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| **Mapping Global Forest Cover of the Year 2020 to Support the EU Regulation on Deforestation-free Supply Chains** |
| On 9 June 2023, the European Commission published the EU regulation for deforestation-free supply chains aiming to reduce EU’s impact on global deforestation and forest degradation ([*EU 2023*](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1115)). This regulation lays down rules for seven commodities (cattle, cocoa, coffee, oil palm, rubber, soya, wood) and associated products. A forest/non-forest map corresponding to the cut-off date (31 of December 2020) could serve operators in the assessment of risk of deforestation when declaring land parcels by geolocation for commodities and products imported to or exported from the European Union market. Although several global maps providing tree cover information are available at different scales, the transformation of tree cover, representing the state of the land as observed by Earth Observation systems, to “forest” as defined under a land use concept requires additional data. Not all trees correspond to the definition of forests (e.g. agriculture tree plantations or urban use) and not all forests have trees, e.g., temporally unstocked forest.  We present a harmonized and globally consistent map of forest cover (GFC) presence/absence for the year 2020 at 10m spatial resolution (*[Bourgoin et al. 2024](https://op.europa.eu/en/publication-detail/-/publication/f9baaa45-e73f-11ee-9ea8-01aa75ed71a1/language-en)*). First, we assimilated many freely available global data layers of tree cover and then excluded areas that do not meet the forest definition.  Experts who reviewed the work found the map to be an appropriate spatial representation of forest cover with no major large-scale mapping errors. Dense forests and forest edges in structured landscapes were found to be correctly mapped and delineated. More challenging areas such as dry forest lands, ecotones and complex landscapes with mosaics of degraded forest and agricultural plantations are prone to more frequent mapping errors. GFC 2020 may show some errors when compared to regional or national maps for specific commodities addressed under the regulation, notably for cocoa and coffee and in specific areas for rubber (overlaps between GFC2020 forest class and maps of commodities). Meanwhile comparisons with regional maps for oil palm, soy and pasture (as surrogate for cattle) show satisfactory results (no or limited overlaps). The preliminary overall accuracy of the map using a validation sample set of forest management types (*[Lesiv et al. 2022](https://doi.org/10.1038/s41597-022-01332-3)*) is estimated at 76% with higher omission than commission errors.  This map will play a supporting role in the implementation of the EU Regulation on deforestation-free supply chains but has no authoritative status. For due diligence, it is recommended to use it with other forest or land use maps and complementary datasets, particularly at national scale, if existing and available. We envision an improved version of the map before the Regulation becomes applicable by the end of 2024 along with a statistically and thematically robust accuracy assessment. |