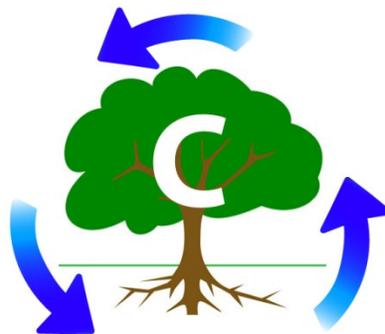


# COMIFAC Technical Assistance on Forest Mapping and Monitoring in the Congo Basin

Brazzaville, Republic of Congo  
(31 January – 8 February, 2010)



*Workshop Logo*



**US Forest Service**

Jim Beck

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## ACKNOWLEDGEMENTS

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## 1.0 INTRODUCTION

The USDA Forest Service (USFS), through the Office of International Programs, is an implementing partner with the Central African Regional Program for the Environment (CARPE), initiative launched in 1995 by the United States Agency for International Development (USAID). USFS provides targeted technical assistance aimed at capacity building for improved forest management in the Congo Basin, focusing its efforts on forest management and planning processes implemented by CARPE partners and by the host country governments.

As an agency with long-standing experience in managing 80 million ha of US land, USFS has excellent institutional expertise, as well as extensive practical experience from the lessons learned in various areas related to national forest and grassland management, such as climate change, ecosystem services, fire, global disaster support, invasive species, land management and planning, natural resource management, sustainable forestry, sustainable tourism, and water resource management.

The Central African Forest Commission (COMIFAC) has primary authority for decision-making and coordination of sub-regional actions and initiatives pertaining to the conservation and sustainable management of the Congo Basin forests.

COMIFAC and the USFS signed a letter of intent in December 2009 guiding on the overall form of technical assistance and mode of collaboration amongst the COMIFAC Executive Secretariat (ES) and USFS. Through the partnership, USFS will provide technical support to the COMIFAC ES towards the implementation of the Operational Plan for the Convergence Plan 2009-2011, as well as its Climate Working Group.

For this mission, the USFS mobilized a technical assistance team to participate in the “2010 UN FAO Forest Resource Assessment by Remote Sensing, Central Africa Sub-regional Workshop, as well as the “COMIFAC Regional Workshop: Monitoring Carbon Stocks and Fluxes in the Congo Basin”. Side meetings and workplanning discussions were with key regional partners to initiate implementation and as necessary further refine the USFS/COMIFAC workplan.

**Objective:** Work in collaboration with the COMIFAC ES, FAO, and several other CBFP/CARPE partners to better understand the institutional landscape, roles, and gaps that the USFS could fill pertaining to USFS technical cooperation with COMIFAC. Overall, this effort seeks to support the building of technical capacity necessary in Central Africa to implement the COMIFAC convergence plan for sound natural resource management.

## 2.0 ISSUES, FINDINGS, & RECOMMENDATIONS

Leading up to the meeting, USFS and COMIFAC already had a workplan, detailed below, that identified areas of technical exchange needed to support eventual carbon monitoring and reporting under REDD in the region. The meeting brought together a wide range of technical experts from a number of fields and countries to highlight developments in the monitoring of central African forest carbon. Findings included:

- Mapping of forest change is well under way. Both the JRC and SDSU groups have comprehensive and credible systems in place.

- Other remotely sensed efforts to defensibly estimate standing carbon stocks are making progress but are still significantly hampered by a lack of calibration and validation data from the ground.
- There are noteworthy efforts to aggregate existing plot data derived from either from one-off science projects or from logging stand surveys. Nevertheless, the haphazard nature of the field data supporting both current sample-based and satellite-based estimates of biomass means that these efforts are likely to suffer from undiagnosed biases, a point which will not be lost upon REDD skeptics.
- FAO has initiated a systematic regional forest inventory that so far looks to be well-designed. This inventory framework represents an excellent opportunity to defensibly estimate carbon stocks both nationally and regionally, and should be supported.
- COMIFAC talked about establishing scientific review panels to make suggestions for ways forward regarding MRV (Monitoring, Validation, and Reporting) issues.

COMIFAC workshop documentation can be found at the following links:

- <http://osfac.net/workshop/default.html>
- [http://cbfp.org/proceedings/items/COMIFAC-Workshop\\_Brazzaville-Documentation.html](http://cbfp.org/proceedings/items/COMIFAC-Workshop_Brazzaville-Documentation.html)

## **2.1 Existing Action Items from USFS/COMIFAC Workplan**

### **2.1.1 Modeling the trends of deforestation and forest degradation at the national level and definition of possible reference scenarios (Activity 2.1).**

World Bank is supporting IIASA to carry out a study in this domain with a preliminary version of a regional model to be presented to stakeholders in Cameroun in mid November. A final version is to be presented in March 2010. USFS technical assistance is requested to be carried through two lines of activity: 1) Scientific review, test, critic of the model alongside COMIFAC experts; 2) Regional training sessions on the model in view of appropriation by key stakeholders. *This item is addressed in Recommended Activity #2, below.*

### **2.1.2 Measurements of stocks of stand biomass for various types (ecological and land uses) of forests (Activity 2.2).**

Currently there is a REDD pilot project in Cameroun being implementation by GAF with funding from BMZ (using methods and technicians from Peru). Depending on results there is interest in possibly extending this approach/methodology to Gabon and Rep of Congo. USFS technical assistance is requested to be carried through three lines of activity: 1) Support for mapping the current full extent of the Congo Basin forest (with UMD/NASA); 2) Scientific/technical review and critic of the GAF's methodology; and 3) Regional training sessions on forest inventory techniques (linked to Task 1.2 above). *This item is addressed In Recommended Activity numbers 1.3 and 1.4, below.*

### **2.1.3 Development and utilization of the appropriate national model for forecasting of GHG emissions and developing emissions reference scenarios (Activity 2.3).**

WB FCPF (Gabon, Cameroon, and Congo), UN REDD (DRC), and AFD (CAR and Eq. Guinea) are supporting such activities currently or will shortly. USFS technical assistance is requested

to be carried out through two lines of activity: 1) Scientific review, test, critic of the model(s) alongside COMIFAC experts; 2) National training sessions on emissions modeling. *This item is addressed in Recommended Activity #2, below.*

#### **2.1.4 Development and implementation of monitoring-reporting-verification systems as pertains to REDD (Activity 2.4).**

A GEF funded REDD preparation project (PPG) is supporting the development of MRV methodologies and building capacity necessary capacity. USFS technical assistance is requested to be carried out through two lines of activity: 1) An overview study on MRV methodologies being used and prepared pertaining to REDD; 2) Technical review of GEF PPG studies; 3) Regional workshop with national COMIFAC climate focal points and the FORAF consortium of scientific partners. *This item is addressed in Recommended Activity #2, below.*

## **2.2 Recommended Activities**

In view of recent developments, some elaboration of the above activities is now possible. Specifically, we recommend 2 priority actions under the framework already established.

### **2.2.1 Support UN REDD field sample through COMIFAC.**

This UN effort represents a striking opportunity to sow the seeds for rational, coordinated national and regional inventory systems that will be absolutely critical in the establishment of credible monitoring for carbon and other forest resources. The USFS, and particularly the national forest inventory, can play a consultative role on a number of subjects, including those listed below. This role may be played informally and remotely, formally and in person, or some combination thereof.

**Sample framework** Our current understanding is that a year's worth of temporary plots will be used to support optimization of a stratified sampling approach using "managed" and "nonmanaged" strata that are prominent in international carbon accounting systems. Pending further clarification from REDD about this approach, we believe that a simple all-lands systematic/random sample might be the best regional (and national) carbon accounting framework in the long term. Given that the area of management (and the very definition of "management") will change over time, serious complications may be in store by the second estimation cycle. If US experts confirm this, the UN would be better off spending that first year getting the real sample off the ground (perhaps concentrating in RDC).

**Strategy for intensifying the sample in certain countries** Properly designed, a regional forest inventory should be able to seamlessly accommodate national or even sub-national sample intensification. Regional integration under a single design would put the COMIFAC region ahead of Europe and the Americas in terms of consistent international reporting. The sampling theory behind this strategy is a well-established FIA strength, and input regarding related techniques should be relatively simple.

**Adaptation of sampling and estimation techniques for COMIFAC sampling frame.** The Cameroonian experience should provide critical practical insight into inventory implementation in the region. Field supervisors from FIA may also have insight to add related to data collection, and database people are likely to have useful suggestions for data storage. These experts

could be mobilized if invited by FAO or COMIFAC to participate in teams with others experienced in inventory implementation. GAF Cameroun personnel would be logical partners in such teams.

**Allometry providing biomass and carbon numbers for the plots.** It is recognized that African and international partners possess the basic biomass measurement data from which allometric equations may be derived. If invited by FAO, USFS could offer experts in equation development. This task is not as urgent as others related to sampling frame because biomass equations can always be applied retrospectively to the basic plot data.

### 2.2.2 Engage USFS personnel involved with the national GHG inventory coordinator to provide MRV insight

The forest and land use change components of the US national GHG inventory are well established and fairly well documented, and they address many of the MRV issues confronting COMIFAC. The US also has a well-developed system for monitoring forest carbon stocks that reside in the form of harvested wood products. This is an element of MRV that no one seems to be considering for Africa under REDD, which is understandable given more basic deficiencies in the reporting system for carbon that is still in the forest. Given developments of the meeting, it seems the most likely forum for consideration of MRV issues under COMIFAC will be a scientific panel, possibly convened to review IIASA recommendations. In many cases, the US system depends upon data not yet available in Africa, but consideration of the US system may contribute to appropriate solutions for the COMIFAC reporting area. There are few USFS staff with comprehensive skills to be ideal in this capacity, and in light of their likely schedule constraints, an efficient path toward maximizing their involvement may be to hire a technical writer to review US GHG reporting documentation, interview the experts, and provide a concise digest (in French) of relevant US experience. This could be plugged into the COMIFAC MRV panel work. Later in the process, USFS experts may be able to consult further with the COMIFAC team considering this issue.

## 3.0 NEXT STEPS

The following immediate next steps resulted from the mission:

- Debriefing and internal discussion in USFS to discuss going forward for COMIFAC technical cooperation as described above, as well as bilaterally with DRC.
- Followup telephone discussions with COMIFAC to further fine tune USFS/COMIFAC workplan in light of the above.
- Mobilize USFS teams for USFS/COMIFAC workplan implementation.
- Continued discussions with FAO UN REDD staff to ensure ongoing coordination of USFS technical cooperation in DRC and regionally in support of COMIFAC.

## 4.0 APPENDICES

### 4.1 Scope of Work



**Draft - USFS Team Scope of Work**  
**US Forest Service International Programs**  
**COMIFAC Technical Assistance on Forest Mapping and**  
**Monitoring in the Congo Basin**



*February 2009*

#### 1. Introduction and Background

The USDA Forest Service (USFS), through the Office of International Programs, is an implementing partner with the Central African Regional Program for the Environment (CARPE), initiative launched in 1995 by the United States Agency for International Development (USAID). USFS provides targeted technical assistance aimed at capacity building for improved forest management in the Congo Basin, focusing its efforts on forest management and planning processes implemented by CARPE partners and by the host country governments.

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COMIFAC and the USFS signed a letter of intent in December 2009 guiding on the overall form of technical assistance and mode of collaboration amongst the COMIFAC Executive Secretariat (ES) and USFS. Through the partnership, USFS will provide technical support to the COMIFAC ES towards the implementation of the Operational Plan for the Convergence Plan 2009-2011, as well as its Climate Working Group.

A workplan under discussion focuses the technical cooperation on the following overarching activities and tasks:

Activity 1: COMIFAC-USFS Technical Cooperation - Plan de convergence implementation		
Tasks	1.1	Harmonisation of the forest and taxation policies (PC Strategic Area 1).
	1.2	Knowledge of the resource (PC Strategic Area 2).

1.3	Management of national and regional ecosystems and reforestation (PC Strategic Area 3).
1.4	Management of national and regional ecosystems and reforestation (PC Strategic Area 3).
1.5	Sustainable valorisation of forest resources (PC Strategic Area 5)
1.6	Capacity building, stakeholder participation, information, and training (PC Strategic Area 7)

<b>Activity 2: COMIFAC-USFS Technical Cooperation - REDD/Climate Unit Assistance</b>		
<b>Tasks</b>	2.1	Modeling the trends of deforestation and forest degradation at the national level and definition of possible reference scenarios.
	2.2	Measurements of stocks of stand biomass for various types (ecological and land uses) of forests.
	2.3	Development and utilization of the appropriate national model for forecasting of GHG emissions and developing emissions reference scenarios.
	2.4	Development and implementation of Monitoring-Reporting-Verification systems as pertains to REDD.

## 2. Overview of USFS Support for COMIFAC on Forest Monitoring

For this mission, the USFS will engage a technical assistance team to participate in the “2010 UN FAO Forest Resource Assessment by Remote Sensing, Central Africa Sub-regional Workshop, as well as the

“COMIFAC Regional Workshop: Monitoring Carbon Stocks and Fluxes in the Congo Basin”. Side meetings and workplanning discussions will be held with key regional partners to initiate implementation and as necessary further refine the USFS/COMIFAC workplan.

**Objective:** Work in collaboration with the COMIFAC ES, FAO, and several other CBFP/CARPE partners to better understand the institutional landscape, roles, and gaps that the USFS could fill pertaining to Activity 2 and in particular task 2.1 above. Overall, this effort seeks to support the building of technical capacity necessary in Central Africa to implement the COMIFAC convergence plan for sound natural resource management.

**Location and Timing:** Draft itinerary follows:

- Jan 31 – Sean Healey arrive in AM, check in at hotel and prepare for weeks meetings
- Feb 1 – Participate in “2010 UN FAO Forest Resource Assessment by Remote Sensing, Central Africa Sub-regional Workshop.” - Jim Beck arrives in PM
- Feb 2 – 4 – Participate in the “COMIFAC Regional Workshop: Monitoring Carbon Stocks and Fluxes in the Congo Basin” – Workplanning discussions in PM
- Feb 5 – Meeting with US Embassy in AM. Workplanning and trip report discussions. Sean Healey departure in PM.
- Feb 6-7 – Jim Beck continues consultations and departs in PM.

**USFS Team Tasks:**

- 1) Participate substantively in the regional meetings;
- 2) Move forward the COMIFAC workplan, in particular for Activity 2 - COMIFAC-USFS Technical Cooperation - REDD/Climate Unit Assistance;
- 3) Develop a trip report on the mission (see description under 'Deliverables').

**Deliverables:**

- 1) *Trip Report*: the USFS team will produce a report detailing activities during the mission and all results and findings of the work toward the accomplishment of the objectives and tasks listed above. This report will include, but not be limited to:
  - a. Executive summary
  - b. Introduction
  - c. Issues, findings, & recommendations (per above technical assistance component)
  - d. Next steps
  - e. Appendices
    - i. Scope of work
    - ii. Itinerary
    - iii. List of contacts made

## 4.2 Itinerary

Date	Description of meeting
Jan 31	-Sean Healey arrive in AM, check in at hotel and prepare for weeks meetings
Feb 1	-Participate in “2010 UN FAO Forest Resource Assessment by Remote Sensing, Central Africa Sub-regional Workshop.” - Jim Beck arrives in PM
Feb 2–4	-Participate in the “COMIFAC Regional Workshop: Monitoring Carbon Stocks and Fluxes in the Congo Basin” -COMIFAC/USFS/CARPE workplanning meeting Feb 4 in PM
Feb 5	-Meeting with US Embassy in AM. -Meeting with Republic of Congo Forest Ministry -Workplanning and trip report discussions. -Sean Healey departure in PM.
Feb 6-8	-Jim Beck continues consultations with WCS, WRI, WHRC, others  -departs in AM Feb 8

### 4.3 List of Contacts Made

Name	Title/Institution
Martin TADOUM	Deputy Director, COMIFAC
Marcellin AGNAGNA	CARPE Representative, ROC
Gregoire NKEOUA	Forest Director, Ministry of Economy and Forestry (MEF)
Patrice GOUALA	Forest Inventory and Management Lead, MEF
Danae MANIATIS	Consultant, FAO DRC UNREDD
Danilo MOLLICONE	FAO
Glenn BUSH	Environmental Economist, Woods Hole Research Center (WHRC)
John POULSEN	WHRC
Denis SONWA	Scientist, CIFOR
Sharon GOMEZ	Project Manager, GAF
Thomas HAUSLER	Forestry Department Head, GAF
Landing MANE	Director, OSFAC
John FLYNN	Director, CARPE
Paul TELFER	Director, WCS Congo
Matt STEIL	Project Manager, WRI
Alan EASTHAM	US Ambassador to Congo
Bruno GUAY	Consultant, ONFI, UNREDD DRC
Others	<a href="http://cbfp.org/rapports/items/Suivi_des_stocks_carbone-COMIFAC-Documentation-F.html">http://cbfp.org/rapports/items/Suivi_des_stocks_carbone-COMIFAC-Documentation-F.html</a>