How remote sensing data may help towards more policy relevant and timely inventories?

Session 4. Supporting policy relevant and timely inventories

JRC LULUCF Workshop 2023

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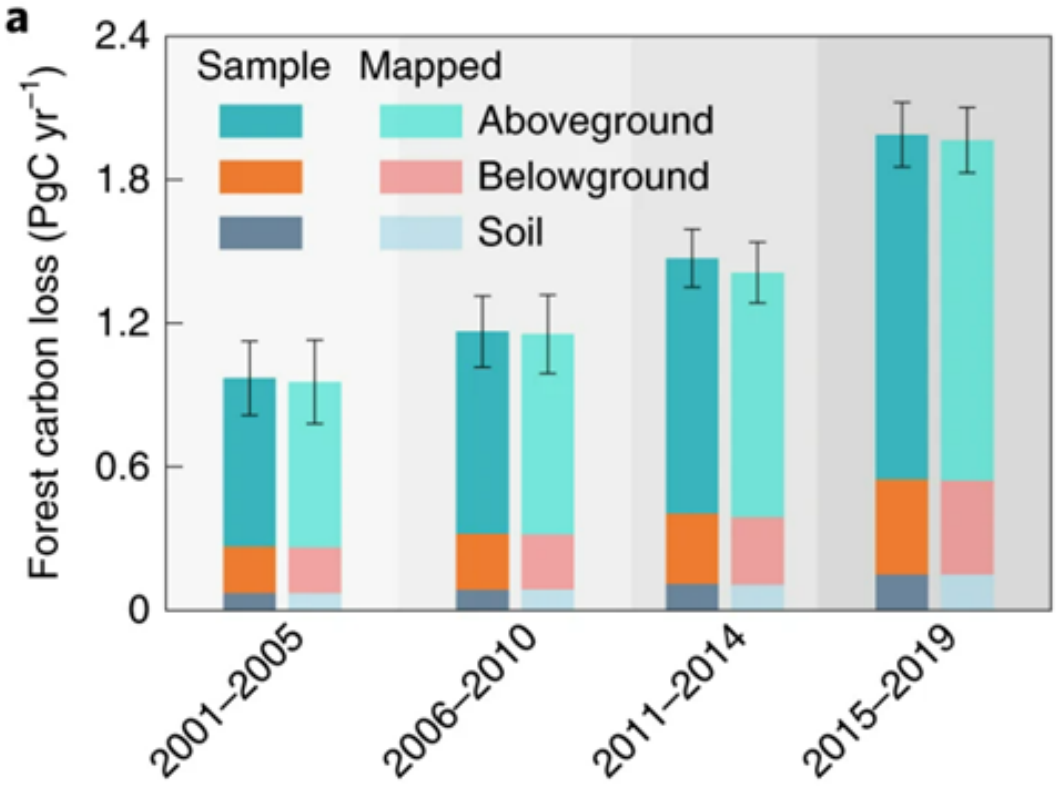
Time-series consistency in the ***golden era*** of satellite data to monitor land

Video credit: Science Visualization Studio, NASA Goddard Space Flight Center

European Commission

Time-series consistency in the ***golden era*** of satellite data to monitor land

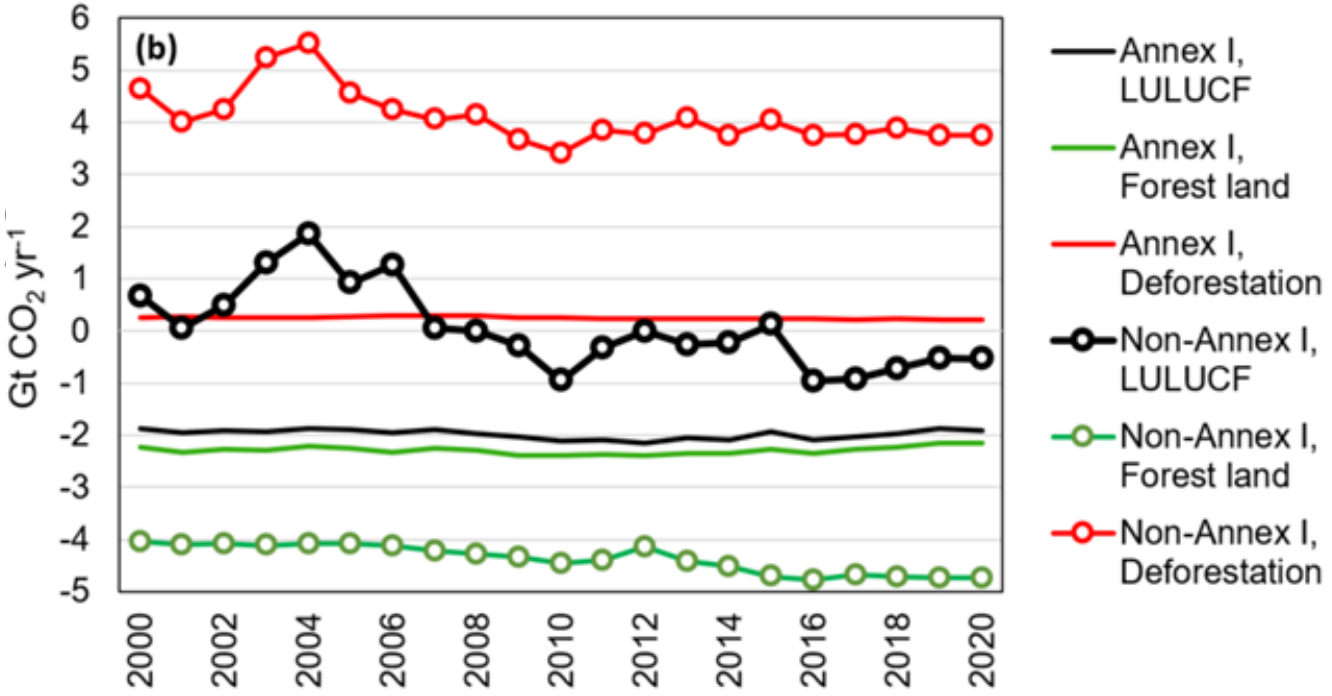


ANALYSIS
https://doi.org/10.1038/s41893-022-00854-3
nature sustainability
Check for updates

OPEN

Doubling of annual forest carbon loss over the tropics during the early twenty-first century

Yu Feng[1,2], Zhenzhong Zeng[1✉], Timothy D. Searchinger[3], Alan D. Ziegler[4], Jie Wu[1,5], Dashan Wang[1], Xinyue He[1,6], Paul R. Elsen[7], Philippe Ciais[8,9], Rongrong Xu[1], Zhilin Guo[1], Liqing Peng[10], Yiheng Tao[11], Dominick V. Spracklen[6], Joseph Holden[12], Xiaoping Liu[13], Yi Zheng[1], Peng Xu[1], Ji Chen[2✉], Xin Jiang[1], Xiao-Peng Song[14], Venkataraman Lakshmi[15], Eric F. Wood[11] and Chunmiao Zheng[1✉]



Earth Syst. Sci. Data, 15, 1093–1114, 2023
https://doi.org/10.5194/essd-15-1093-2023

Open Access Earth System Science Data

Harmonising the land-use flux estimates of global models and national inventories for 2000–2020

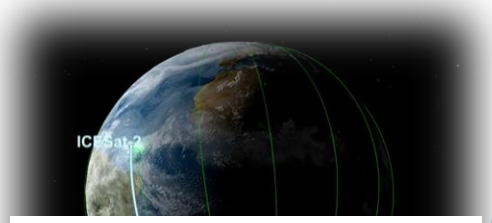
Grassi et al 2023 Earth Syst. Sci. Data, 15, 1093–1114

European Commission

Exploring new data from satellites designed specifically to measure above-ground biomass

BIOMASS MISSION
https://www.esa.int/ESA_Multimedia/Videos/2022/11/Measuring_biomass

NISAR
https://nisar.jpl.nasa.gov/resources/89/global-biomass-mapping-by-nisar/

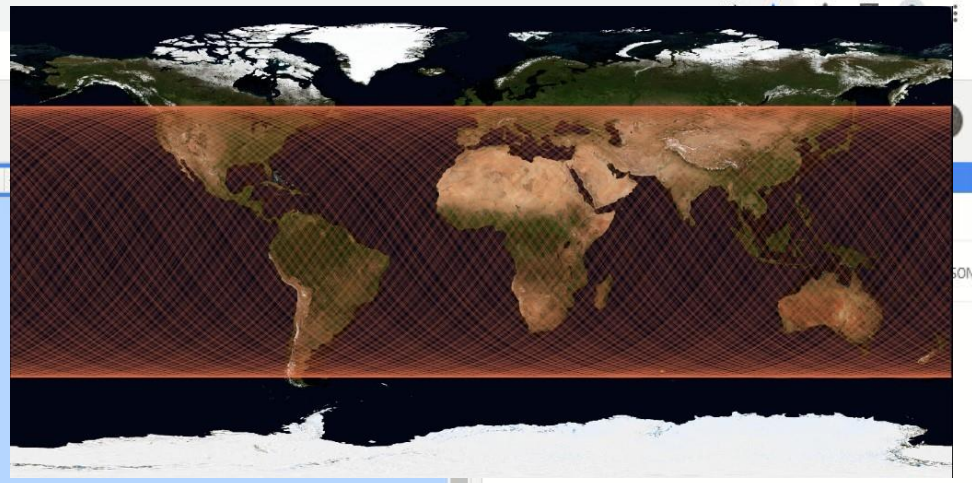


ICESat-2
https://www.youtube.com/watch?v=eKHB2LSSR3c

GEDI video MAY THE FOREST BE WITH YOU
https://www.youtube.com/watch?v=XjieZ9iZHWs

GEDI footprints and Waveform
https://svs.gsfc.nasa.gov/13090

GEDI
ECOSYSTEM LIDAR

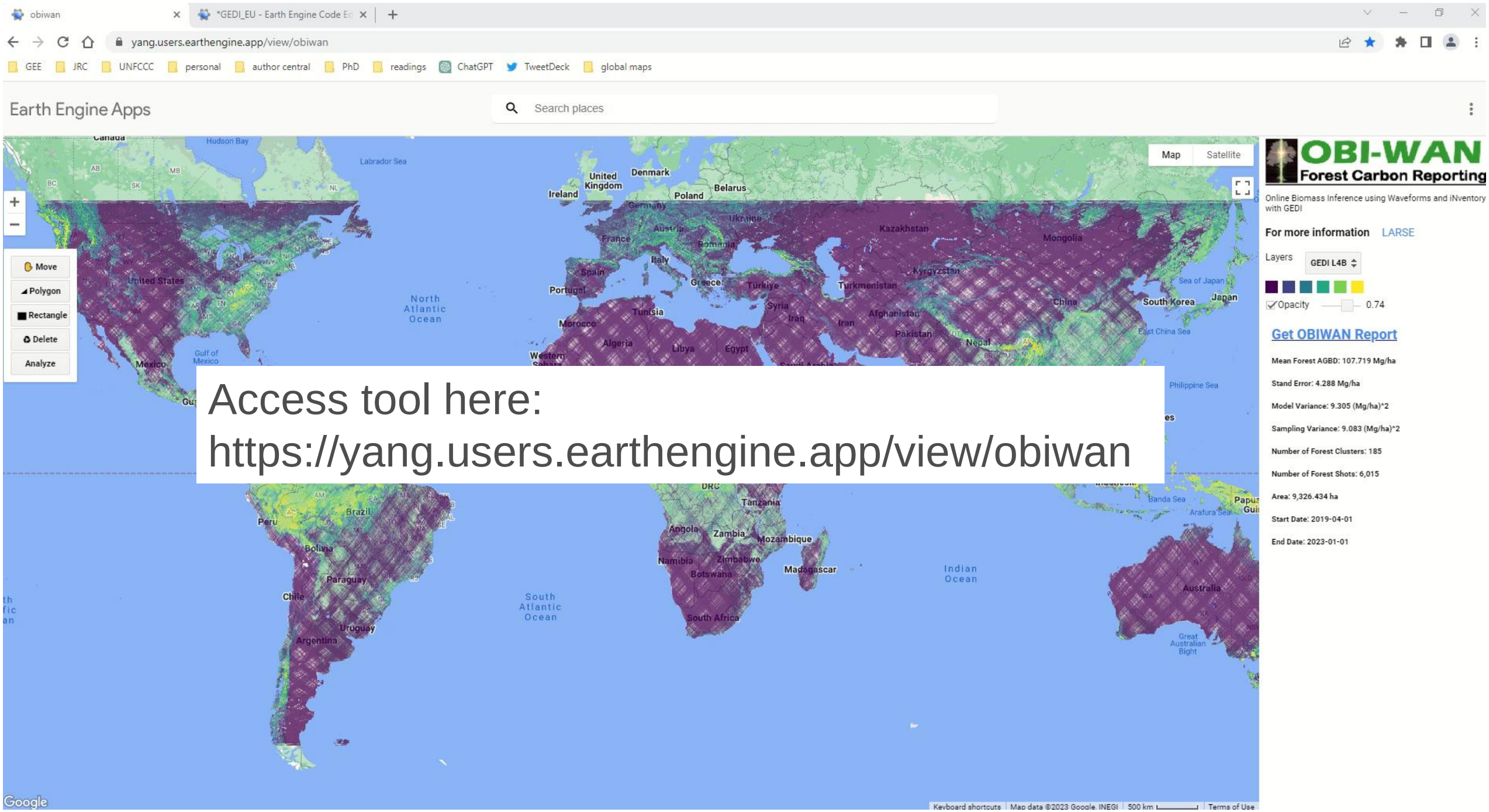


```
var qualityMask = function(im) {
  return im.updateMask(im.select('l4_quality_flag').eq(1))
           .updateMask(im.select('degrade_flag').eq(0));
};
var dataset = ee.ImageCollection('LARSE/GEDI/GEDI04_A_002_MONTHLY')
                  .map(qualityMask)
                  .filterBounds(ee.Geometry.BBox(-20, 30, 40, 60))
                  .select('agbd');

print(dataset);

var gediVis = {
  min: 1,
  max: 300,
  palette: 'red, green, blue',
};
Map.setCenter(0, 50, 4);
```

Download data (waveforms or any other derived products) from here:
https://gedi.umd.edu/data/download/


obiwan
*GEDI_EU - Earth Engine Code Ed
yang.users.earthengine.app/view/obiwan
GEE
JRC
UNFCCC
personal
author central
PhD
readings
ChatGPT
TweetDeck
global maps
Earth Engine Apps
Search places
Map
Satellite
Move
Polygon
Rectangle
Delete
Analyze
OBI-WAN
Forest Carbon Reporting
Online Biomass Inference using Waveforms and iNventory with GEDI
For more information
LARSE
Layers
GEDI L4B
Opacity
0.74
Get OBIWAN Report
Mean Forest AGBD: 107.719 Mg/ha
Stand Error: 4.288 Mg/ha
Model Variance: 9.305 (Mg/ha)^2
Sampling Variance: 9.083 (Mg/ha)^2
Number of Forest Clusters: 185
Number of Forest Shots: 6,015
Area: 9,326.434 ha
Start Date: 2019-04-01
End Date: 2023-01-01
Access tool here:
https://yang.users.earthengine.app/view/obiwan
Google

future *radar* missions

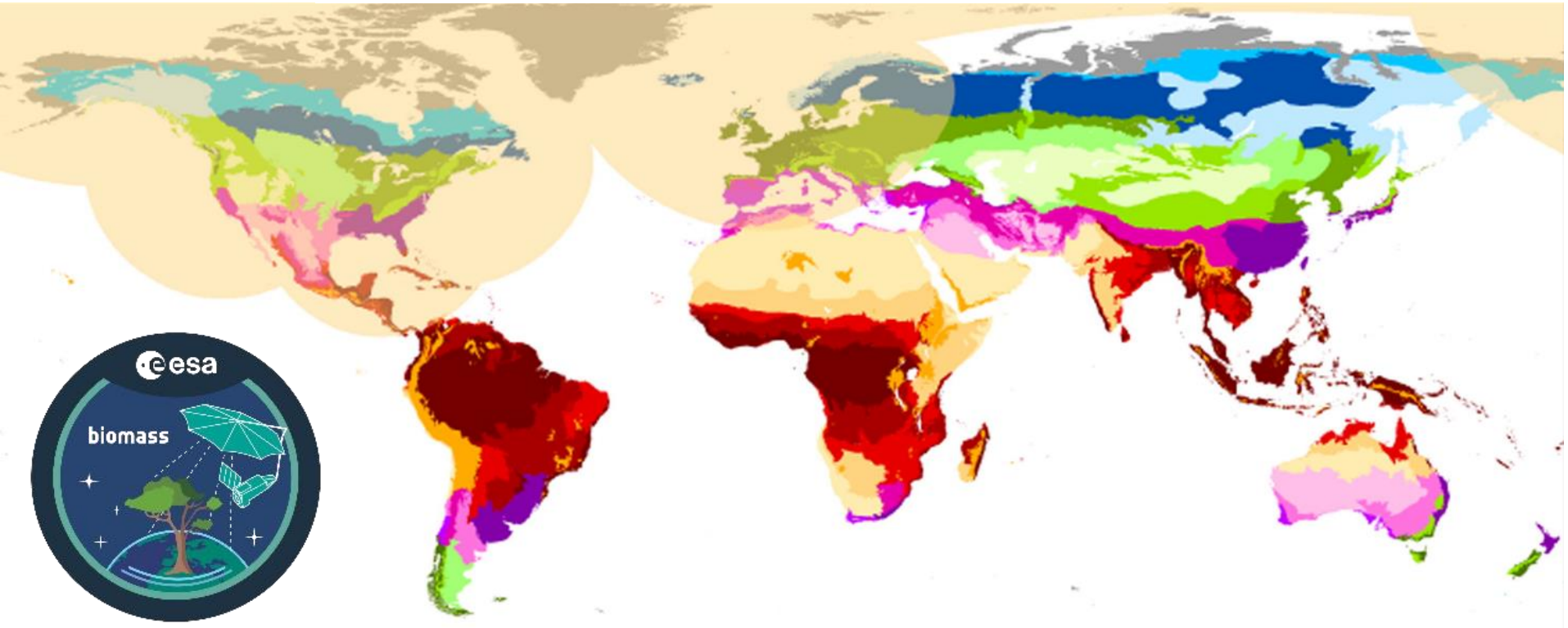
Contents lists available at ScienceDirect

Remote Sensing of Environment

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

Coverage of high biomass forests by the ESA BIOMASS mission under defense restrictions

João M.B. Carreiras [a,*], Shaun Quegan [a], Thuy Le Toan [b], Dinh Ho Tong Minh [c], Sassan S. Saatchi [d], Nuno Carvalhais [e,f], Markus Reichstein [e], Klaus Scipal [g]



Copernicus Radar Observation System for Europe in L-band (ROSE-L)

NISAR
NASA - ISRO SAR Mission

European Commission

Thank you

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European Commission