

The way Forward

The results of CARBOVEG-GB contribute directly to improve the ability of Guinea-Bissau (GB) to successfully attained sustainable forest management and prevent forest degradation and deforestation. Valuing forest carbon stocks and providing incentives for the improvement of sinks is a good approach to support local forestland owners and forest communities.



Once the forest baseline is established GB is ready to consider projects to generate CERs under CDM and VERs for voluntary markets, and be a candidate for the REDD mechanism. GB is strongly committed in the preparation of policies and capacity building in public institutions to support Sustainable Forest Management, and to be fully prepared to host projects under the UNFCCC.

Acknowledgments

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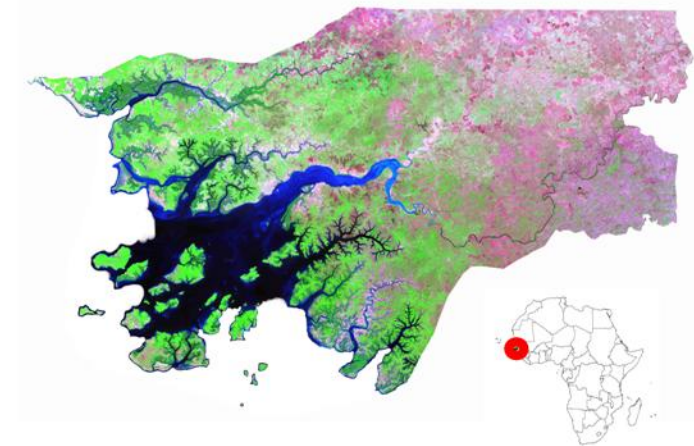
Instituto de Biodiversidade e Áreas Protegidas da Guiné-Bissau (IBAP) and NOG Acção para o Desenvolvimento (AD) contributed with support during field work

Partners



CARBOVEG-GB

Quantification of Carbon Stocks and of Sink Effects in the Forest Vegetation of Guinea-Bissau



Context and Background

Getting the forest sector of Guinea-Bissau ready for accessing the carbon market
Monitoring tropical deforestation and Land Use Change

Objectives

- Quantification of historical land cover changes and deforestation rates—*baseline*
- Quantification of vegetation biophysical parameters for assessment of carbon stocks and sinks
- Quantification of the carbon stock contained in Above Ground Biomass (AGB)
- Assessment of the carbon sinks of the Guinea-Bissau forest area
- Set up a forest vegetation monitoring system and characterization of farming systems and fire practices
- Capacity building for several institutions

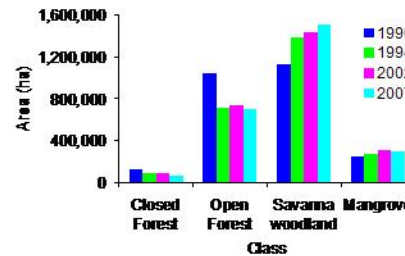
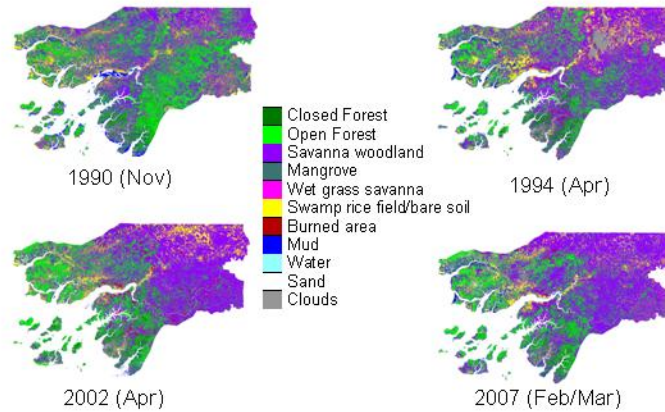
Methodologies

- Multi-temporal satellite image processing and production of a land cover map series
- Forest inventory and calculation of AGB¹
- Modeling and calculation of carbon sink effect based on field data and measured plot age
- Socio-economic assessment - interviews with farmers, with sampling procedure supported by observed land cover changes and fire practices
- Training of Guinean technicians with inclusion in project team

¹ Pearson, T.; Walker, S. and Brown, S. (2005) - Sourcebook for land use, land use change and forestry projects, BioCFA/Winrock International, 64 pp.

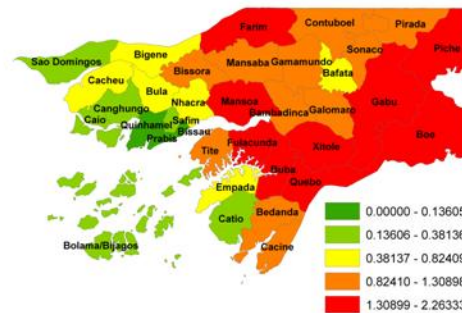
Preliminary Results

- Land cover change between 1990



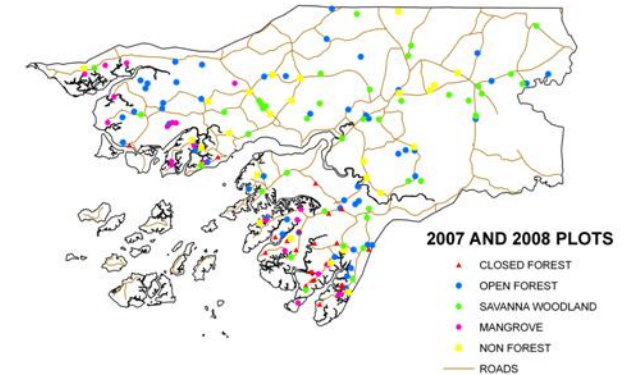
Forest cover change obtained with classification trees algorithm combined with expert knowledge and field work

- Fire density (MODIS 2001-2006)

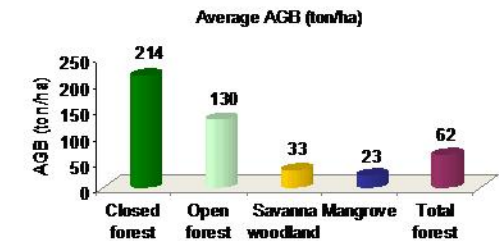


Guinea-Bissau agro-ecological regions characterized in relation to farming systems and fire practices.

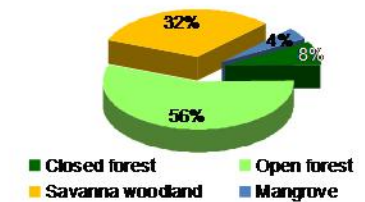
- Collected parameters and calculations



Location of sampled plots in the first two, of three, campaigns



Total AGB distribution



| Forest type | Above ground biomass of living trees | | Carbon stock on AGB of living trees and CO ₂ equivalent | | |
|----------------------|--------------------------------------|----------------|--|------------------------|-------------|
| | Average AGB ton/ha | Total AGB Mton | C Mton | CO ₂ e Mton | % |
| Closed forest | 214 | 14 | 7 | 26 | 8% |
| Open forest | 130 | 101 | 50 | 184 | 56% |
| Savanna woodland | 33 | 57 | 29 | 105 | 32% |
| Mangrove | 23 | 7 | 3 | 13 | 4% |
| Total: Forest | 62 | 179 | 90 | 329 | 100% |

Average and total AGB and C stocks distribution per forest type