



Food and Agriculture Organization
of the United Nations



SEPAL & GEO Indigenous Alliance

Cloud platform for earth observation, data access, processing & monitoring

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Living Planet Symposium
Bonn, Germany
24 May 2022

Presentation Outline

- Introduction to SEPAL
- Interesting functionality in SEPAL
- Hackathon Challenge Results
- Continued collaboration between SEPAL and GEO Indigenous Alliance



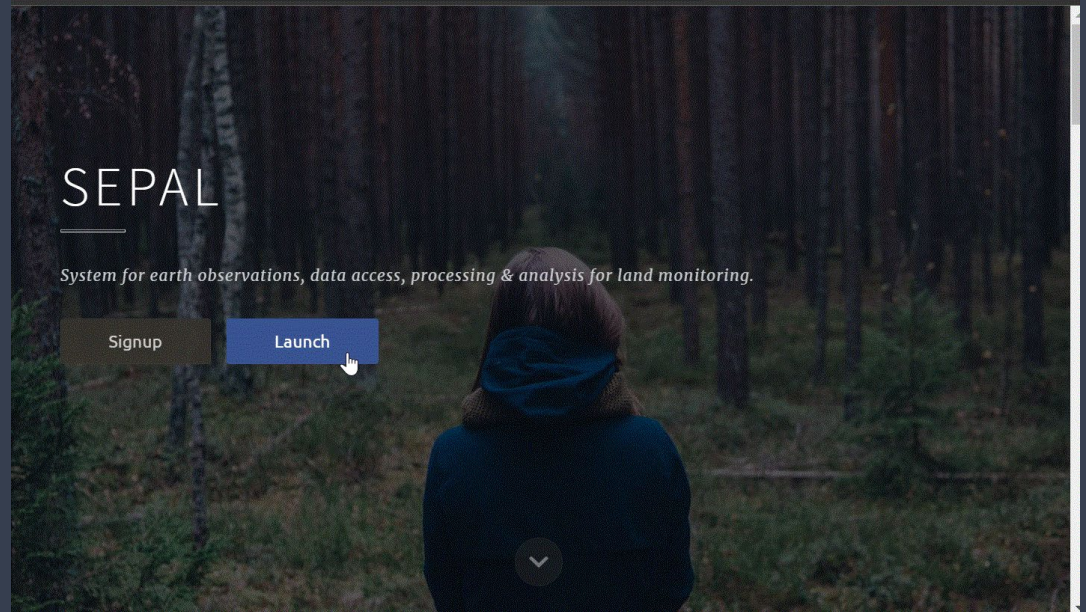


SEPAL objectives

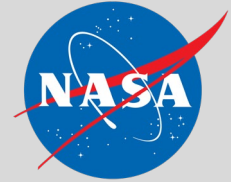
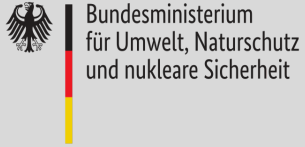
Improve data access, processing, and delivery of satellite data and information products to enable autonomous land monitoring capacity.

What is SEPAL?

- SEPAL is a cloud platform for accessing, processing and analyzing geospatial data for land monitoring.
- SEPAL is free and open source
- SEPAL is a data production platform running on Google Earth Engine and AWS
- Does not require knowledge of coding
- Only an internet connection is required to access the SEPAL website and functionality



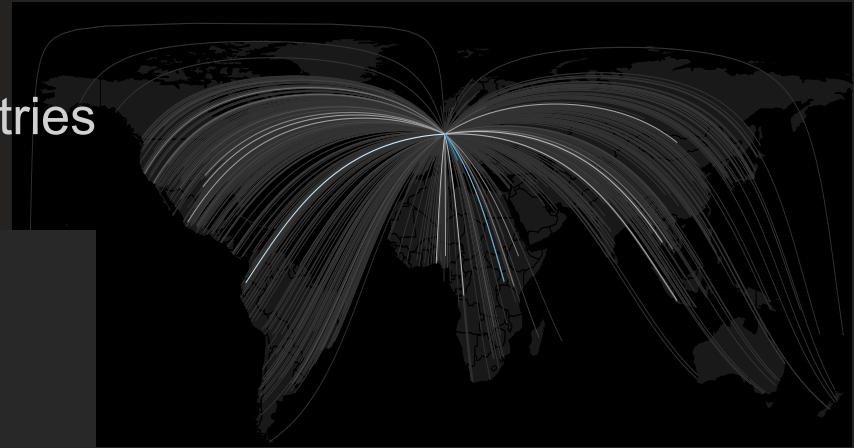
<https://sepal.io>



A Collaborative tool developed by many partners

Cloud-computing tools

Over **9000** users, from **180** countries



SEPAL

A cloud platform for land monitoring



Search and process
satellite imagery



Access super computers



Store and access data

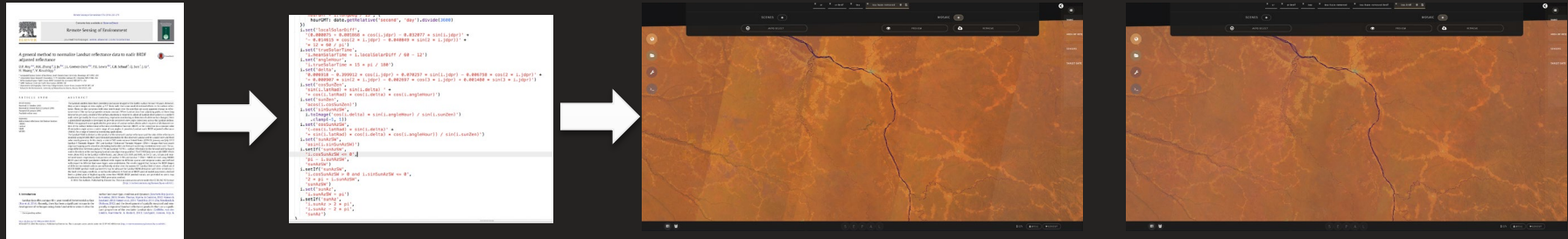


Analyze data using
predefined processing
chains

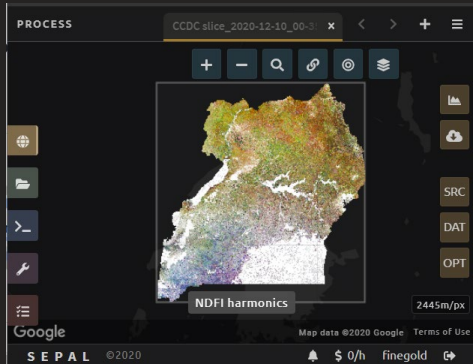
A **free** and
open source
platform built
for a range of
users

Fast-tracking innovation to application

Image pre-processing – BRDF correction



Time series analysis – BFAST, CCDC, CODED, SMFM

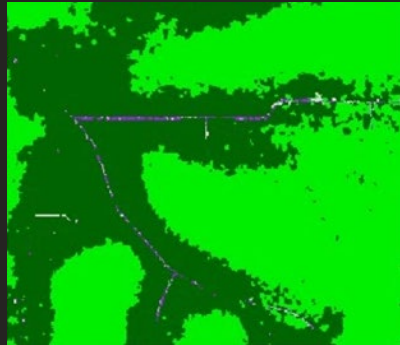


350 GB of data

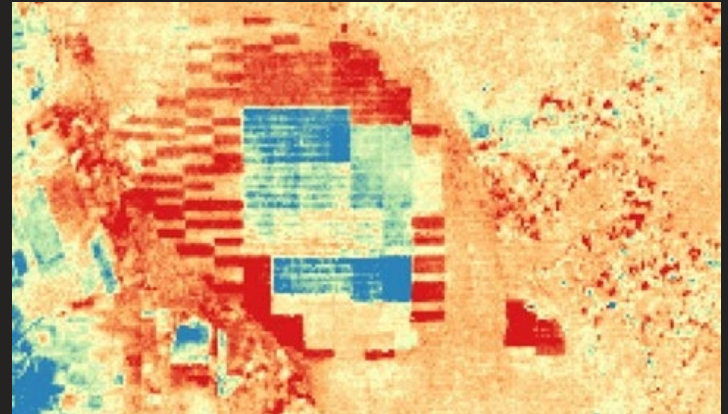
- Consistently apply best practices and advanced methods
- Allow large scale implementation
- Allow trial and error – fail faster

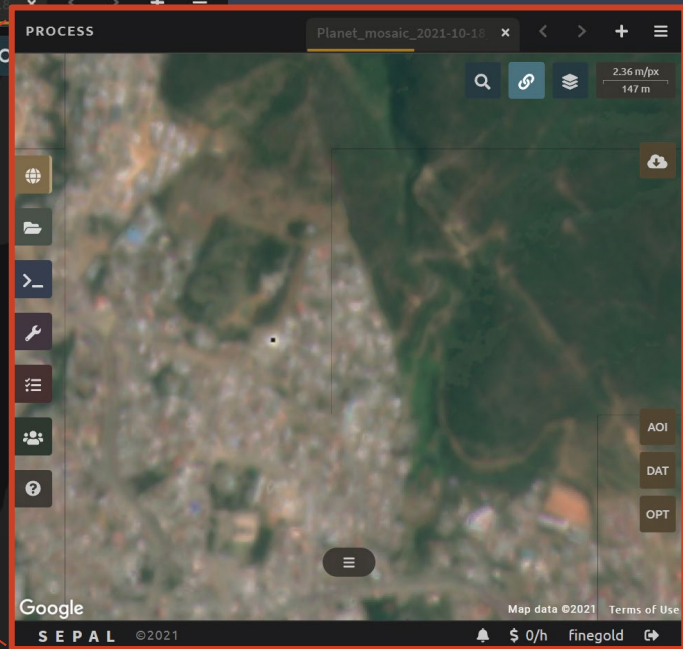
Adapted monitoring systems

Brazzaville, national forest monitoring



Jakarta, peatland restoration

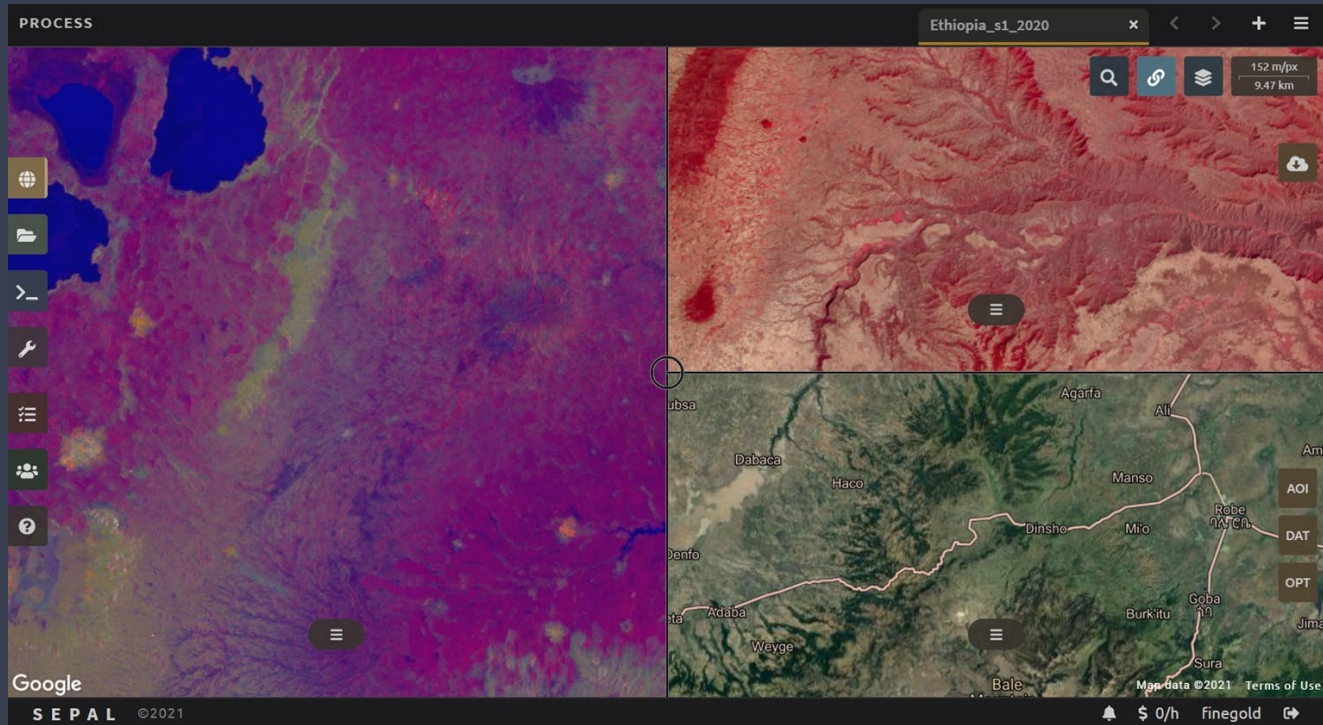




4.7 meter spatial resolution

Access and process NICFI Planet data

Create custom mosaics using the NICFI basemaps



Learn more in the SEPAL classroom on Wednesday
10:45 – 12:15 in Room H 1 05



SEPAL engagement with GEO Indigenous Alliance: Hackathon Challenge

Alsut yawan tasba mainkai kai sika app

Let's protect our lands together

Finding suitable places for shelters from hurricanes

by Higher Ground:

Filo Gomez (NASA-Servir)

Aurelie Shapiro (FAO)

Andreas Vollrath (FAO)

Tools



Data sources

Sentinel-1 timescan

SRTM landforms
(Theobaldt et al. 2015)

OSM road layer

Water bodies
(Hansen et al 2013)

Flood areas from Hurricane Eta/Iota

only consider peaks, upper slopes etc

2 km buffer around any road


distance > 5 km



mask out areas that had been flooded before


Map with values from 0-3
1 = least suitable (1 condition is met)
2 = suitable (2 conditions are met)
3 = most suitable (3 conditions are met)

Web Site with interactive maps and data collection

 Alsut yawan tasba mainkai kai sika

Background Suitability for Shelter Sites [Submit Your Knowledge](#)

Latitude: 14.09146, Longitude: -83.19221

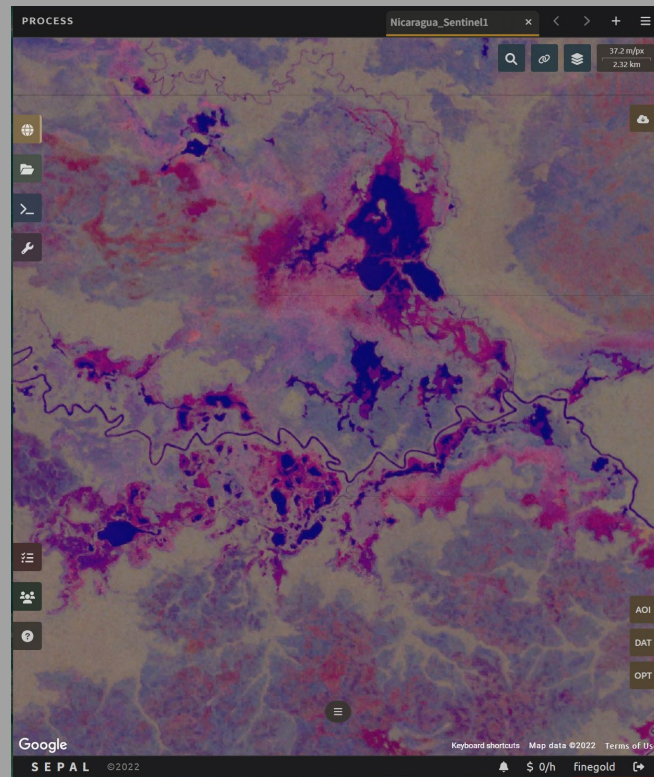


This GeoForm allows anyone to enter their information on shelter locations

<https://storymaps.arcgis.com/stories/0f8bb713657048568e496485fca066ca>

SEPAL & GEO Indigenous Alliance

- GEO Youth Ambassador Program
 - Training youth in using SEPAL
 - Tailor made webinar/training course for Indigenous youth
- Feedback mechanism from Indigenous communities on forest monitoring tools
- Identifying workflows that can be transformed into SEPAL tools
- Translate SEPAL and applications to Portuguese and Indigenous languages



Thank you!

Questions?



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United Nations



openforis

