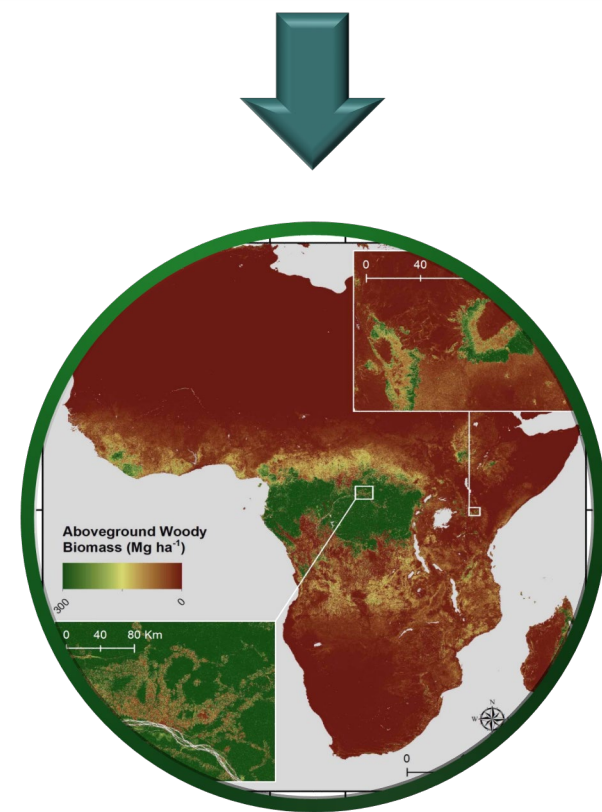


Forest carbon data from space

- Forest aboveground biomass (AGB) is the total store of carbon in trees and forests. Knowing this store accurately is critical to underpinning our knowledge of global carbon cycle and how that is changing with climate and anthropogenic drivers.
- NCEO staff currently derive forest AGB from L-band ALOS-Palsar data and NASA GEDI laser data for Africa and soon will produce new global forest AGB maps.
- NCEO staff have also led the development of the ESA BIOMASS mission due to launch in 2025.
- Current EO biomass estimates have significant uncertainties, in part due to a lack of good 'truth' data. We participate in key field campaigns to improve the quality and relevance of ground-based measurements.



NCEO plays a leading role in international activities to address the need for better cal/val data. NCEO staff co-led the CEOS best practice validation protocol with U. Maryland, NASA and ESA.

Assimilation of our land surface observations into the carbon models, such as the NCEO carbon model allows us to look at changes in carbon stocks and pools.

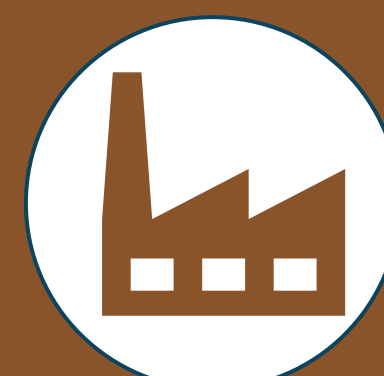
Our carbon models allow us to improve understanding of the magnitude and uncertainty of terrestrial carbon sinks and sources as well as identifying hot-spots of change (and attribution)

Carbon Modelling



NCEO is working within the CEOS roadmap for terrestrial carbon inventories through harmonised biomass datasets to support the second global stock take in 2028. We collaborate with NASA, ESA, JAXA and others in this activity.

AGB for Global Stocktake and NDCs



The GEO-TREES initiative aims to achieve high quality ground data from a global network of long-term forest inventories, and to make these data open access. NCEO is supporting assessment of first sites.

GEO-TREES



Many of the AGB measurements also have key uses in assessing impacts of degradation and deforestation, and more generally biodiversity loss. This feeds into better global Carbon-cycle modelling, improving carbon-uptake and soil carbon changes with climate.

Beyond Forest carbon

