

# FOREST (Fully Optimized and Reliable EmissionS Tool)

## Satellite, forest, carbon stocks estimation

Based on optical/radar satellite data, FOREST provides solutions for sustainable forest management and carbon stocks enhancement.

### Overview

Forests are important carbon sinks that play a vital role in maintaining the world's ecological balance. Responsible for almost 20% of greenhouse gas emissions, deforestation has contributed to climate change and led to a loss of biodiversity, social deprivation and soil degradation.

FOREST provides forest owners with forest asset management services. Through the innovative use of optical and radar data, in situ measurements and software (based on the ground-breaking ORCHIDEE model), the consortium achieved what had never been done before: providing forest owners and managers with information on the size and structure of forested areas, including analysis of their evolution over time and carbon stock estimations.



### Key facts

Project started: 2014

KIC: Climate-KIC

Theme: Decision metrics and finance

No. of partners: 6



*Baseline map classifying forest and non-forest areas*

### Climate-KIC support

Climate-KIC helped FOREST to mobilise a wide range of actors in the academic, scientific and private sectors who brought strong knowledge of the market, access to an international network of key stakeholders and best-in-class expertise and solution building blocks to the project.

### Market potential

Some products on the market already offer a forest evolution tracking service. The uniqueness of FOREST lies in the analysis of the structural changes undergone by a forest area, their spatial distribution as well as their causes. This makes FOREST an essential tool to allow forest owners to better manage their property.

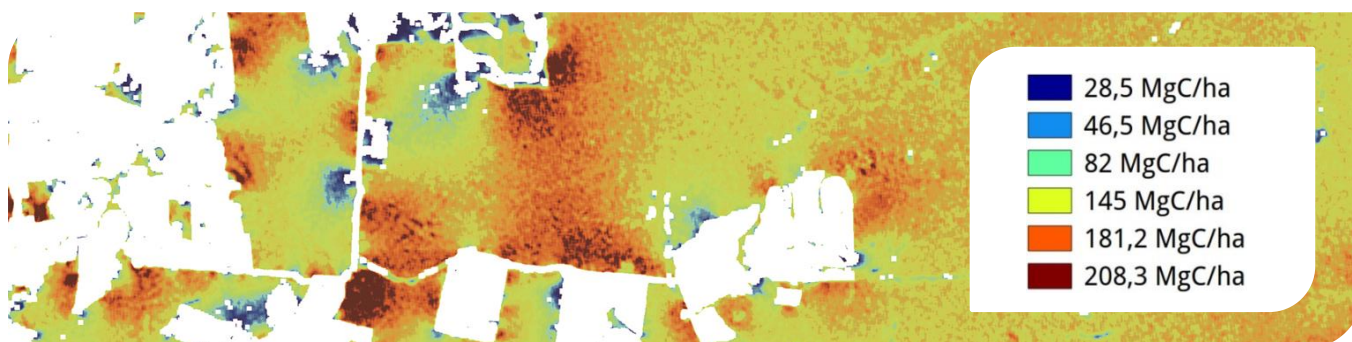
In addition, FOREST analyses the characteristics of the forest area to give a reliable estimate of the carbon stock it represents, as well as to monitor the development of this stock, thereby opening the way to carbon credit markets and boosting the value of the forest.

## Societal impact

As an empowering tool for forest project managers, forest resource owners, and local and national decision-makers, FOREST has an extremely high impact potential. Indeed, forests are not only the biggest carbon sink on Earth, they also provide invaluable ecosystem services (water filtering, biodiversity, air quality, etc.) as well as economic value (logging or agroforestry, for instance). FOREST allows this value to be optimised, improving life conditions for the many people depending on this resource. FOREST is creating an entirely new value chain, unlocking revenue streams for forest owners and managers, while actively fighting climate change through emission offsets.

## Achievements so far...

- Created decision support tools with a coverage of several thousand km<sup>2</sup> in Gabon, Cameroon, French Guiana, Colombia and Brazil
- Participated in many international events in 2015, including a UNESCO conference in Paris
- Held demonstration workshops in 2015 to engage with stakeholders



Carbon stock map showing spatial estimates of carbon stock within a forest

## Teamwork

FOREST has brought together the expertise of Airbus Defence and Space (project lead and forest market player through the supply of Earth Observation data, processing and solutions), ONFI (forest sector specialist), scientific and research carbon modelling and image processing experts (LSCE, AMAP), NPL (UK's measurement institute) and I4CE (economic specialist in climate change policies).

The consortium members were able to combine their strengths to create FOREST, and their complementary expertise and know-how has been essential to the project. Following on from the successful demonstration workshops carried out in 2015, FOREST is now at the commercialisation stage and building a go-to-market approach.



FOREST maps are based on earth observation satellite information

## More information

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[www.climate-kic.org/projects/fully-optimised-and-reliable-emissions-tool-forest/](http://www.climate-kic.org/projects/fully-optimised-and-reliable-emissions-tool-forest/)



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