

CONFIDENTIAL

ICE CoT Risk Dashboard - Deforestation Data Assessment

EUDR Article Risk criteria

Under Article 10.2.b. and f. of the EUDR, the risk is evaluated based on two key criteria:

- Presence of Forest
- Prevalence of Deforestation

Risk Assessment & Mitigation Information: Forest Cover and Deforestation

Forest cover and deforestation information for the dashboard is provided through two main sources: the EU Forest Observatory and Space Intelligence. Both provide crucial temporal data regarding the prevalence of deforestation and presence forest:

Forest cover:

- EU Forest Observatory: provides forest area and forest percentage in 2020.
- Space Intelligence: provides forest area and forest percentage from 2020.

Deforestation:

- EU Forest Observatory: collects yearly deforestation rate and deforested area from 2021 to 2023.
- Space Intelligence: collects yearly deforestation rate and deforested area from 2021 to 2024.

Space Intelligence Forest and Deforestation data for ICE CoT:

Space Intelligence collects and processes petabytes of data covering every day of the year from a range of radar and optical satellite sources to produce map that show and measure forest cover, deforestation and regrowth rates over the period from end 2020 onwards. Their algorithms are tuned specifically to meet EUDR definitions, and trained using field campaigns and extensive training/testing data from farms across producer countries, in order to produce highly accurate maps.

This offers a more comprehensive, repeatable, accurate and cost-effective approach than on-the-ground monitoring techniques.

For further information please see [Link to Space Intelligence's Public Methodology](#).

EU Forest Observatory from the European Commission:

The global map of forest cover was created by combining available global datasets (wall-to-wall or global in their scope) on tree cover, tree height, land cover and land use into a single harmonized globally-consistent representation of where forests existed in 2020.

The workflow consists in first mapping the global maximum extent of tree cover circa the year 2020 from the combination of ESA World Cover 2020 and 2021, WRI Tropical Tree Cover 2020, UMD Global land cover and land use 2019, Global Mangrove Watch 2020 and JRC Tropical Moist Forest 2020 datasets. In a second step, a series of overlays and decision rules are applied to reduce this maximum extent of tree cover and align it with the Forest definition using datasets covering cropland and commodity expansion, land use change, built-up and water.

Forthcoming technical reports will describe the methodology and accuracy of the global map of forest cover version 2. A JRC Science for Policy report (Bourgoin et al. 2024) describes the input layers and mapping approach of the global map of forest cover version 1.

For further information please see [Link to European Commission Global Forest Cover 2020 - Data Access website](#).

Differences in datasets, methodology and accuracy mean that there are likely to be differences in the map information provided by Space Intelligence and the EU Observatory. [For further information please see Annex 1.](#)

ANNEX 1

Why are EU Observatory and Space Intelligence data potentially different?

Space Intelligence's EUDR Landcover Maps are specifically created to map forest cover and forest change following EUDR's forest definition. This means the team has specifically focused on identifying natural forest using a 10% minimum canopy cover, and by contrast identifying areas where agriculture occurs, even if under tree cover - for example coffee or cacao. These maps are produced at a 10m resolution combining a variety of data sources, including Sentinel-1 radar, Sentinel-2 optical, and Landsat optical satellite imagery. They aim to have a 95% accuracy for forest/non-forest distinction.

The EU's Forest Observatory maps have a similar goal and specification: they are 10m resolution maps designed to align to the EUDR forest definition. However, they are built up using a combination of existing map products, rather than directly from satellite data; and those products themselves are made using almost exclusively optical satellite imagery. None of the input products were optimised for differentiating natural forest from shade-grown tree crops, and the lack of radar data means small deforestation patches will often be missed, especially in cloudy countries (radar data can see through clouds), and makes it impossible to separate shade-grown crops reliably (radar can see through the tops of canopy trees to the layer underneath). The EU estimate that version 1 of their product has an accuracy of 76.6% for forest/nonforest¹, and expert analysis showed it considerably underestimated the area of coffee, cacao and rubber (over 50% of the area of these commodities in key tested countries was found to be labelled forest in the Forest Observatory dataset¹). The accuracy statistics for version 2, used here, are not yet released: but given the similar methodology used, are likely to be similar.

The difference in input datasets, focus, and accuracy, means there are likely to be large differences between Space Intelligence's and the EU's Forest Observatory data. In countries with large areas of shade-grown cacao or coffee (e.g. Ivory Coast or Ghana), Space Intelligence's maps will likely estimate that the country has lower starting forest cover, as they correctly identify more of the tree crop areas. This will change estimates of deforestation rate too, with deforestation observed as cacao or coffee bushes are planted under forest canopies, that the EU data would not always successfully identify as deforestation.

In areas with lots of smallholder agriculture with trees located within fields, and slash-and-burn/swidden agriculture dominating (e.g. Uganda, Nigeria, Laos), Space Intelligence will again likely see lower forest areas and higher rates of deforestation, as the growing of crops and clearing of trees in the landscape triggers forest loss. Here a specific difference is that many of the input datasets for the EU's data will not flag a pixel as deforested if it has been deforested in the past (e.g. Hansen et al. Global Forest Change data, which will only allow a pixel to be deforested once since 2000). This reduces the observed deforestation rate, as in fact a pixel can regrow to forest, and then be cleared again, especially in mixed slash-and-burn agriculture areas.

¹ European Commission, Joint Research Centre, Bourgoin et al. 2024, Mapping global forest cover of the year 2020 to support the EU Regulation on Deforestation-free Supply chains. <https://data.europa.eu/doi/10.2760/262532>