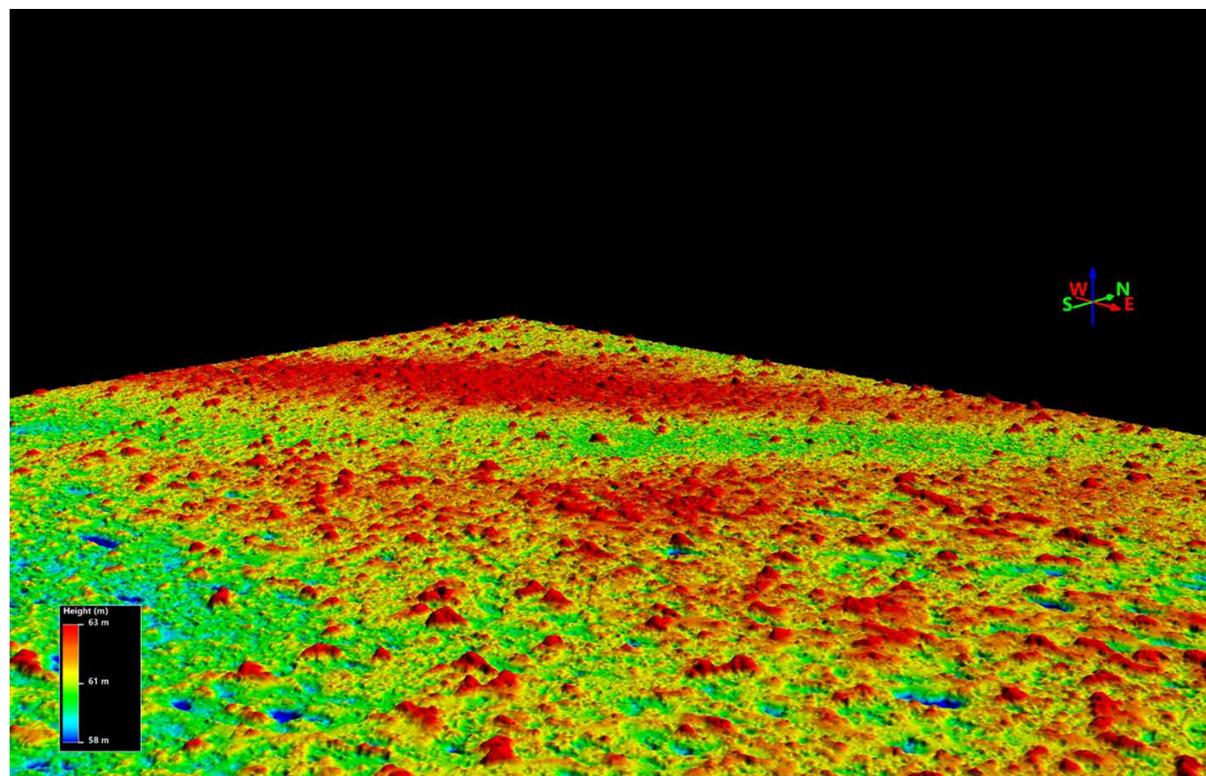




National Aeronautics and
Space Administration



This figure illustrates our mapping of individual tree crowns and stereographic retrieval of their height. This is done at the 50 x 50 centimeter x-y scale with a vertical accuracy of ± 1 meter. This figure is from the Sahel Zone in northern Senegal, on the south side of the Sahara Desert.
Compton Tucker, NASA/Goddard



This is an oblique photograph from the same area showing discrete trees in the semi-arid area known as the Sahel Zone. "Sahel" in Arabic means "shoreline" and has been used for centuries to describe the southern boundary of the Sahara Desert, stretching uninterrupted more than 5,500 kilometers across Africa from the Atlantic Ocean to the Red Sea.
Compton Tucker, NASA/Goddard

Tree Census from Space: Quantifying Woody Biomass Using Machine Learning

NASA researchers are using machine learning (ML) to identify trees from shrubs over an area encompassing millions of square miles of arid and semi-arid regions in the tropics. Using high-resolution, orthorectified mosaics and ML tools, scientists first create a high-resolution, 50-centimeter canopy map of all woody biomass within these regions. Combining these maps with stereoscopic images, tree heights can be estimated in order to calculate the total amount of carbon sequestered in woody vegetation across Sub-Saharan Africa for the first time.



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