Methodological Developments for EO-based Forest Cover Change Mapping: Cameroon and Central African Republic

Since 2007 GAF AG has been supporting Congo basin countries in facilitating the elaboration of a REDD+ institutional framework and in developing methodologies related to the application of Earth Observation technology in forest cover change monitoring in the context of REDD+. GAF AG and its consortium of partners are currently addressing technical challenges related to EO-based activity data assessment and emission factor estimation in the framework of the European Union research project entitled "REDD for Africa" (REDDAF) in Cameroon and the Central African Republic.
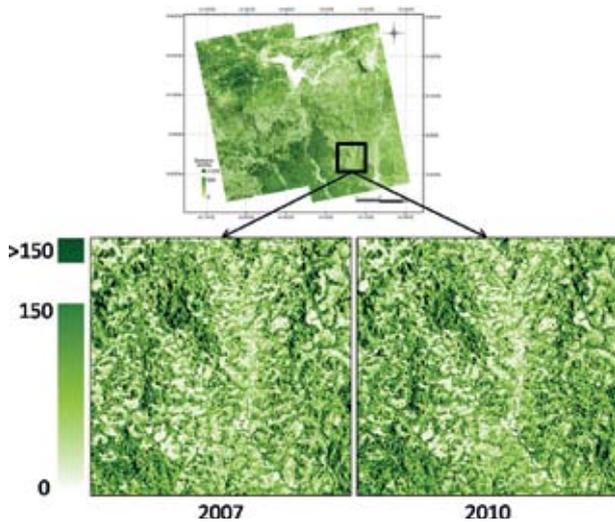
Biomass maps, at spatial resolution of 25 m derived from ALOS PALSAR data acquired on July 26, 2007 (left) and June 18, 2010 (right). The area (15 km x 17 km) is on the East part of the Mbam and Djerem National Park.
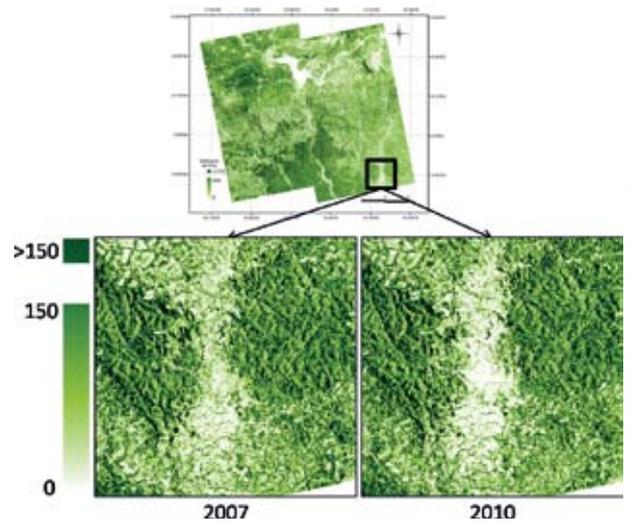
Biomass maps derived from ALOS PALSAR data acquired on July 26, 2007 (left) and June 18, 2010 (right). The area (21 km x 21 km) includes the East and west parts of the Pangar Djerem reserve.

Objectives

The main objective in the REDDAF project is to develop and demonstrate improved methodologies using both optical and radar EO data for deforestation/degradation assessment and direct biomass measurements. The improved methodologies will contribute to current endeavours for developing national forest monitoring systems in Cameroon and the Central African Republic.

Project Activities

REDDAF contributes to the following main REDD+ process aspects:

- The application of multi-sensor, multi-temporal EO datasets to determine historical trends in forest cover change in the REDD+ context.

- Developing methods for improved pre-processing of multi-sensor, multi-temporal EO-datasets and for the discrimination of IPCC compliant land cover classes.

- Developing methods for direct assessment of forest degradation

- Developing methods for direct biomass estimation from RADAR satellite imagery.

- Determination of a functional relationship between biomass measurements derived from ground based inventories and RADAR data.

- Assessment of the drivers of deforestation/ degradation in Central African Republic

- Establishment of a REDD+ geo-database in Central African Republic

- Elaboration of a validation protocol for EO-based products in REDD+ MRV

- Identification of institutions responsible for REDD+ MRV in Central African Republic

- Assessment of the capacity needs of the MRV REDD+ institutions in Central African Republic

- Elaboration of a capacity building programme in the scope of MRV REDD+ for Central African Republic

- Capacity building and technology transfer to the national counterparts in Cameroon and Central African Republic

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SEVENTH FRAMEWORK PROGRAMME

REA