

## **Module 1. Geographic Information System, Forest Modeling and Introduction to Geostatistics**

- Date: January 15<sup>th</sup> to 19<sup>th</sup>, 2018
- Time: 9h -15h
- Venue: LABEF Conference Room
- Trainers: Dr.ir. Idohou Rodrigue, Dr.ir. Achille Hounpkèvi

The Geographic Information System (GIS) has become an important decision-making tool in many areas, including marketing, land-use planning policies, climate prediction, forest management, etc. A Geographic Information System is a computer tool for representing and analyzing all things that exist on earth and all the events that occur there. It is also a computer system that collects, analyzes, stores, manipulates and displays geographic information in several dimensions. It is very indispensable in almost all areas of life. It can be used for example to extract data, to improve data processing and facilitate their schematic and synoptic representations by making them more attractive in any type of domain. Despite this importance, GIS remains a myth for many students and researchers in our regions. Mastering such a tool can help in time management and improve efficiency in several areas.

This module will provide participants with a perfect starting point for GIS applications in many areas of research, including forest modeling. It will briefly discuss the theoretical foundations of GIS, and enable participants to be able to manipulate spatially referenced data. In addition, it will focus on the modeling of species distribution, a very important tool in the field of conservation and domestication. The main points to be covered are

- Theoretical foundations of GIS
- The QGIS / ArcGIS software environment
- Data acquisition for the implementation of a GIS
- Geo-processing of spatial data and map editing
- Construction of suitable habitat models in conservation and domestication perspectives
- Validation techniques for suitable habitat models
- Introduction to geostatistics