

Estimation of area for REDD+ using stratified sampling design: application with SEPAL tools

Webinar GOFC-GOLD, 2017/06/06

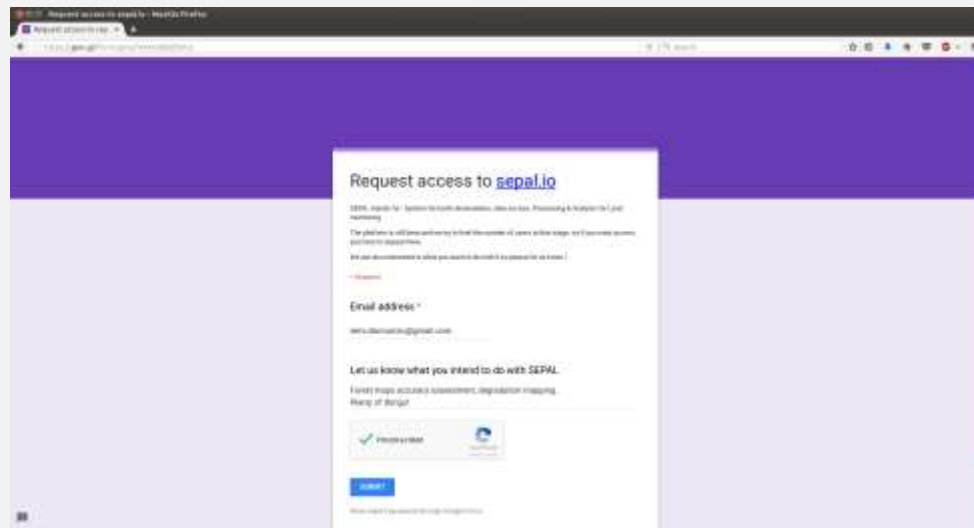
remi.dannunzio@fao.org



Request access to SEPAL

SEPAL stands for : System for Earth observations, data access, Processing & Analysis for Land monitoring.

The platform is still beta and we try to limit the number of users at that stage



The screenshot shows a Google Form titled "Request access to sepal.io". The form is displayed on a purple background. The text on the form includes: "SEPAL, stands for : System for Earth observations, data access, Processing & Analysis for Land monitoring.", "The platform is still beta and we try to limit the number of users at that stage, we'll increase access gradually for supporters.", "We are disappointed to inform you that we cannot accept more requests at this time.", "Email address *", "Let us know what you intend to do with SEPAL.", "I intend to use SEPAL for: (check all that apply) Forest mapping, accuracy assessment, degradation mapping, Policy of design.", There are checkboxes for "I intend to use SEPAL for:" and "I intend to use SEPAL for:". A "Submit" button is at the bottom.

If you want access, you have to request [in this Google Survey](https://goo.gl/forms/9cz2BGCch32H331y1)

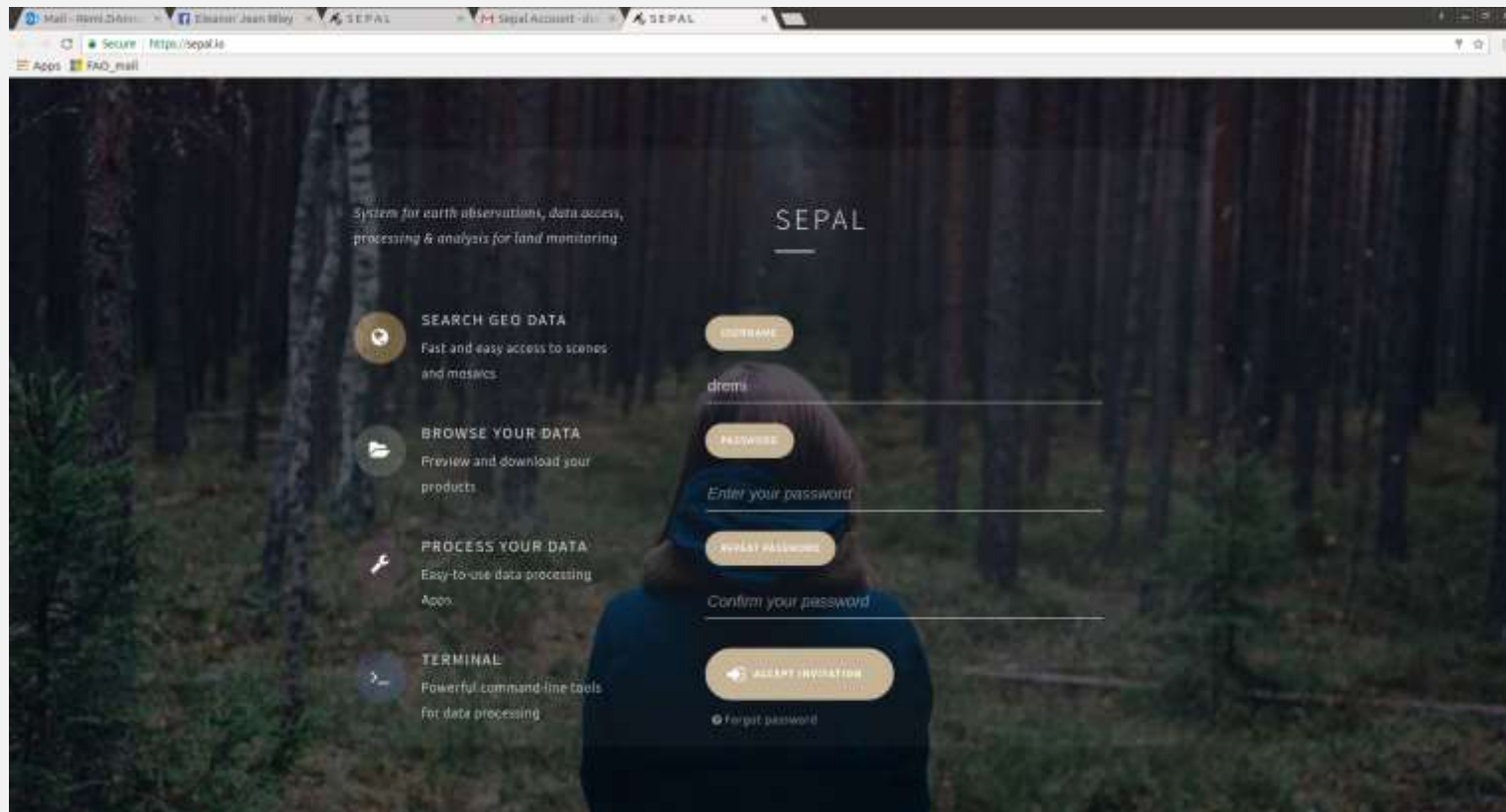
(<https://goo.gl/forms/9cz2BGCch32H331y1>)

You will then receive an email with a link to activate your access.

Remember to check in your **SPAMS**, it might be there.

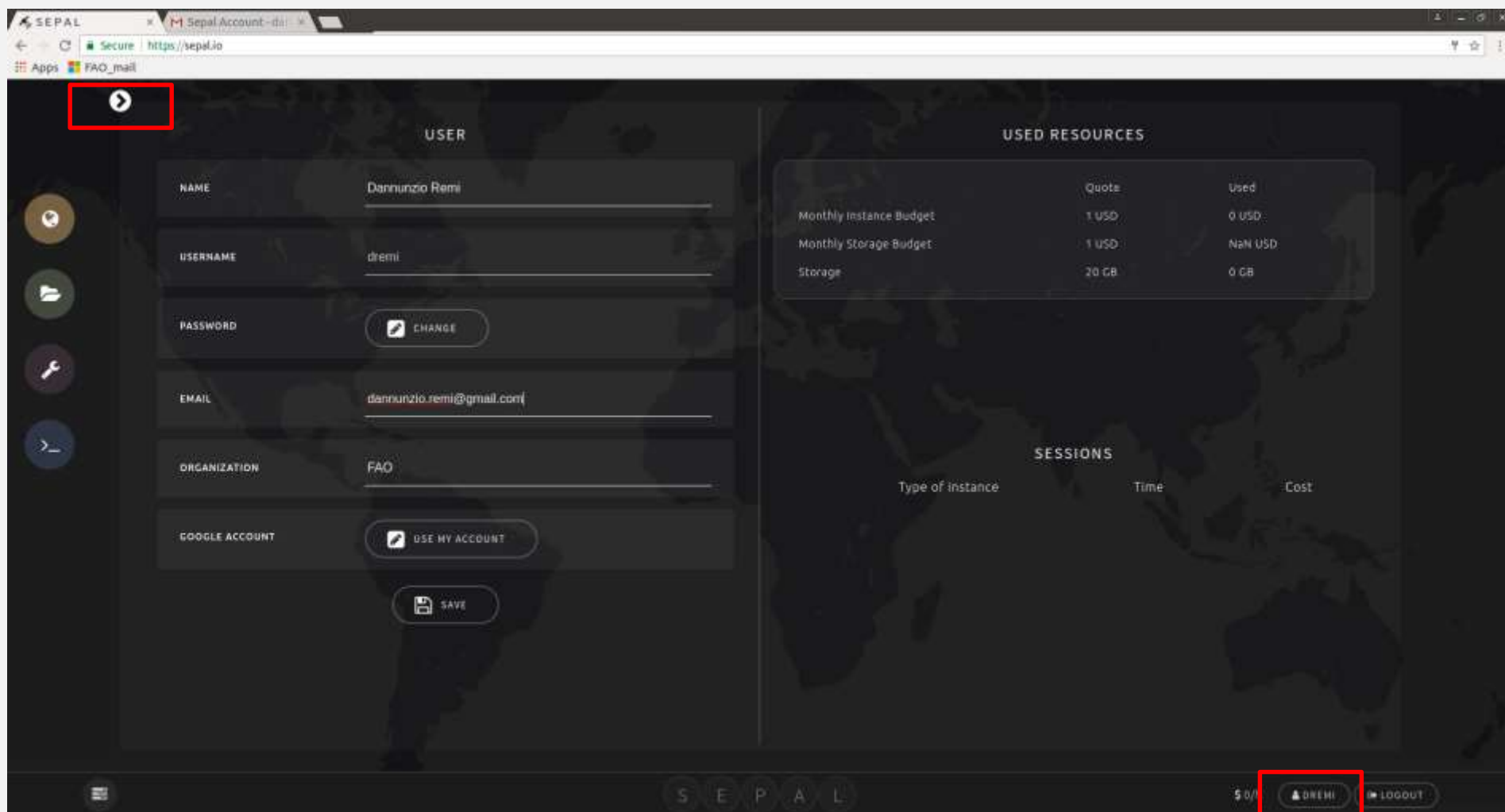
Setup your password in SEPAL

It needs at least one upper case, one lower case and one number.
The minimum size is 6 digits.



You can always reach the platform at <https://sepal.io>

Check your status, budget, parameters



The screenshot shows the SEPAL web application interface. The browser address bar indicates the URL is <https://sepal.io>. The interface is divided into two main sections: 'USER' and 'USED RESOURCES'.

USER Section:

- NAME:** Dannunzio Remi
- USERNAME:** dremi
- PASSWORD:** [Change button]
- EMAIL:** dannunzio.remi@gmail.com
- ORGANIZATION:** FAO
- GOOGLE ACCOUNT:** [Use My Account button]
- SAVE button**

USED RESOURCES Section:

	Quote	Used
Monthly Instance Budget	1 USD	0 USD
Monthly Storage Budget	1 USD	NaN USD
Storage	20 GB	0 GB

SESSIONS Section:

Type of instance	Time	Cost
------------------	------	------

Navigation and Footer:

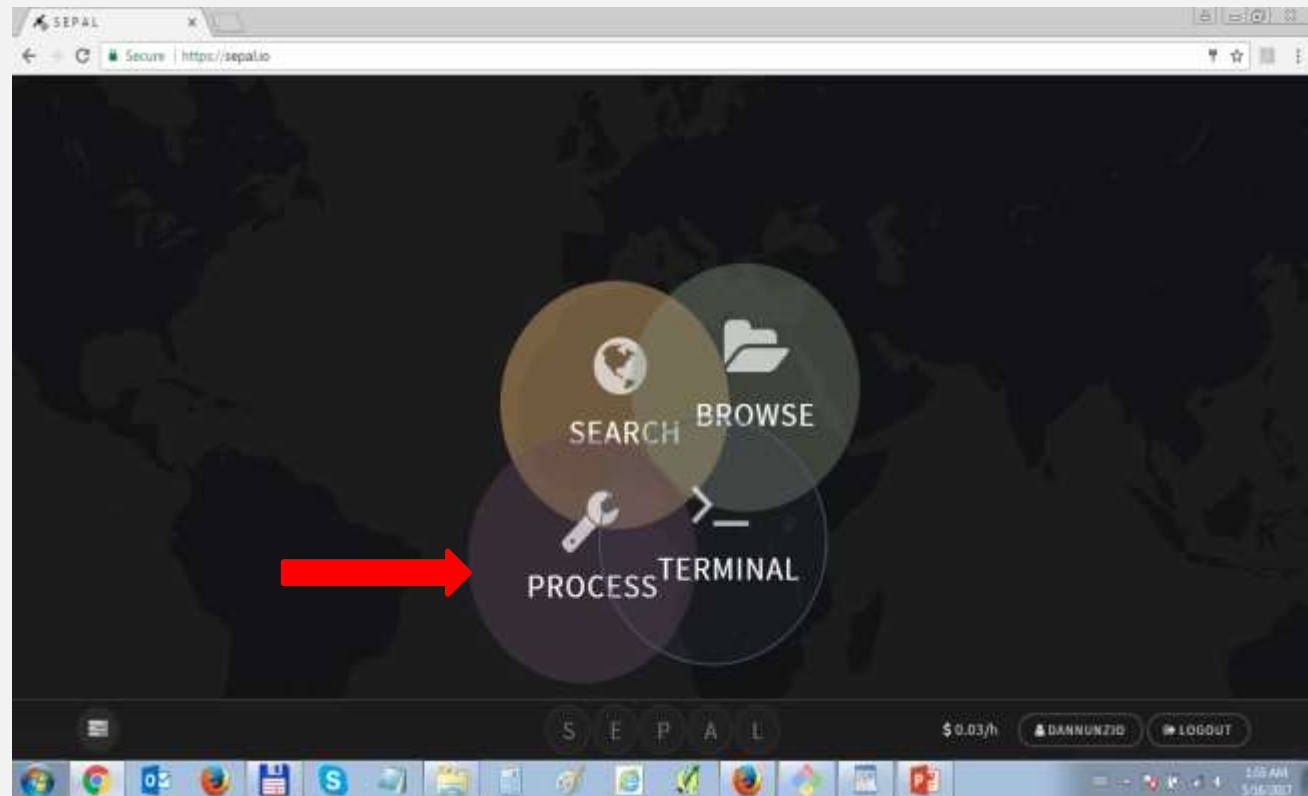
- A red box highlights a top-left navigation arrow.
- The footer contains the text 'SEPAL' and a user profile icon labeled 'dremi' (highlighted with a red box), along with a 'LOGOUT' button.

Go back to main page (top left arrow)

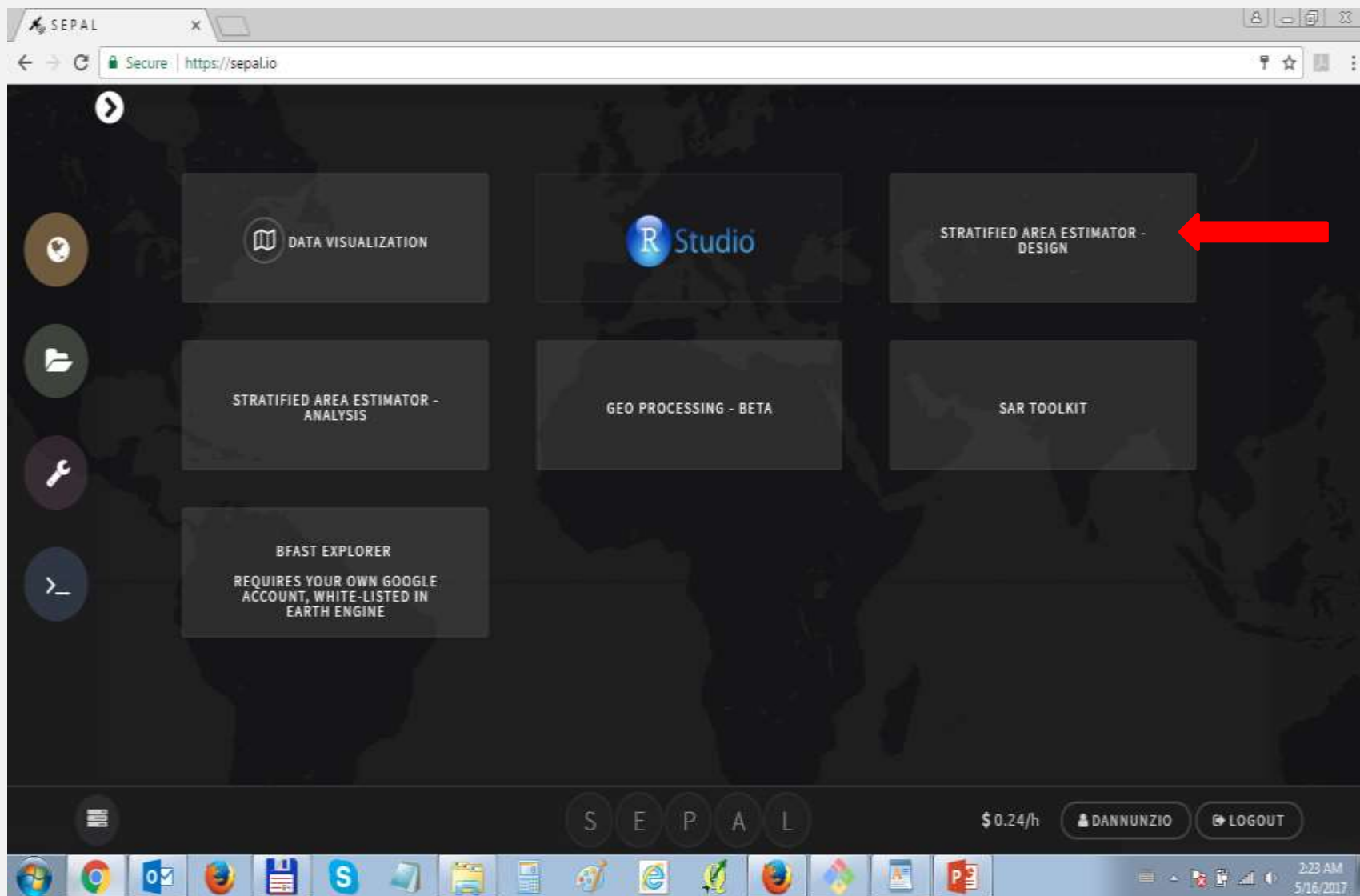
Start the PROCESS tab

There are four fields in SEPAL

- SEARCH for imagery and creating mosaics
- BROWSE through your personal folders and visualize your data
- TERMINAL to access all the command lines possibilities of the LINUX server
- PROCESS access pre-loaded tools and chains of processing



Select SAE – DESIGN tool



Introduction TAB: Select your language

Check the description tabs and the tool structure.
Steps need to be performed one after the other.

The screenshot displays the SEPAL Stratified estimator web application. On the left is a dark sidebar with navigation links: Introduction, Map input, Strata areas, Strata selection, Sampling size, Sample allocation, Source code, and Bug reports. The main content area has a green header with the title 'SEPAL Stratified estimator'. Below the header, there are three main sections: 'Language', 'Description', and 'Background'. The 'Language' section features a dropdown menu with 'English' selected and highlighted by a red box. The 'Description' section contains text about the tool's purpose and a link to the Open Foris support forum. The 'Background' section explains the sampling design and its derivation from map accuracy assessment principles. At the bottom, there is a 'How to use the tool?' section with a list of five steps. The footer includes logos for SEPAL, UN-REDD Programme, and Open Foris, along with a disclaimer.

SEPAL Stratified estimator

Language

English

English

Français

Español

Description

This interactive tool creates stratified designs to estimate areas. The objective of this tool is to provide a simple user interface for generating a probability dataset with stratified random sampling. For support ask [Open Foris support forum](#)

Background

The aim of this stratified sampling design tool is to produce a sampling design that can be used for area estimates. The idea is to combine a map (used as a stratification of the landscape of interest) with a visual map interpretation of samples to produce an area estimation.

The concept is derived from map accuracy assessment principles; characterized frequency of errors (omission and commission) for each map class may be used to compute area estimates and also to estimate the uncertainties (confidence intervals) for the areas for each class.

How to use the tool ?

You have to go through all the steps in the left panel, in this order:

1. Select the map data which will be assessed. The required input is either vector (.shp supported) or raster (.tif supported)
2. Compute the areas of each strata
3. Select the expected accuracies of the strata
4. Compute the sampling size
5. Draw the sampling points and export as a Collect Earth file

Disclaimer **Reference and Documents**

FAO declines all responsibility for errors or deficiencies in the database or software or in the documentation accompanying it for program maintenance and upgrading as well as for any damage that may arise from them. FAO also declines any responsibility for updating the data and assumes no responsibility for errors and omissions in the data provided. Users are, however, kindly asked to report any errors or deficiencies in this product to FAO.

SEPAL
UN-REDD
PROGRAMME
Open Foris

Introduction TAB: reference documents

Access reference and background documents, the link will bring you directly there

SEPAL Stratified estimator

Language

English

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Disclaimer **Reference and Documents**

[REDD Compass](#)

[Olofsson et al. \(2014\): Good practices for estimating area and assessing accuracy of land change](#)

[FAO NPMA paper N46: Map accuracy assessment and area estimation](#)

STEP 1 Map input

1. Download the test dataset (note it is downloaded to your SEPAL workspace)
2. Select the map you just downloaded (INPUT/sae_data_test/test_map_congo.tif)

The screenshot shows the SEPAL Stratified estimator web application. The sidebar on the left has 'Map input' highlighted with a red box. The main panel has a 'Data type' section with instructions and a 'Download test data' section with a 'Download test dataset' button highlighted by a red box and labeled '1'. Below the 'Data type' section, the 'Input' field is highlighted with a red box and labeled '2'. A 'Browse' dialog box is open, showing a file explorer view with the file 'aa_test_congo.tif' selected. The dialog box has 'Cancel' and 'Select' buttons at the bottom.

STEP 2 Strata areas

Display map by checking box

Generate the legend by clicking on the button: you can further EDIT the legend

SEPAL - Mozilla Firefox

Request access to sep - SEPAL

https://sepal.io

90% Search

SEPAL Stratified estimator

Introduction

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Area calculation

Map areas are calculated by counting the frequency of the pixels for each map class or by summing the areas of all the polygons. If using raster data the map area can be calculated using R or Open Foris Geospatial Toolkit (OFT). It is compatible with all systems and OFT is only compatible with Linux. Area calculations of large raster files using R will take some time.

☐ OFT

☐ R

Area calculation and legend generation

☒ Do you want to display the map?

Legend and Areas


The areas for each of the map categories need to be calculated in order to calculate the overall and stratified sample size. Make sure to click on the submit legend button to load the map area table. [Click on area calculation and legend generation.](#) [Click on submit legend before continuing.](#)

Legend labeling

The legend classes need to be specified and submitted. Please wait for the map values to appear. Then type the names of the classes and submit the legend. After submitting the legend the table with the map classes and area will appear. The legend names can be modified at any time in this tab.

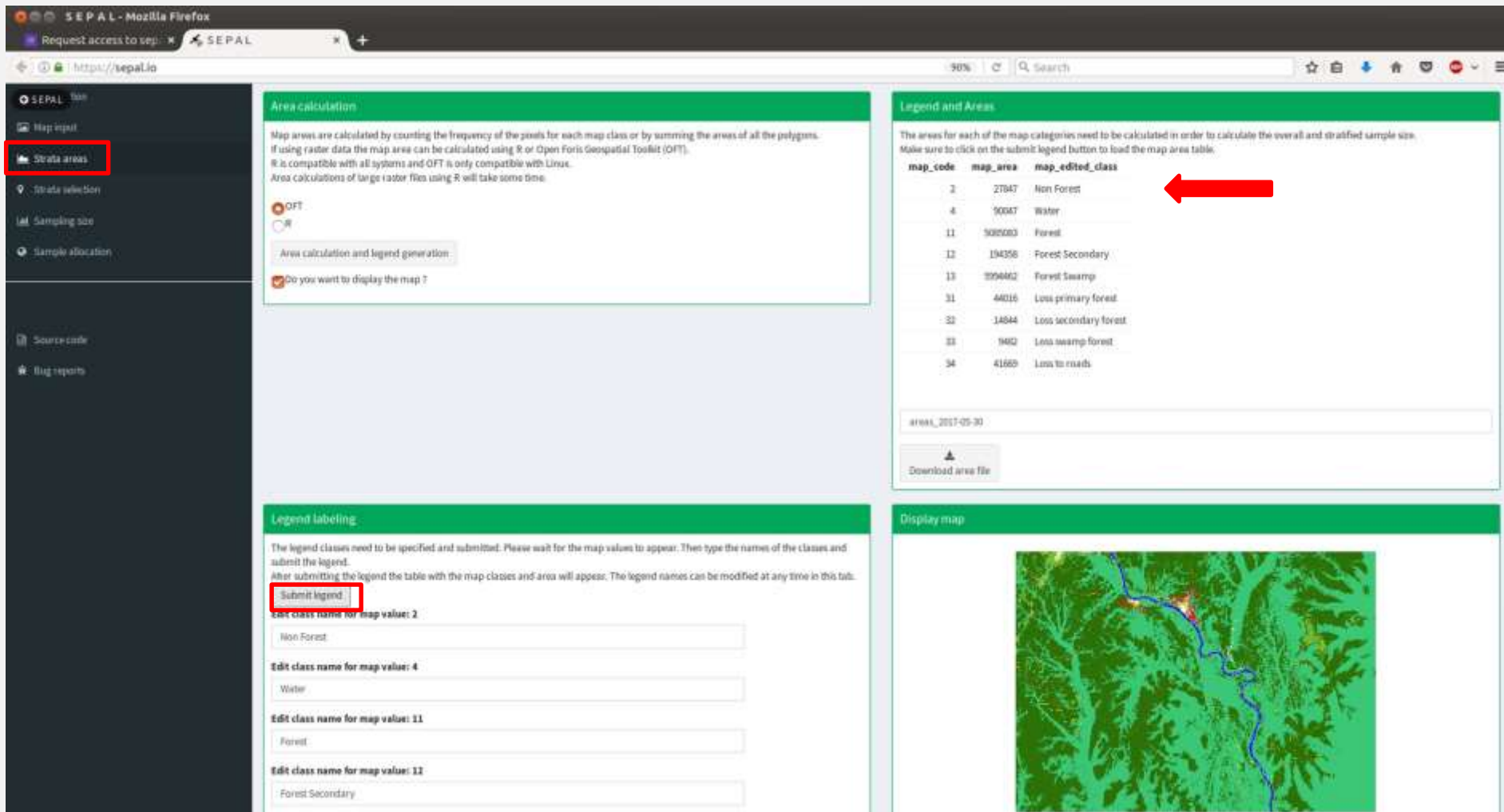
map_code	map_edited_class	
2	Non Forest	<input type="text"/>
4	Water	<input type="text"/>
11	Forest	<input type="text"/>
12	Forest Secondary	<input type="text"/>
13	Forest Swamp	<input type="text"/>
31	Loss primary forest	<input type="text"/>
32	Loss secondary forest	<input type="text"/>
33	Loss swamp forest	<input type="text"/>
34	Loss to roads	<input type="text"/>

Display map



STEP 2 Strata areas

Submit the legend : you can edit as much as you want but remember to SUBMIT
The classes name will be showing in later stage for data collection



The screenshot shows the SEPAL web application interface. The left sidebar contains a menu with the following items: SEPAL, Map input, **Strata areas** (highlighted with a red box), Strata selection, Sampling size, Sample allocation, Source code, and Bug reports. The main content area is divided into three sections:

- Area calculation:** This section explains that map areas are calculated by counting the frequency of the pixels for each map class or by summing the areas of all the polygons. It mentions that if using raster data, the map area can be calculated using R or Open Foris Geospatial ToolKit (OFT). It is compatible with all systems and OFT is only compatible with Linux. Area calculations of large raster files using R will take some time. There are radio buttons for OFT and R, with R selected. Below this is a button for 'Area calculation and legend generation' and a checkbox for 'Do you want to display the map?' which is checked.
- Legend and Areas:** This section states that the areas for each of the map categories need to be calculated in order to calculate the overall and stratified sample size. It instructs users to click on the submit legend button to load the map area table. Below this is a table with the following data:

map_code	map_area	map_edited_class
2	27847	Non Forest
4	90047	Water
11	5025003	Forest
12	194356	Forest Secondary
13	3994462	Forest Swamp
31	44016	Loss primary forest
32	14844	Loss secondary forest
33	1902	Loss swamp forest
34	41669	Loss to roads

A red arrow points to the 'map_edited_class' column. Below the table is a text input field containing 'areas_2017-05-30' and a 'Download area file' button.
- Legend labeling:** This section explains that the legend classes need to be specified and submitted. It instructs users to type the names of the classes and submit the legend. After submitting the legend, the table with the map classes and area will appear. The legend names can be modified at any time in this tab. There is a 'Submit legend' button (highlighted with a red box). Below this are four text input fields for editing class names for map values 2, 4, 11, and 12. The current values are 'Non Forest', 'Water', 'Forest', and 'Forest Secondary' respectively.

The bottom right section is titled 'Display map' and shows a satellite map with a green overlay representing the forest area.

STEP 3 Select strata of interest and associated EUA

SEPAL Stratified estimator

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What are the expected accuracies?

Some classes are identified easier than other classes. Usually common classes, which occupy the majority of the map, are the easiest to identify. Rare classes, such as land change classes, which occupy a small portion of the map area, can be very difficult to identify. This measure will influence the overall sample size.

More classes with lower confidence will increase the overall sample size

- Stable classes are expected to have high user accuracies and should be assigned a higher confidence. Here the value chosen is 0.9
- Rare classes are expected to have the lower user accuracies and should be assigned a low confidence. Here the value chosen is 0.7

Choose classes expected user's accuracies

high confidence (Expected UA = 0.9)

Non Forest Water Forest Forest Secondary Forest Swamp


low confidence (Expected UA = 0.7)

Loss primary forest Loss secondary forest Loss swamp forest

Loss to roads


Expected User's Accuracy (EUA) values for specific classes

High expected user accuracy



0.5 0.75 0.9 1

Low expected user accuracy



0.5 0.7 0.9 1

STEP 4 Sampling distribution

Tweak the standard error of overall accuracy & minimum sample size

Samples are allocated by minimum size first and the rest is distributed proportionally to strata size

SEPAL

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Sampling size

In the sampling design, the sample size for each map category is chosen to ensure that the sample size is large enough to produce sufficiently precise estimates of the area of the class (GFOI, 2013)

Standard error of expected overall accuracy

0.01

Minimum sample size per strata

50

☐ Do you want to modify the sampling size?

Formula to calculate the overall sample size

The equation below calculates an adequate overall sample size for stratified random sampling that can then be distributed among the different strata.

- N is number of units in the area of interest (number of overall pixels if the spatial unit is a pixel, number of polygons if the spatial unit is a polygon)
- S(O) is the standard error of the estimated overall accuracy that we would like to achieve
- W_i is the mapped proportion of area of class i
- S_i is the standard deviation of stratum i.

$$n = \frac{(\sum W_i S_i)^2}{[S(\bar{O})]^2 + (1/N) \sum W_i S_i^2} \approx \left(\frac{\sum W_i S_i}{S(\bar{O})} \right)^2$$

Distribution of samples

The computed overall size is : 904

Map Class	Proportional	Adjusted	Final
Non Forest	2	50	50
Water	7	50	50
Forest	401	277	277
Forest Secondary	15	50	50
Forest Swamp	473	327	327
Loss primary forest	3	50	50
Loss secondary forest	1	50	50
Loss swamp forest	0	50	50

Baseline of csv to export

sampling_2017-05-30

Download csv with sample design

STEP 5 Sample allocation

Click on “Generate sampling points” → wait (see task bottom right)

Download CEP project AND tabular data → saves to your computer (and backup in SEPAL workspace)

The screenshot shows the SEPAL Stratified estimator web application. The left sidebar contains navigation links: Introduction, Map input, Strata areas, Strata selection, Sampling size, **Sample allocation** (highlighted with a red box), Source code, and Bug reports. The main area is titled 'Create a stratified random sample on the map' and includes a map of the Republic of Congo with sampling points. A red box highlights the 'Generate sampling points' button. The right-hand panel, titled 'Create a Collect Earth Project file (.cep) to start validation work', contains fields for 'Choose country name if you want additional national data for the samples' (Republic of Congo), 'Number of operators' (5), 'Size of the interpretation box (in m)' (30), and 'Basename of sampling design files to export' (CE_2017-05-30). Below these fields are three download buttons: 'Download as Collect Earth project (.cep)', 'Download as tabular data (.csv)', and 'Download as vector data (.shp)', each with a red arrow pointing to it. A file download dialog is open in the foreground, showing the file 'CE_2017-05-30.cep' and asking 'What should Firefox do with this file?'. The bottom right corner shows a progress bar labeled 'Generating random points'.

Report any bugs, it is work in progress

<https://github.com/openforis/accuracy-assessment>

SEPAL

Stratified estimator

- Introduction
- Map input
- Strata areas
- Strata selection
- Sampling size
- Sample allocation
- Source code
- Bug reports**

openforis/accuracy-as
accuracy-assessment
busted

This repository
Search
Pull requests
Issues
Marketplace
Gist

openforis / accuracy-assessment
Unwatch 0
Star 2
Fork 2

Code
Issues 0
Pull requests 0
Projects 0
Wiki
Settings
Insights

No description, website, or topics provided.

Add topics

154 commits
3 branches
0 releases
2 contributors

Branch: master
New pull request
Create new file
Upload files
Find file
Clone or download

Yelena update readme
Latest commit f2cef5d 29 minutes ago

Rscripts	added option to divide into groups	5 months ago
aa_analysis	desktop version direct launcher	12 days ago
aa_design	desktop version direct launcher	12 days ago
.gitignore	gitignore	7 months ago
README.md	update readme	29 minutes ago
direct_launch_analysis.bat	desktop version direct launcher	12 days ago
direct_launch_design.bat	desktop version direct launcher	12 days ago

README.md

Stamp date : 2016-11-01

Accuracy assessment design and analysis tool

The application functions with R, Rstudio and the Shiny package.

In a first step, the aa_design takes a geospatial map (raster or vector format) as input and outputs a file to perform validation on.

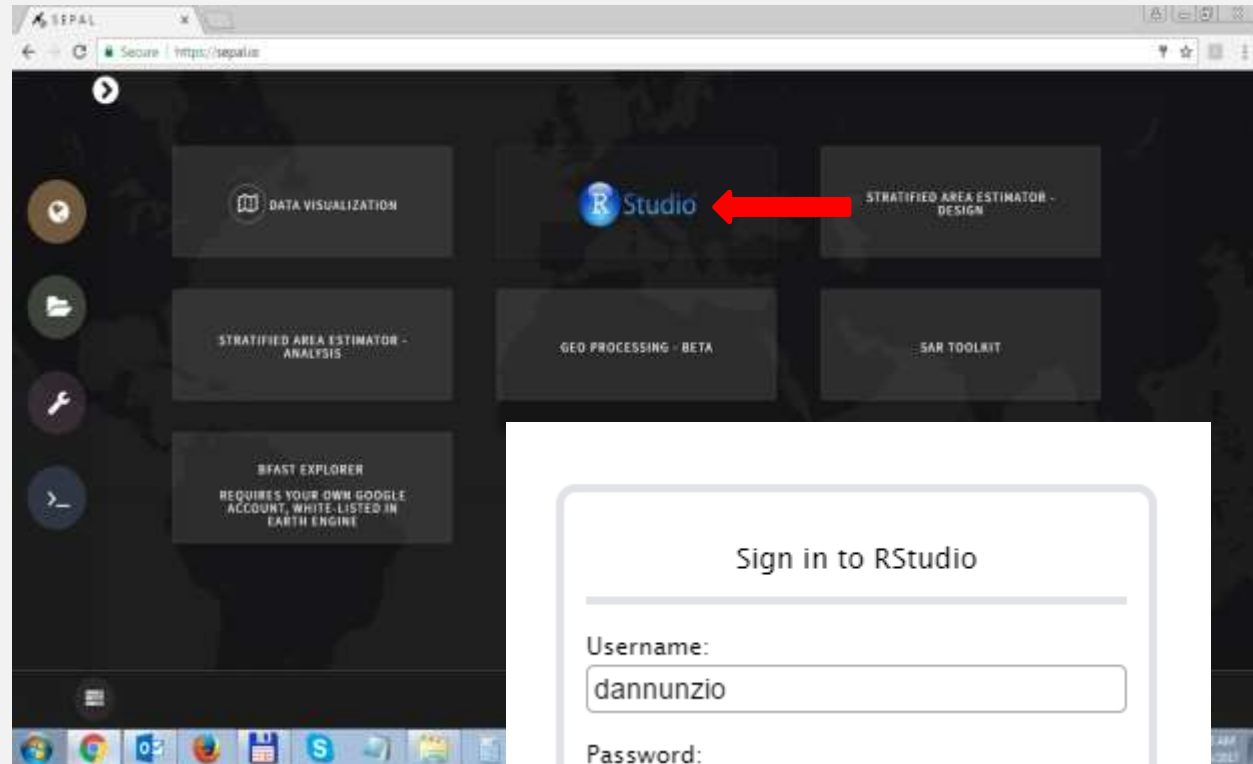
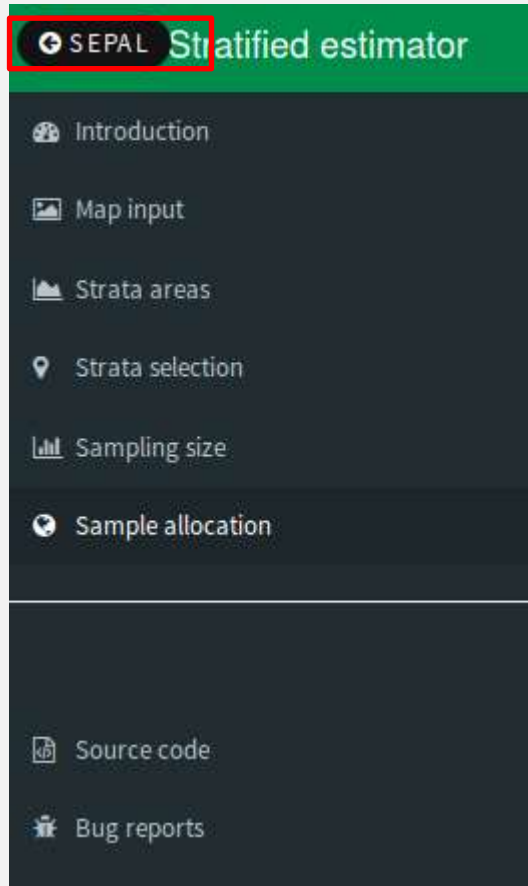
In a second step the validation results are used by the aa_analysis to produce confusion matrix, compute accuracies, correct



How to upload your own map in SEPAL ?

Select RSTUDIO and sign in

Go back to tools



Sign in to RStudio

Username:
dannunzio

Password:

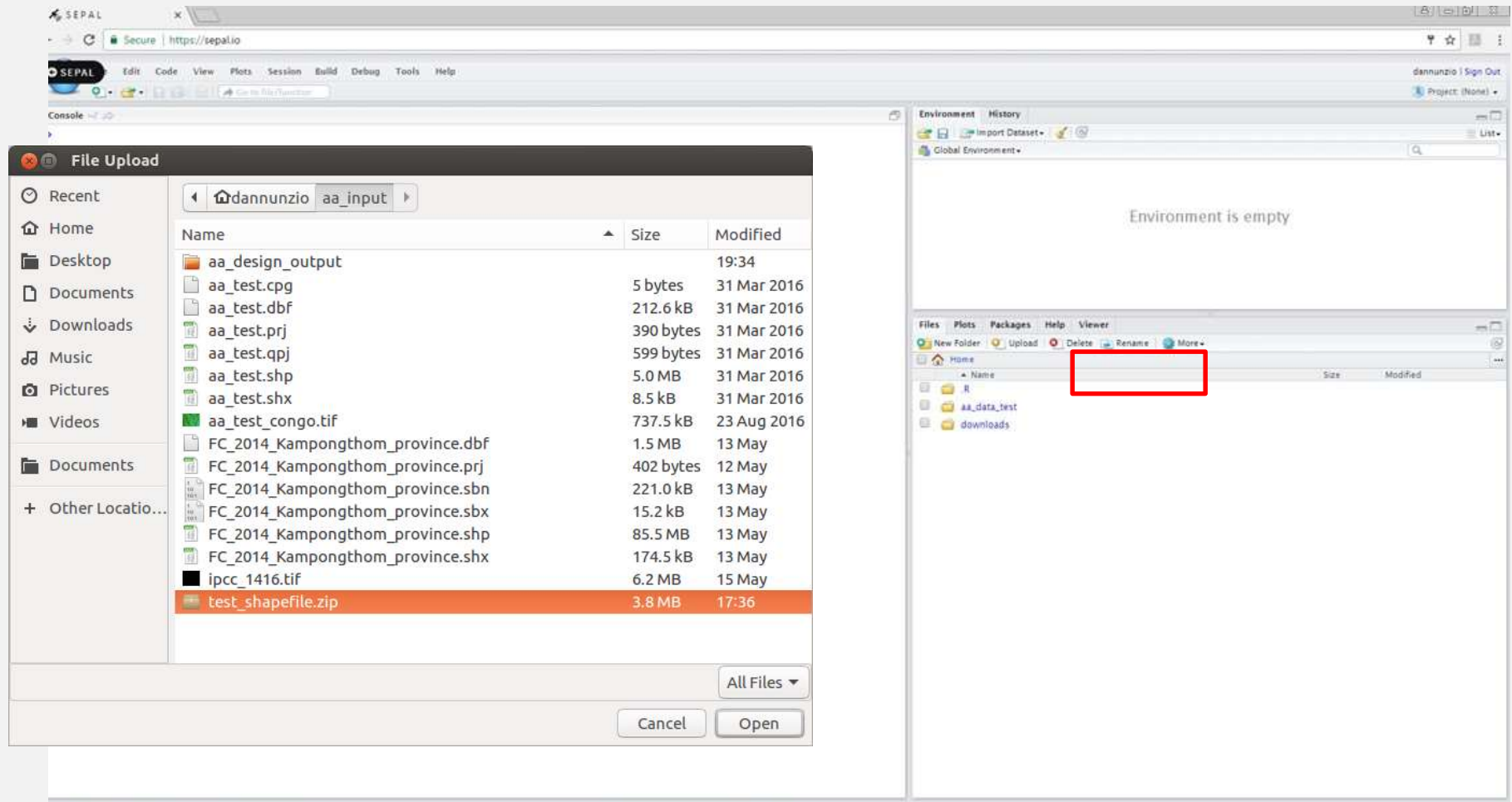
☐ Stay signed in

Sign In

Only lowercase
in the username

Upload data from your computer

If multiple files (e.g. shapefile), make a zip first



The screenshot displays the SEPAL web application interface. On the left, a 'File Upload' dialog box is open, showing a list of files in the 'dannunzio' directory. The file 'test_shapefile.zip' is selected. The dialog includes a sidebar with navigation options like 'Recent', 'Home', 'Desktop', 'Documents', 'Downloads', 'Music', 'Pictures', 'Videos', and 'Other Locations'. The main area shows a table of files with columns for Name, Size, and Modified. The 'test_shapefile.zip' file is highlighted in orange.

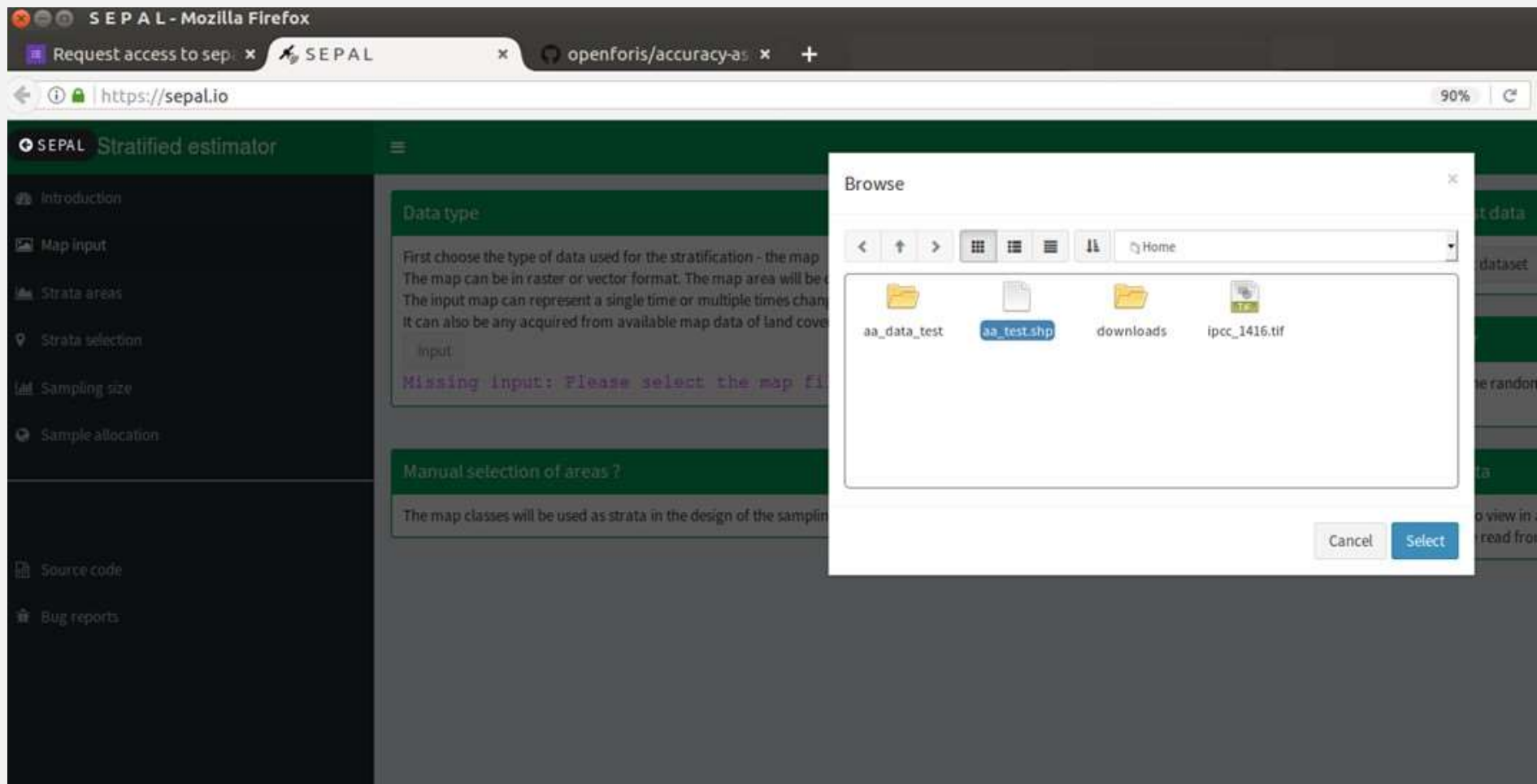
Name	Size	Modified
aa_design_output		19:34
aa_test.cpg	5 bytes	31 Mar 2016
aa_test.dbf	212.6 kB	31 Mar 2016
aa_test.prj	390 bytes	31 Mar 2016
aa_test.qpj	599 bytes	31 Mar 2016
aa_test.shp	5.0 MB	31 Mar 2016
aa_test.shx	8.5 kB	31 Mar 2016
aa_test_congo.tif	737.5 kB	23 Aug 2016
FC_2014_Kampongthom_province.dbf	1.5 MB	13 May
FC_2014_Kampongthom_province.prj	402 bytes	12 May
FC_2014_Kampongthom_province.sbn	221.0 kB	13 May
FC_2014_Kampongthom_province.sbx	15.2 kB	13 May
FC_2014_Kampongthom_province.shp	85.5 MB	13 May
FC_2014_Kampongthom_province.shx	174.5 kB	13 May
ipcc_1416.tif	6.2 MB	15 May
test_shapefile.zip	3.8 MB	17:36

At the bottom of the dialog, there are 'Cancel' and 'Open' buttons, and a dropdown menu set to 'All Files'.

On the right, the main SEPAL interface shows the 'Environment' tab. The environment is currently empty, displaying the text 'Environment is empty'. Below this, there is a file explorer view showing the 'Home' directory with files like 'R', 'aa_data_test', and 'downloads'. A red rectangle highlights the 'More' button in the file explorer toolbar.

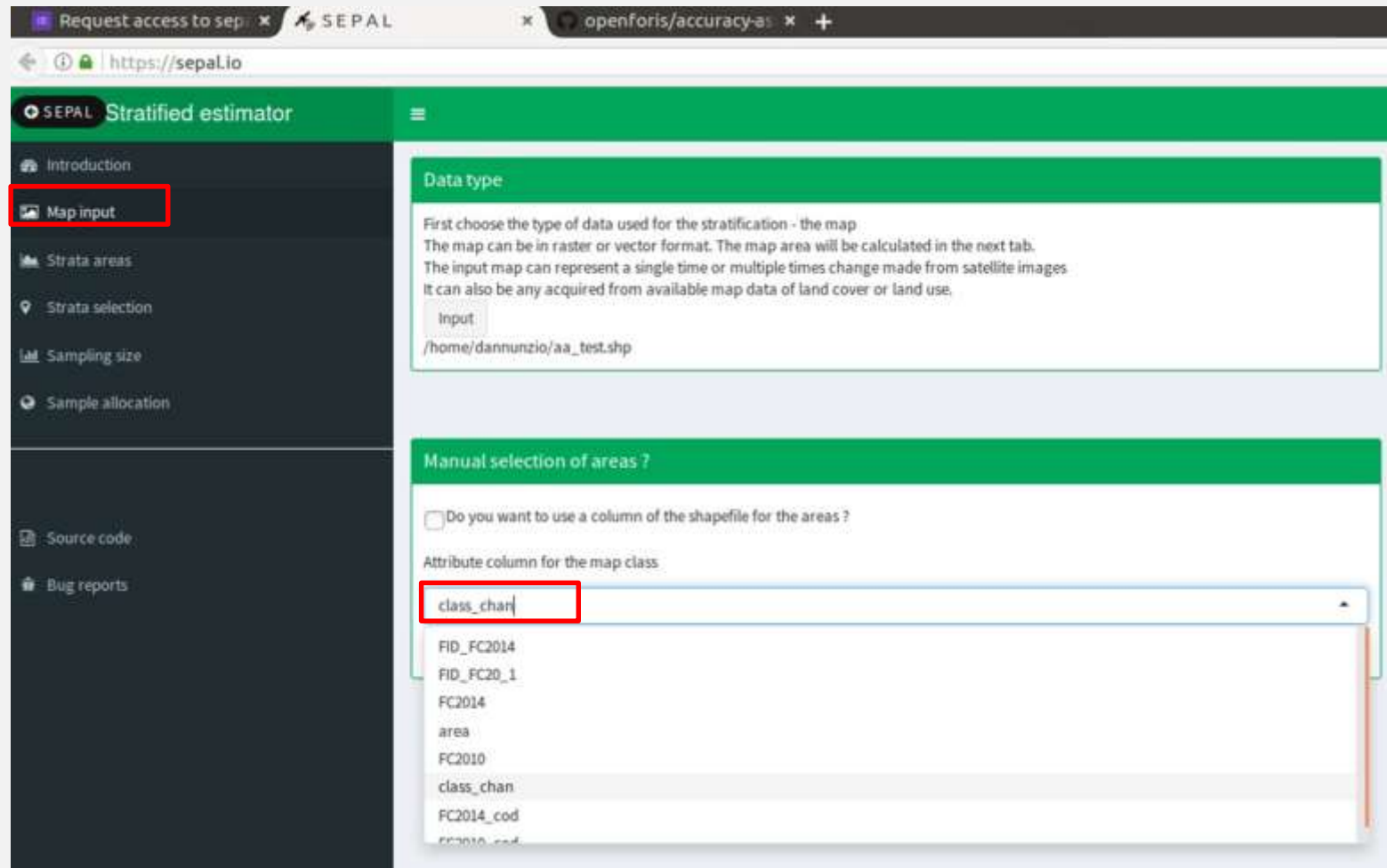
Go back to SAE – Design application

Your own map is available for use inside the application



Shapefile as input map

Select the right column for class attribute
Rest of the process is identical



Request access to sep... x SEPAL x openforis/accuracy-as x +

https://sepal.io

SEPAL Stratified estimator

- Introduction
- Map input**
- Strata areas
- Strata selection
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Data type

First choose the type of data used for the stratification - the map.
The map can be in raster or vector format. The map area will be calculated in the next tab.
The input map can represent a single time or multiple times change made from satellite images.
It can also be any acquired from available map data of land cover or land use.

Input:
/home/dannunzio/aa_test.shp

Manual selection of areas ?

☒ Do you want to use a column of the shapefile for the areas ?

Attribute column for the map class

class_chan

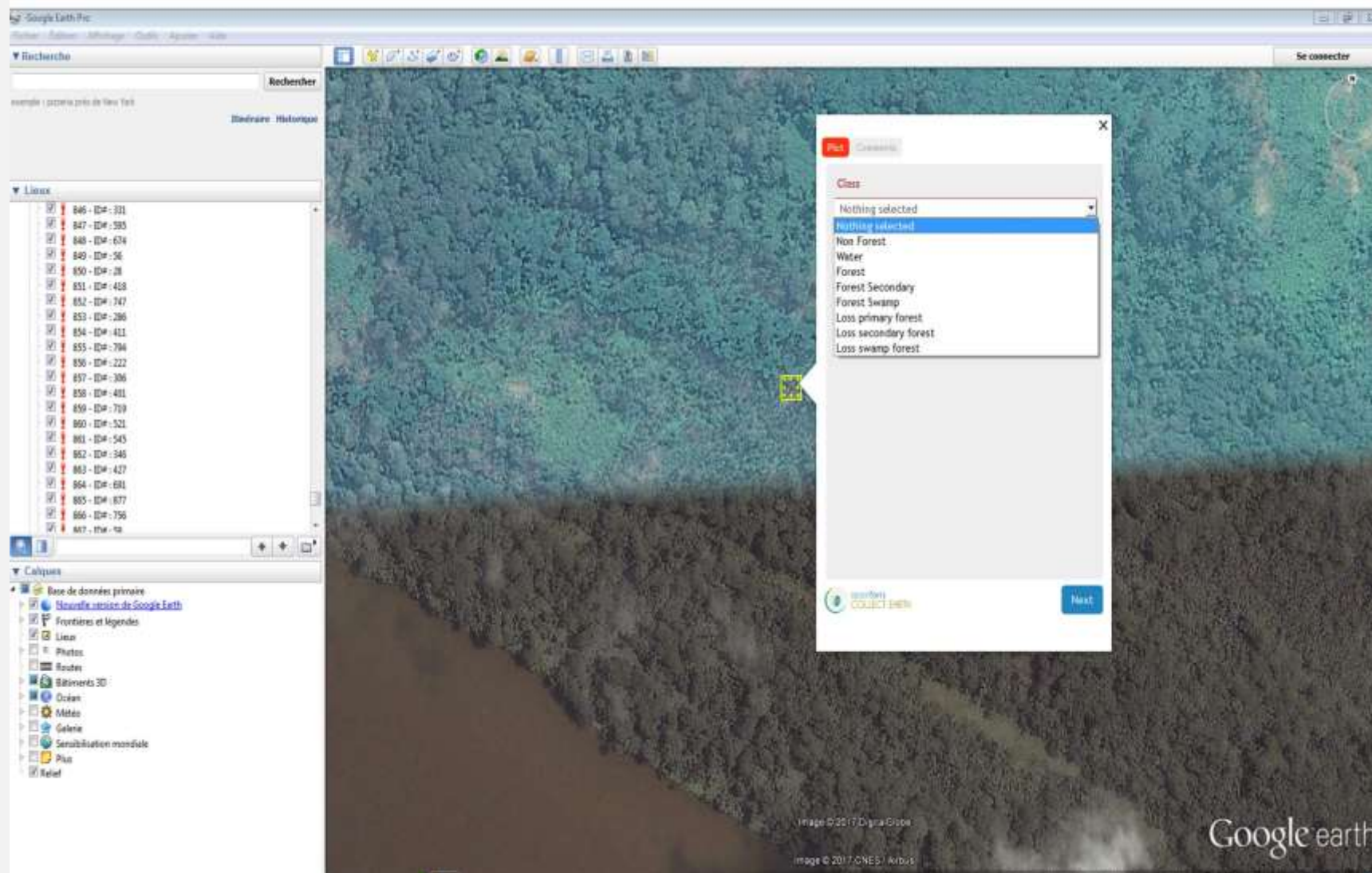
- FID_FC2014
- FID_FC20_1
- FC2014
- area
- FC2010
- class_chan
- FC2014_cod
- FC2010_cod

Data collection : soon in CEO available in SEPAL

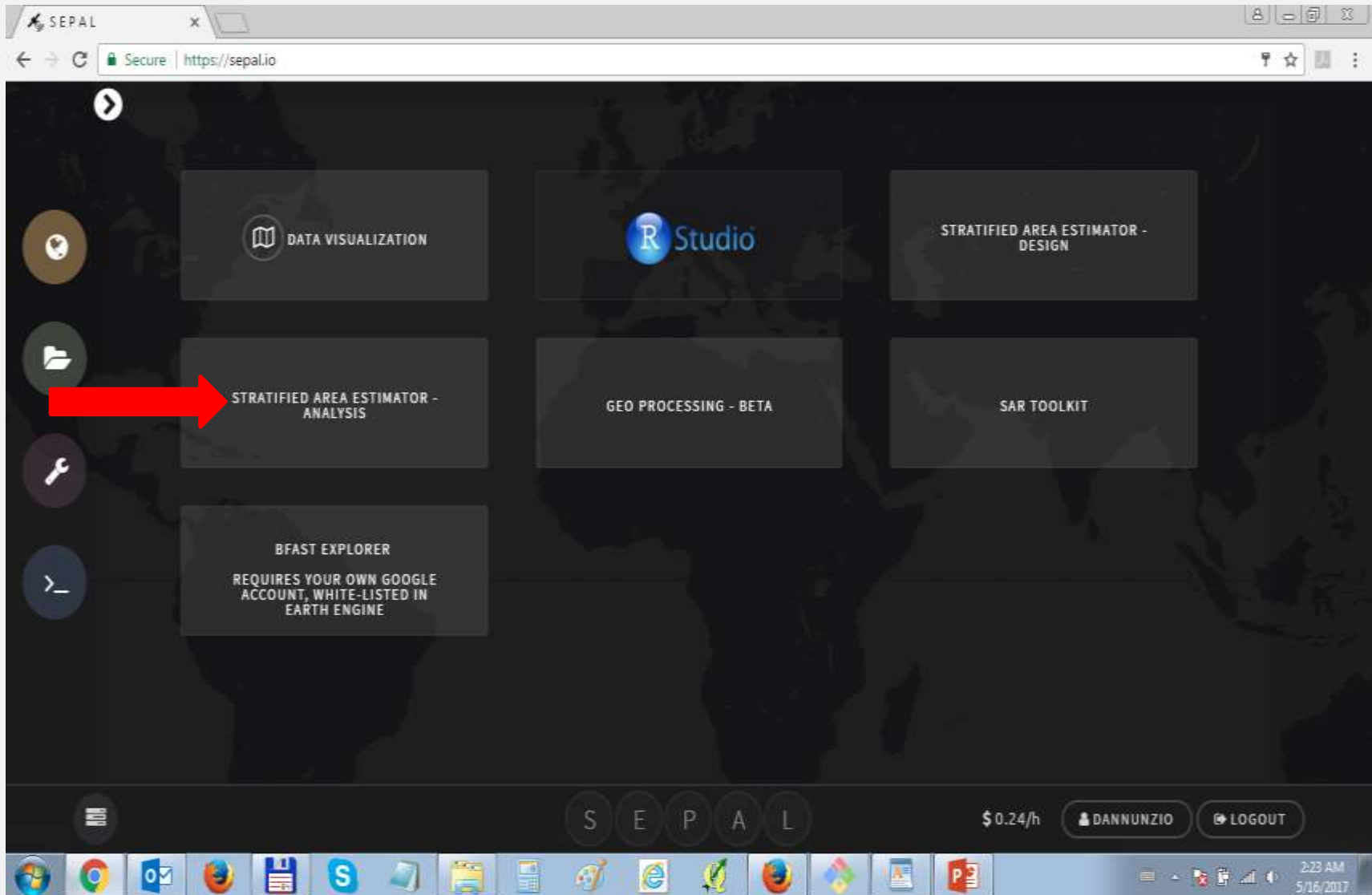
UN-REDD
PROGRAMME



<http://www.openforis.org/tools/collect-earth.html>

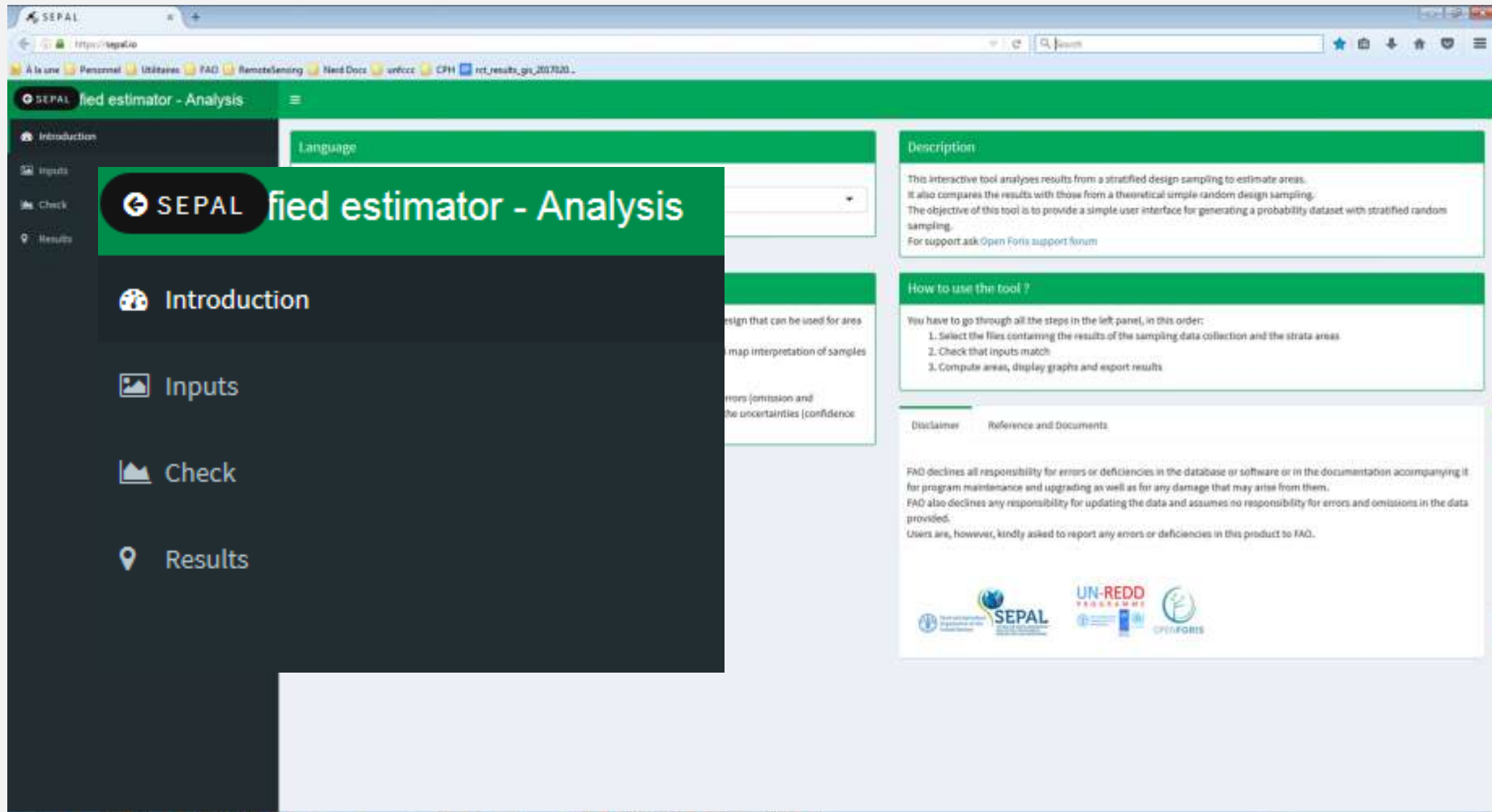


Select SAE – ANALYSIS tool



Similar structure

Only 3 steps



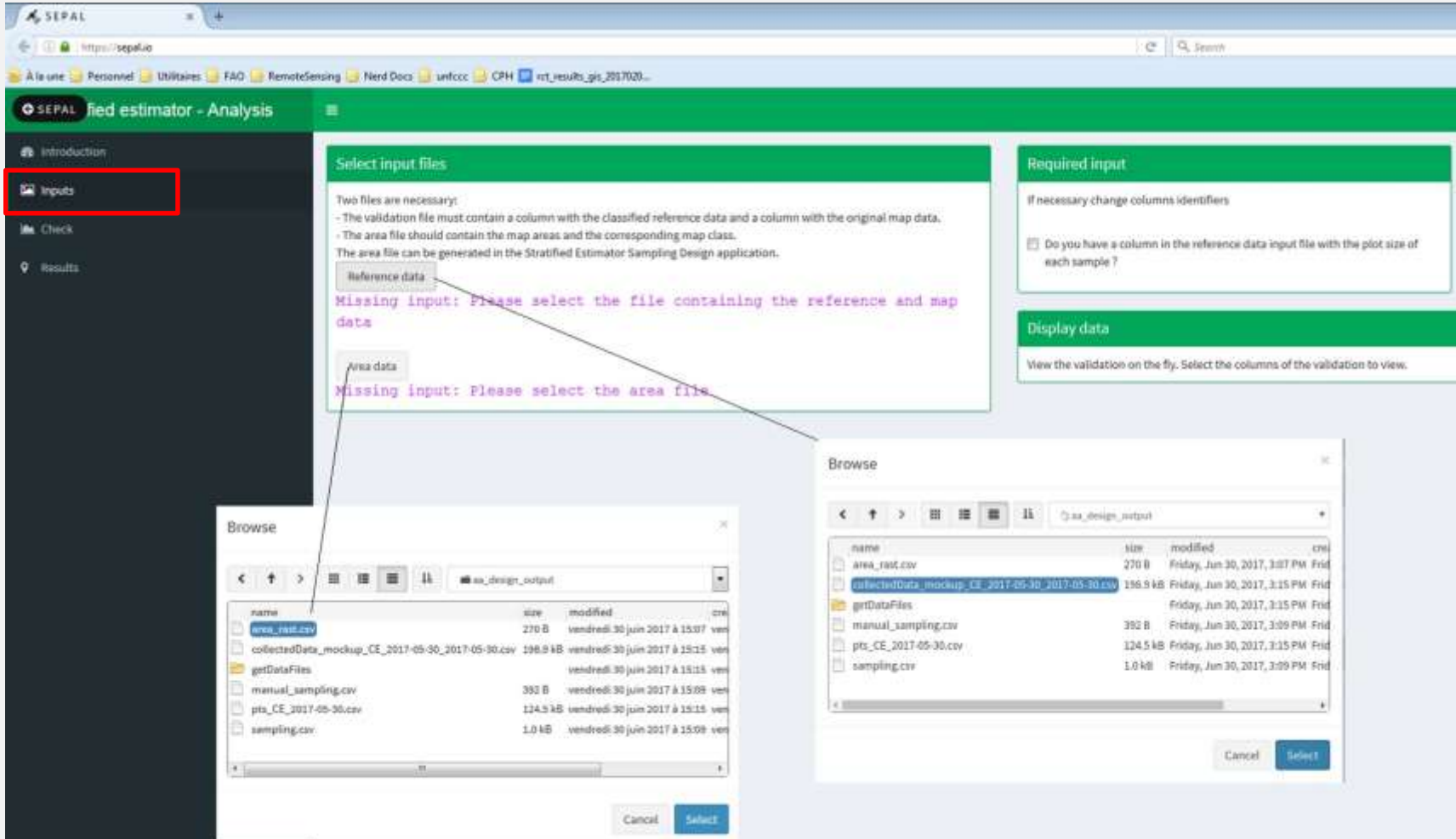
The screenshot displays the 'SEPAL field estimator - Analysis' web application. The interface is divided into several sections:

- Header:** A green bar at the top contains the 'SEPAL field estimator - Analysis' title and a 'Language' dropdown menu.
- Left Sidebar:** A dark grey sidebar with a menu containing 'Introduction', 'Inputs', 'Check', and 'Results'.
- Main Content Area:**
 - Description:** A section explaining the tool's purpose: 'This interactive tool analyzes results from a stratified design sampling to estimate areas. It also compares the results with those from a theoretical simple random design sampling. The objective of this tool is to provide a simple user interface for generating a probability dataset with stratified random sampling. For support ask Open Foris support forum.'
 - How to use the tool ?** A section with instructions: 'You have to go through all the steps in the left panel, in this order: 1. Select the files containing the results of the sampling data collection and the strata areas 2. Check that inputs match 3. Compute areas, display graphs and export results'.
 - Disclaimer:** A section stating: 'FAO declines all responsibility for errors or deficiencies in the database or software or in the documentation accompanying it for program maintenance and upgrading as well as for any damage that may arise from them. FAO also declines any responsibility for updating the data and assumes no responsibility for errors and omissions in the data provided. Users are, however, kindly asked to report any errors or deficiencies in this product to FAO.'
- Footer:** A row of logos including FAO, SEPAL, UN-REDD PROGRAMME, and OPENFORIS.

Two input files are needed

Reference vs Map file
Strata area file

Both are located next to the map:
“sae_data_test/sae_design_test_map_congo/”



The screenshot shows the SEPAL web interface for the 'Stratified estimator - Analysis' module. The 'Inputs' tab is selected in the sidebar. The main panel displays the 'Select input files' step, which requires two files: a reference data file and an area data file. Both files are missing, as indicated by the messages: 'Missing input: Please select the file containing the reference and map data' and 'Missing input: Please select the area file'. Two 'Browse' dialog boxes are open, showing the file selection process. The first dialog shows the 'area_rast.csv' file selected. The second dialog shows the 'collectedData_mockup_CE_2017-05-30_2017-05-30.csv' file selected.

Select input files

Two files are necessary:

- The validation file must contain a column with the classified reference data and a column with the original map data.
- The area file should contain the map areas and the corresponding map class.

The area file can be generated in the Stratified Estimator Sampling Design application.

Reference data

Missing input: Please select the file containing the reference and map data

Area data

Missing input: Please select the area file

Required input

If necessary change columns identifiers

☐ Do you have a column in the reference data input file with the plot size of each sample?

Display data

View the validation on the fly. Select the columns of the validation to view.

Browse

name	size	modified	cre
area_rast.csv	270 B	Friday, Jun 30, 2017, 3:07 PM	Frid
collectedData_mockup_CE_2017-05-30_2017-05-30.csv	196.9 kB	Friday, Jun 30, 2017, 3:15 PM	Frid
getDataFiles		Friday, Jun 30, 2017, 3:15 PM	Frid
manual_sampling.csv	392 B	Friday, Jun 30, 2017, 3:09 PM	Frid
pts_CE_2017-05-30.csv	124.5 kB	Friday, Jun 30, 2017, 3:15 PM	Frid
sampling.csv	1.0 kB	Friday, Jun 30, 2017, 3:09 PM	Frid

Check point location

SEPAL field estimator - Analysis

Introduction

Inputs

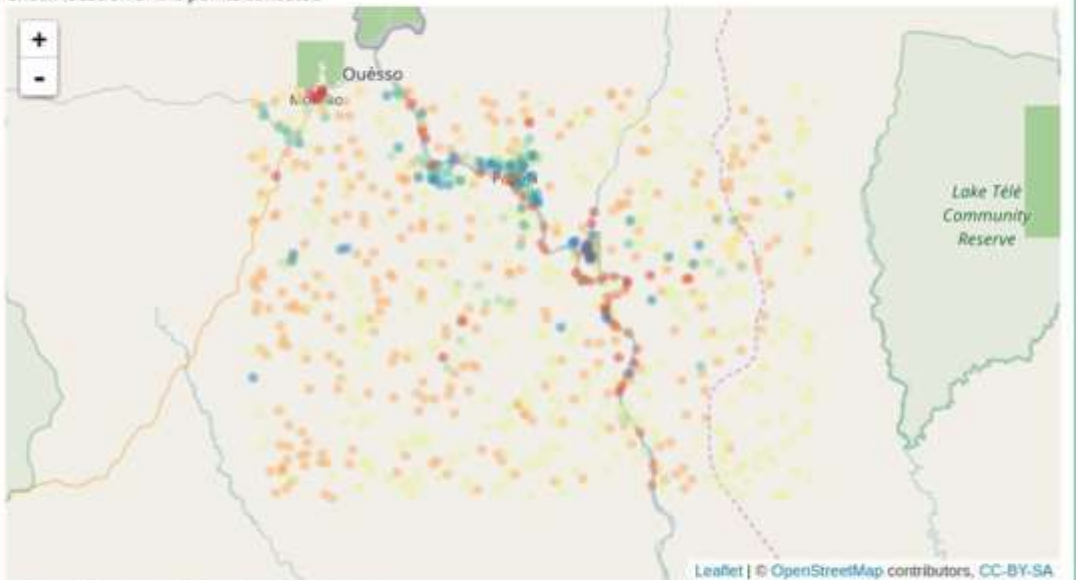
Check

Results

Check inputs

View samples

Check that columns contain the right information
Check location of the points collected



Choose the column with the X coordinate

location_x

Choose the column with the Y coordinate

location_y

Get results and download

You can filter by one field (e.g. CONFIDENCE)

SEPAL

Secure https://sepal.io

Apps FAQ_mail

SEPAL field estimator - Analysis

Introduction

Inputs

Check

Results

Confusion Matrix

	2	4	11	12	13	31	32	33
2	27	2	1	0	3	0	0	0
4	1	36	0	2	1	1	0	0
11	5	6	182	3	3	1	3	3
12	0	1	0	33	1	2	0	0
13	6	8	2	4	211	9	6	2
31	0	0	0	2	0	37	1	0
32	0	1	1	0	2	0	30	1
33	3	0	1	0	1	1	0	27

Download confusion matrix as tabular data (.csv)

Area estimates

Stratified and simple random area estimations and accuracies.
Area estimates for stratified random sample and simple random sample

Class	Number of samples	Stratified random area estimate	Stratified random confidence interval	Simple random area estimate	Simple random confidence interval
2	42	394293	157172	717794	210203
4	54	427903	177044	922879	236070
11	187	4542543	233134	3195896	389258
12	44	350679	127901	751975	214808
13	222	5185297	279336	3794058	468567
31	51	295930	146744	671608	229974
32	40	232905	141971	683614	205461
33	55	157955	74907	289641	137420

Graph

Area estimates from map, stratified and simple random sampling designs

Filter data

You can filter the data on one of the columns (i.e. Confidence in visual interpretation)

☒ Do you want to filter the data?

Columns to filter:

confidence

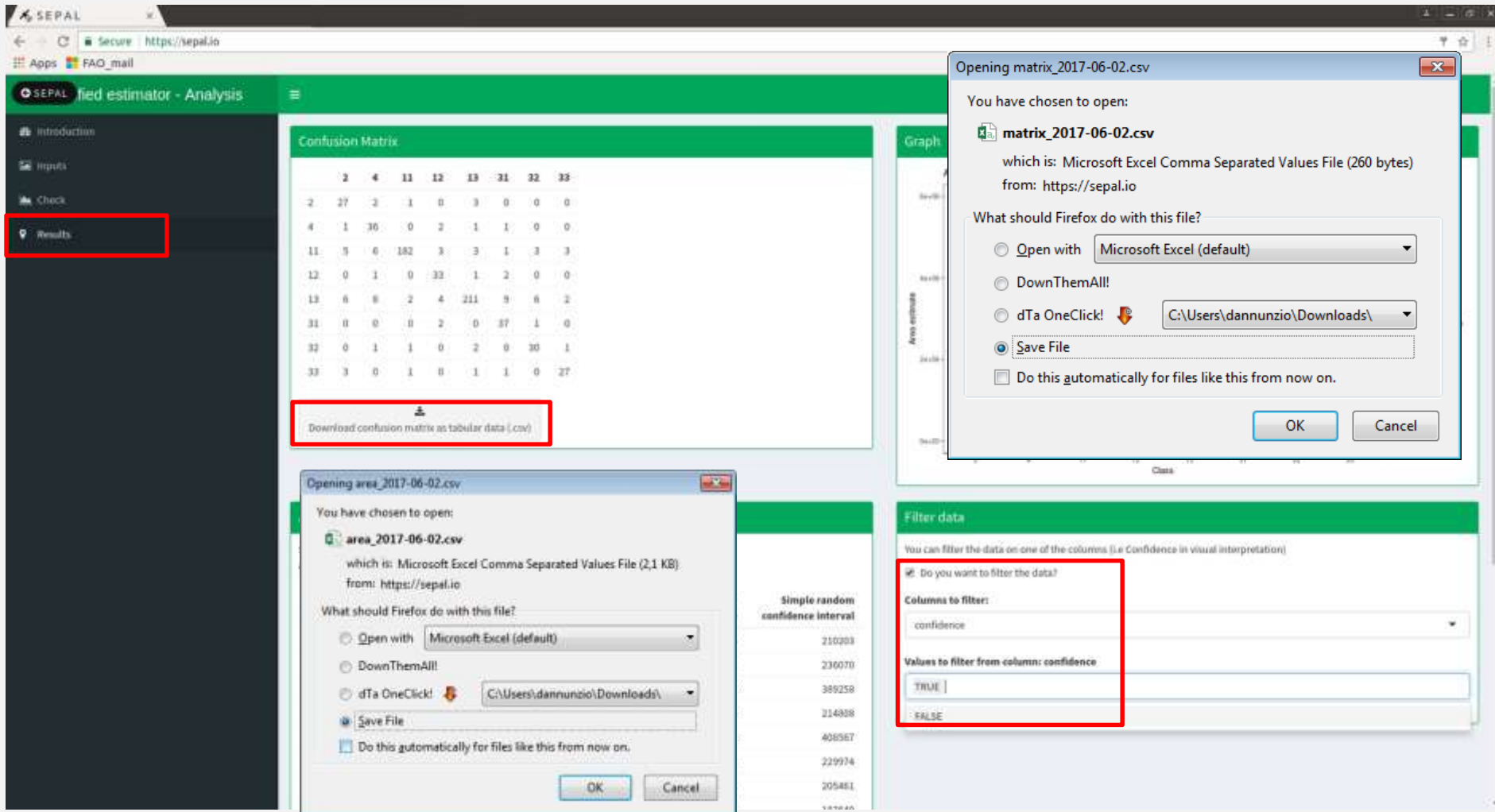
Values to filter from column: confidence

TRUE

FALSE

Get results and download

You can filter by one field (e.g. CONFIDENCE)
Download confusion matrix and results



The screenshot shows the SEPAL web application interface. The left sidebar has a 'Results' link highlighted with a red box. The main content area displays a 'Confusion Matrix' table and a 'Download confusion matrix as tabular data (.csv)' button, both highlighted with red boxes. Two dialog boxes are open: 'Opening matrix_2017-06-02.csv' and 'Opening area_2017-06-02.csv'. Both dialogs show options to 'Open with', 'Download', or 'Save File'. The 'Filter data' section on the right is also visible, with a red box highlighting the 'Do you want to filter the data?' checkbox and the 'Columns to filter' dropdown set to 'confidence'.

Confusion Matrix

	2	4	11	12	13	31	32	33
2	27	2	1	0	3	0	0	0
4	1	30	0	2	1	1	0	0
11	5	6	182	3	3	1	3	3
12	0	1	0	33	1	2	0	0
13	6	8	2	4	211	9	6	2
31	0	0	0	2	0	37	1	0
32	0	1	1	0	2	0	30	1
33	3	0	1	0	1	1	0	27

Download confusion matrix as tabular data (.csv)

Opening matrix_2017-06-02.csv

You have chosen to open:

matrix_2017-06-02.csv

which is: Microsoft Excel Comma Separated Values File (260 bytes)
from: <https://sepal.io>

What should Firefox do with this file?

☐ Open with **Microsoft Excel (default)**

☐ DownThemAll!

☐ dTa OneClick! **C:\Users\dannunzio\Downloads**

☒ **Save File**

☐ Do this automatically for files like this from now on.

OK **Cancel**

Opening area_2017-06-02.csv

You have chosen to open:

area_2017-06-02.csv

which is: Microsoft Excel Comma Separated Values File (2,1 KB)
from: <https://sepal.io>

What should Firefox do with this file?

☐ Open with **Microsoft Excel (default)**

☐ DownThemAll!

☐ dTa OneClick! **C:\Users\dannunzio\Downloads**

☒ **Save File**

☐ Do this automatically for files like this from now on.

OK **Cancel**

Filter data

You can filter the data on one of the columns (i.e. Confidence in visual interpretation)

☒ **Do you want to filter the data?**

Columns to filter:

confidence

Values to filter from column: confidence

TRUE

FALSE