

# Spatial Resolution for Forest Carbon Maps



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## Purpose

Many biomass maps have been published, mostly from the commercial sector, with spatial resolutions that are too high for accurate estimation of biomass and with a lack of transparency and validation. This article responded to those products to communicate consensus and guidance from the NASA CMS biomass focus group about the appropriate spatial resolution for biomass maps.

## Summary

Biomass maps have a theoretical minimum mapping unit: the size of a tree crown. Maps at higher resolution than a tree crown (e.g. 3 m from Planet) cannot represent actual biomass values, nor could they be validated as reference data does not exist at these resolutions. We recommend a minimum of 30 m pixels for the boreal, and 0.25 ha pixels for tropical and temperate systems, with an ideal resolution of 1 ha as this is demonstrated to reduce uncertainties.

## Significance

This letter is intended to communicate with map producers and users that spatial resolution is important, that high spatial resolution biomass maps should not be used operationally, and prevent confusion in the natural climate solution and carbon market space.

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Science

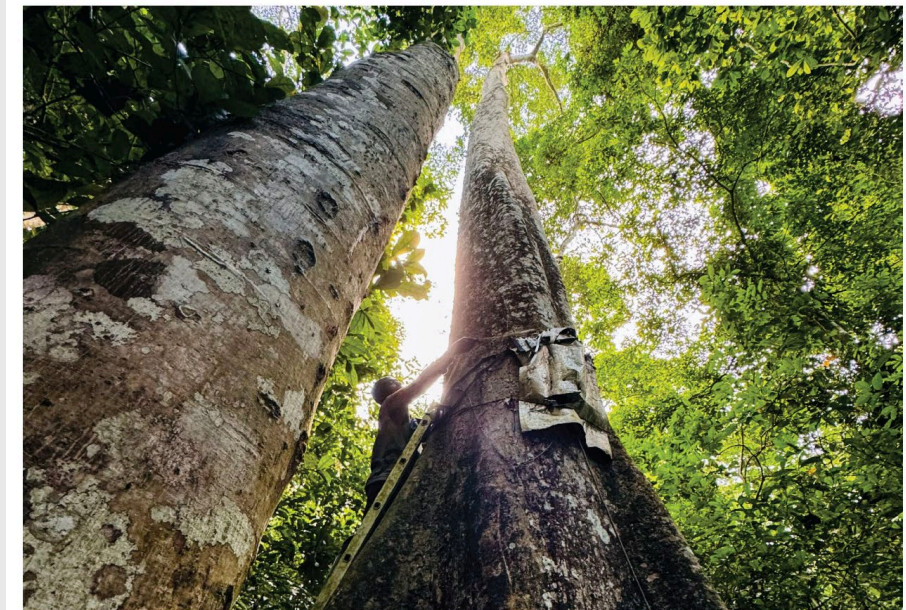
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Incorporating measurements from individual trees, such as those taken by this scientist in Ghana, can increase the accuracy of forest carbon estimates. PHOTO: DR. NEHA HUNKA