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# Deriving forest properties from short wavelength, bi-static, across-track InSAR

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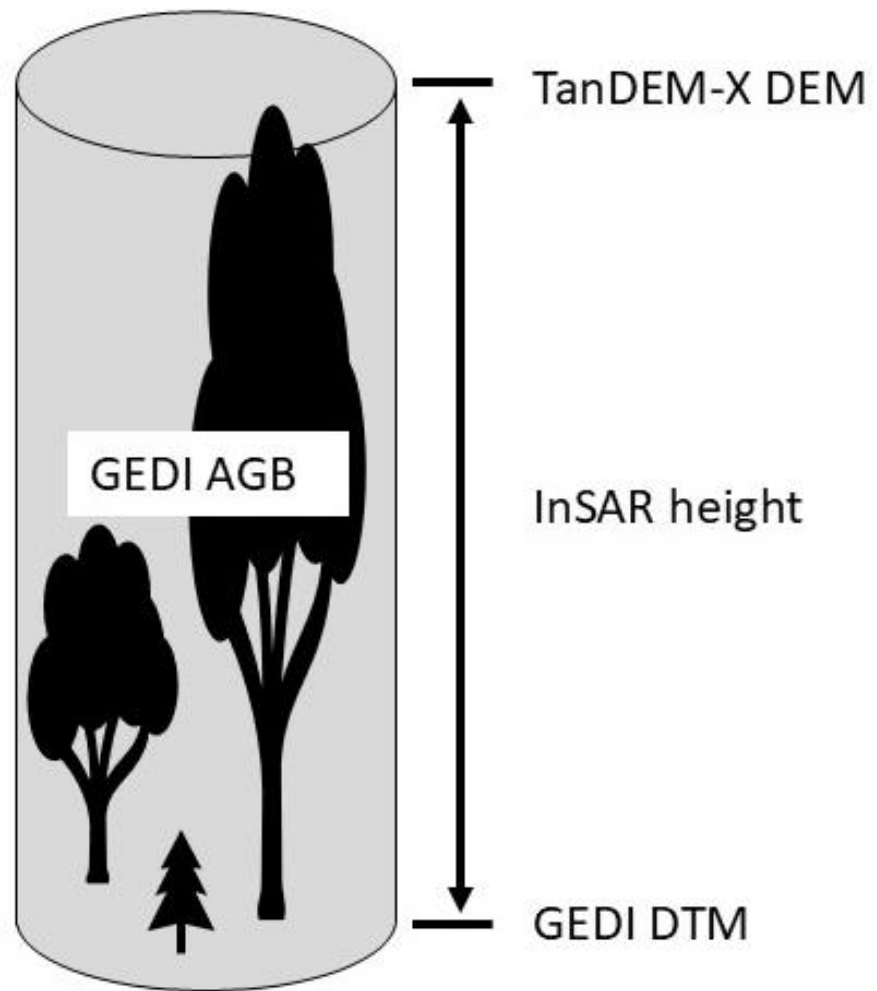
Multistatic Radar Workshop  
19-20 June 2025 Milano

$$\Delta AGB = \sum_{i=1}^{11} \overline{\Delta DEM_i} \cdot A_i \cdot k_i$$

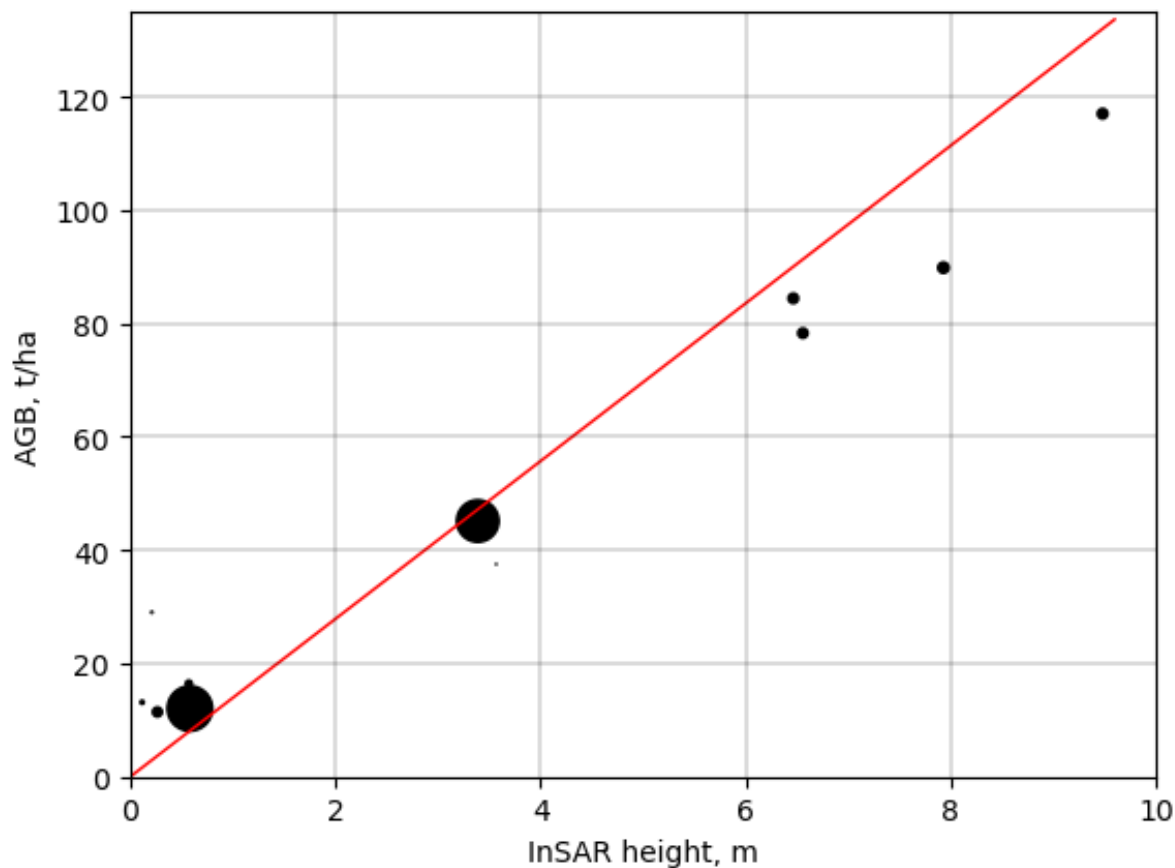
Diagram illustrating the components of the equation:

- TanDEM-X** points to  $\overline{\Delta DEM_i}$ .
- MODIS land cover class** points to  $A_i$ .
- TanDEM-X + GEDI** points to  $k_i$ .

## GEDI + TanDEM-X



# Conversion factor for Tanzania's land cover types



Mean AGB plotted against mean InSAR height for each of the MODIS land cover types, as well as the overall conversion factor of 13.9 T/ha/m given as a red line. The markers are proportional in size to the area of the respective MODIS land cover type, where the two dominating types are nos. 10 (Grasslands, left) and 9 (Savannas, right).

# $\Delta$ AGB Tanzania

Period	Method	Change type	$\Delta$ AGB, MT/yr
2012-2019	Present	Net	-2.96
--- “ ---	Conventional	Loss only	-9.54
--- “ ---	Hybrid	Loss only	-9.12
2002-2013	FREL	Loss only	-17.48
--- “ ---	Conventional	Loss only	-6.91

# Tanzania growing stock (AGB) 2012

Method	AGB (MT)
This study (TanDEM-X and GEDI)	2 759
NAFORMA field plot inventory	2 692

# Protected lands and Global Forest Watch

