

RAINBIO

AFRICAN BIODIVERSITY DYNAMICS: INTERACTIONS
BETWEEN ECOLOGICAL PROCESSES AND CONSERVATION
ACTIONS

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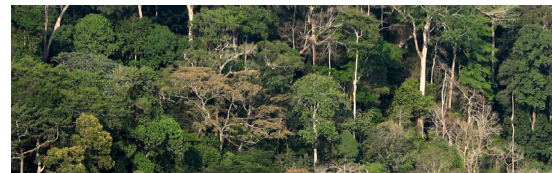
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The tropical rain forests (TRF) of Africa contain an important level of biodiversity but are undergoing important shifts in response to ongoing global warming and related human actions. The conservation of this biodiversity will start with an appropriate and accurate understanding of plant species distribution and dynamics through time.

Data bases documenting species distributions are available but remain independent from each other impeding a concrete view of tropical rain forest biodiversity.

RAINBIO has a double objective in Central Africa:

- 1) Produce an open access platform containing an online database of accurate Central African TRF plant distributions. This database will be compiled from existing public and non-public datasets made available through the consortium.
- 2) Use this meta-database for large scale meta-data analyses, modeling numerous TRF species distributions at several time intervals (past and future) using species distribution modeling, past and future climate scenarios, and high-precision Central Africa environmental data. Our ambition will be to generate, with unprecedented accuracy, detailed scenarios of Central African TRF biodiversity dynamics, from the past and into the future. These data will form a permanent basis for an adequate biodiversity conservation strategy in the region, allowing better conservation assessments in the light of ongoing climate change.



CESAB'S
ADVANCES

APPROACH AND ADDED VALUE

Thanks to the diversity of researchers involved in this project, RAINBIO will rely on a large number of databases generated over 20 years and financed by several large scale projects. These datasets will gather **around half a million of georeferenced specimens** in Central Africa representing distributional information of **about 10,000 species**. The fusion of the databases will be done under the same format allowing easy addition of future data.

ANTICIPATED RESULTS

The project will deliver an **online platform for Central African rain forest biodiversity**.

The users will be the scientific community, conservationists, NGO's, teachers from North and South, and the general public.

The platform will enable these users to:

- 1) Generate **future and past scenarios of biodiversity dynamics** in Central Africa
- 2) Identify and map regions of high conservation importance
- 3) **Train African students and researchers** in ecological niche modeling techniques
- 4) **Publish a synthesis about tropical rain forest dynamics in Central Africa** and the role of refugia in the conservation of plant biodiversity.