LUU Checker compares multiple land use cover datasets against a base layer on a subbasin level. Emerging land use covers are detected and a user defined percentage area of the new land use covers is applied to the base raster in the relevant subbasins.

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

LUU Checker

User Manual

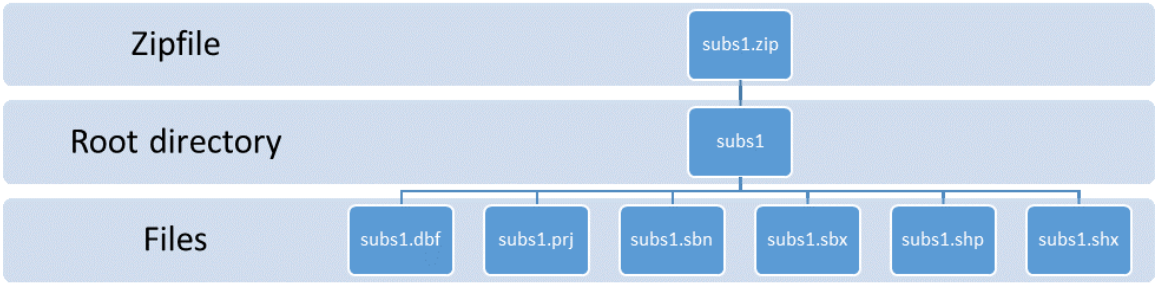
Last Revised: 05/17/2016

PURDUE UNIVERSITY®

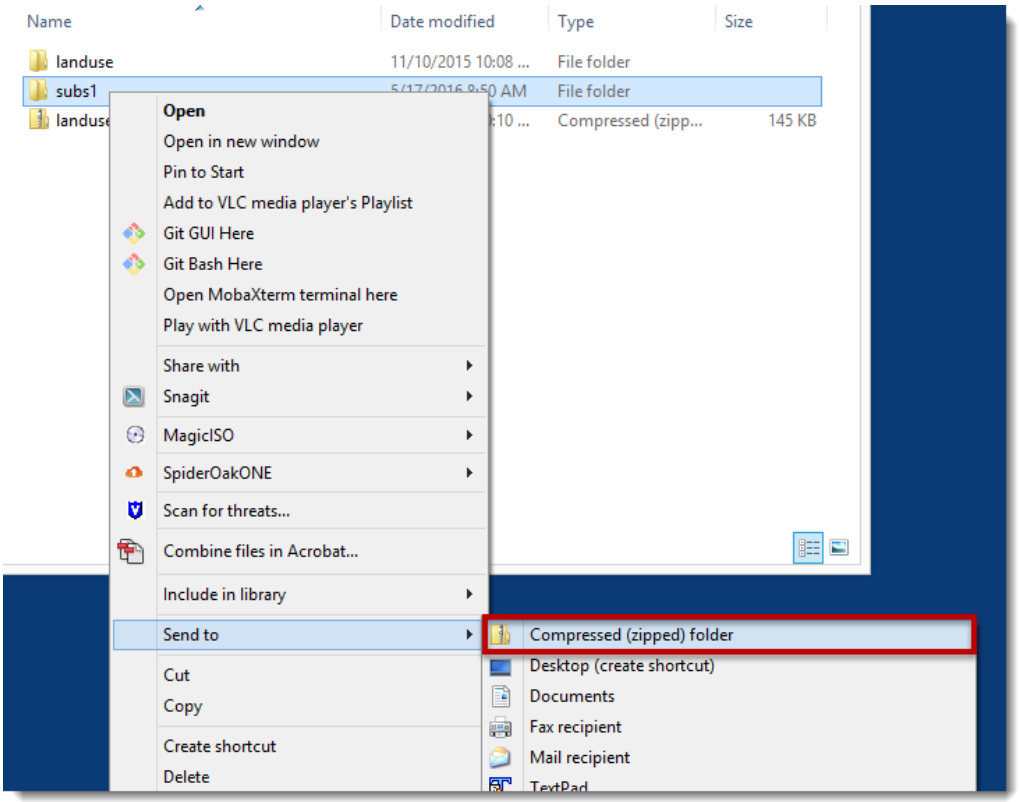
ARKANSAS NATURAL RESOURCES COMMISSION

Step 1 – Upload subbasin shapefile

1. The first file you will need to upload is a zipped copy of your subbasin shapefile. The shapefile should be inside a directory with the same name as the shapefile. For example, if the shapefile is named “subs1”, the directory containing the shapefile should be named “subs1.” You would then need to zip the “subs1” directory. The next step will demo how to create a zipfile.

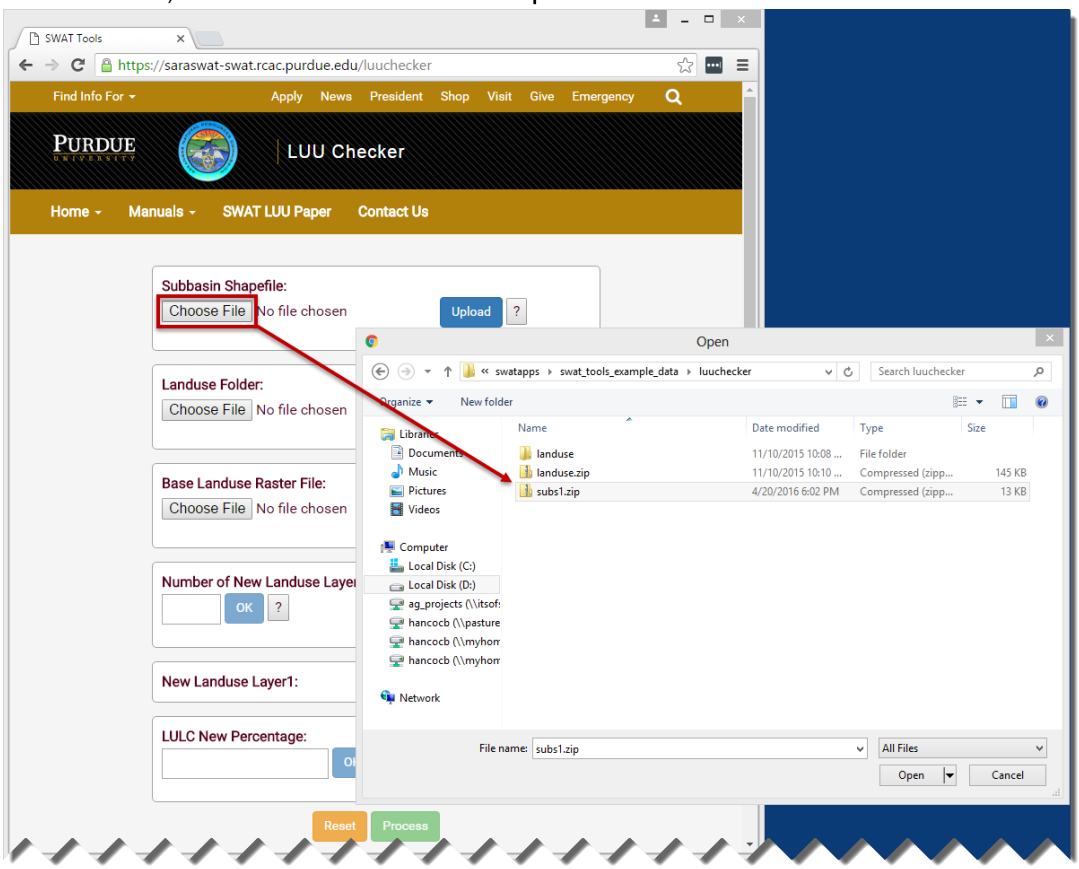


2. Once you have placed your subbasin shapefile into a directory sharing the same name as the shapefile, you will need to zip the directory. You can use any software you like to create the zipfile. In Windows 7 and up, you can simply right-click the directory and then select **Send to -> Compressed (zipped) folder** in the menu that appears. The zipfile name should match the subbasin directory name.

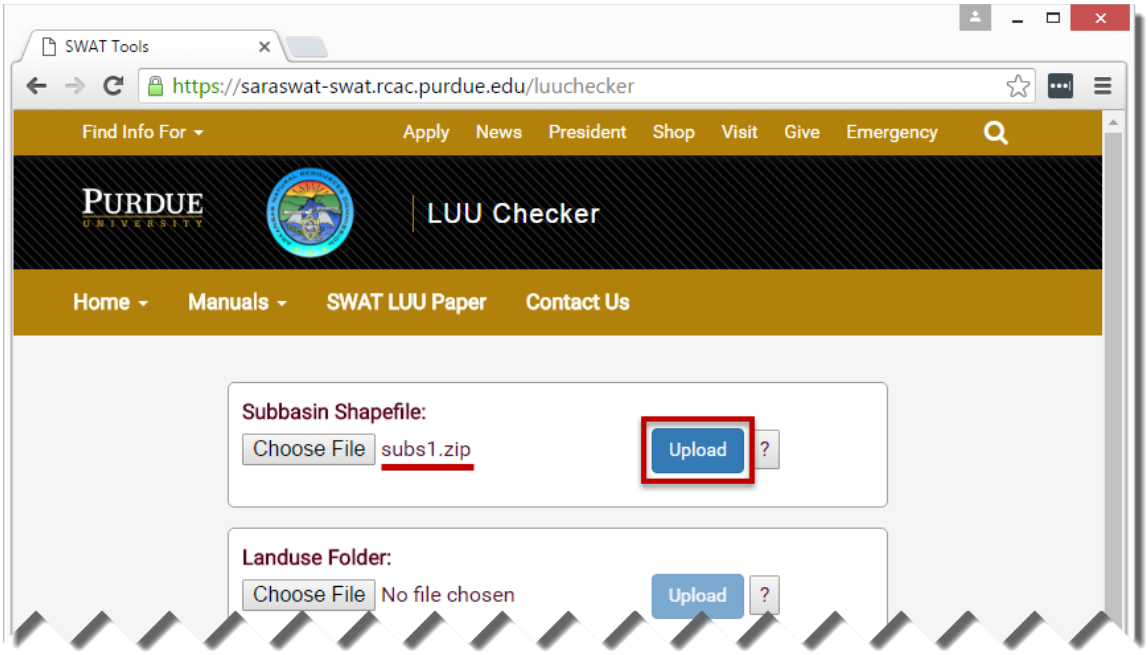


3. Click the **Choose File** button in the **Subbasin Shapefile** section to start the process of uploading your zipped subbasin shapefile. Navigate to the location of your zipped subbasin shapefile and

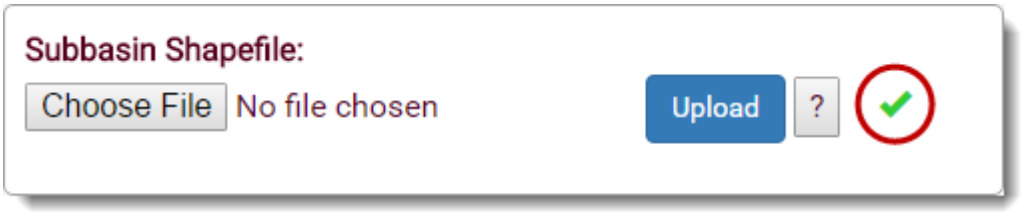
double-click it, or click it once and click the **Open** button.



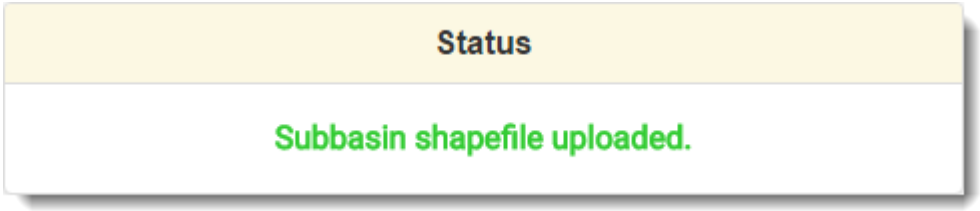
4. After selecting the zipped subbasin shapefile, click the **Upload** button.



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.

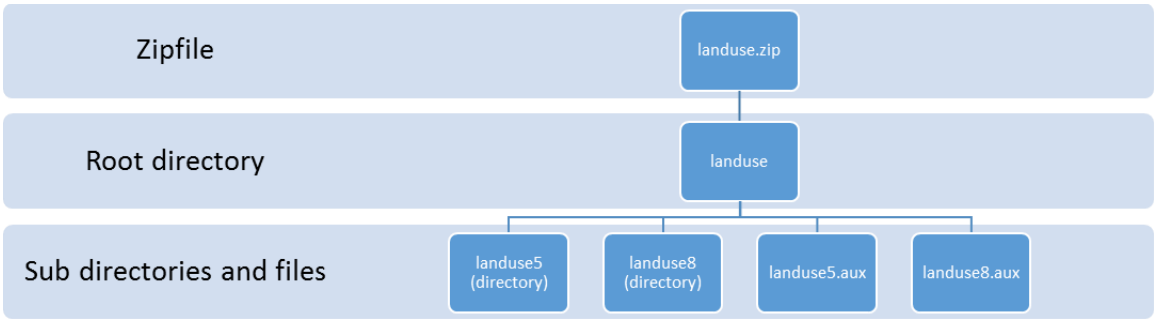


The **Status** frame located at the bottom of the page will be updated with relevant information as you use the tool. If there had been a problem with the shapefile, a message would have appeared in the **Status** frame informing you of the issue.



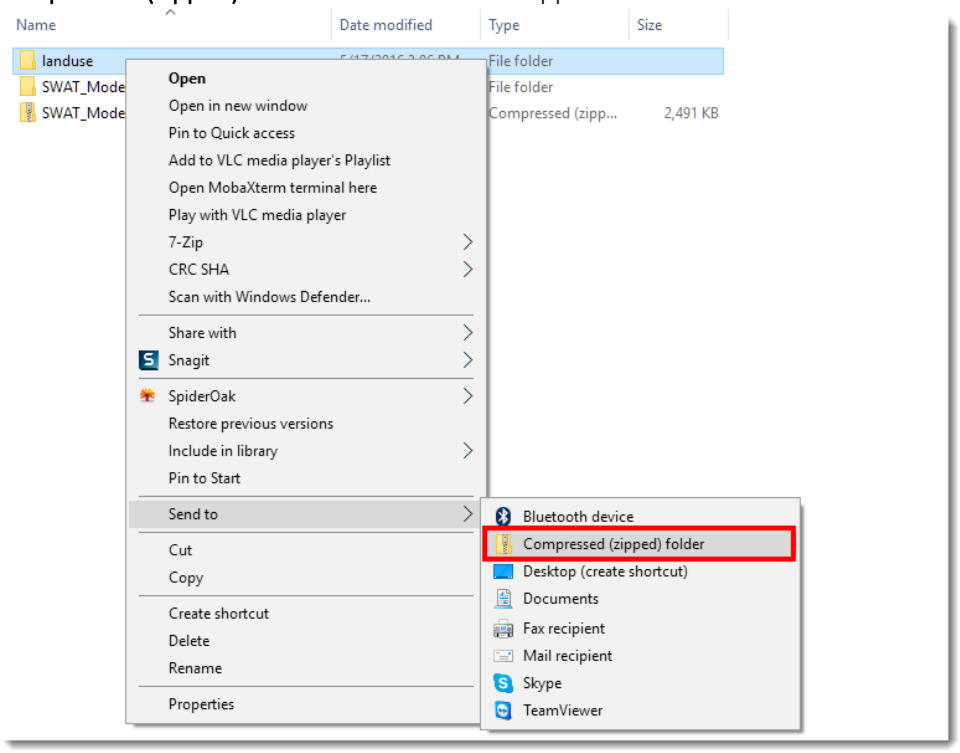
Step 2 – Upload landuse folder

1. The **Landuse Folder** section will be activated after you have completed step 1. You will need to provide your landuse data in a zipfile. The zipfile should have a root directory that contains only the landuse data you are interested in analyzing. For example, if you have a 2005 landuse layer named "landuse5" and a 2008 landuse layer named "landuse8", you would need to include the "landuse5" and "landuse8" directories as well as their corresponding ".aux" files. These files should be placed into the same directory. The next step will demo how to create a zipfile.

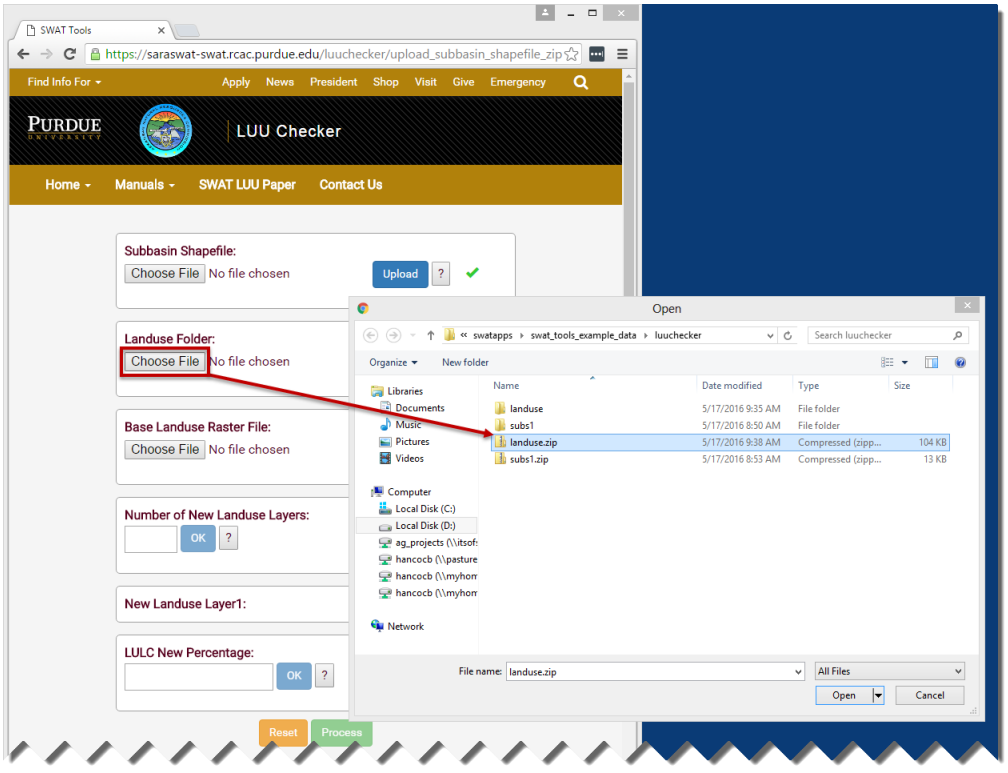


2. Once you have placed your landuse data into a common directory, you will need to zip that directory. You can use any software you like to create the zip file. In Windows 7 and up, you can simply right-click the directory containing the landuse data and then select **Send to ->**

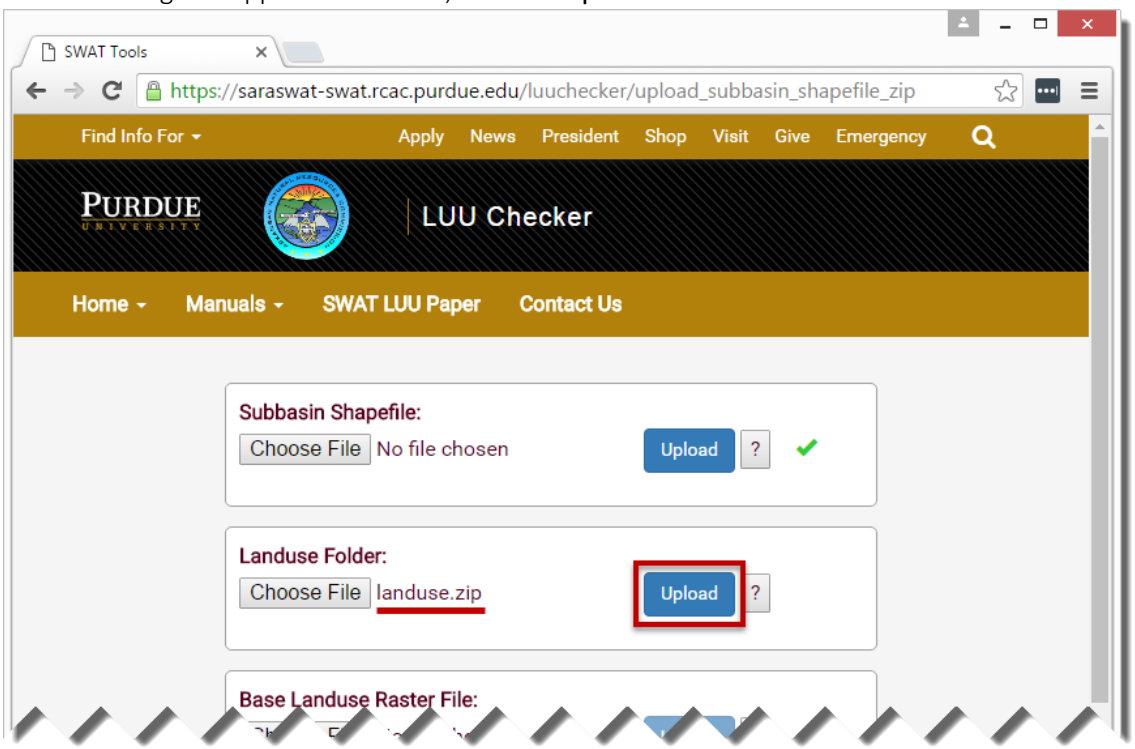
Compressed (zipped) folder in the menu that appears.



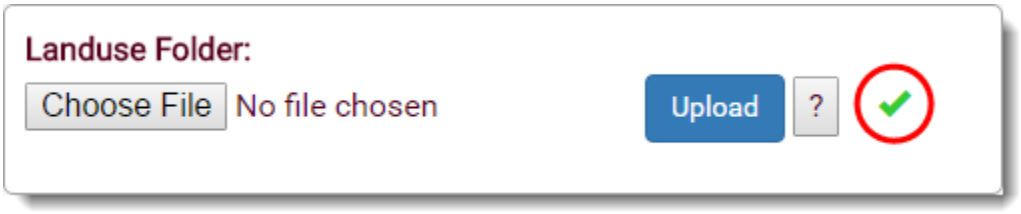
3. Click the **Choose File** button in the **Landuse Folder** section to start the process of uploading your zipped landuse data. Navigate to the location of your zipped landuse data and double-click it, or click it once and click the **Open** button.



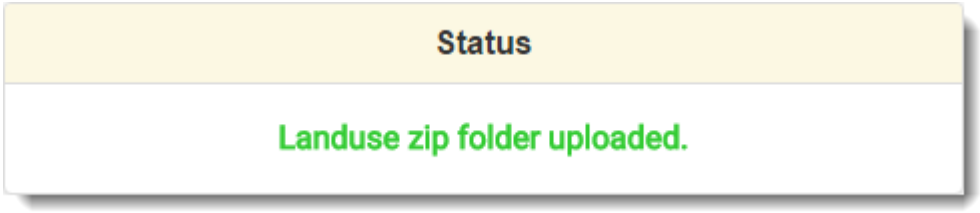
4. After selecting the zipped landuse file, click the **Upload** button.



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.



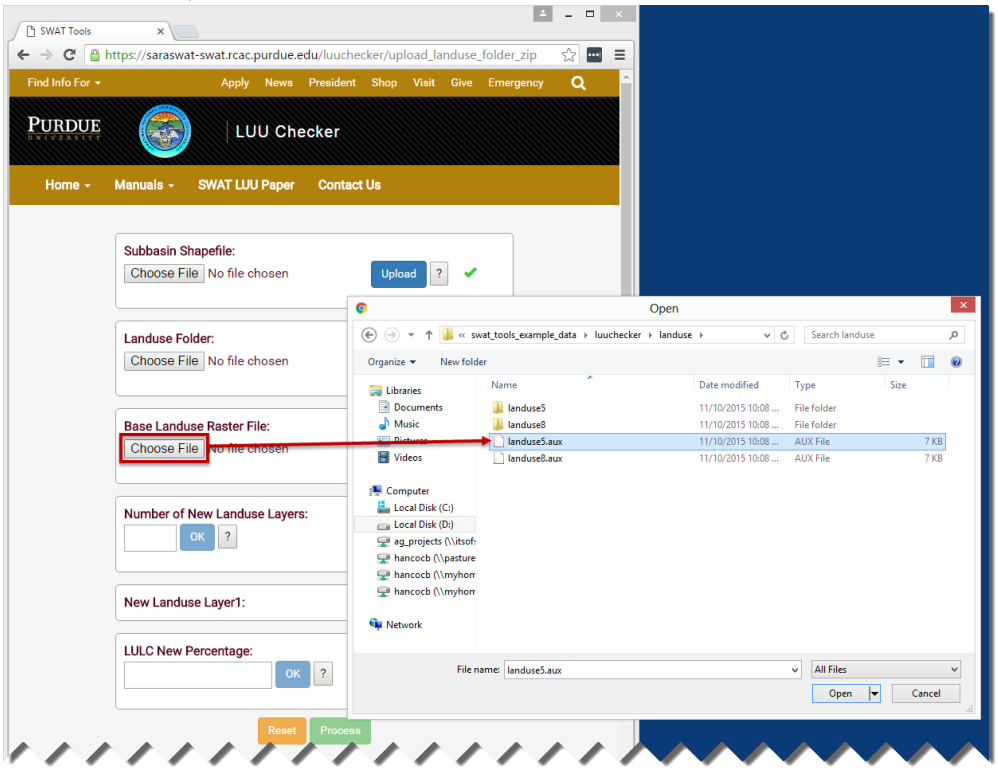
The **Status** frame located at the bottom of the page will be updated with relevant information as you use the tool. If there had been a problem with the landuse data, a message would have appeared in the **Status** frame informing you of the issue.



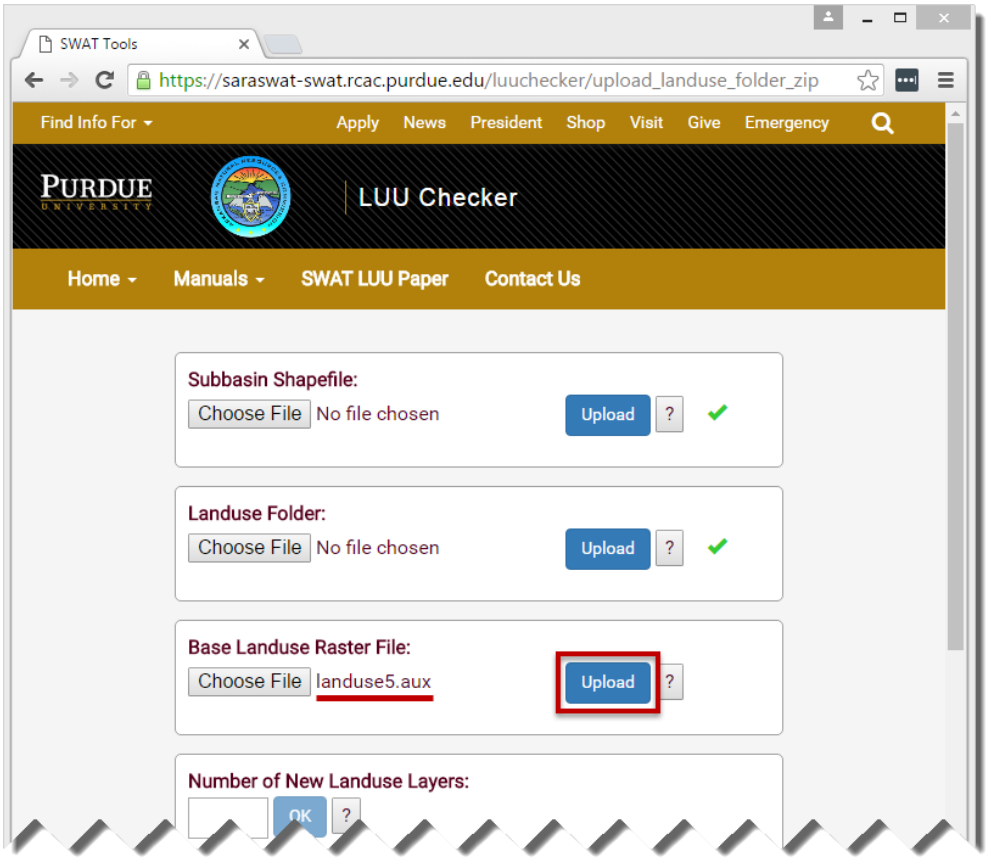
Step 3 – Base Landuse Raster File

1. The **Base Landuse Raster File** section becomes available after the landuse data has been successfully uploaded. Click the **Choose File** button and navigate to the directory containing your landuse data. Either double-click the ".aux" file associated with your base layer or left-click it and

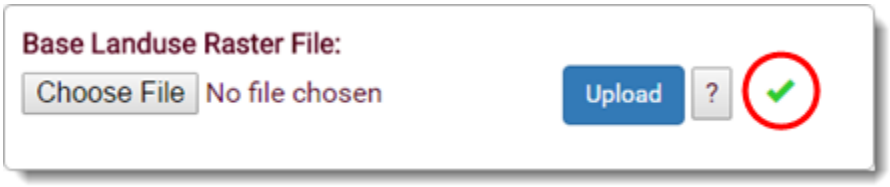
then click the **Open** button.



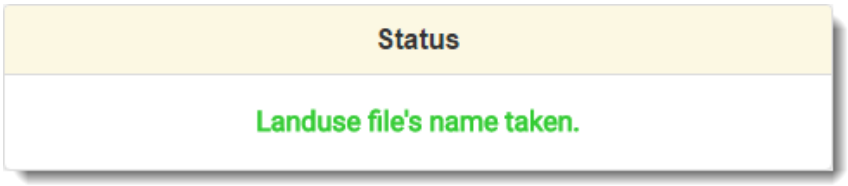
2. After selecting the base landuse ".aux" file, click the **Upload** button.



3. The speed it takes to upload 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.



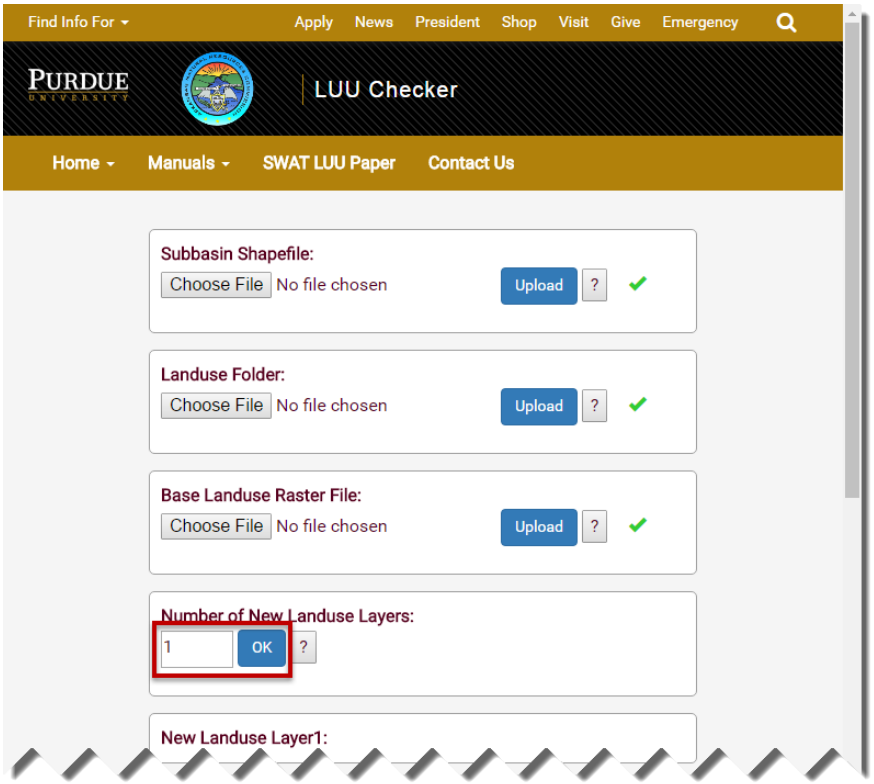
The **Status** frame located at the bottom of the page will be updated with relevant information as you use the tool. If there had been a problem with the landuse data, a message would have appeared in the **Status** frame informing you of the issue.



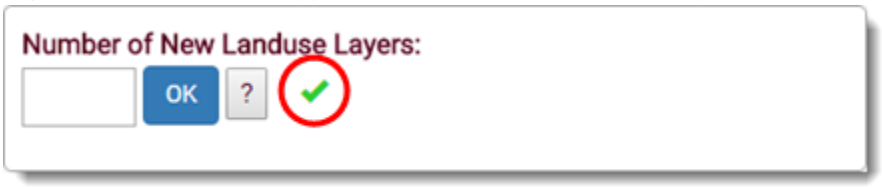
Step 4 – Number of New Landuse Layers

1. For this step you will simply need to enter the number of new landuse layers. The example data shown in this guide contained two landuse layers, "landuse5", and "landuse8." Since "landuse5" was chosen as the base landuse layer, that means we only have **one** new landuse layer to provide as input in this step. Any landuse layers you want to include in the analysis **must be included** in the original landuse folder zipfile.

Enter the number of new landuse layers and click the **OK** button.

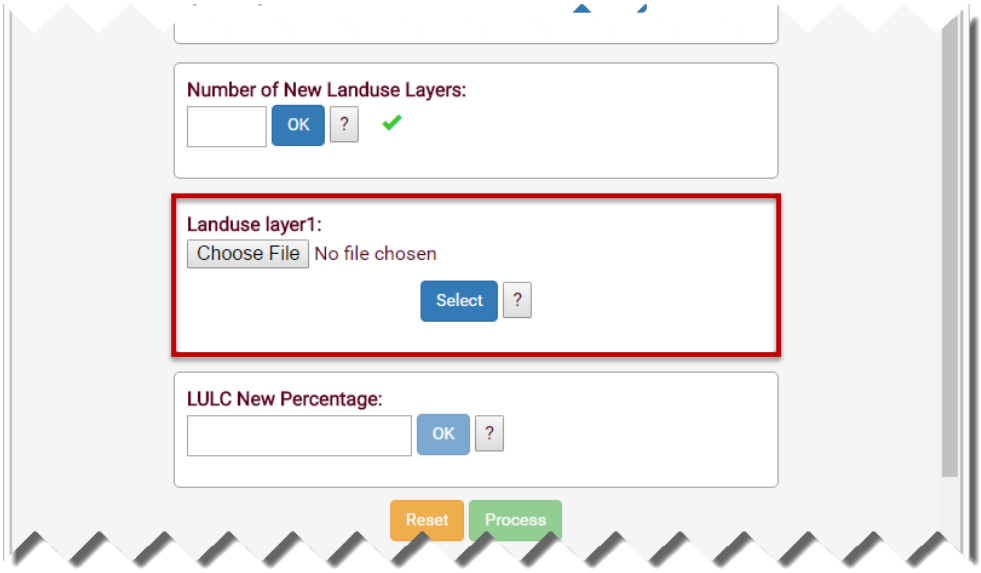


2. A green checkmark will appear when the number of new layers has been received.

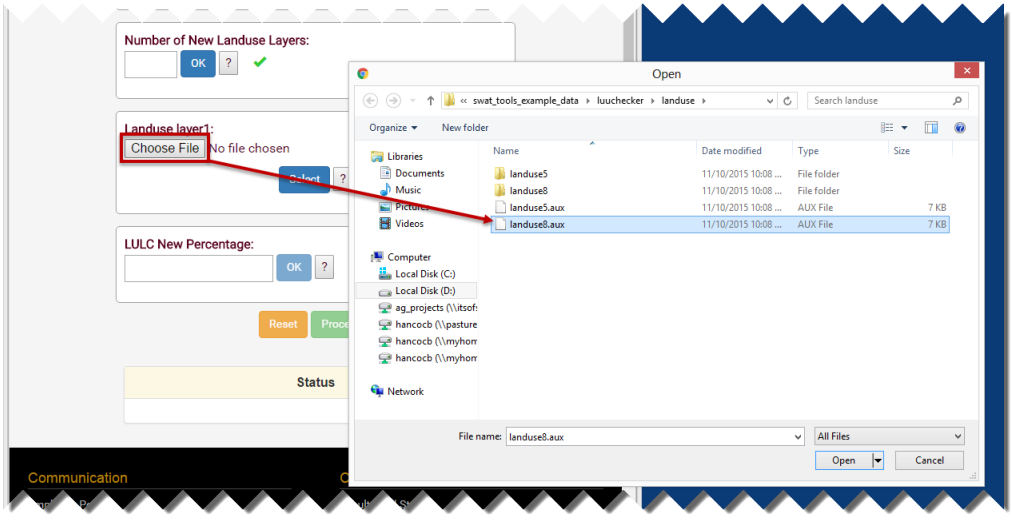


Step 5 – New Landuse Layer1

1. In this section you should see **Choose File** buttons matching the number of new landuse layers entered in the previous step. For example, if you had three new landuse layers there would be three **Choose File** buttons. Each button would be labeled "Landuse layer1", "Landuse layer2", and so on. In this guide only one new landuse layer is being introduced, so the screenshots will only show one **Choose File** button labeled "Landuse layer1."

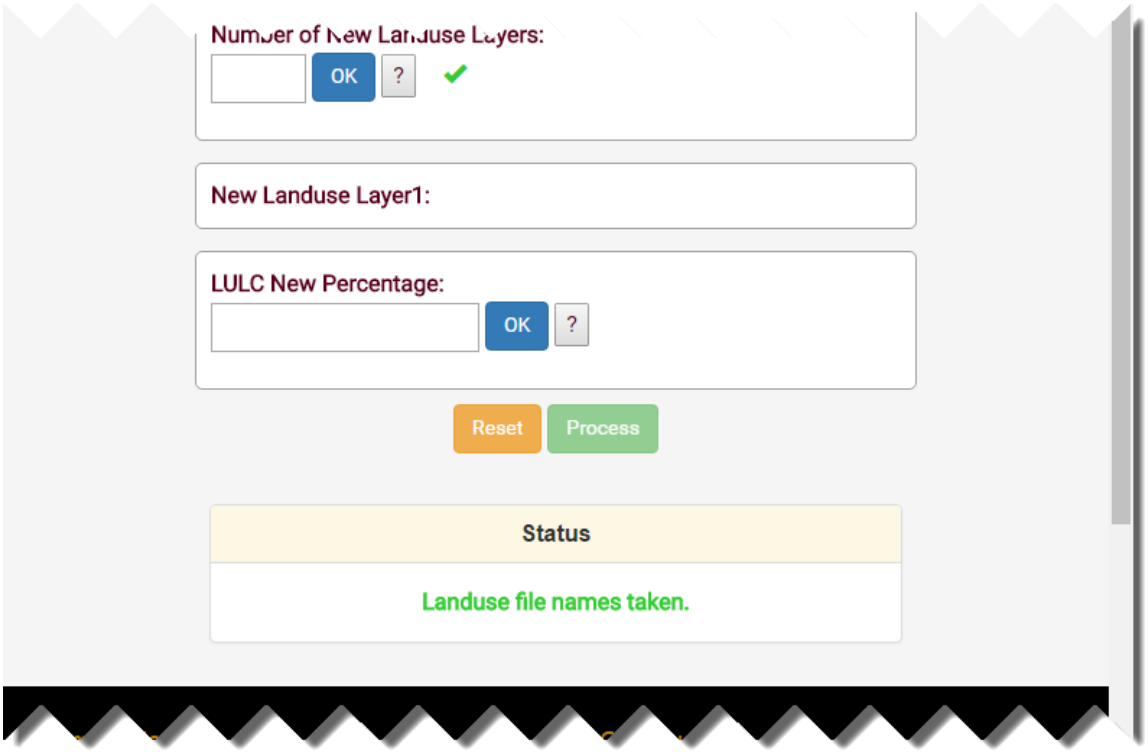


2. Click the **Choose File** button and navigate to the directory containing your landuse data. Either double-click the ".aux" file associated with the new layer or left-click it and then click the **Open** button. Repeat this process for each new landuse layer.



3. After selecting the new landuse ".aux" file(s), click the **Select** button.

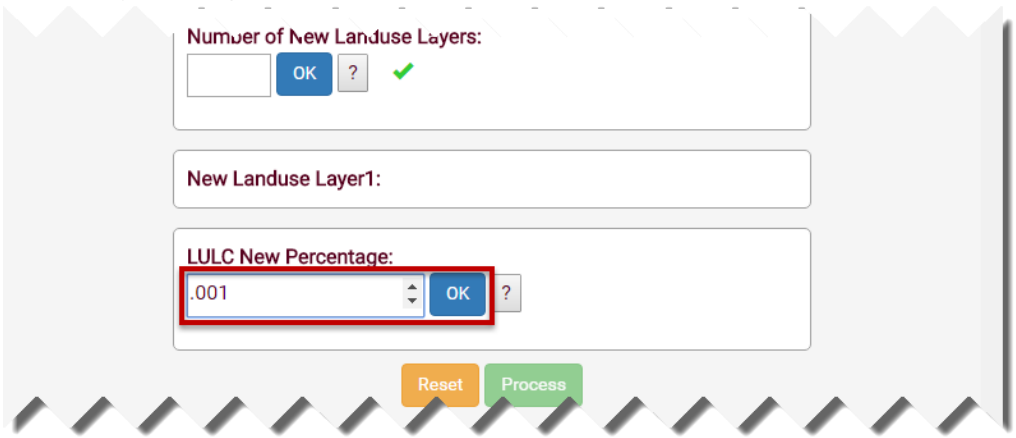
4. The **New Landuse Layer1** frame will revert back to its original state after you select the new landuse layers. The **Status** frame will indicate that the new landuse layers were accepted or whether any problems were experienced. The final frame will also become active which indicates the current step has been successfully completed.



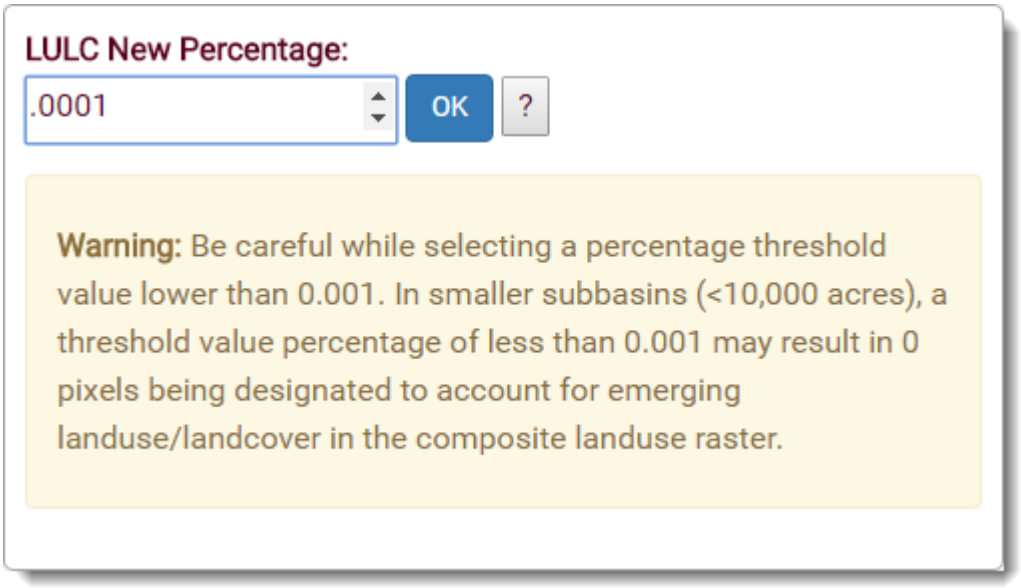
Step 6 – LULC New Percentage

1. In the **LULC New Percentage** frame, enter the percentage value that determines what percentage of your base landuse layer will be updated. For example, if your base landuse layer has 5000 cells and you enter .001%, only 5 cells will be changed in your base landuse layer.

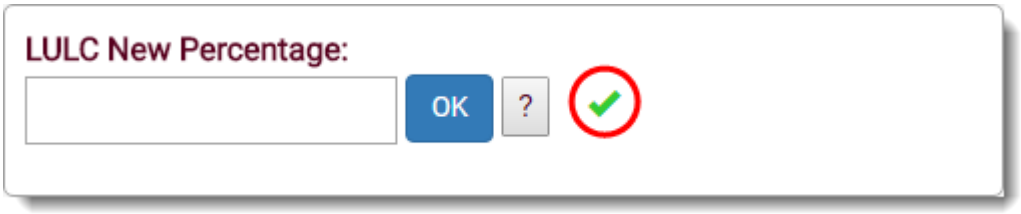
Enter the percentage value and click the **OK** button.



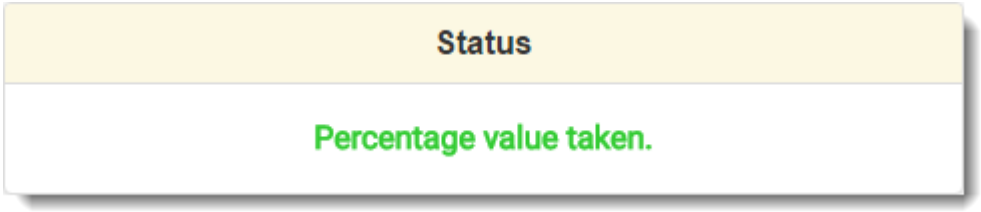
If you try to enter a value smaller than .001, the following warning will be displayed:



2. A green checkmark will appear when the percentage value is accepted.

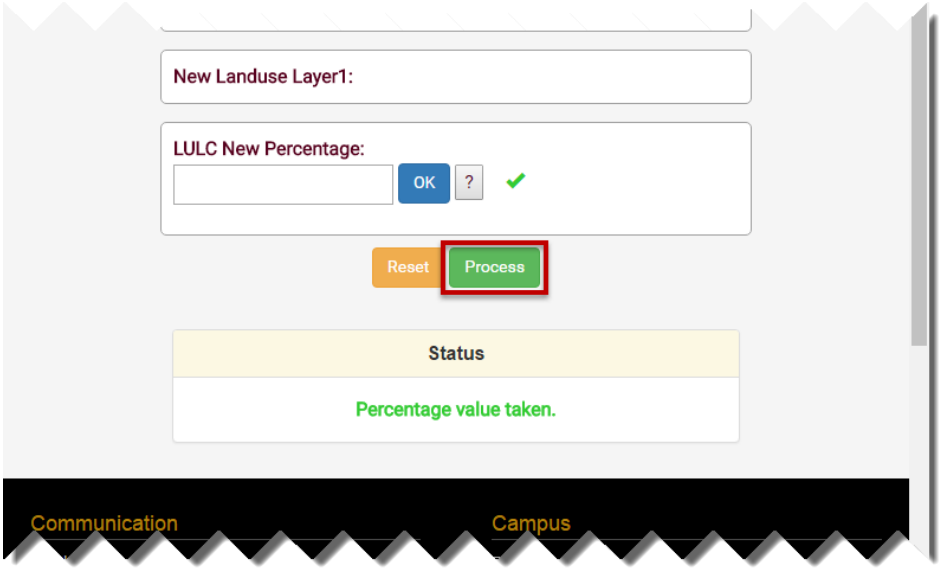


The **Status** frame located at the bottom of the page will be updated with relevant information as you use the tool. If there had been a problem with the percentage value, a message would have appeared in the **Status** frame informing you of the issue.

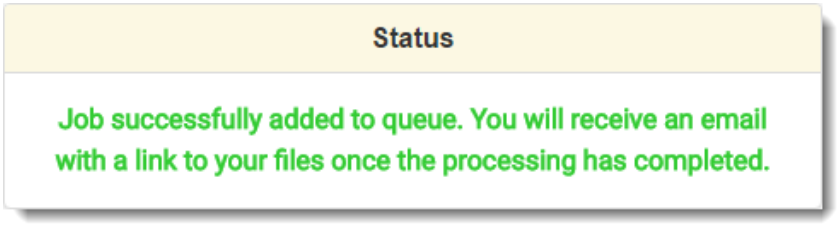


Step 7 – Process

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



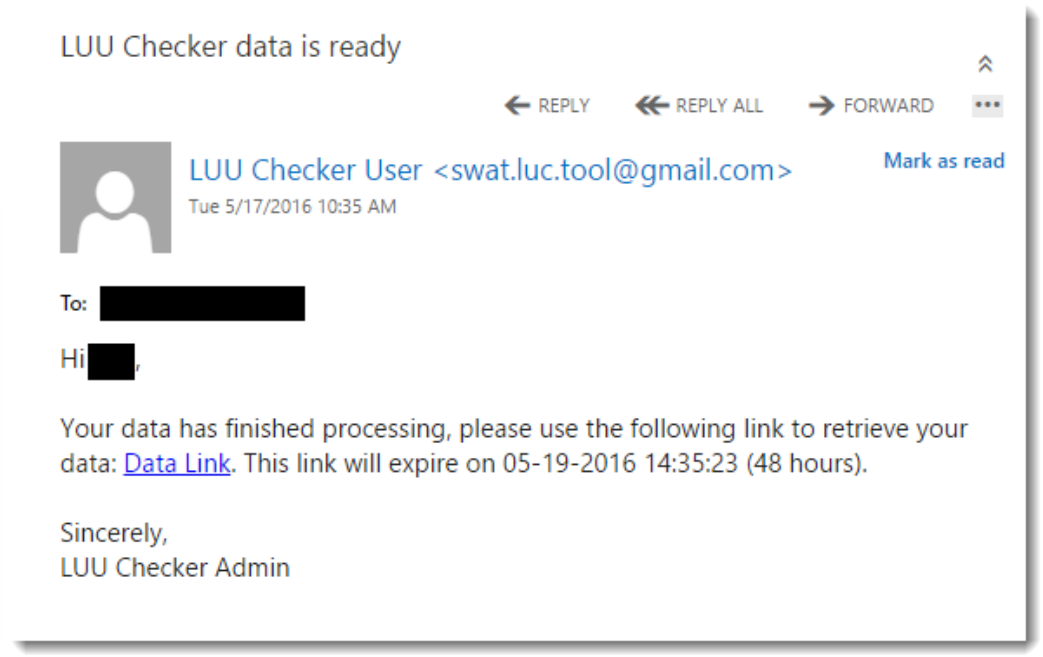
2. Once the job has been successfully added to the queue, the **Status** frame will update to the following message:



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 8 – 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.