



Food and Agriculture
Organization of the
United Nations



Global Forest
Observations Initiative

Plenary
9-11 May 2023

IPCC Software Updates

Wall-to-wall Addon

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IPCC Inventory Software

Enhancing usability of the IPCC Software

Develop a separate wall-to-wall module (Add-on) for the Software (Add-on) to:

- support data collection for land representation;
- enable optional functionality where possible; and
- facilitate data upload in the IPCC Inventory Software for land representation

The use of the Add-on will be voluntary and supplementary;

- not needed by any means for the correct use of the IPCC Inventory Software



Wall-to-wall Add on

Consistent Representation of Lands

The wall-to-wall Add-on will allow for:

1. Image analysis for land classification (pixel-by-pixel)
2. Tracking* land cover/use, and changes, through the time series
3. Correcting for bias (statistics)
4. Gap-filling within the time series (statistics)
5. Compiling a land representation dataset in an export file which can be uploaded into the IPCC Software (unit of land by unit of land)

* For Approach 2 this function is limited to two subsequent 'maps' only



Image Analysis

Process

Infer data on land cover/use through multi-spectral and multi-temporal analysis

Upload land cover baseline map to initiate classification

- National specific map OR global map

Apply algorithm for pixel classification of land cover elements

- six IPCC land categories (Forest Land, Cropland, Grassland, Wetlands, Settlements, Other Land)



Image Analysis

Consistent Representation of Lands

Providing logical rules to aggregate and classify pixels according to IPCC land categories definitions

Allowing the addition of user-specific subcategories

Enable delineating unmanaged land



Tracking land cover/land use and changes

Consistent Representation of Lands

Stratifying each pixel through the time series

- stratify by subcategory possible pending the input information

User input options for transition period (in years) for each conversion type

- by default the transition period is set to 20 years.

Pixels aggregated in units of land to produce annual matrices

- either as Approach 2 or Approach 3



Correcting for bias

Consistent Representation of Lands

Estimating and eliminating bias as far as can be judged

Addon leads to:

- the production of a bias-corrected statistic on land cover/use and change; OR
- the option to extract the data and proceed with a different method for addressing bias.



Gap filling the timeseries

Consistent Representation of Lands

Built according to the 2019 Refinement (Volume 1, chapter 5 on Time Series Consistency)

Optional functionality as countries may also have own method



Compile a land representation dataset

Consistent Representation of Lands

Provide time series of information for each unit of land



Upload to IPCC software

Consistent Representation of Lands

Export format compatible with single upload to the IPCC Inventory Software



When will it be ready

3rd quarter of 2023

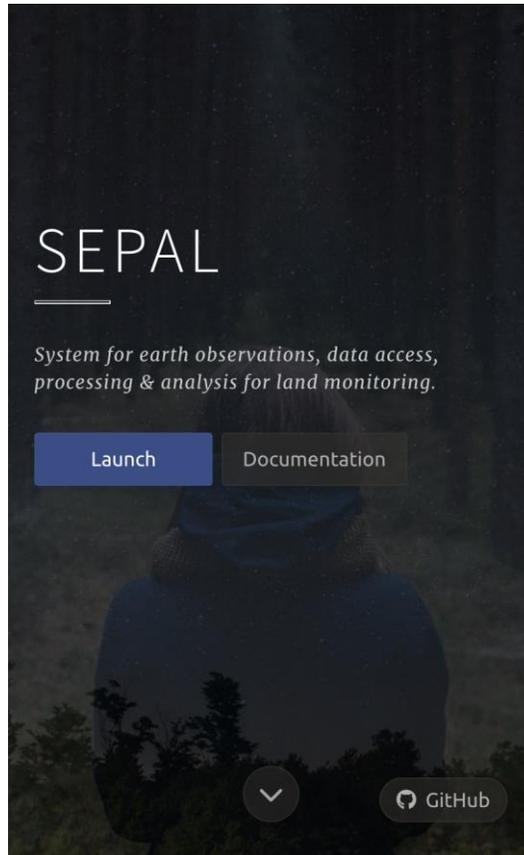
Process and outputs being tested

Operational Manual being written

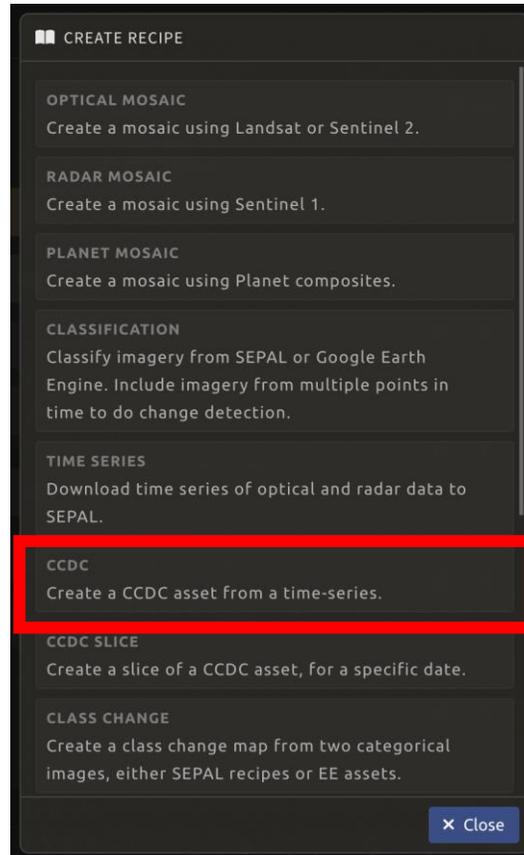
If you are interested in being involved in the testing let us know



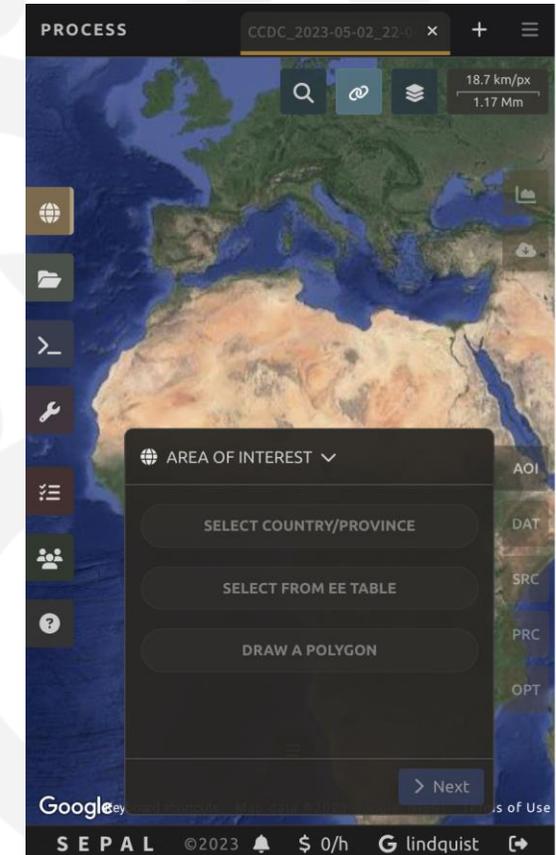
IPCC Add-on in SEPAL



Sepal.io



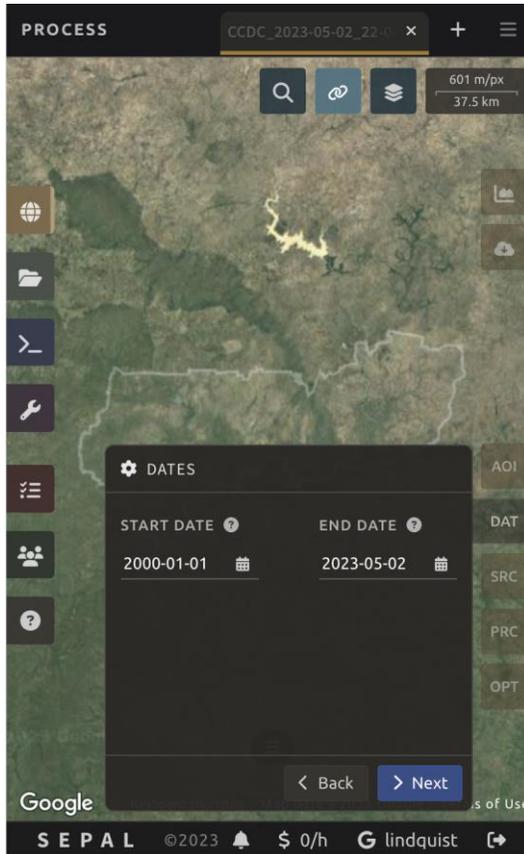
CCDC-based



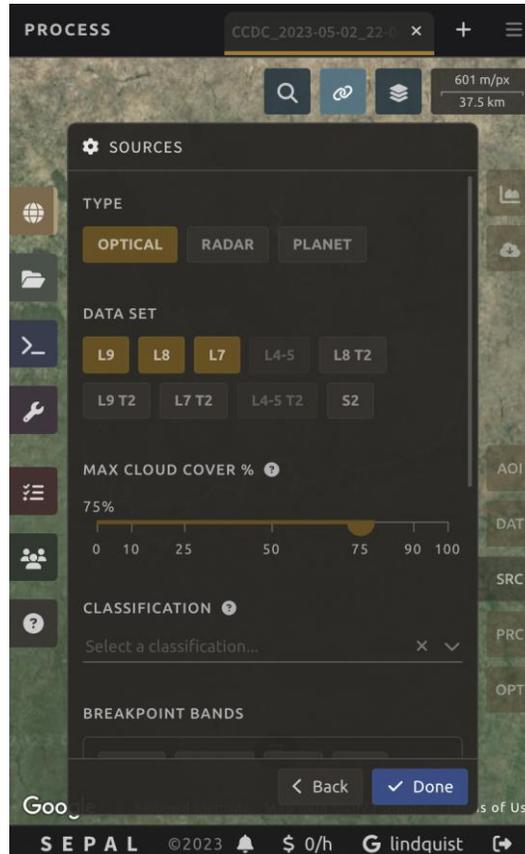
Any AOI



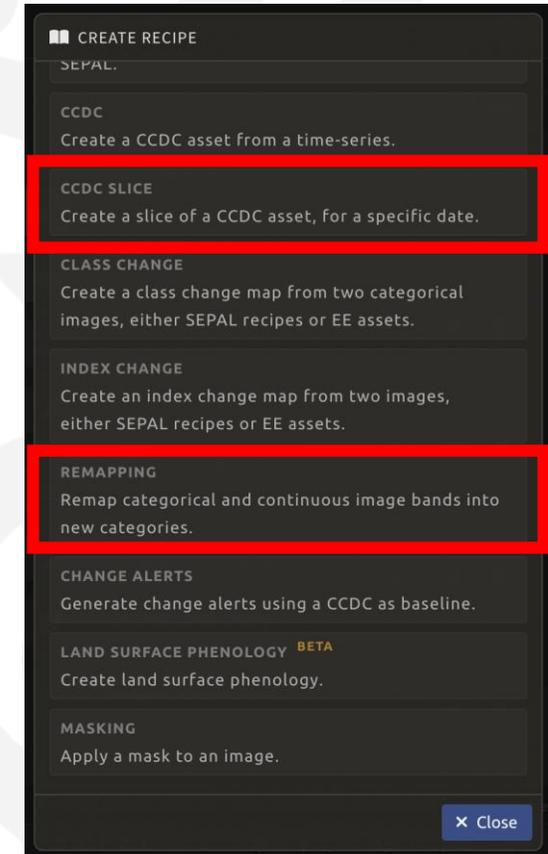
IPCC Add-on in SEPAL



Any time period



Any sensor / combination

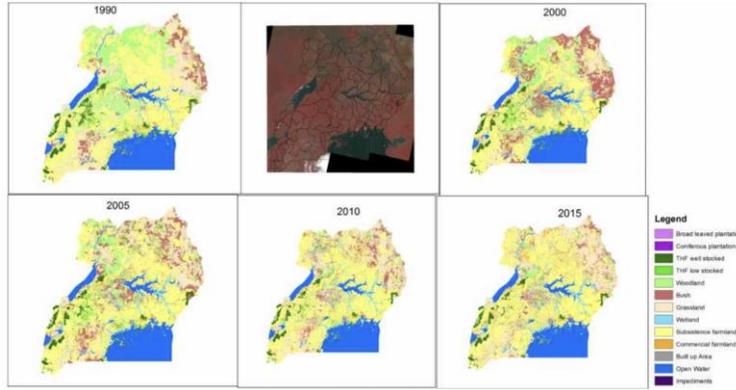


Any date combination

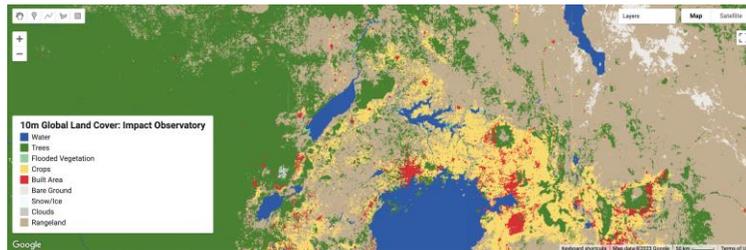


IPCC Add-on in SEPAL

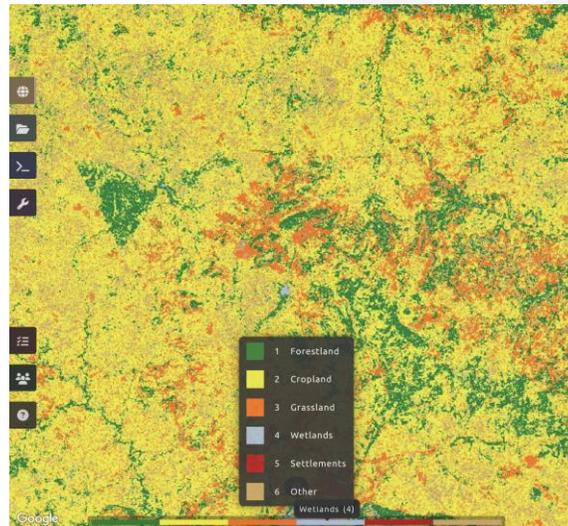
Uganda's land cover 1990-2015



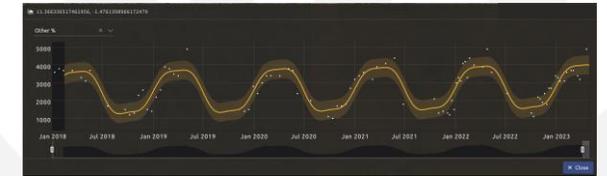
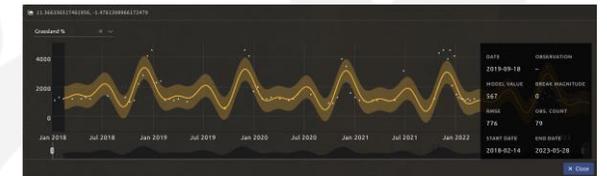
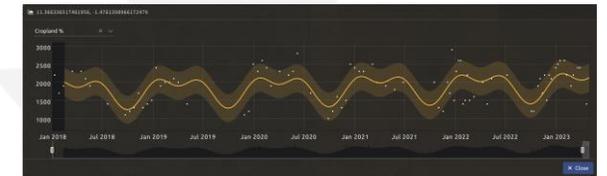
National LC Map



Global LC Map



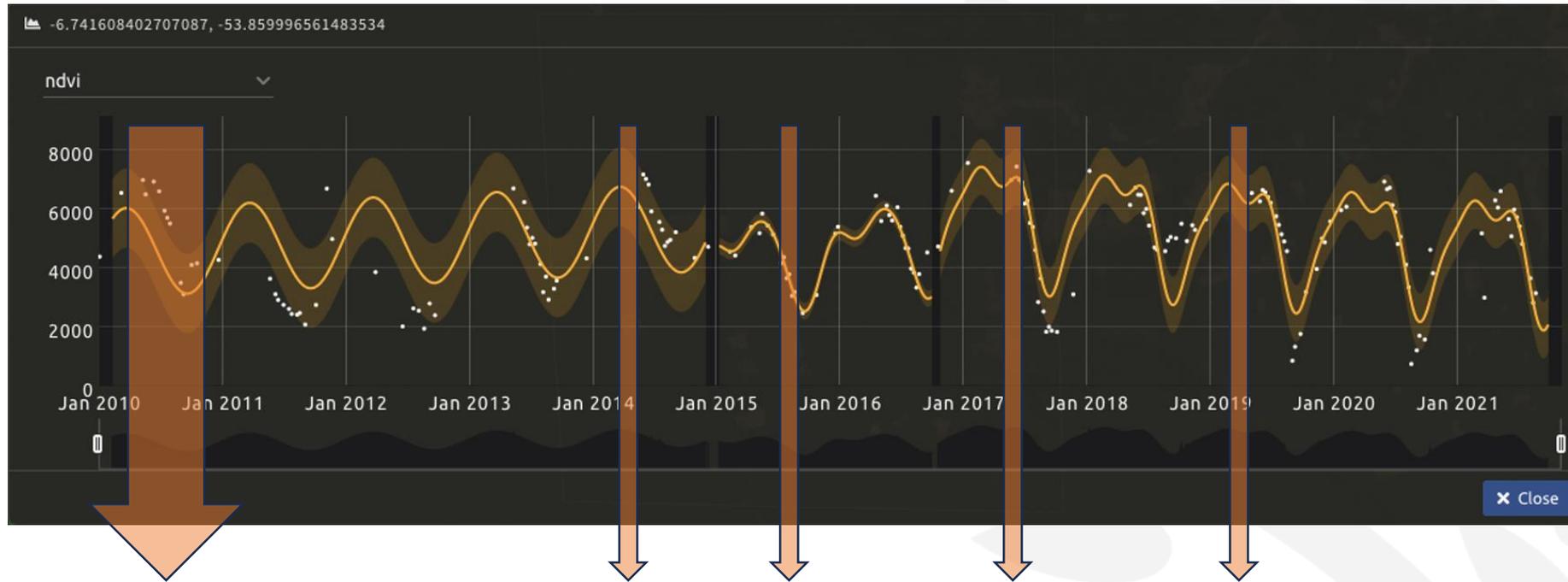
Classify Start Time



Follow Class Prob Through Time



IPCC Add-on in SEPAL



**Classify Start
Time**

**Apply Classification Model at Any
Date**

**Verify with Separate Change Detection
Remap Impossible / Unlikely
Transitions**



Thank you.

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