



Food and Agriculture
Organization of the
United Nations

Challenges and digital solutions for monitoring forests in due diligence declarations associated with international regulations

Progress towards a Digital Public Infrastructure for Sustainable Agriculture



<https://zerodeforestationhub.eu/projects/safe>



Co-funded by
the European Union



AIM4Forests

**FOREST DATA
Partnership**

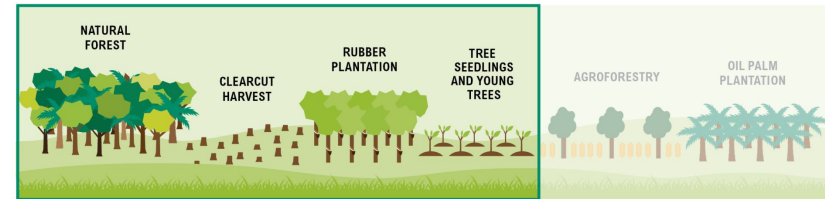
Land Cover in supply <=> Land Use in demand

- **Forest:** (FAO FRA definition): > 0,5ha - trees > 5 m - canopy > 10%, “excluding land that is predominantly under agricultural or urban land use”
- **Deforestation: Conversion from forest use to agricultural use**
- **Forest degradation:** Structural changes to forest cover, taking the form of the conversion of:
 - (a) primary forests or naturally regenerating forests into plantation forests or into other wooded land; or
 - (b) primary forests into planted forests;
- **Deforestation-free:**
 - (a) that the relevant products contain, have been fed with or have been made using, relevant commodities that were **produced on land that has not been subject to deforestation after 31 December, 2020**
 - (b) in the case of relevant products that contain or have been made using wood, that the wood has been harvested from the forest without inducing forest degradation after 31 December, 2020

What is Considered a “Forest?”



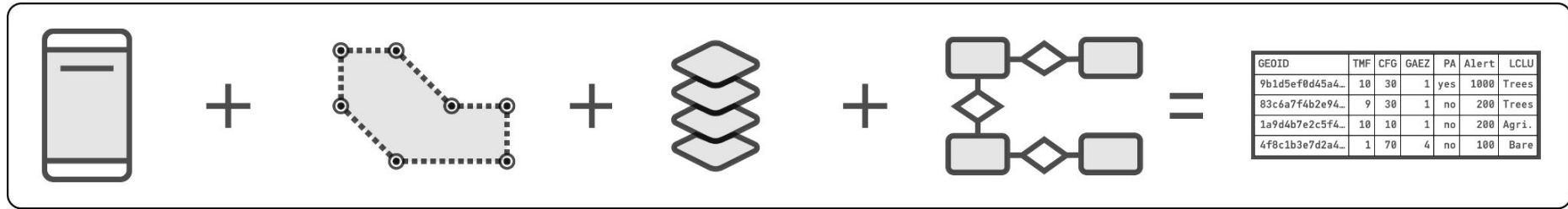
FOREST RESOURCES ASSESSMENT (FRA) adopts the FAO's definition of “forest” to provide global forest area and area change information based on biophysical and land use criteria.



GLOBAL FOREST WATCH (GFW) provides core data sets on tree cover, gain and loss based on biophysical criteria, and uses the term “tree cover” instead of “forest.” Contextual data sets available on GFW such as planted forests can be used to align tree cover with the forest definition used in the FRA.



bit.ly/GFWvsFRA



Boundaries

- Field data
- Digitized manually
- Segmentation

Unique Geo-IDs

- GDSP compliant
- Anonymous
- Attribute-less

Public geodata

- Land cover
- LC Change
- Biophysical
- Land use

Public models

- AI models
- Decision trees

Compliance support

- Standardized data
- Risk assessment at the plot level

GEOID	TMF	CFG	GAEZ	PA	Alert	LCLU
9b1d5ef0d45a4...	10	30	1	yes	1000	Trees
83c6a7f4b2e94...	9	30	1	no	200	Trees
1a9d4b7e2c5f4...	10	10	1	no	200	Agri.
4f8c1b3e7d2a4...	1	70	4	no	100	Bare

Convergence of evidence

- No single geospatial layer of information can prove compliance
- Convergence of evidence from multiple layers can support compliance claims
- National circumstances and datasets should be taken into account
- Robust, transparent and reproducible analysis requires public datasets and processes

www.github.com/forestdatapartnership/whisp



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Towards a digital public infrastructure for deforestation-related trade regulations

What is in that plot? (Whisp) solution to implement convergence of evidence





Deforestation Risk Assessment at plot level

GEOSPATIAL DATA PREPARATION

Tree cover / Forest

- EU JRC DD
- GLAD / ESA / JAXA
- National land cover/use map
- Add: ...

Commodities

- Palm mask
- Cocoa mask
- National commodity map
- Add: ...

Disturbance before 2020

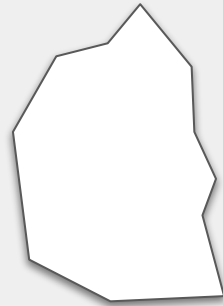
- GLAD / TMF (change product)
- RADD alerts
- MODIS fires
- Add: ...

Disturbance after 2020

- GLAD / TMF (change product)
- RADD alerts
- MODIS fires
- Add: ...

ZONAL STATISTICS

- geo-spatial analysis of all overlapping data within the plot
- output as CSV



Plot
(polygon / point)



RISK ASSESSMENT

Tree cover in 2020 ?

NO

YES

Commodity in 2020 ?

YES

NO

Disturbances
before 2020 ?

YES

NO

Disturbance
after 2020 ?

NO

YES

Low risk

More info
needed

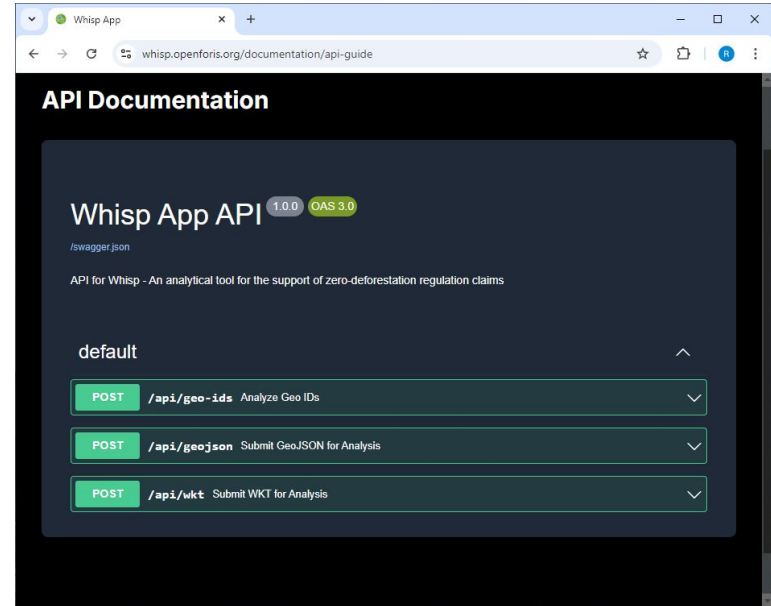
Pay
attention



API available at <https://whisp.openforis.org>

Operators & producers

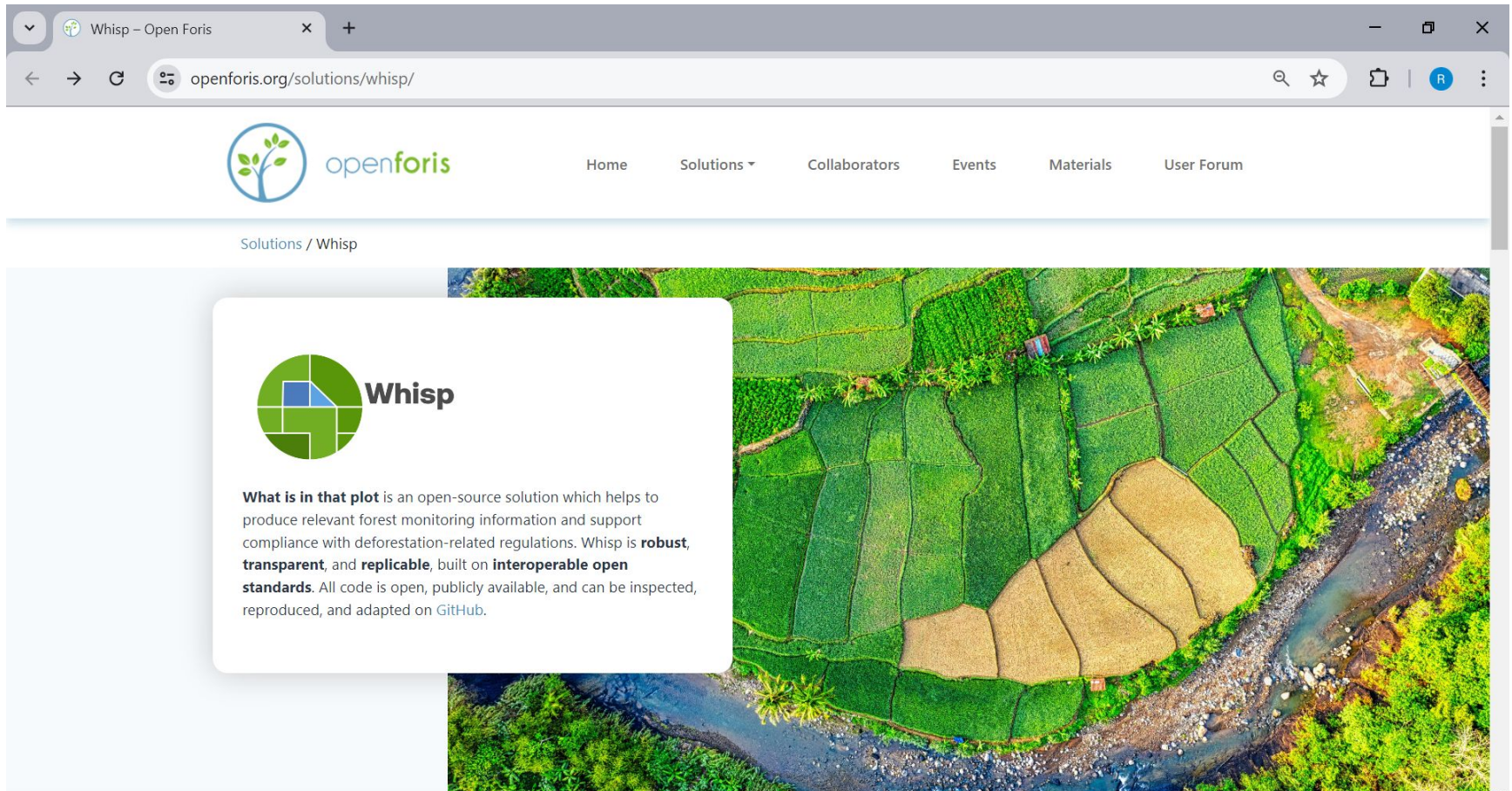
- Louis Dreyfus Company
- Lavazza
- CEMOI
- EFICO
- UNILEVER
- CICC
- FODECC



Traceability tools



More info at www.openforis.org/solutions/whisp




Whisp – Open Foris

openforis.org/solutions/whisp/

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Solutions / Whisp



Whisp

What is in that plot is an open-source solution which helps to produce relevant forest monitoring information and support compliance with deforestation-related regulations. Whisp is **robust**, **transparent**, and **replicable**, built on **interoperable open standards**. All code is open, publicly available, and can be inspected, reproduced, and adapted on [GitHub](#).

Further reading on forest monitoring challenges



www.sustainable-supply-chains.org

FOREST TYPE 2020	FOREST TYPE POST-2020	WOOD REMOVAL AND RESULTING LAND COVER OBSERVED AT POINT OF DUE DILIGENCE	EUDR DEGRADATION OR DEFORESTATION STATUS
PRIMARY FOREST	PRIMARY FOREST	E.G. CLEARCUT OR SELECTIVE LOGGING	CONVERSION FREE
	NATURALLY REGENERATING FOREST	E.G. CLEARCUT OR SELECTIVE LOGGING	CONVERSION FREE
	PLANTED FOREST	E.G. CLEARCUT OR SELECTIVE LOGGING	DEGRADATION
	PLANTATION FOREST	E.G. CLEARCUT	DEGRADATION
	OTHER WOODED LAND	E.G. CLEARCUT OR SELECTIVE LOGGING	DEGRADATION
	AGRICULTURE E.G. SILVOPASTORAL LAND	E.G. CLEARCUT OR SELECTIVE LOGGING	DEFORESTATION
NATURALLY REGENERATING FOREST	NATURALLY REGENERATING FOREST	E.G. CLEARCUT OR SELECTIVE LOGGING	CONVERSION FREE
	PLANTED FOREST	E.G. CLEARCUT OR SELECTIVE LOGGING	CONVERSION FREE
	PLANTATION FOREST	E.G. CLEARCUT	DEGRADATION
	OTHER WOODED LAND	E.G. CLEARCUT OR SELECTIVE LOGGING	DEGRADATION
	AGRICULTURE E.G. SILVOPASTORAL LAND	E.G. CLEARCUT OR SELECTIVE LOGGING	DEFORESTATION

www.globalforestwatch.org/blog/data-and-tools/monitoring-forest-degradation-eudr

Forest Monitoring for Transparent Commodity Value Chain - Global Exchange

FAO HQ, Rome, 25-28 Nov. 2024 and **ONLINE**

100+ participants from

- Cameroon, Côte d'Ivoire, Ghana, Kenya
- India, Indonesia, Malaysia, Viet Nam
- Brazil, Colombia, Guatemala, Peru
- TEI SAFE, EFI, ESA, WTO



Register →

https://faoeventregistration.powerappsportals.com/en-US/MeetingRegistration/?meeting_id=3afaf75b-2bfe-ee11-a1fe-6045bd8a0952