Your Maps Your Way (YMYW)

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Source code: YMYW GitHub repository

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In a Nutshell

Before you start with YMYW, you need to Sign Up and get access to Google's Earth Engine (GEE).

In GEE, you can paste the JavaScript of YMYW.js into a new file in the GEE editor.

Your Maps Your Way in 10 steps

1. Draw the Area of Interest (AOI) and press the "Run" button.
2. Select the collection of satellite images to be classified (Sentinel-2 or Landsat).
3. Define the year and the time periods (dates and months) that capture the land cover changes and phenology in the region of interest.
4. Press the "Show composites" button to visualise the composite images; adjust cloud tolerance and time period as needed.
5. Digitise training objects for specific land cover classes, using composite layers, the Google satellite layer, or other sources of information. To improve cross-validation, aim to draw many small training objects distributed across the AOI.
6. Press the "Classify" button to run a random forest classifier to classify each pixel of the Area of Interest (AOI).
7. Press the "Validate classification" button to cross-Validate the classification and evaluate its accuracy.
8. Digitise additional training objects for misclassified land covers and areas.
9. Repeat steps 6 to 8 until a satisfactory classification is achieved (go back to step 3 if necessary).
10. Press the "Export classification and more" button to export the results: the land cover map the training dataset, the validation dataset. Export appears under the "Task" tab. Press "RUN" and fill the export details to initiate the specific export.

Classification with YMYW is a heuristic, iterative process. At each iteration, training objects can be added and removed until the classification converges to the optimal result. The training objects are digitised using online image collections as base maps and the user's local knowledge of the area of interest. YMYW uses a supervised machine learning algorithm (Random Forests) that "learns and improves" mainly when its supervisor identifies where it makes mistakes (misclassification). In most cases, and with some practice, YMYW will produce a high-quality land cover/habitat map in a few iterations.
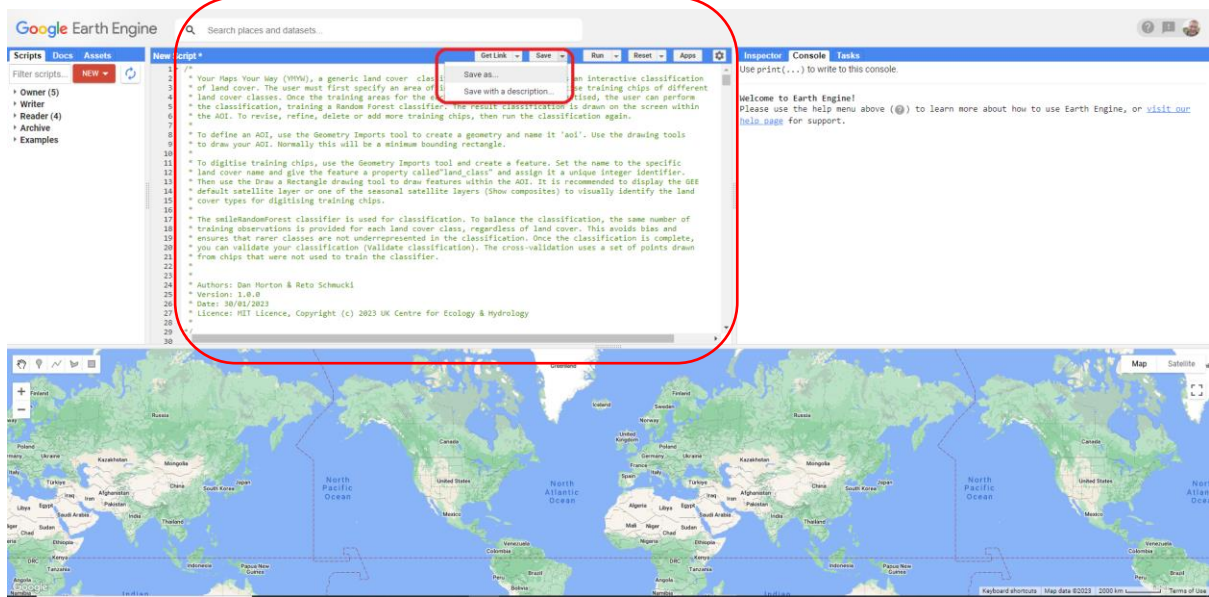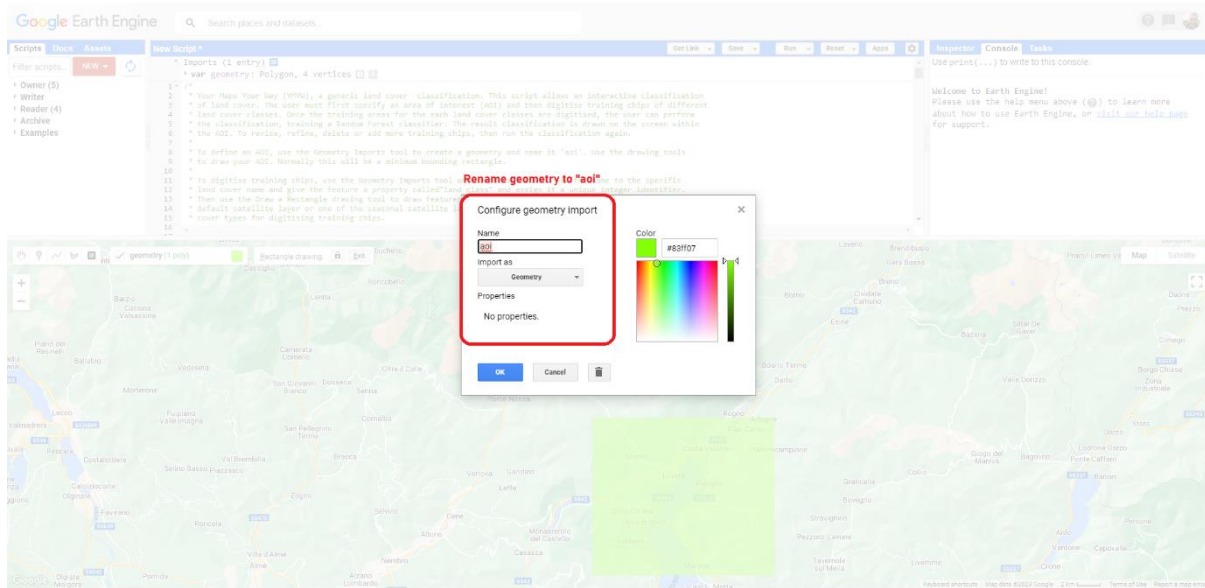
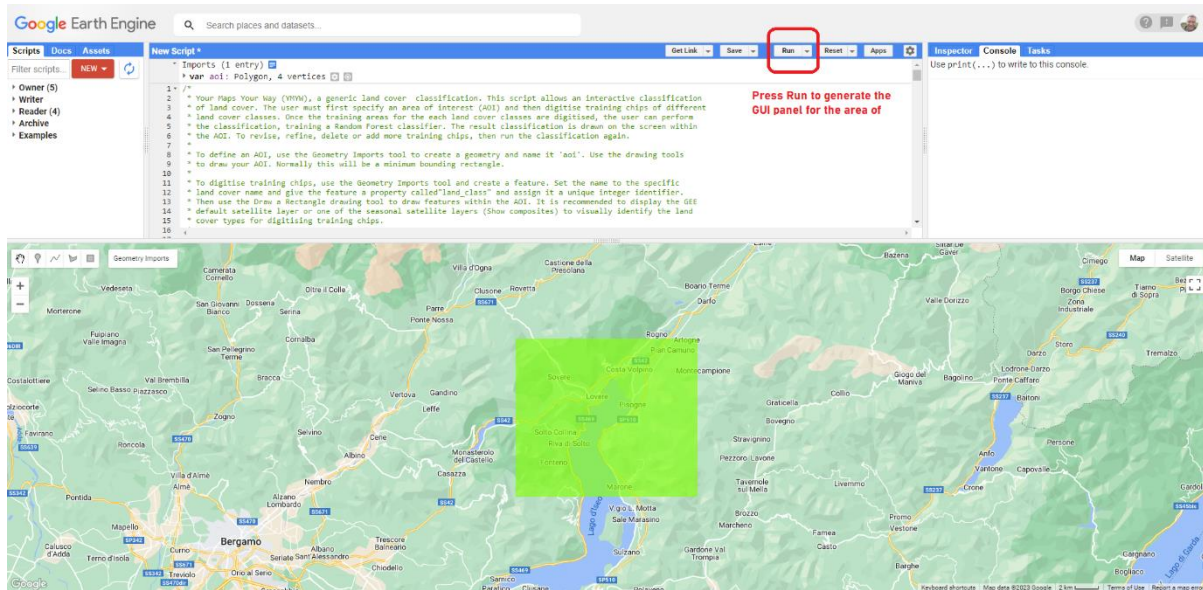Paste the JavaScript of YMYW.js in a new GEE editor.
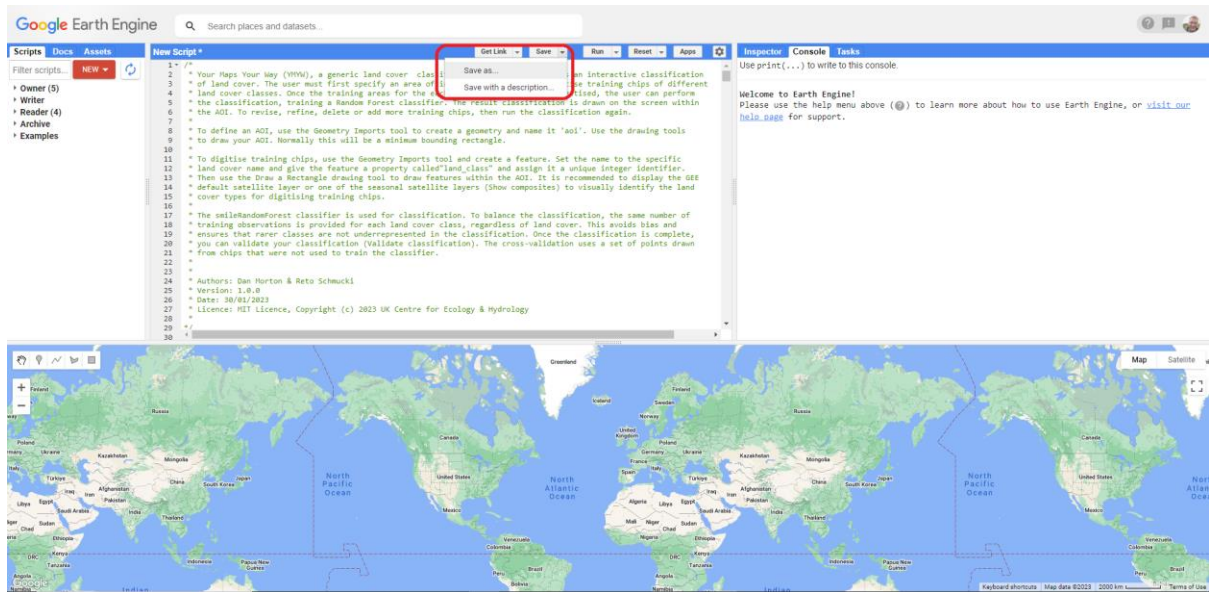
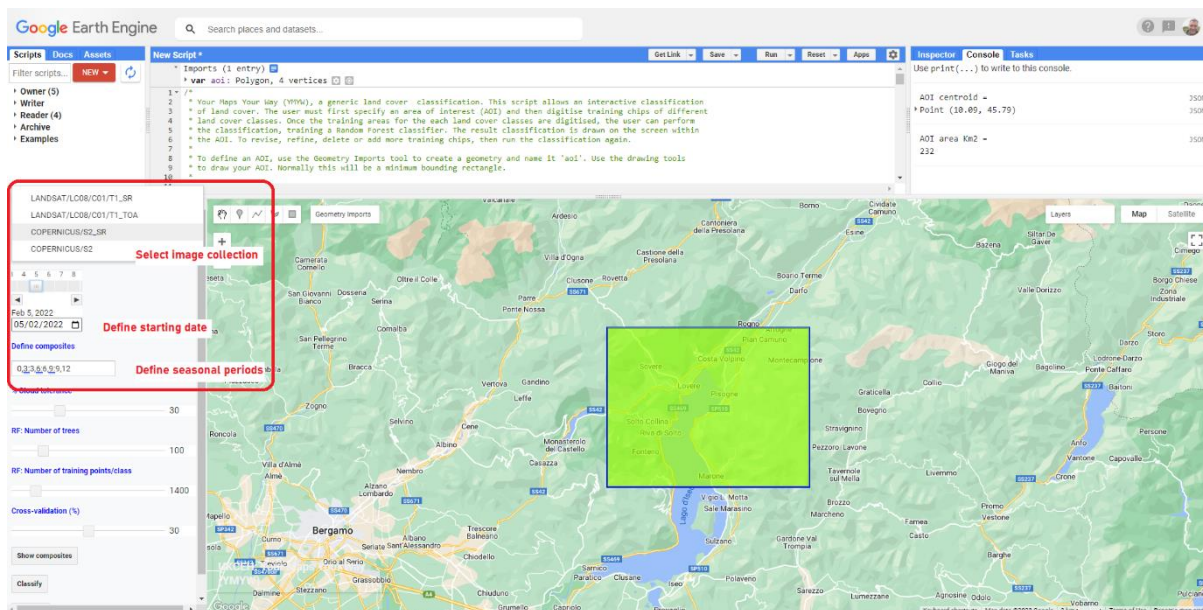Save the newly create project in your GEE folder system.
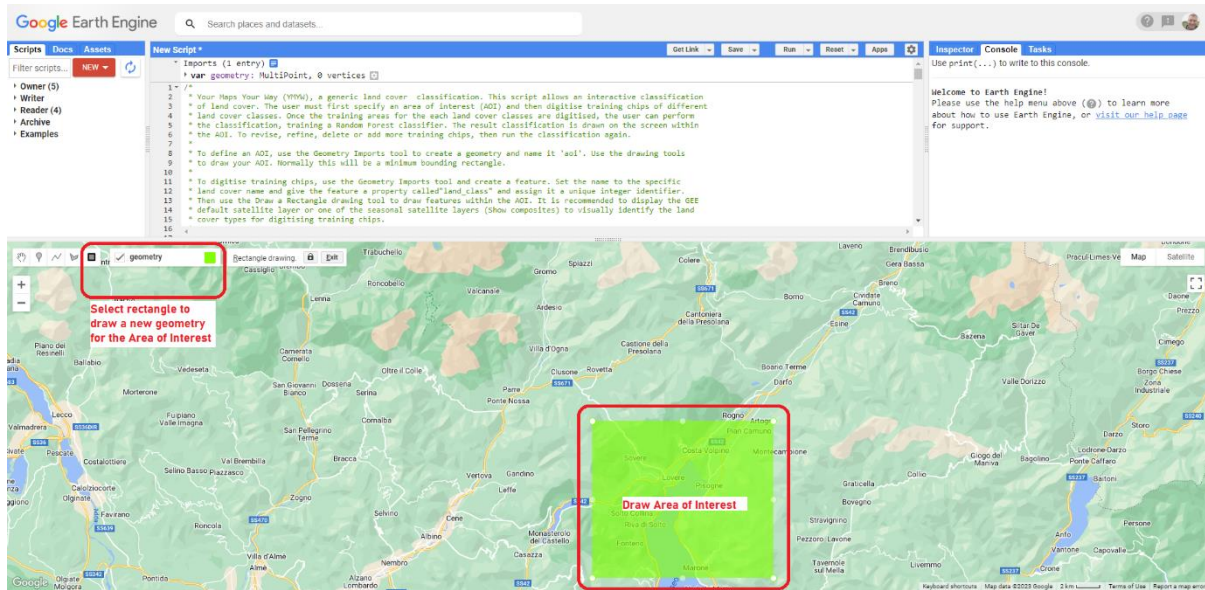
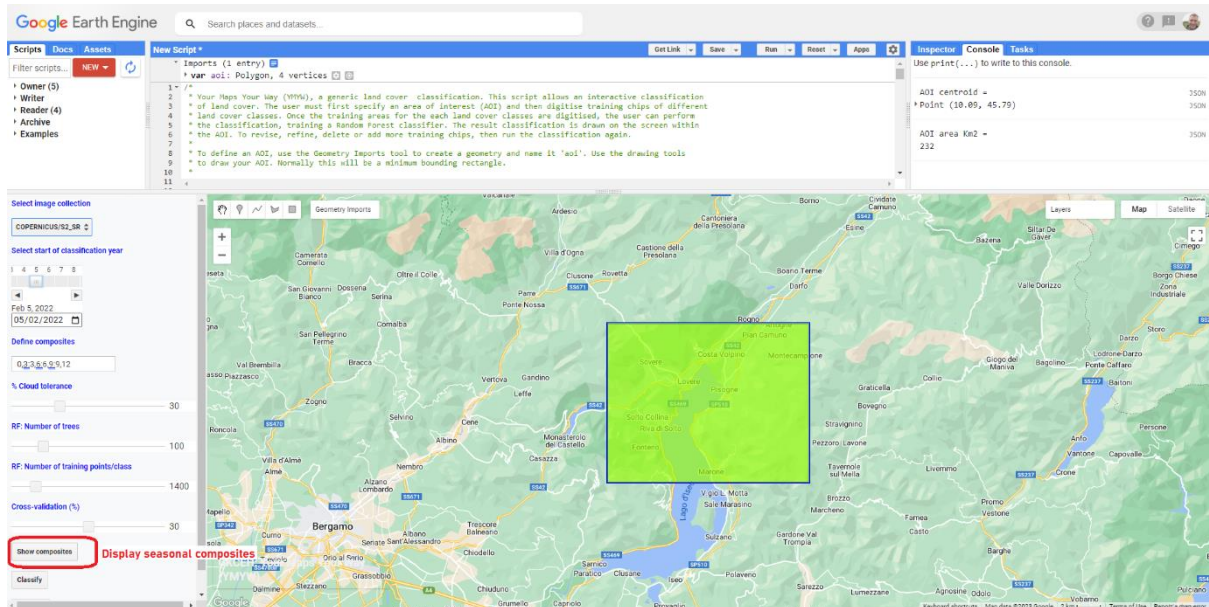Draw the Area of Interest (AOI).

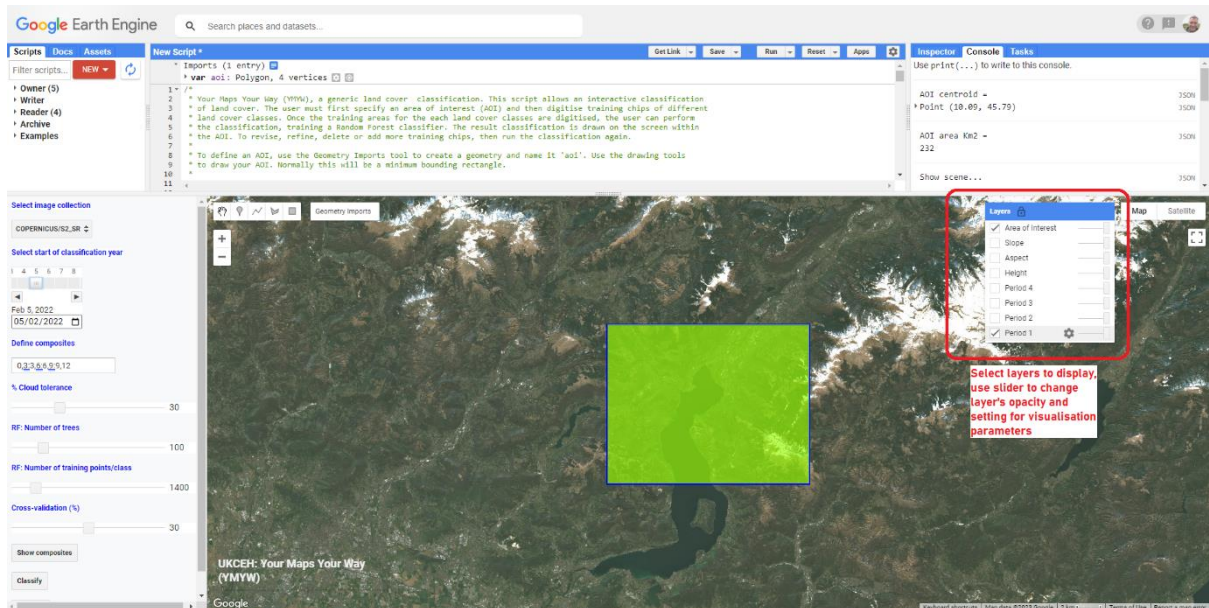Rename the geometry "aoi" for Area of Interest.

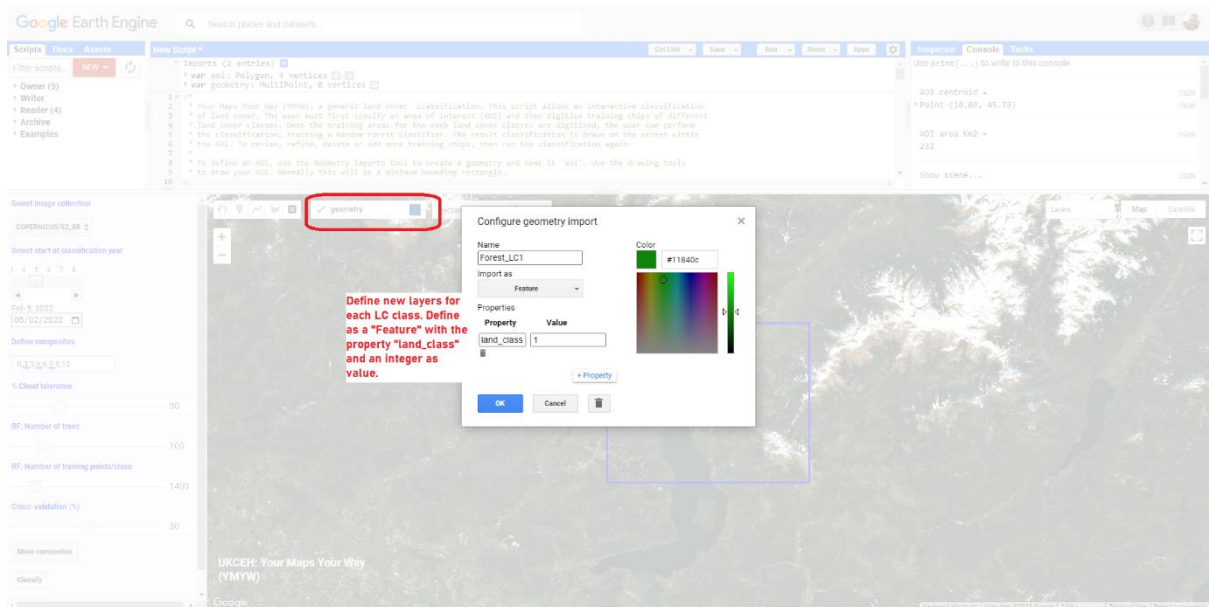Press the "Run" button to generate the YMYW GUI.

Define the year and the time periods (dates and months) that capture the land cover changes and phenology in the region of interest.
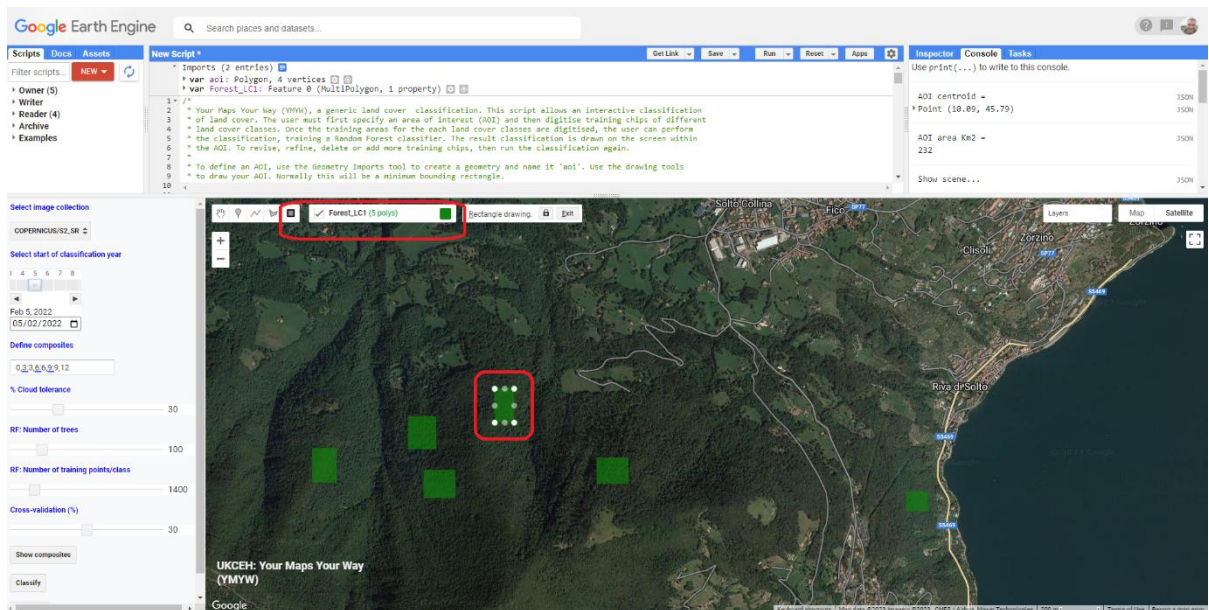
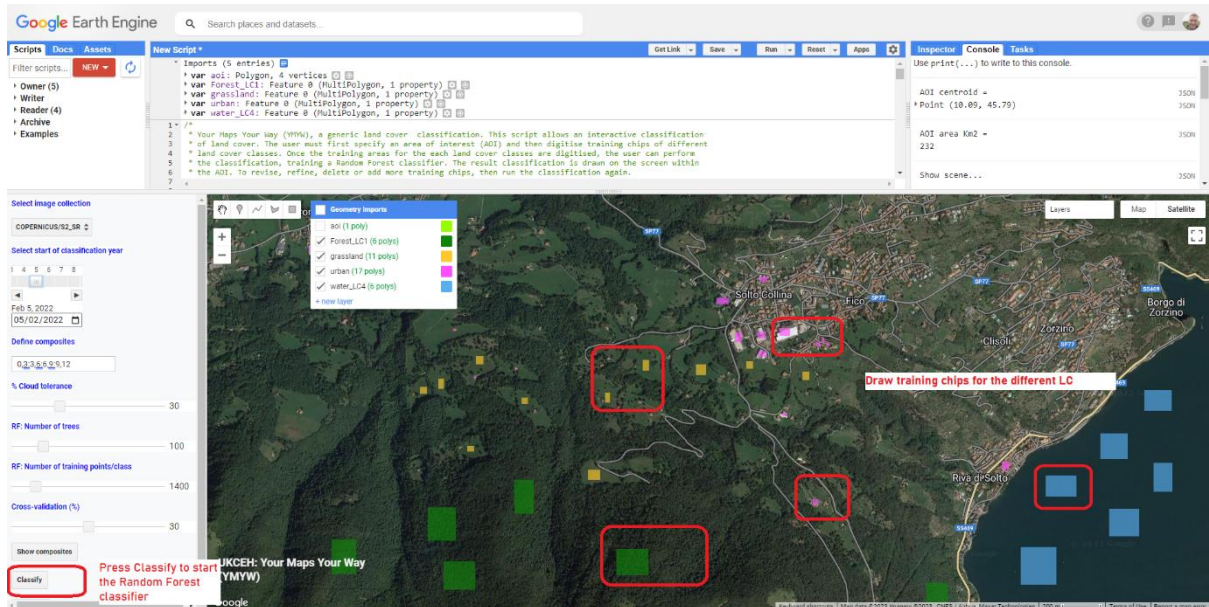Press the "Show composites" button to visualise the composite images.

Select layers and adjust setting from the layer panel.

Define Land Cover class as feature, using the "geometry import" panel.

Digitise polygons that we will be used to generate training points for the classification.

Once the polygons for all the Land Cover class you want to use in your classification have been draw, press the "Classify" button to run a random forest classifier to classify each pixel of the Area of Interest (AOI).
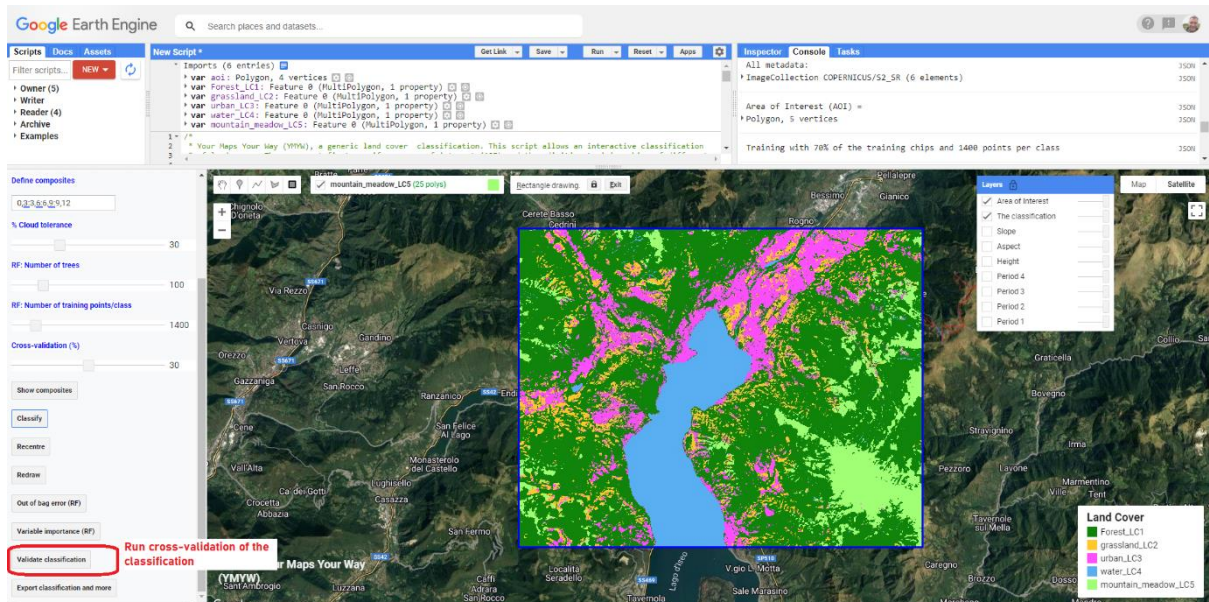

Press the "Validate classification" button to cross-Validate the classification and evaluate its accuracy.
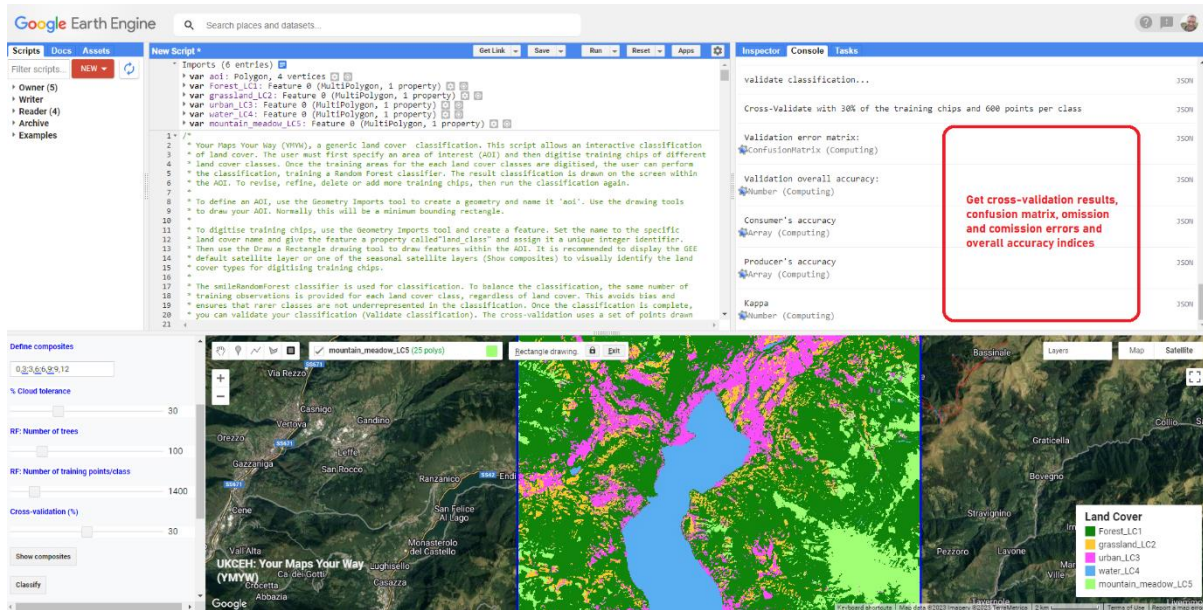
Examine validation metrics, confusion matrix, omission and commission errors, and the overall accuracy. You can also examine the contribution of each variables (band) from the "Variable importance (RF)" button in the GUI panel.
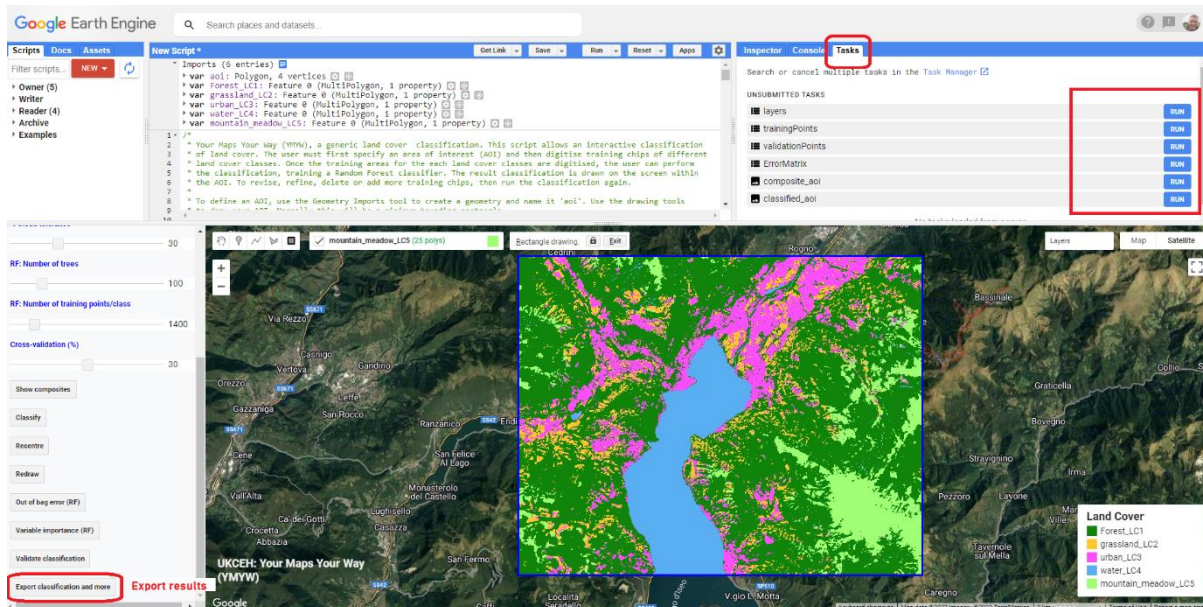
Press the "Export classification and more" button to export the results: the land cover map the training dataset, the validation dataset. Export appears under the "Task" tab.
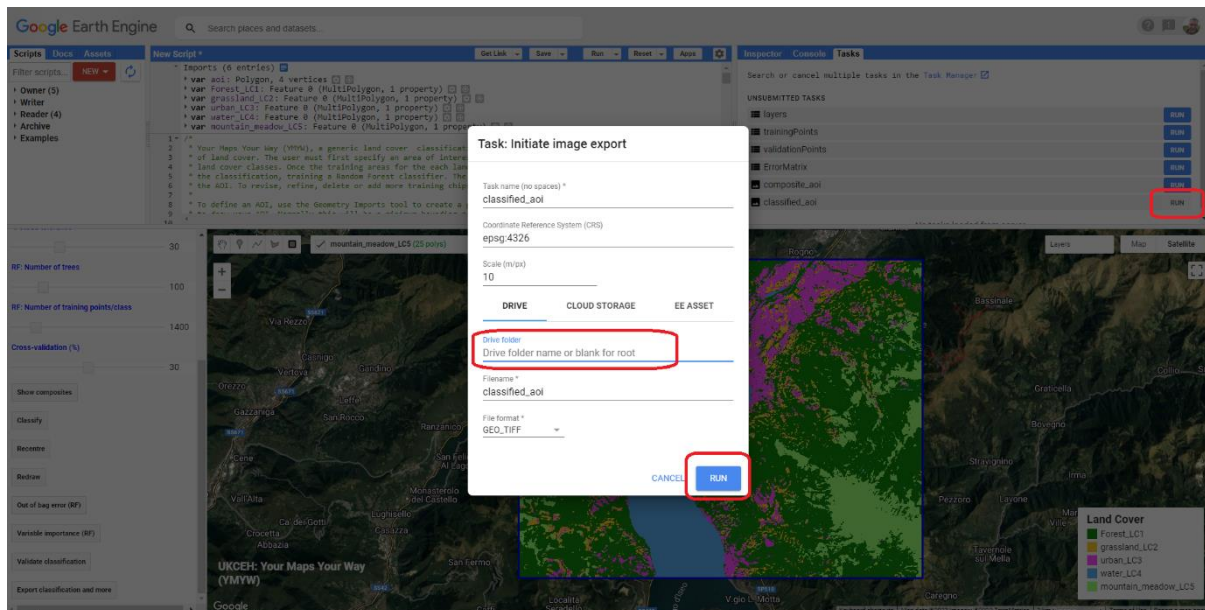
Press "Run" and fill the export details to RUN the specific export on your Google Drive.