



Food and Agriculture Organization
of the United Nations

SEPAL

System for Earth Observation
Data Access, Processing and
Analysis for Land Monitoring

Cloud-based catalyst for autonomous land monitoring

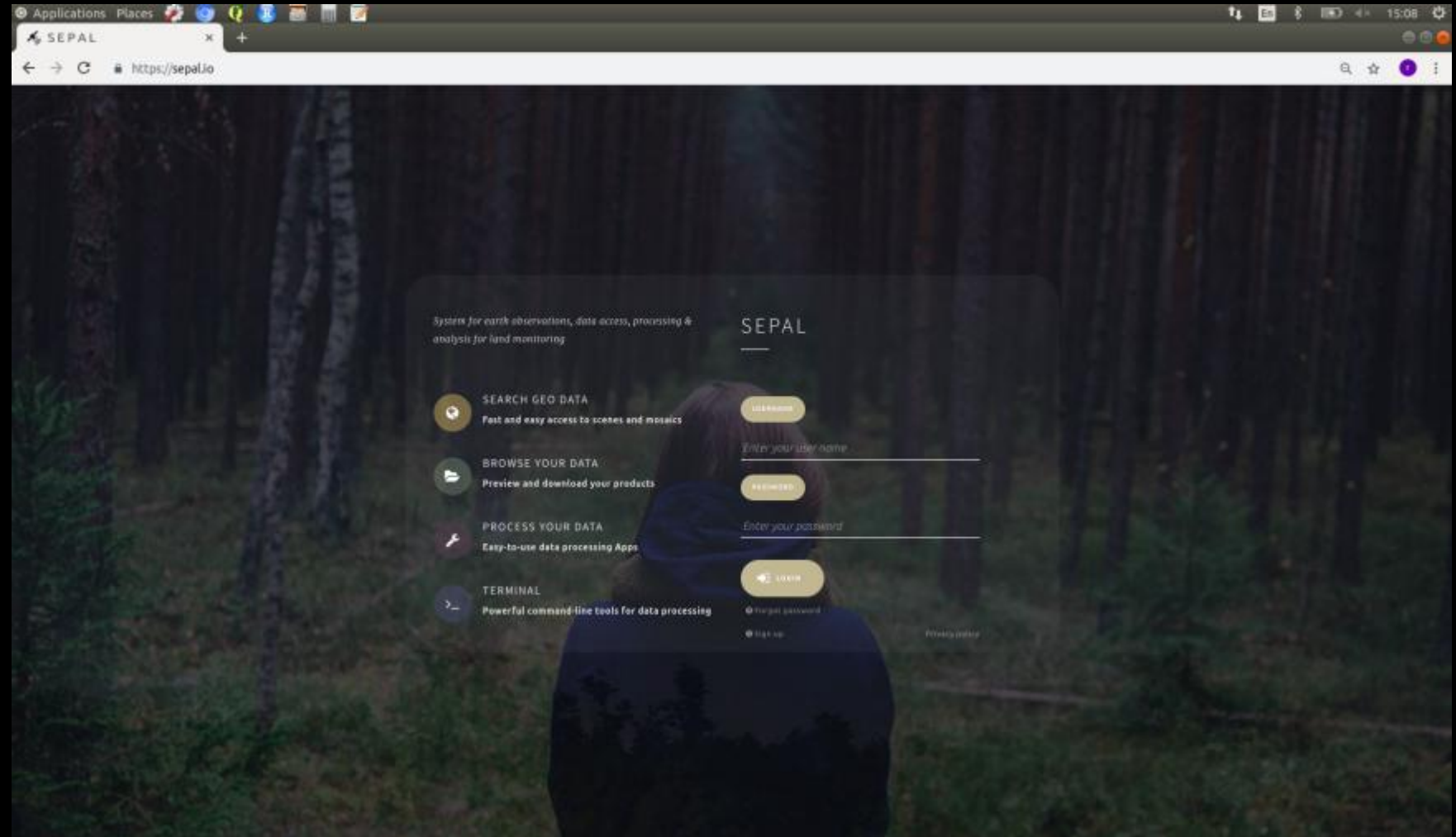
@ sepal.io

Open source

Easy processing of earth observation data

Reduce time from innovation to adoption

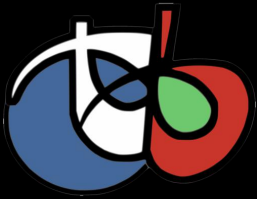
Remove fear of making mistakes: fail fast



SEPAL fonctionnalités



Optical mosaics (Sentinel 2 and Landsat)
Supervised change detection
Thematic classification



Segmentation
Object based analysis

Use you own processing chains
on a powerful server



Radar data processing



Sampling based analysis

```
1 t2.small, 1 CPU / 2.0 GiB, 0.025 USD/h
2 n3.medium, 1 CPU / 3.75 GiB, 0.073 USD/h
3 n4.large, 2 CPU / 8.0 GiB, 0.119 USD/h
4 n4.xlarge, 4 CPU / 16.0 GiB, 0.238 USD/h
5 n4.2xlarge, 8 CPU / 32.0 GiB, 0.475 USD/h
6 n4.4xlarge, 16 CPU / 64.0 GiB, 0.95 USD/h
7 n4.10xlarge, 40 CPU / 160.0 GiB, 2.377 USD/h
8 n4.16xlarge, 64 CPU / 256.0 GiB, 3.803 USD/h
9 c4.large, 2 CPU / 3.75 GiB, 0.113 USD/h
10 c4.xlarge, 4 CPU / 7.5 GiB, 0.226 USD/h
11 c4.2xlarge, 8 CPU / 15.0 GiB, 0.453 USD/h
12 c4.4xlarge, 16 CPU / 30.0 GiB, 0.905 USD/h
13 c4.8xlarge, 36 CPU / 60.0 GiB, 1.811 USD/h
14 r4.large, 2 CPU / 15.25 GiB, 0.148 USD/h
15 r4.xlarge, 4 CPU / 30.5 GiB, 0.296 USD/h
16 r4.2xlarge, 8 CPU / 61.0 GiB, 0.593 USD/h
17 r4.4xlarge, 16 CPU / 122.0 GiB, 1.186 USD/h
18 r4.8xlarge, 32 CPU / 244.0 GiB, 2.371 USD/h
19 r4.16xlarge, 64 CPU / 488.0 GiB, 4.742 USD/h
20 x1.16xlarge, 64 CPU / 976.0 GiB, 8.003 USD/h
21 x1.32xlarge, 128 CPU / 1920.0 GiB, 16.006 USD/h
```


SCENES



MOSAIC



AUTO-SELECT



PREVIEW



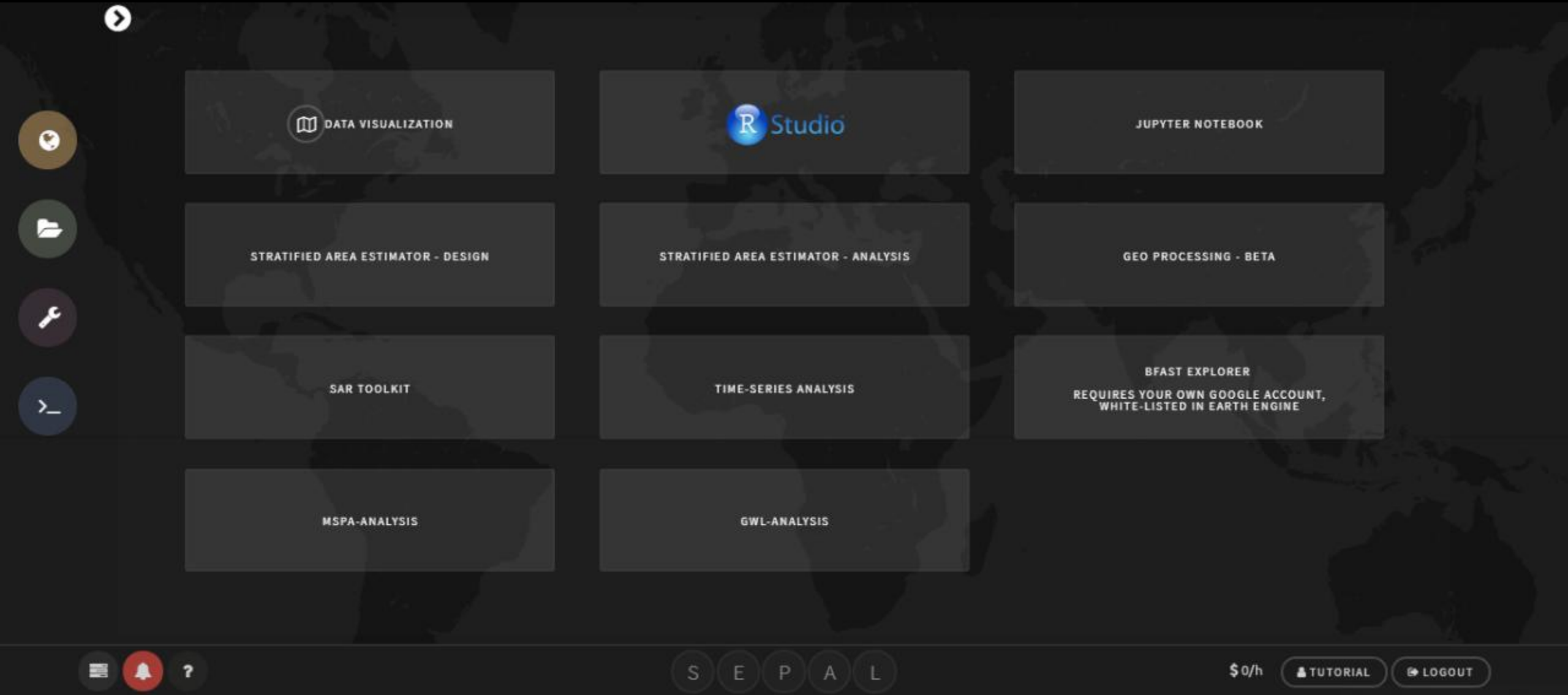
RETRIEVE



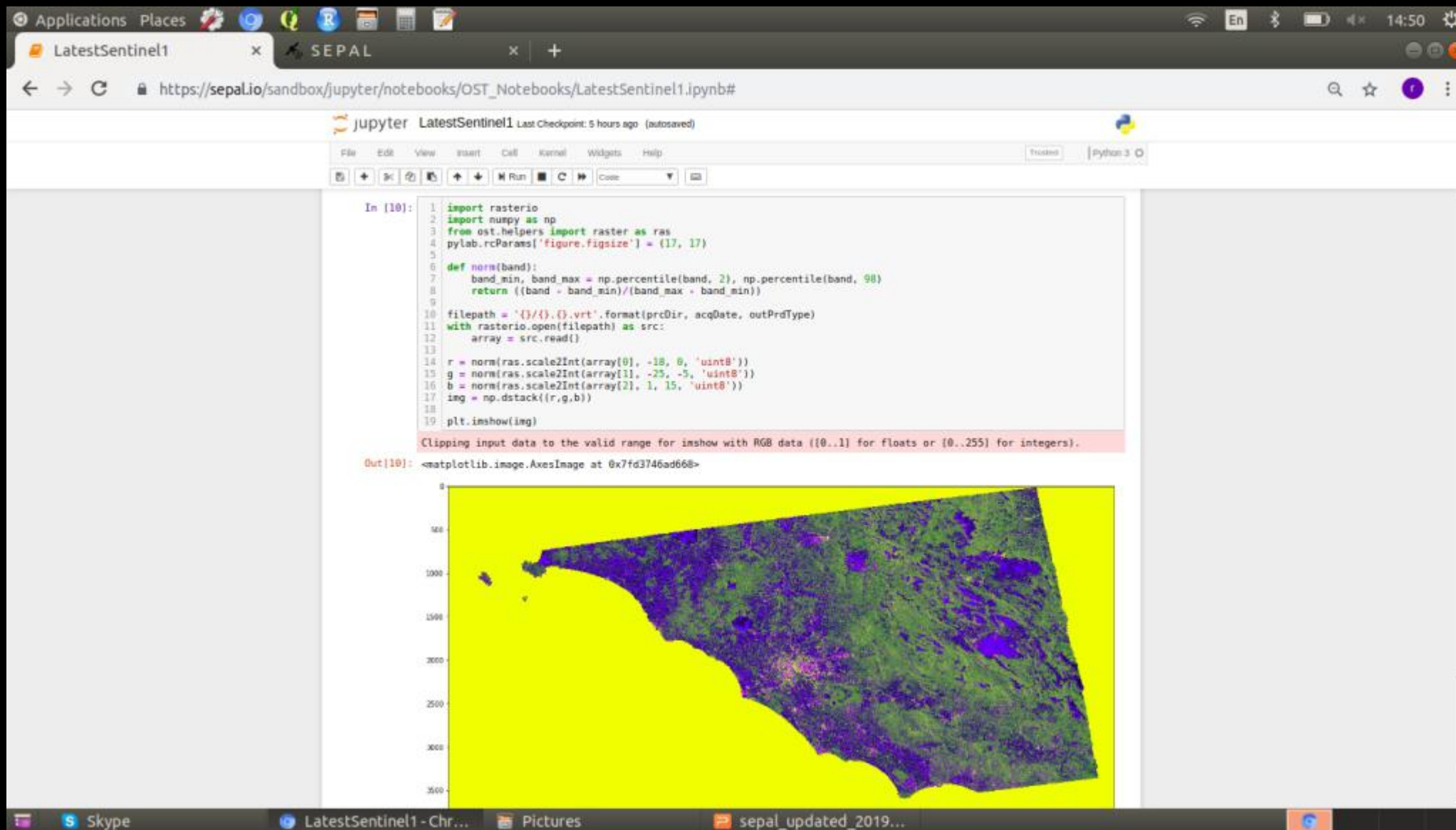
Bring the
data to
the
people

(and
algorithms,
software and
recipes)

SEPAL Modules for Extended Capacity and Collaboration



PYTHON NOTEBOOKS: Analysis ready Radar images



RSTUDIO SHINY: stratified area estimation from design to analysis

Applications Places SEPAL x +

← → ↻ https://sepal.io

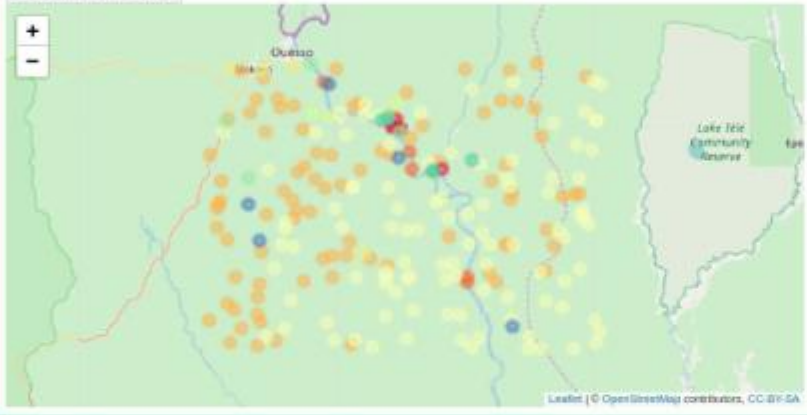
SEPAL Stratified estimator

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

Create a stratified random sample on the map

Points are randomly distributed for each of the map classes.
The number of points per class is from the 'adjusted' column in the Sample Size tab

Generate sampling points



Download as Collect Earth Online project (.csv)

Download as Collect Earth project (.cep)

Download as tabular data (.csv)

Download as vector data (.shp)

Create a Collect Earth Project file (.cep) to start validation work

Choose country name if you want additional national data for the samples

Republic of Congo

Number of operators

1

Size of the interpretation box (in m)

30

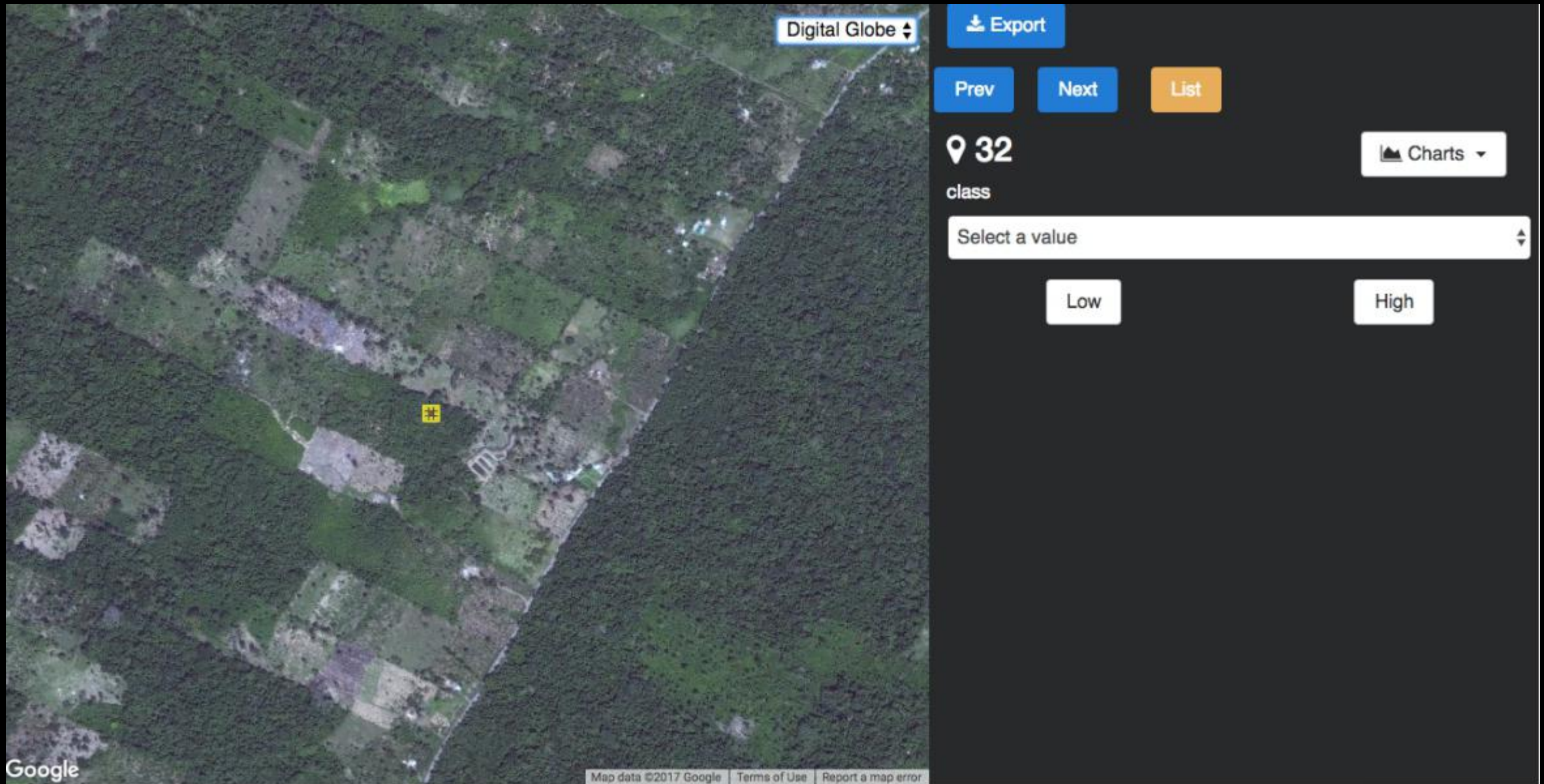
Basename of sampling design files to export

CE_2019-03-12

CE_2019-03-....csv

Show all

Sample-based assessments - Training and Reference Data

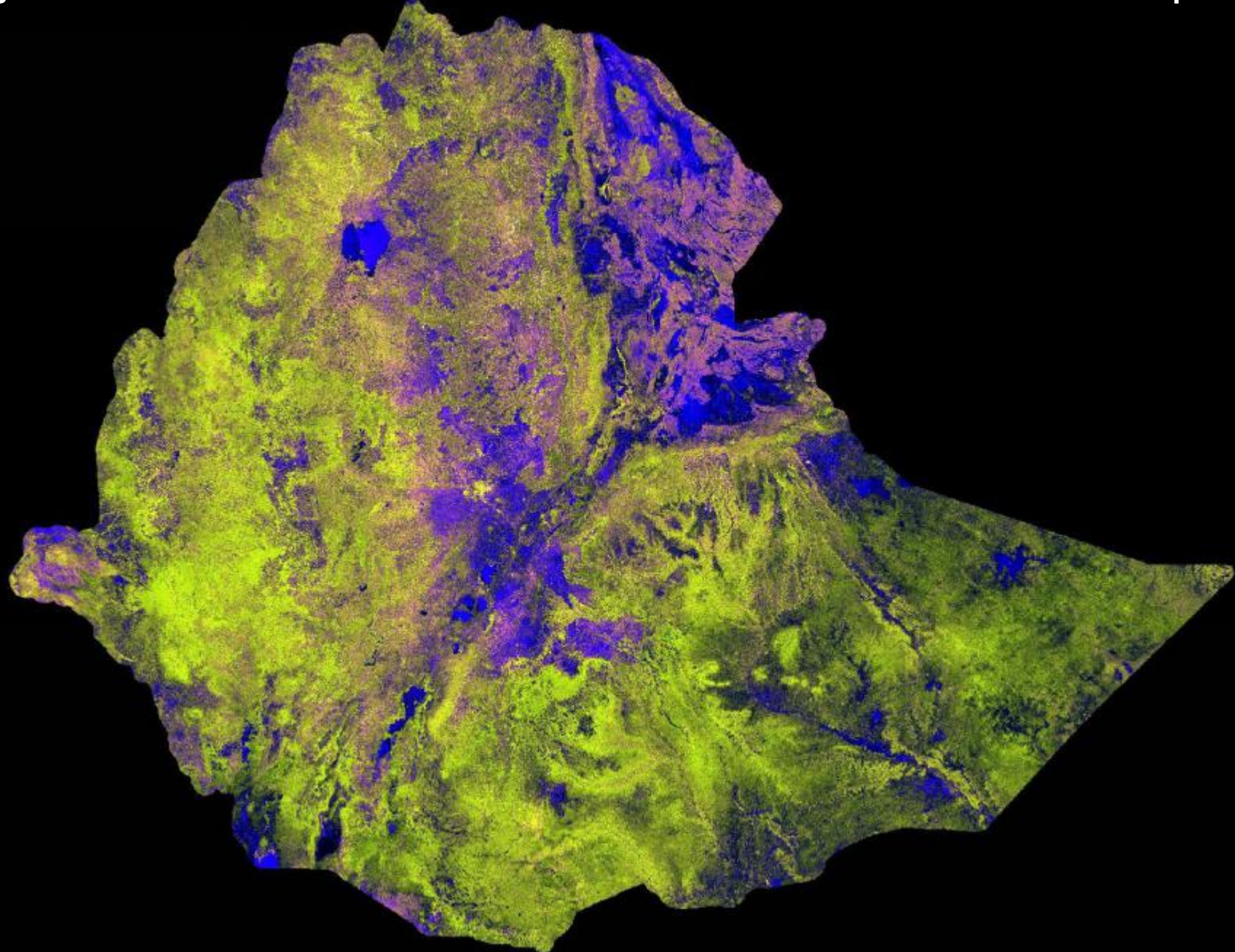


The image shows a Google Earth interface with a satellite view of a forested area. A yellow crosshair marker is visible on the map. The right sidebar contains the following elements:

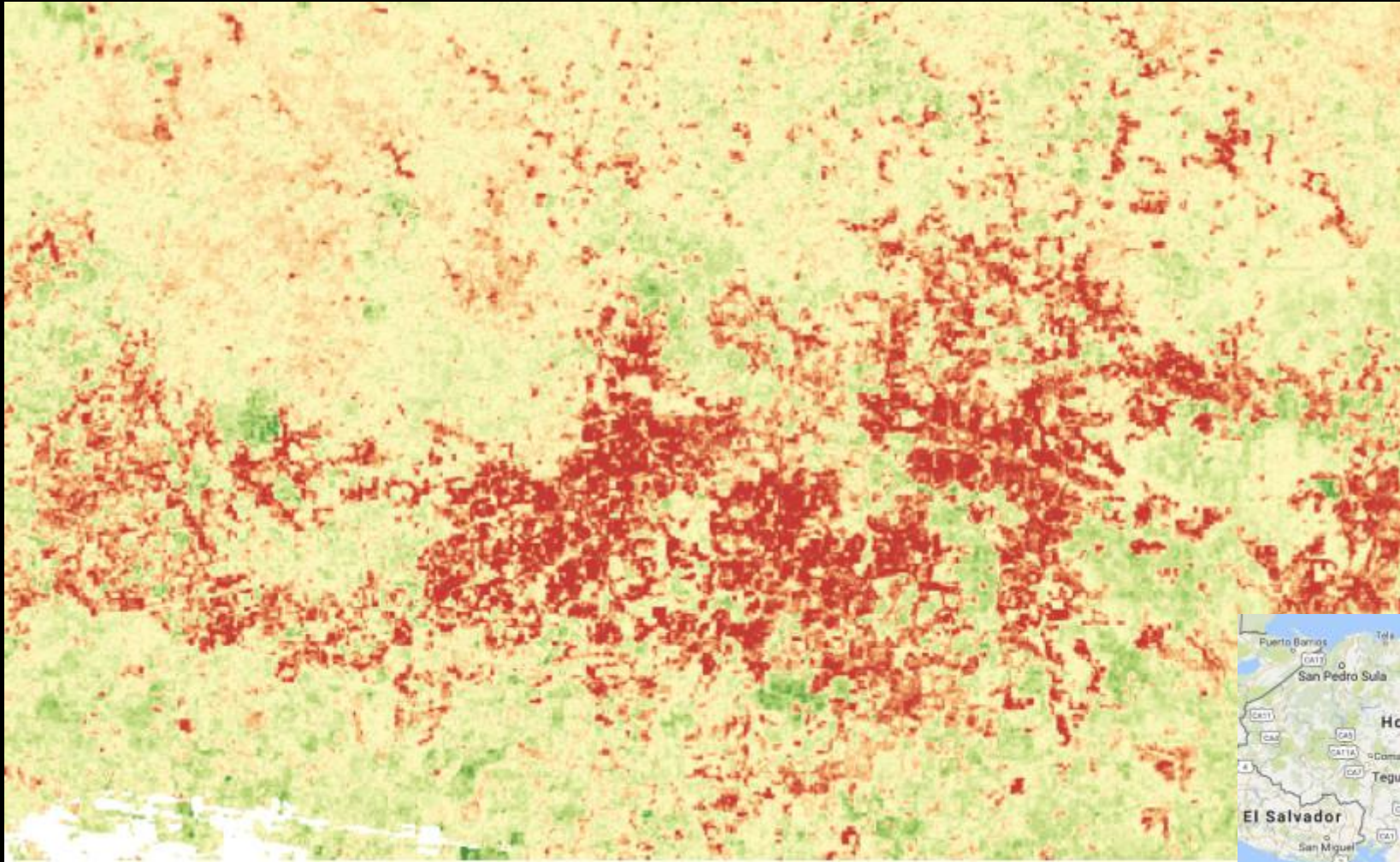
- Digital Globe** (dropdown menu)
- Export** (button)
- Prev** (button)
- Next** (button)
- List** (button)
- 32** (location pin icon and number)
- Charts** (dropdown menu)
- class** (text label)
- Select a value** (dropdown menu)
- Low** (button)
- High** (button)

At the bottom left, the **Google** logo is visible. At the bottom center, the text **Map data ©2017 Google** is displayed, along with links for **Terms of Use** and **Report a map error**.

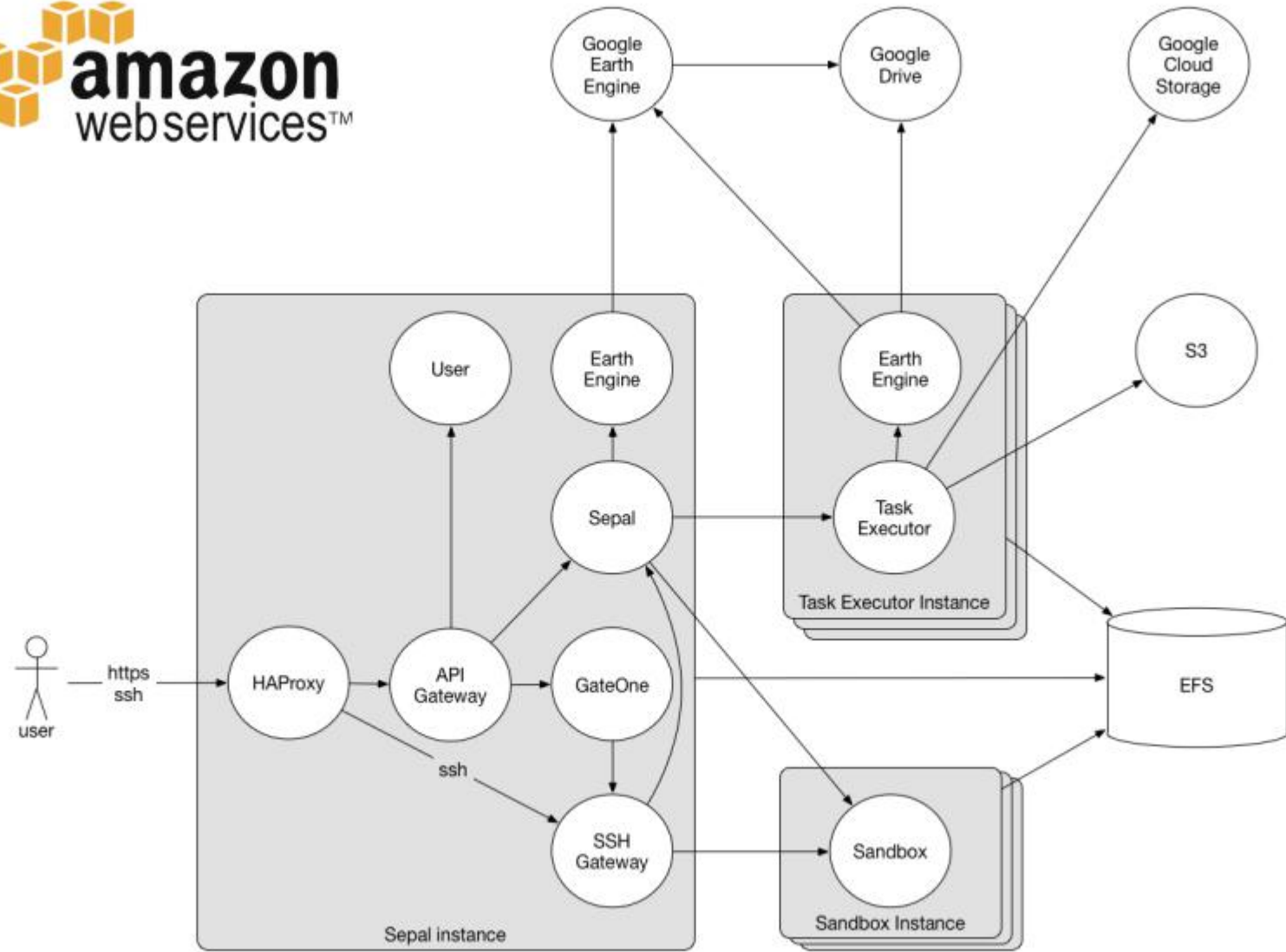
Analysis read mosaic of Sentinel 1 SAR data over Ethiopia



Landsat Time-series Analysis - Honduras Insect Damage



Every acquisition from 2010 - 2018 processed





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Thanks to

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Many more...