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A global deforestation footprint from production and consumption of primary goods

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Forests make over 30% of global land and perform functions of vital importance for the well-being of humans on Earth. Yet, forest cover is declining due to deforestation that mainly affect tropical biomes, due to land use changes for agricultural, mining, and urban use to satisfy growing global demands. Globalization of markets and development have in fact raised the pressure on environmental resources by humans, and at least 30% of global deforestation is linked to the production of exported goods.

We propose here a method to quantify the impact of global trade on forest cover, by assessing the deforestation embodied in the production, trade, and consumption of forest-risk agricultural products and by-products, from 2000 to 2020. We provide the first estimate of a country-based deforestation footprint, an indicator of the pressure on forest cover by countries that consume goods produced on land previously occupied by forests.

This is a first attempt to systematically and critically address the issue taking into account responsibilities of both exporting and importing countries. Our methods and first assessment can support domestic and international policies aiming at reducing deforestation through a correct assessment of a country's impact on global forests and their services.