

The Role of Local Communities in Forest Monitoring for REDD+

Capacity building for REDD-relevant forest carbon mapping



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Capacity Building for Forest and Carbon mapping

"Capacity Building for Forest and Carbon mapping is an essential element for REDD success. Forest communities and Gov institutions need to know how much carbon is stored in their forests, and how carbon loss or gain can be quantified and monitored."

Technical workshops on forest measurements (in-country)

Targeting: Foresters and Forest Communities

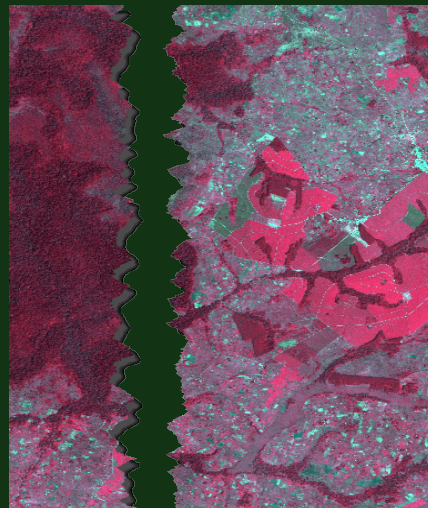
Scholar program (@WHRC)

Targeting : Remote Sensing & GIS specialists

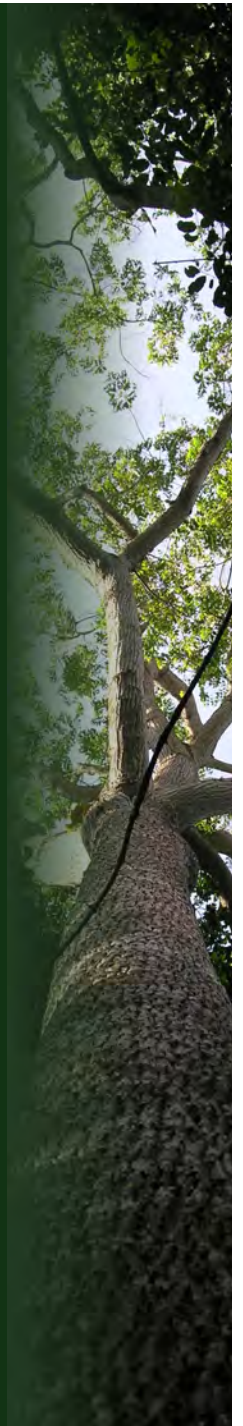
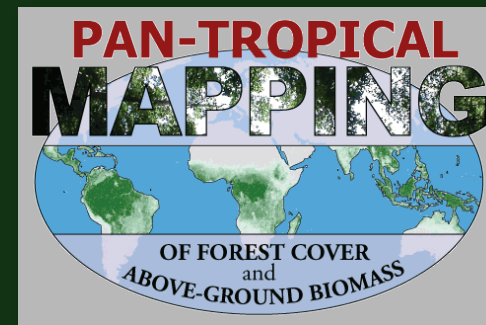
www.whrc.org/education/capacitybldg.html



People



Pixels



Twelve Capacity-building Workshops on Three Continents



Uganda 2008



Technical in-country Workshop Series

Training emphasizes:

- ✓ Field-based measurement for forest inventories
- ✓ Linking field information with satellite-based measurements for carbon mapping

Presentations cover:

- ✓ The role of forests in climate change
- ✓ Forest monitoring in the context of REDD
- ✓ Satellite-based monitoring methods



Bolivia 2008



Democratic Republic of Congo 2010



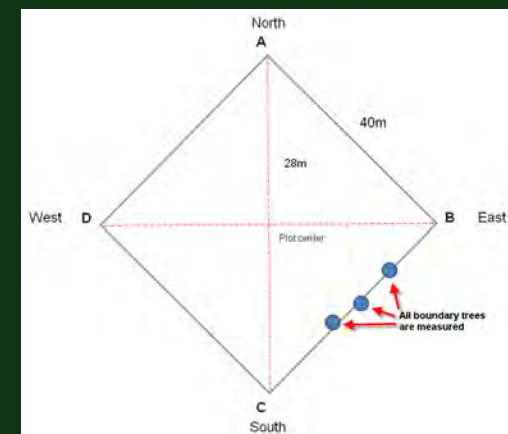
Vietnam 2009



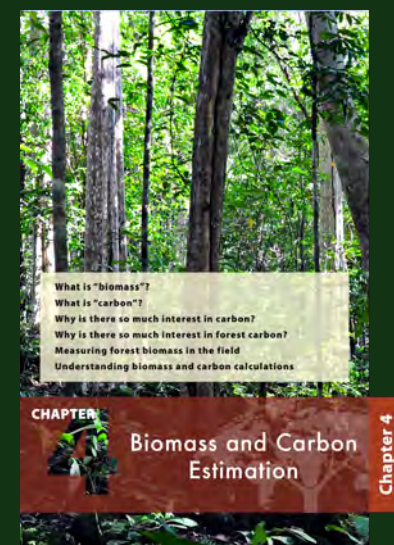
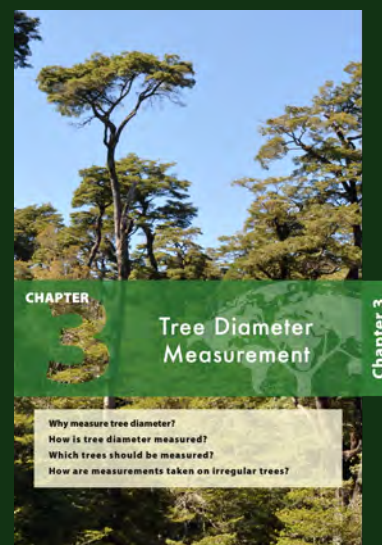
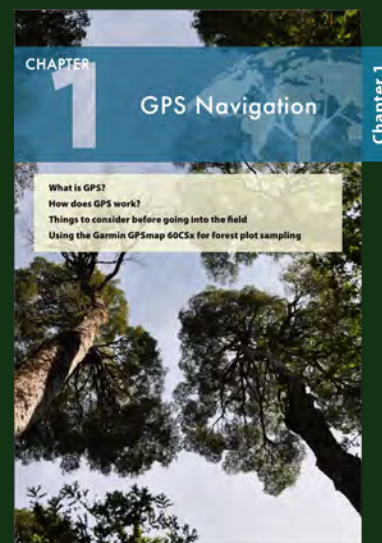
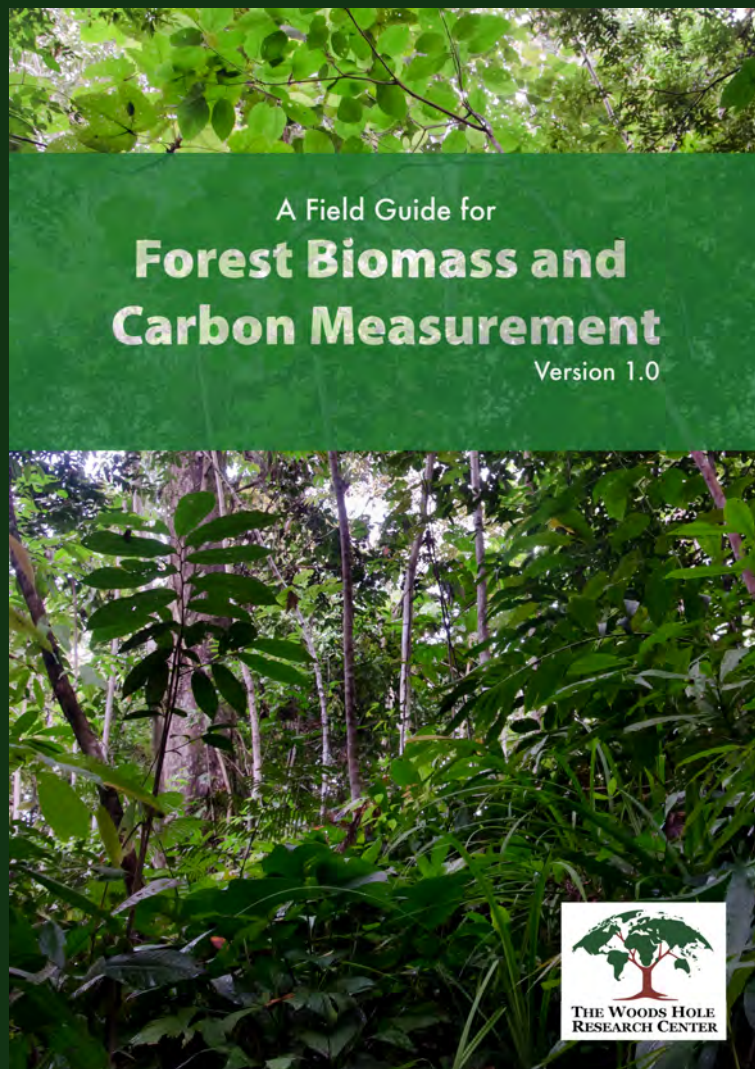
In the Field

Tools and techniques used to derive biomass and carbon from ground measurements.

- Layout of forest inventory plots
- Measurements of trees for biomass estimation
 - Use of equipment for measuring forest trees
 - Use of GPS and digital cameras
- Converting tree measurements to estimates of biomass, carbon and CO₂ emissions

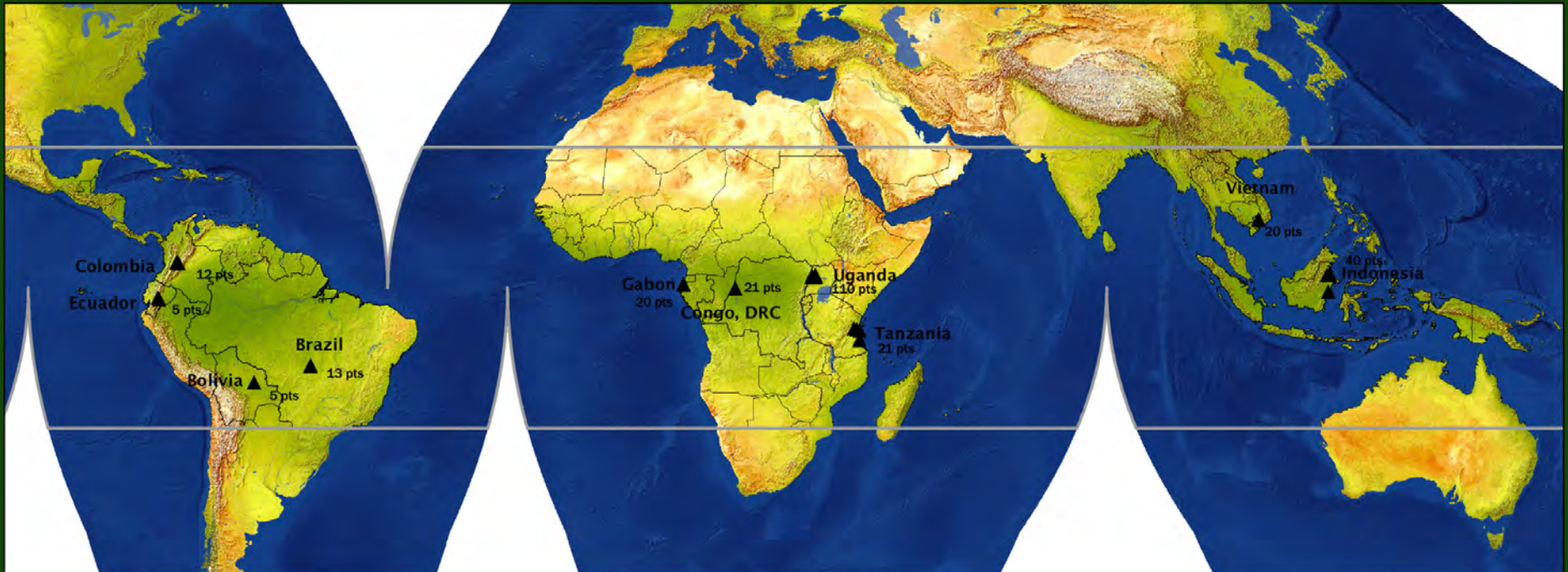


Protocols & Practical Field Guides



Workshops and field measurements

>300 forest plots (> 30,000 trees measured)

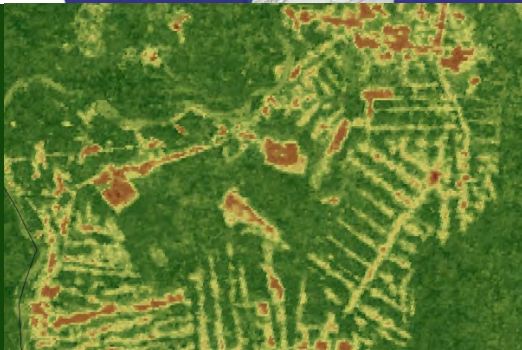
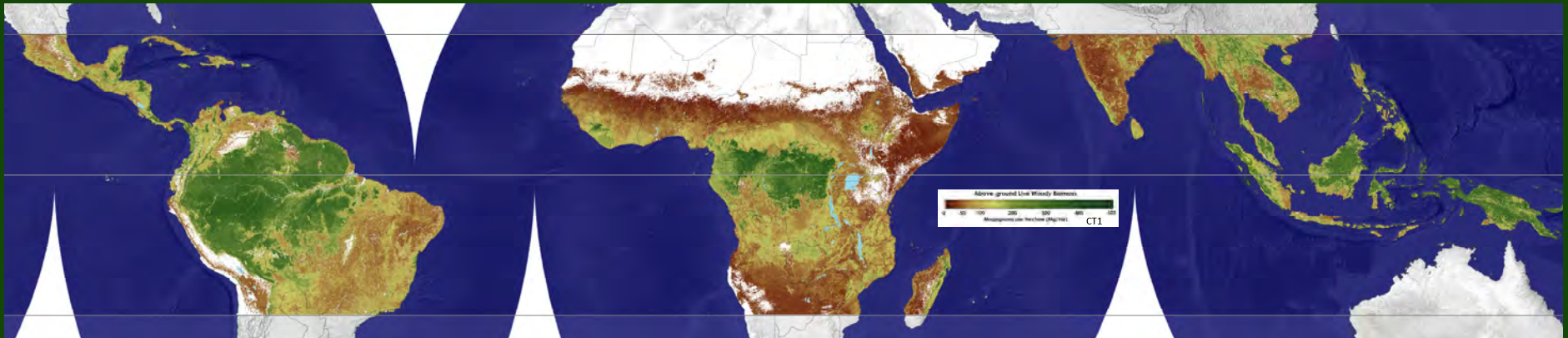


- *Colombia*
- *Ecuador*
- *Bolivia*
- *Brazil*

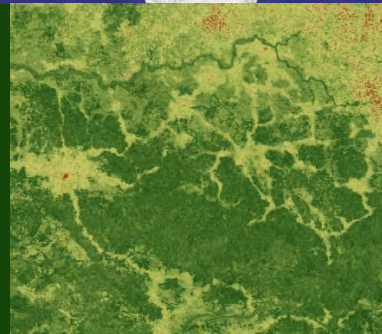
- *Gabon*
- *DRC*
- *Uganda*
- *Tanzania*

- *Vietnam*
- *Cambodia*
- *Indonesia*

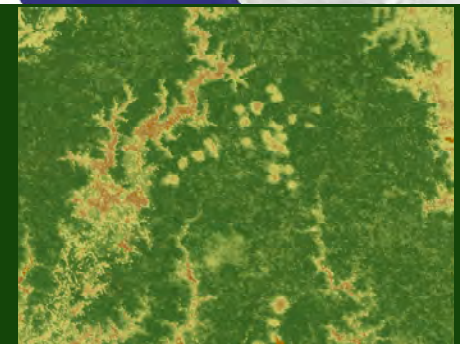
MODIS Lidar & Field calibrated above-ground Carbon Stock 500m resolution map



Amazon Basin
Error 25 Mg C ha⁻¹



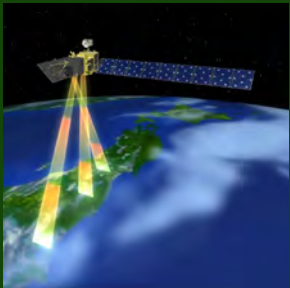
Democratic Rep Congo
Error 19 Mg C ha⁻¹



Papua New Guinea
Error 24 Mg C ha⁻¹

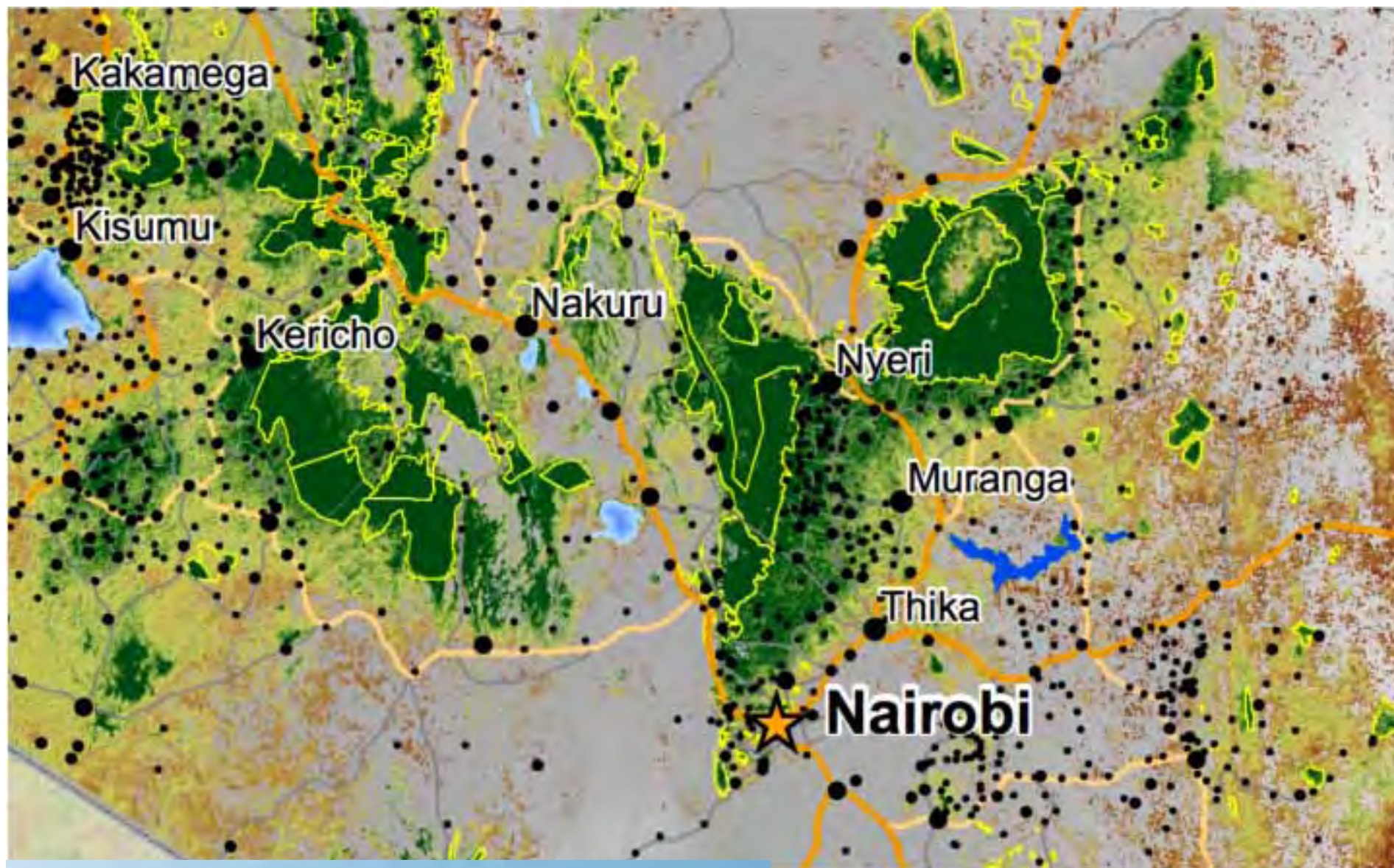
*New satellite-based estimates of tropical carbon stocks and CO₂ emissions from deforestation.
Baccini et al. Nature Climate Change, in press .*

Kenya 2007

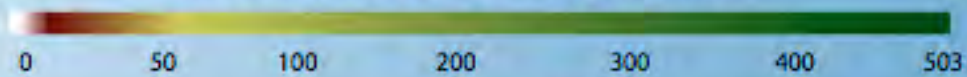


Production of national carbon maps for improved forest management including REDD





Above-ground Live Woody Biomass



Megagrams per Hectare (Mg/Ha)

Biomass map, Kenya 2007

Pan-tropical Forest Scholars Program

- Scholars
 - ✓ Government technicians / NGO specialists
- Many tropical counties represented
 - ✓ Bolivia, Colombia, Mexico, Democratic Republic of Congo, Gabon, Kenya, Zambia, Uganda, Vietnam, India, Lao PDR.
- Program emphasizes
 - ✓ Tools and techniques for carbon & forest mapping
 - ✓ How to use these tools for forest management including REDD
 - ✓ & more recently deforestation modeling

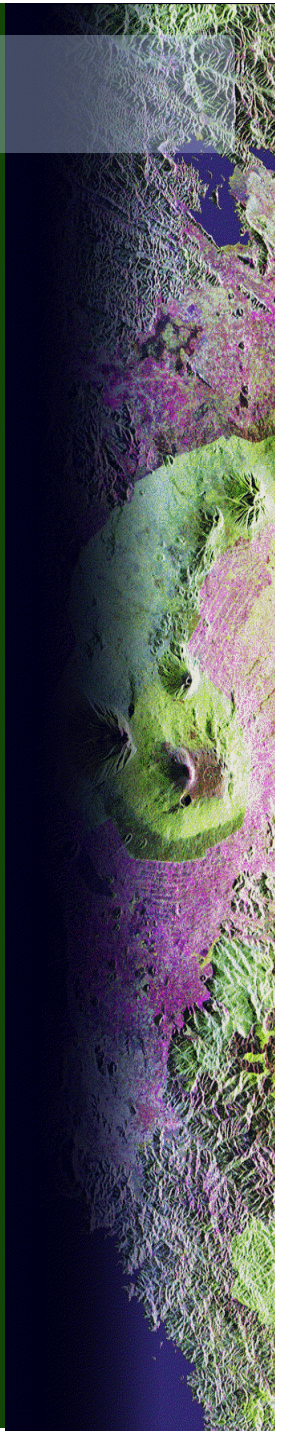


Conclusions

You cannot protect the environment unless you empower people, you inform them, and you help them understand that these resources are their own, that they must protect them."

Professor Wangari Maathai

.....and capacity building is an essential part of the information sharing process and forest communities empowerment



Acknowledgements

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