Measuring Terrestrial Carbon to Protect the Congo Basin Forests

Professor Felix Koubouana, second from left, poses with colleagues after teaching at a workshop on carbon accounting in Kisantu, Democratic Republic of the Congo, in May 2018.

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The Carbon Institute Director John-O Niles gives a lecture about carbon measurement to professors, government technicians, and technical partners during a workshop in Kisantu, Democratic Republic of the Congo.

Photos courtesy of Olivia Freeman and Eva McNamara, U.S. Forest Service International Programs

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The Congo Basin Forest is the second largest contiguous rainforest in the world, spreading across nine countries in Central Africa. Protecting these forests is essential in the fight against the effects of climate change, as tropical rainforests absorb and stock huge amounts of carbon.

An important step in protecting these forests is calculating how much carbon they store so that countries can better monitor their forests and carbon emissions, make more informed management decisions, and apply for funding to set up programs to reduce deforestation. However, in general, there is a shortage of professionals trained in carbon accounting methods in the region.

To reinforce the region's capacity, the U.S. Forest Service International Programs, in partnership with The Carbon Institute, is working in Central Africa to train and mentor university professors and government officials who are committed to protecting their forests and mitigating the effects of climate change. Since 2015, with support from USAID's Central Africa Regional Program for the Environment and the U.S. Department of State, this partnership has trained and mentored over 75 professors, government officials, and technical partners in Central Africa in internationally accepted terrestrial carbon accounting methods.

Professor Felix Koubouana, who teaches at Marien Ngouabi University in the Republic of the Congo, was trained as part of this program and now teaches these methods to his own students.

"It is a huge opportunity for our country, and our region, to master terrestrial carbon accounting," says Professor Koubouana. "For my students, it is an opportunity for them to do cutting edge research using these methods. Already they have done work that is helping our government make vital decisions about forest management and climate change policy. Without these trainings, this would never have happened."

Following each training the most effective professors are invited to join subsequent trainings as lecturers, which provides sustained teaching and learning. Professor Koubouana was recently selected to travel to the neighboring Democratic Republic of the Congo to teach at a workshop for university professors, government officials, and other local technical experts working on resource management and climate change. Coordination between countries and relevant stakeholders is an essential step in protecting these forests, and these workshops allow professionals like Professor Koubouana to both teach what they have learned as well as share experiences and possible solutions.

The Carbon Institute's training and mentoring approach includes tailoring training and course curriculum on terrestrial carbon accounting to countries' specific interests, needs, and selected methodological approaches. They promote South-South cooperation and exchange as well as experiential learning, with the aim that experts and professors trained will then be equipped to, in turn, train the next generation of climate leaders and scientists.

"Our dream is to eventually set up a permanent place of learning for the region where students can come for one or two years and learn about all aspects of carbon accounting," says Professor Koubouana. "Right now we are training teachers, and it is good that they are able to share this knowledge with their students and colleagues, but we will need many more experts in Central Africa trained in these methods to tackle the problem of climate change. I am grateful to have had the opportunity to take part in this program, and I hope that it will continue to expand in the years to come."

USAID's Central Africa Regional Program for the Environment has worked since 1995 to help protect and preserve forests and biodiversity within the region. Working with governments and universities to build capacity in carbon accounting is an essential step in mitigating the effects of climate change and preserving the Congo Basin forests. As an implementing partner, the U.S. Forest Service International Programs is committed to facilitating targeted and solutions-oriented trainings for Central African countries.