SITS Demonstration in SEPAL

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Land classification with satellite image time series
Data cubes from different providers

s2_cube ← sits_cube(
    source = "AWS",
    name = "Rondonia_2018_2019",
    collection = "sentinel-s2-12a",
    tiles = c("20LKP", "20LLP"),
    start_date = "2018-08-01",
    end_date = "2019-07-31"
)
```r
# Machine learning and deep learning methods

cnn_model <- sits_train(
  data = samples_amazonia,
  ml_method = sits_TempCNN()
)

res_model <- sits_train(
  data = samples_amazonia,
  ml_method = sits_ResNet()
)
```
Transparent and efficient parallel processing

EO data cubes

Fast HTTP requests

Worker 1
Chunk

Worker 2
Chunk

Worker 3
Chunk

Worker 4
Chunk

Main process
merged map
Accuracy assessment supports GFOI best practices


Contents lists available at ScienceDirect

Remote Sensing of Environment

journal homepage: www.elsevier.com/locate/rse

Good practices for estimating area and assessing accuracy of land change

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Map Accuracy Assessment and Area Estimation

A Practical Guide
Cerrado biome (200 million ha)
LULC map for year 2018
48,850 samples (TempCNN model)
Landsat-8 16-day time series
8 TB processed in 24 hours
10 LULC classes (86% accuracy)
Measuring deforestation using time series

BDC Cube Sentinel 2 2018/07/12

BDC Cube Sentinel 2 2019/07/28

90% accuracy!
Live Demonstration

https://github.com/e-sensing/sits