information as you use the tool. If there had been a problem with the shapefile, a message would have appeared in the **Status** frame informing you of the issue.



Step 2 – Select Year

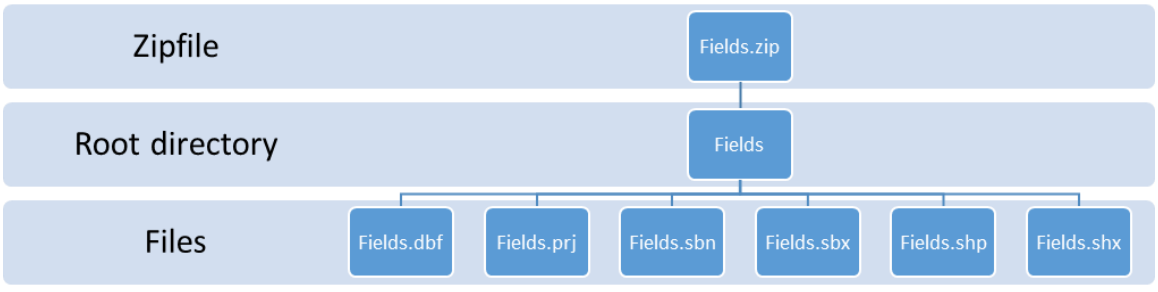
1. When the SWAT model finishes uploading, the **Select Year** section will become available. It will also be populated with a list of years found in the SWAT model. Select the year you would like to perform analysis on and then click the **Select Year** button. The example data used for this guide only had one year available.



2. A green checkmark will appear when the selection has been confirmed.

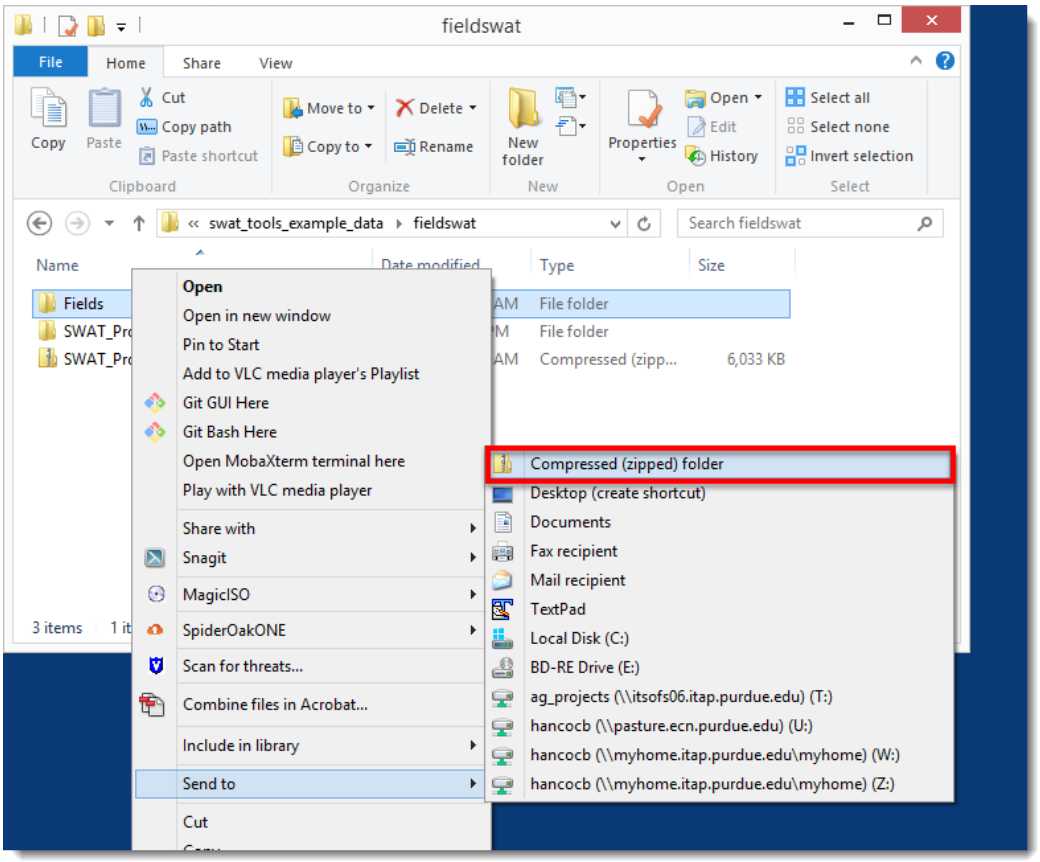
Step 3 – Field Shapes Folder

1. Your field data will need to be put into a zipfile before it is uploaded. The shapefile should be inside a directory with the same name as the shapefile. For example, if the shapefile is named "Fields", the directory containing the shapefile should be named "Fields." You would then need to zip the "Fields" directory. The next step will demo how to create a zipfile.

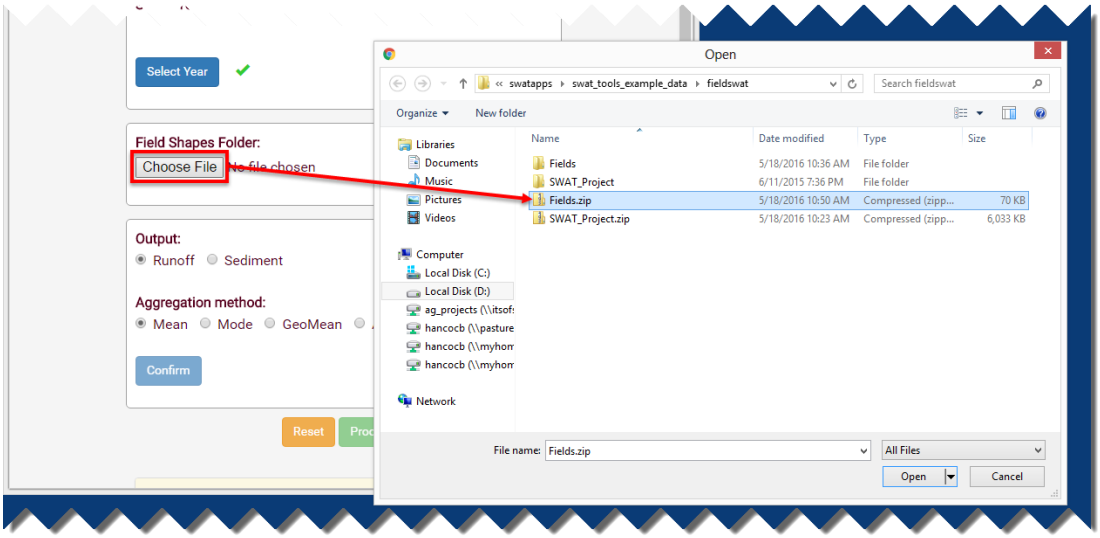


2. Once you have placed your fields shapefile into a directory sharing the same name as the shapefile, you will need to zip the directory. You can use any software you like to crate the zipfile.

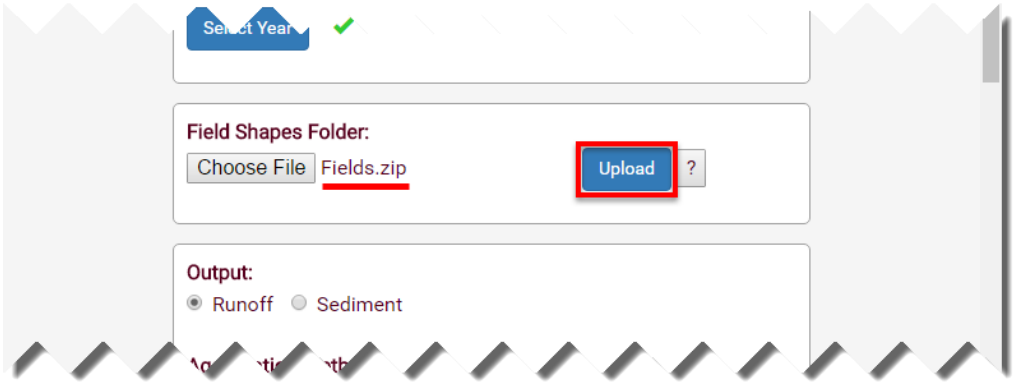
In Windows 7 and up, you can simply right-click the directory and then select **Send to -> Compressed (zipped) folder** in the menu that appears. The zipfile name should match the subbasin directory name.



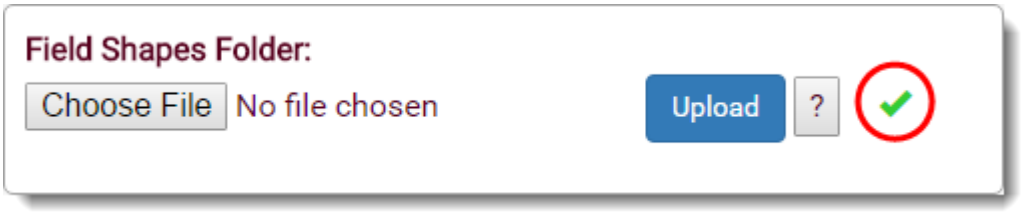
3. Click the **Choose File** button in the **Field Shapes Folder** section to start the process of uploading your zipped fields shapefile. Navigate to the location of your zipped fields shapefile and double-click it, or click it once and click the **Open** button.



4. After selecting the zipped fields shapefile, click the **Upload** button.



5. The speed it takes to upload and unzip the file will be dependent on the transfer speed and the size of the file. A green checkmark will appear when the upload has successfully finished.



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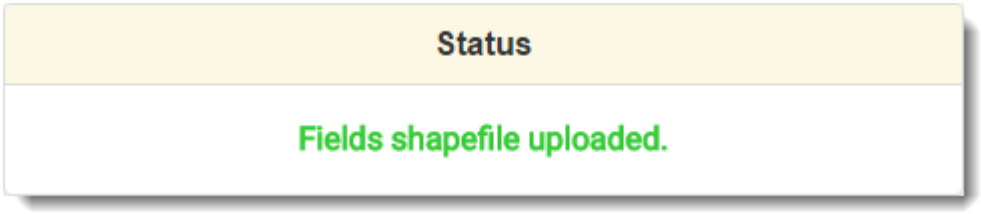
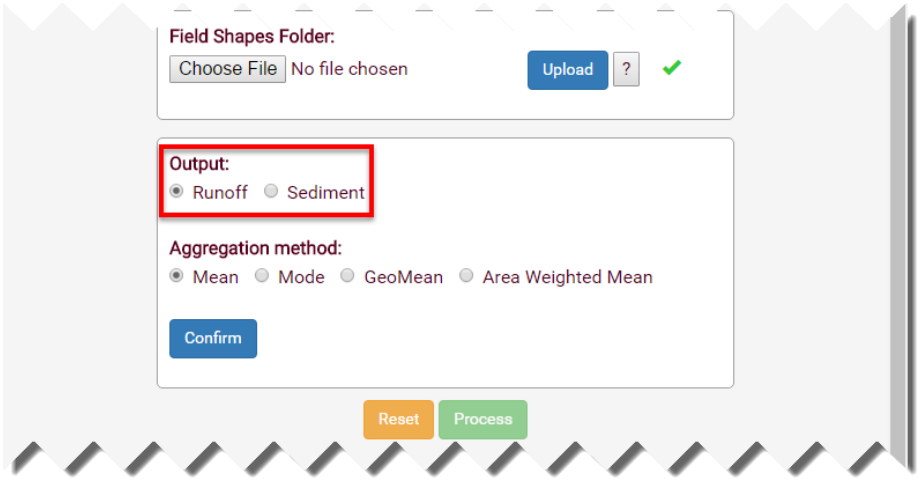
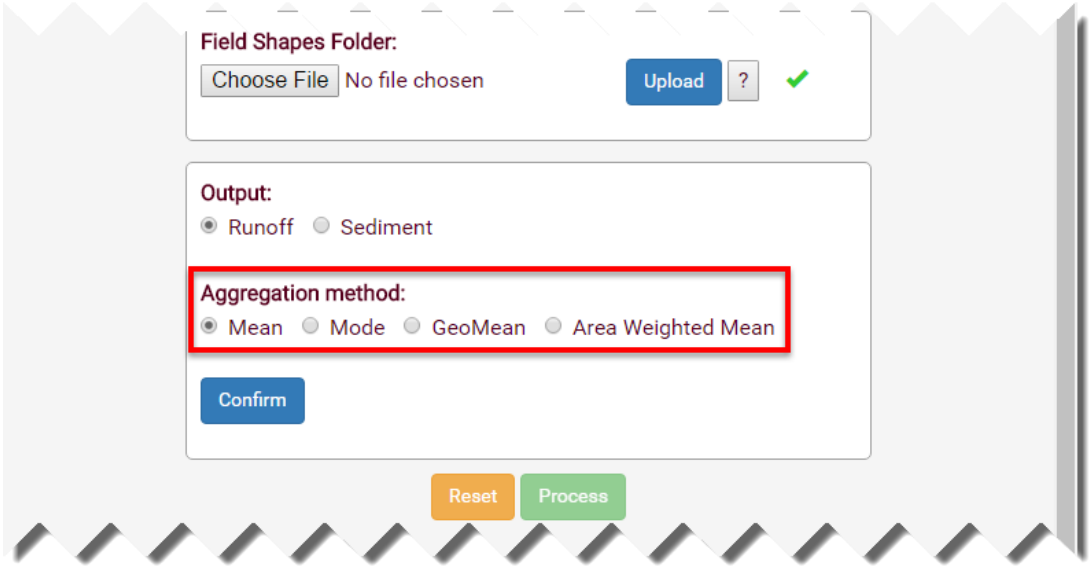


Step 4 – Output and Aggregation method

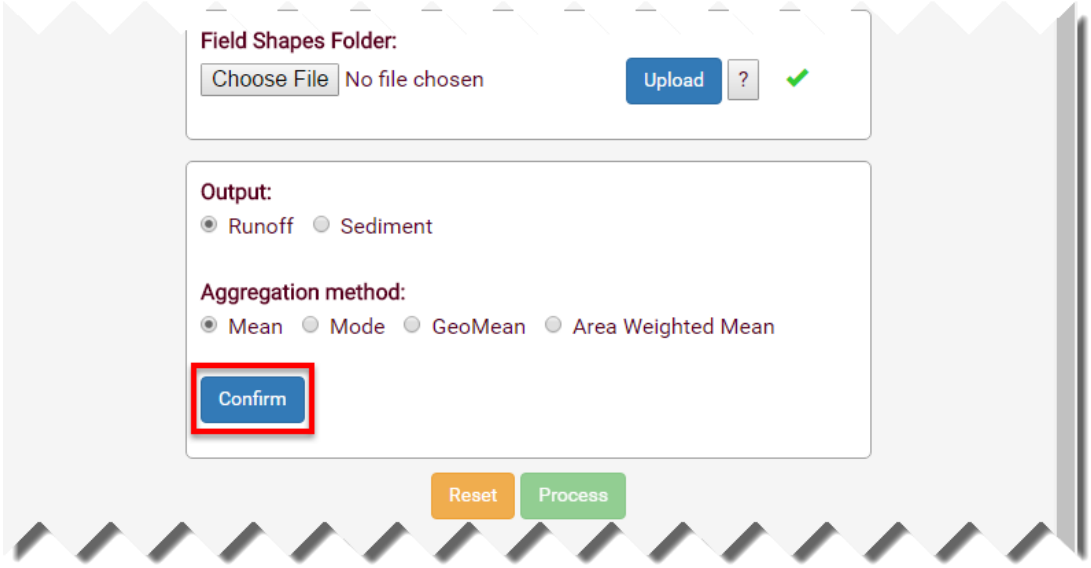
1. This final step has you select an output and an aggregation method. First, select your **Output**. There are two choices: runoff and sediment.



2. Next select the **Aggregation method**. There are four choices: **Mean, Mode, GeoMean,** and **Area Weighted Mean**.



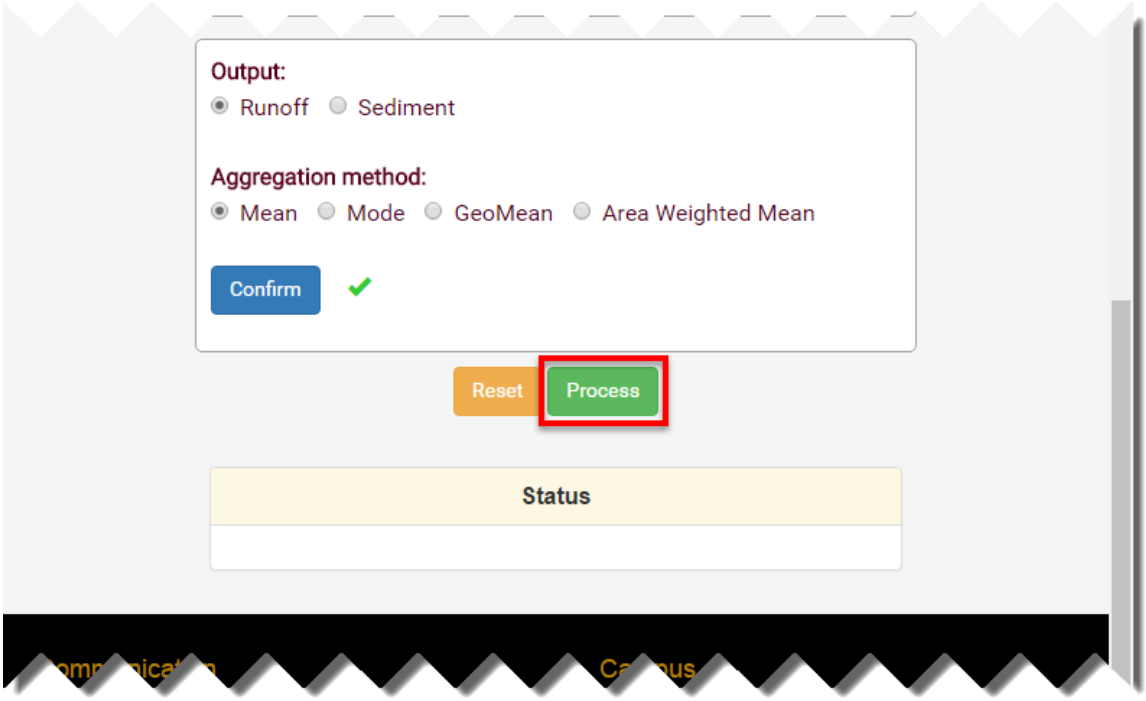
3. After setting the **Output** and **aggregation method**, click the **Confirm** button to finalize the selection.



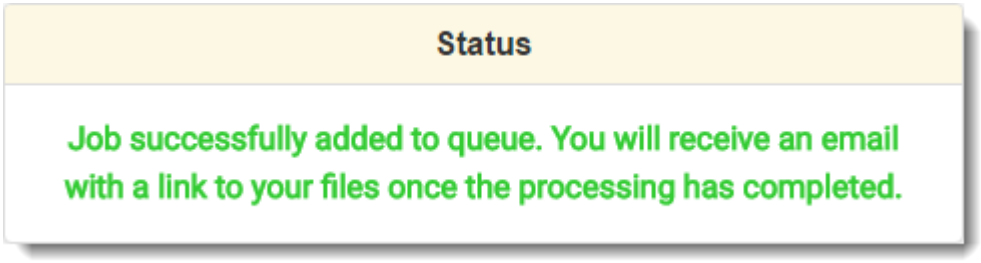
4. A green checkmark will appear when the upload has successfully finished.

Step 5 – Process

1. Once all of the inputs have been entered, click the **Process** button to submit the job request.



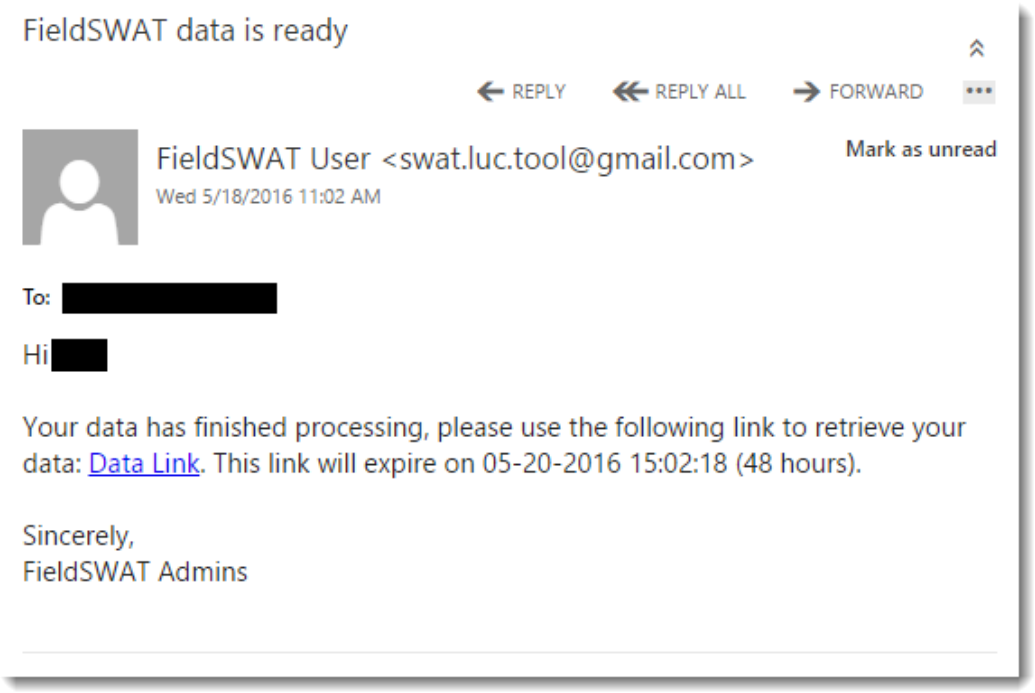
2. Once the job has been successfully added to the queue, the **Status** frame will update to the following message:



At this point you can either click the **Reset** button (clears the form) and start uploading a new dataset or leave the page. When the job has finished running, an email will be sent to you containing a link to your results.

Step 6 – Downloading your data

1. You will receive an email when your data is ready for download. It will look similar to the below screenshot:



2. As indicated by the email message, you will have 48 hours to download your results before the results are permanently deleted. Click the "Data Link" to start the download. If you are not signed in to the site, you will be asked to do so before the download begins.

If you have any questions, please contact us at swat.luc.tool@gmail.com or saraswat@purdue.edu.