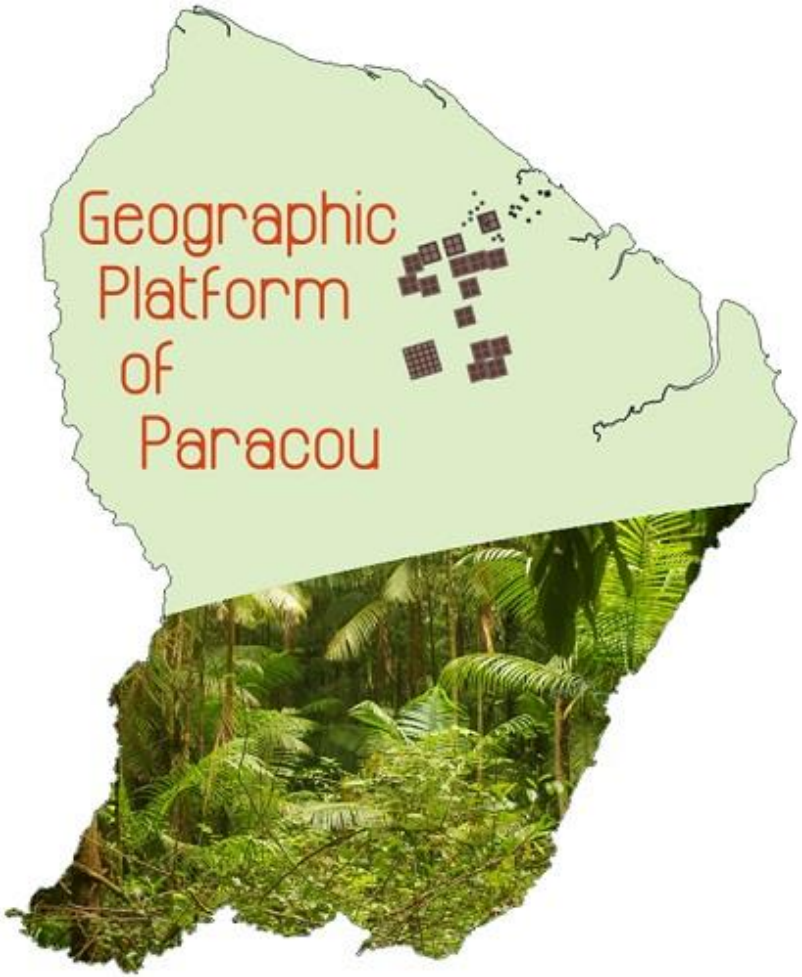

DATA DICTIONARY

Level of information : Layer and attribute table

A.Dourdain (UMR EcoFoG - CIRAD)

Septembre-2017

Title : Geographic platform of Paracou

➢ Summary :

Paracou research station is a large scale forest disturbance experiment set up by Cirad in 1982 that has become over time a unique research site for the international scientific community in tropical forest ecology. This geographical online portal provides access to a broad collection of environmental and biodiversity datasets on Paracou. This data dictionary covers all information. Here you will find an overview of metadata on spatial data relating to:
- data source and contact (see Annex 5) ;
- access rights ;
- data description ;
- geometric accuracy ;
Some spatial layers are downloadable online (Geojson format) and can be used with QuantumGIS. ;

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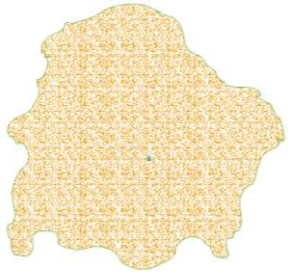
Elie.Guedj@ecofog.gf

Paracou research station : https://paracou.cirad.fr/
Unité Mixte de Recherche Ecologie des Forêts de Guyane : http://www.ecofog.gf/
Cirad : http://www.cirad.fr
Projection : EPSG:3857
Emprise : -5900718.8495098, 584319.5880102, -5883349.0348307, 593614.25165248

TOPIC : GEO units

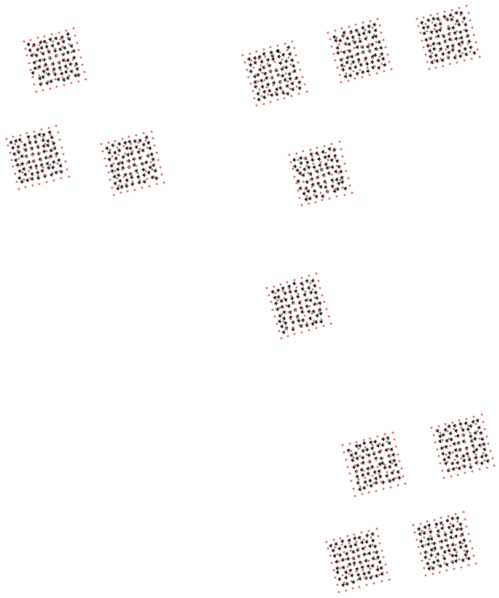
- **Source :** Forest CIRAD team - Dourdain, A., 2017
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Dourdain, A. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taCIRADConcession.shp	This spatial layer shows the boundaries of the CIRAD concession on Guyanese Space Center land in Sinnamary village. The station is located in the coastal part of French Guiana approximately 50 km NW of the European Space Center at Kourou. The site is part of a private domain of about 40,000ha, owned by the Centre National d'Etudes Spatiales, granted to Cirad	POLYGON	1	

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idConc	Integer	*A unique identifier object*	1
NameConc	Varchar	*Name object*	CIRADConcession
Geom	Geometry	*Geometry object*	POLYGON

- **Source :** INRA Monpied, P., 1992- Jounieaux, M., 2016
- **Right to use :** Conditions
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Traissac, S. – AgroParisTech, UMR EcoFoG

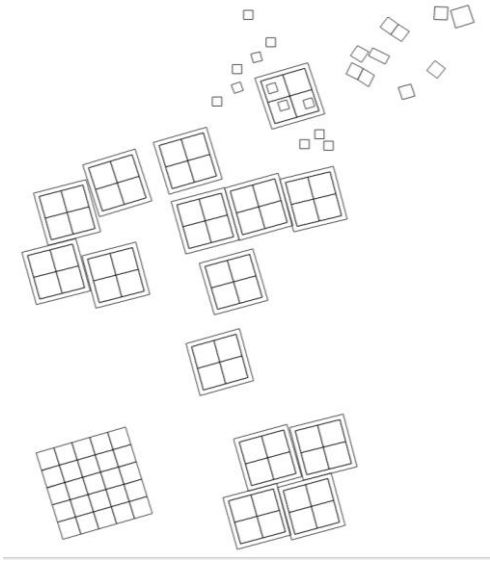
Name	Resume	Entity		Description
		Spatial format	Number	
taRegenerationPlots.shp	This spatial layer shows the natural regeneration plots for trees ≥10cm DBH at Paracou experimental station. Inside each of the 12 plots of 6.25ha, 64 circular plots of 4m radius were delineated. Distance between circular plots is 20 m, and there is a distance of 55m between outer circular plots and the edges of the 6.25ha. Eight inventories of 25 tree species have been carried out in these circular plots since 1992: in 1992, 1993, 1995, 2002, 2005, 2008, 2013 and 2016. The 25 selected species correspond to a set of tropical tree species of interest for both potential exploitation and for impact on overall ecosystem dynamics: *Dicorynia guianensis (Fabaceae), Bocoa prouacensis (Fabaceae), Carapa surinamensis (Meliaceae), Tachigali melinonii (Fabaceae), Eperua falcata (Fabaceae), Eperua grandiflora (Fabaceae), Goupia glabra (Goupiaceae), Qualea rosea (Vochysiaceae), Sextonia rubra (Lauraceae), Jacaranda copaia (Bignoniaceae), Pradosia cochlearia (Sapotaceae), Sterculia pruriens (Malvaceae), Sterculia multiovula (Malvaceae), Moronobea coccinea (Clusiaceae), Platonia insignis (Clusiaceae), Schefflera decaphylla (Araliaceae), Symphonia globulifera (Clusiaceae), Andira coriacea (Fabaceae), Symphonia sp. 1 (Clusiaceae), Iryanthera hostmannii (Myristicaceae), Iryanthera*	POINT	1535	

	sagotiana (Myristicaceae), Vouacapoua americana (Fabaceae), Recordoxylon speciosum (Fabaceae), Virola michelii (Myristicaceae), Virola surinamensis (Myristicaceae). This spatial layer gives the choice between the representation of **absolute** coordinates *(taken using GIS software)* and **relative** coordinates *(taken using GPS)* of the center of the plots.			

➢ **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idReg	Integer	*Unique identifier object*	1-1535
TypeReg	Varchar	*Type of visualization (2 attributes)*	**absolute** coordinates and **relative** coordinates
Plot	Integer	*Number or name of plot*	See Annex 2
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
Column	Integer	*Plot column number (9 attributes)*	0, 3, 4, 5, 6, 7, 8, 9, 10
Line	Integer	*Plot line number (9 attributes)*	0 3 , 4, 5, 6, 7, 8, 9, 10
Geom	Geometry	*Geometry object*	POINT

- **Source :** Equipe CIRAD foret - Petronelli, P., Laroussinie O., Bergonzini, J.C., Schmitt, L.., 1985
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact:** Petronelli, P. – CIRAD, UMR EcoFoG

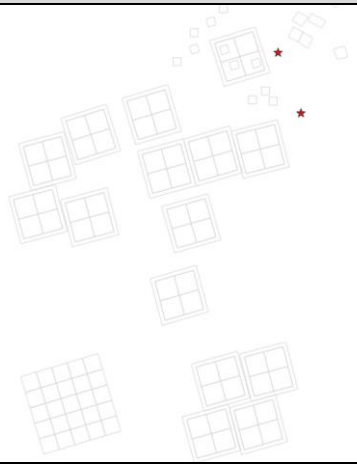
Name	Resume	Entity		Description
		Spatial format	Number	
taOverallPlots.shp	This spatial layer shows the boundaries of the plots, subplots and buffer zones (25m) at Paracou research station. The boundaries of plots have been positioned with topographical survey instruments (compass, clinometer, measuring tape). There are differents experiments/plots : • **Disturbance experiment**: In 1984, the Cirad team set up 12 square 9ha plots, among which 9 were subjected to logging induced disturbances in 1986-1988. • **Guyaflux plots :** Guyaflux tower and plots have been generating data since 2003 to determine the ecosystem CO2 source or sink strengths. The eddy covariance system is used to measure gas fluxes in real time in situ. Continuing monitoring has been carried out since 2003 to analyze the impact of changing climate to ecosystem carbon balance. Guyaflux is managed by INRA. • **Biodiversity plots** : In 1990-1992, four new plots (3 * 6.25ha + 1 * 25ha) were set up for biodiversity monitoring. No destructive sampling have been authorized at all in these plots. • **Fertilization plots** : In 2015, 12 new 50*50m plots were set up to test the effect of effects of nutrient enrichment on ecosystem processes.	POLYGON	122	

➢ **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idAllPlot	Integer	*A unique identifier object*	1-122
Project	varchar	*The project name (3 attributes)*	ParacouCIRAD, Guyaflux, ImbalanceP
Plot	varchar	*Number or name of plot*	1 - 16 ImbXX, GfxX
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
TypePlot	varchar	*Type of plot (4 attributes)*	BiodiversityPlots, DisturbancesPlots, FertilizationPlots, Guyaflux
Treatment	varchar	*Silvicultural treatment type applied or type of topography (7 modalities)* See Annex 3	Bottom, Slope, Top, T0: control, T1: selective logging, T2: selective logging + Timber Stand Improvement (TSI), T3: selective logging + TSI + fuelwood
Subplot	Integer	*Subplot number or name*	See Appendix 2
idSubplot	Integer	*Unique subplot identifier (Guyafor network)*	See Annex 2
TypeSub	varchar	*Type of polygon (5 attributes)*	SubplotsP16, Subplots, PlotsImbP, PlotsGuyaflux, Buffer25m
Geom	Geometry	*Geometry object*	POLYGONE

TOPIC : INFRASTRUCTURES

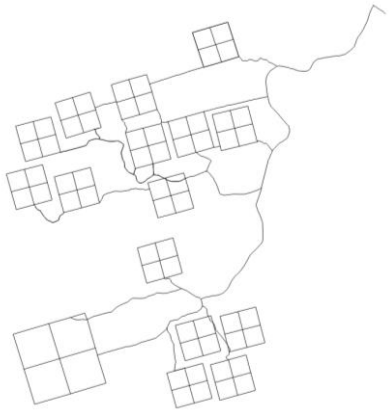
- **Source :** CIRAD forest team - Dourdain, A., 2016
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Dourdain, A. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taFacilities.shp	This spatial layer shows the points locate the infrastructure (open shelter, Guyaflux tower, weather station) at Paracou.	POINT	3	

- **Attribute Table**

Field	Type	Description	Terms
idFacility	Integer	*A unique identifier object*	3
NameFacility	varchar	*Name object (3 attributes)*	BaseCamp, GuyafluxTower, Agroclim
Geom	Geometry	*Geometry object*	POINT

- **Source :** CIRAD forest team - Petronelli, P., Laroussinie O., Bergonzini, J.C., Schmitt, L.., 1985
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taRoadPaths.shp	This spatial layer illustrates the main access road to the station, and the tracks around the entire perimeters of the plots. The tracks around plots were positioned with topographical survey instruments (compass, clinometer, measuring tape) in 1996 by a surveyor.	LINESTRING	49	

- **Attribute Table**

Field	Type	Description	Terms
idRoad	Integer	*A unique identifier object*	49
TypeRoad	varchar	*Name object (3 attributes)*	Main road, Plot Path, Forest path
Geom	Geometry	*Geometry object*	LINESTRING

TOPIC : Inventory

- **Source : :** UMR EcoFog, 2017
- **Right to use :** Conditions
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Jaouen, G. – AgroParisTech, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
talastinventory.shp	This spatial layer shows the latest tree circumference inventory conducted at Paracou in 2015. Either relative or absolute coordinates can be selected.	Point	84199	

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idMeas	Integer	*Unique measurement identifier*	84199
Forest	Text	*Forest name*	Paracou
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
Plot	Integer	*Number or name plot*	See Annex 2
subplot	Integer	*Subplot number or name*	See Annex 2
NumTree	Double precision	*Tree number in the subplot*	-
idTree	Integer	*Unique tree identifier*	-
Xutm	Double precision	*Coordinate X for the tree in UTM 22 N (EPSG : 32 622)*	-
Yutm	Double precision	*Coordinate Y for the tree in UTM 22 N (EPSG : 32 622)*	-
Lat	Doubleprecision	*Tree latitude*	-
Lon	Double precision	*Tree longitude*	-
X	Double precision	*Euclidean position (X) of the tree in the subplot from Southwest*	0 to 250m
Y	Double precision	*Euclidean position (Y) of the tree in the subplot from Southwest*	0 to 250m

Year	Integer	*Inventory year*	2014 to 2017
Circ	Double precision	*Circumference (cm) of the tree at 1.30m (DBH level) (estimated if CodeMeas = 4-Living)*	-
CodeAlive	Inte ger	*Vitalityof the tree at moment of inventory*	TRUE / FALSE (*see* Table)
CodeMeas	Integer	*Measurement information*	0 to 12 (*see Table* 1)
CircCompl	Double precision	*Measured circumference (cm) for living trees, non-circular (CodeMeas 4)*	-
CircCorr	Double precision	*Corrected circumference (cm)*	-
CodeCorr	Text	*Correction applied to the circumference*	0-6 (see table 2)
Vern	Text	*Vernacular name*	-
Family	Text	*Botanical family*	-
Genus	Text	*Botanical genus*	-
Species	Text	*Botanical specie*	-
BotaSource	Text	*Source for the botanical name*	Vern / Bota (see table 3)
InsurIndex	Double precision	*Level of certainty about botanic identification*	1 to 4 (see table 3)
WoodDensity	Double precision	*Wood density for the taxon (g.cm-3)*	-
Geom	Geometry	*Geometic object*	POINT

- **Inventory – Table 1 - Tree Status**

CodeAlive	CodeMeas	Description
TRUE (alive)	0	Circumference (cm) of the tree at 1.30m (DBH level)
TRUE (alive)	1	Measurement greater than 0.5 m
TRUE (alive)	4	Elevated measure of 1 m
TRUE (alive)	5	Elevated measure of 1.5 m
TRUE (alive)	6	Species with irregular trunk
TRUE (alive)	7	Damaged tree (logging)
TRUE (alive)	8	Death following treatment (wood exploitation, breakage, devitalization), but not exploited commercially
TRUE (alive)	9	Poisoned tree
FALSE (dead)	0	Natural death : standing
FALSE (dead)	1	death during logging: standing
FALSE (dead)	2	Logged tree

FALSE (dead)	3	destroyed tree (logging)
FALSE (dead)	4	Natural death: fallen (primary windfall)
FALSE (dead)	7	Natural death: fallen (secondary windfall)
FALSE (dead)	9	Death following logging treatment
FALSE (dead)	11	Poisoned tree
FALSE (dead)	12	Natural death : standing

- **Inventory – Table 2 – Corrected circumferences**

CodeCorr	Description
0	No correction
1	Annual growth > 5cm, points realigned by linear regression
2	Growth gap > 5cm, the shortest series is aligned with the longest
3	Annual decrease punctually> 2cm points realigned by line regression.
4	Annual decrease > 2cm, the shortest series is aligned with the longest
5	Correction of Nogueira on Cathedral Wood: circ x 0.53
6	Very large trees and non-compliant, the circumference is replaced by empirical maximum circ.

- **Inventory – Table 3 – Botanical determination**

Code	Attributes	Description
BotaSource	Bota	Tee identified by a botanist
BotaSource	Vern	Botanical name of tree deducted from vernacular name
InsurIndex	-1	No validation guaranteed
InsurIndex	0	Indeterminate botanical family
InsurIndex	1	Indeterminate botanical genus
InsurIndex	2	Indeterminate botanical species
InsurIndex	3	Identification not validated
InsurIndex	4	Validated identification

TOPIC : LIDAR (Raster)

➢ **Projection :** EPSG : 32622 – WGS 1984 UTM 22N

Name	Resume	Provider	Date	Right of use	Referent contact	Miscellaneous
DEM2004.tif	***DEM, DSM and DCM of Paracou in 2004*** *The aerial laser scanning (ALS) dataset, acquired on October 2004, covers the experimental station Paracou in French Guiyana. More precisely, the dataset covers all Paracou plots totally except of plot 15 that is only covered partly. The area includes exploited and non-exploited forest and Pinot palm. Ground echoes are available as well as a digital terrain model (DTM), a digital surface model (DSM), and a digital canopy model (DCM) with a 1 meter resolution. These lidar data was acquired as part of the program CAREFOR (ERDF) under the aegis of Daniel Sabatier.*	Sabatier, D.	2005	Open data	Vincent, G. - IRD	**Pixel size:** 1 -1 m **Dimension** X: 2339, Y: 2809 **Band:** 1 **Min value:** 6.25 **Max value:** 39.7
DSM2004.tif		Sabatier, D.	2005	Open data	Vincent, G. - IRD	**Pixel size::** 1-1 m **Dimension :** X: 2339;Y: 2809 **Band:** 1 **Min value :** 19.16 **Max value :** 66.80
DCM2004.tif		Sabatier, D.	2005	Open data	Vincent, G. - IRD	**Pixel size:** 1-1 m **Dimension :** X: 2339;Y: 2809 **Band:** 1 **Min value :** 3.45 **Max value :** 36.4
DEM2009.tif	***DEM, DSM and DCM of Paracou in 2009*** *The aerial laser scanning (ALS) dataset, acquired on 11 September 2009, covers the experimental station Paracou in French Guiana. More precisely, the dataset covers 9 plots totally (Paracou 4, Paracou 5, Paracou 7, Paracou 8, Paracou 9 - Paracou 12, and Paracou 14) and 4 plots partly (Paracou 3, Paracou 6, Paracou 13, and Paracou 15). The area includes logged-over and unlogged forest, various forest heights and Pinot palm swamp forest .*	Altoa	2009	Open data	Vincent, G. - IRD	**Pixel size:** 5-5 m **Dimension :** X: 591 ; Y: 875 **Band:** 1 **Min value :** 0 **Max value :** 36.56
DSM2009.tif		Altoa	2009	Open data	Vincent, G. - IRD	**Pixel size :** 1 -1 m **Dimension :** X: 2996; Y:4384 **Band:** 1 **Min value :** 0 **Max value :** 69.06
DCM2009.tif		Altoa	2009	Open data	Vincent, G. - IRD	**Pixel size :** 1 -1 m **Dimension :** X: 2996; Y:4384 **Band:** 1 **Min value :** 0.057

						Max value : 40.52
DEM2013.tif	***DEM, DSM and DCM of Paracou in 2013*** *The aerial laser scanning (ALS) dataset acquired on 23 September 2013 covers the experimental station Paracou in French Guiana. The coverage includes all Guyafor and Guyaflux plots completely with logged-over, unlogged and swamp forest ("Pinot" or "Açai").*	Altoa	2013	Open data	Vincent, G. - IRD	**Pixel size :** 1,-1 m **Dimension :** X: 4313; Y:4577 **Band:** 1 **Valeur min :** 2.42 **Valeur max :** 36.77
DSM2013.tif		Altoa	2013	Open data	Vincent, G. - IRD	**Pixel size :** 1-1 m **Dimension :** X: 4313; Y:4577 **Band:** 1 **Min value :** 20.73 **Max value :** 69.84
DCM2013.tif		Altoa	2013	Open data	Vincent, G. - IRD	**Pixel size :** 1 -1 m **Dimension :** X: 4313; Y:4577 **Band:** 1 **Min value :** 3.59 **Max value :** 40.77
DEM2015.tif	***DEM, DSM and DCM of Paracou in 2015*** *The aerial laser scanning (ALS) dataset acquired on 20 October 2015 covers the experimental station Paracou in French Guiana. The coverage includes all Guyafor and Guyaflux plots completely with logged-over, unlogged and swamp forest ("Pinot" or "Açai").*	Altoa	2015	Open data	Vincent, G. - IRD	**Pixel size :** 1-1 m **Dimension :**X:3008 ; Y:3499 **Band :** 1 **Min value :** 2.68 **Max value :** 37.01
DSM2015.tif		Altoa	2015	Open data	Vincent, G. - IRD	**Pixel size :** 1-1 m **Dimension :** X:3008 ; Y:3499 **Band :** 1 **Min value :** 21.32 **Max value :** 69.54
DCM2015.tif		Altoa	2015	Open data	Vincent, G. - IRD	**Pixel size :** 1-1 m **Dimension :** X:3008 ; Y:3499 **Band :** 1 **Min value :** 2.93 **Max value :** 40.37

LIDAR : Remote sensing by **laser or LIDAR (light detection and ranging *or* laser detection and ranging)** is a long distance, active remote sensing technique based on the analysis of a coherent laser beam eflected back towards its emittor. Lidar has applications in topography (geomorphology, altimetry and

bathymetry) geosciences (seismic risk, meteorology, atmospheric physics) and environmental sciences (atmospheric pollution studies, agronomy and forestry), not to mention in archaeology, meteorology, air traffic control, automatic guidance of terrestrial or aerial vehicles, road safety, or defense.

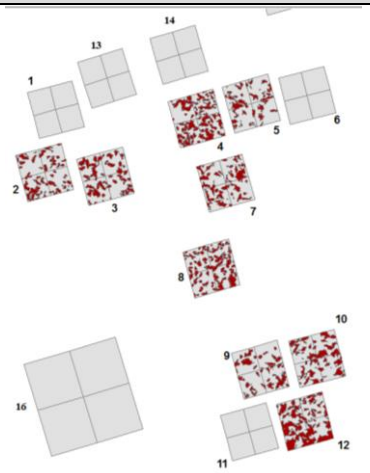
Digital terrain model (DTM): A DTM is a 3D representation of the topography of a terrain, not including surface objects such as plants and buildings, created using altitude data. DTMs do not take into account objects on the surface of the terrain, such as plants and buildings.
Uses of DTMs : Topography : DTMs are mainly used to represent the topography of a site. A 3D layout of the ground surface, without construction or vegetation, is a very precise topographic reference tool. **Hydrology** : DTMs are a reliable tool for understanding hydrological forms and movements. They can be used to identify watercourses, wetlands, talwegs, ditches, etc. They can also be used to create Flood Risk Management Plans (FRMP), by identifying watersheds, the direction of water flows, hydraulic modeling, and flood simulations. **Geology** : DTMs can be used to characterize open-pit geological zones such as quarries, mining and gold-bearing areas, etc. Topographic data analysis allows operators to calculate extraction volumes and create development strategies for these areas. **Archeology** : DTMs can highlight microreliefs related to ancient human activities (old roads, walls, remains of buildings ...)

Digital surface model (DSM) : A DSM is a 3D representation of a terrain and its supersurface, namely vegetation and buildings.
Uses of DSM : **Forest management** : DSMs enable precise characterization of the surface of canopies. Using both DTM and DSM a digital canopy model (DCM) can be created (DCM = DSM-DTM). DCMS allow for calculations of forest populations and biomass volumes. These tools are becoming more and more central to the work of environmental and agroforesry professionals. **Urban planning** : DSMs can equally be used to identify anthropogenic features of a landscape. The creation of models of urban landscapes and their surrounding environments can be useful to urban planners for analyzing the existing urban fabric and planning future developments (e.g. road building, town planning). **Telecommunications** : DSMs are used in the management of aerial networks (electric pylons, antennas ...). By identifying physical or aesthetic obstacles, DSMs are a suitable tool in the planning and development of networks.

Formats and resolution : DTMs and DSMs can have many file extensions. Vectorial, e.g. .xyz, .dwg, .dxf, .shp, .las. Or raster, e.g. ASCII Grid, Mapinfo Grid, .tif, .kmz, .png.

TOPIC : Logging

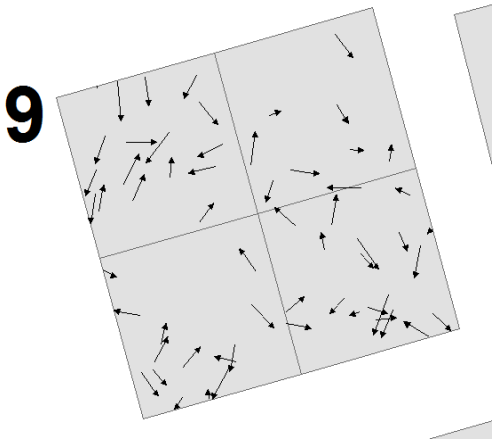
- **Source : :** Forest CIRAD team - Petronelli, P., 1987
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taDisturbedAreas.shp	This spatial layer shows the 1987 disturbance area at Paracou.	POLYGON	405	

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idDist	integer	*Unique identifier object*	1-405
TypeDist	varchar	*Type of object*	DisturbedAreas
idPlot	integer	*Unique plot identifier (Guyafor network)*	See Annex 2
plot	Integer	*Number or name of plot*	See Annex 2
Geom	Geometry	*Geometry object*	POLYGON

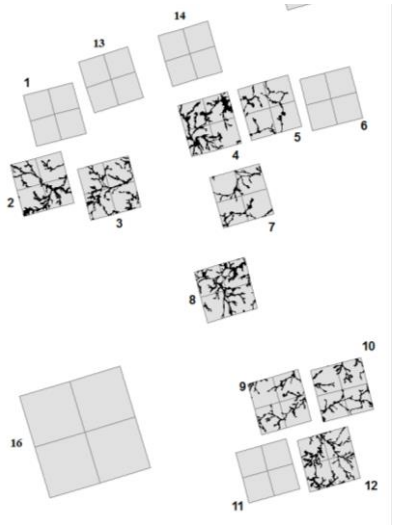
- **Source : :** Forest CIRAD team - Petronelli, P., 1987
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taLoggingDirection.shp	This spatial layer shows the logging direction on plot 9 during the 1987 logging operation at Paracou	LINESTRING	59	

Attribute Table

Name variable	Type	Description	Attributes of the variable
idDirection	Integer	*Unique direction identifier*	1 - 59
idTree	Integer	*Unique tree identifier*	-
Tree	Integer	*Number of felled trees (per subplot)*	0 - 2004
idPlot	Integer	*Unique plot identifier (Guyafor network)*	99 (see Appendix 2)
plot	Integer	*Number or name of plot*	9 (see Appendix 2)
Geom	Geometry	*Geometry object*	LINESTRING

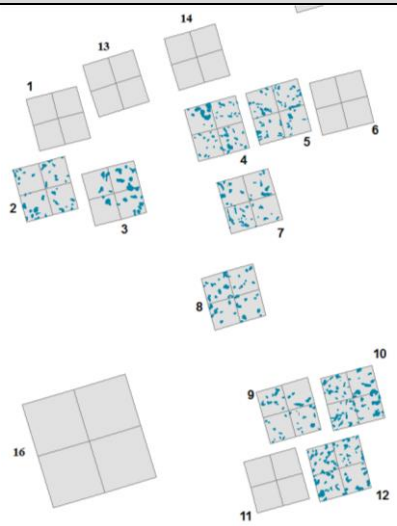
- **Source : :** Forest CIRAD team - Petronelli, P., 1987
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taSkidTrails.shp	This spatial layer shows the skid trails created during the 1987 logging operation at Paracou	POLYGON	42	

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idSkid	Integer	*A unique identifier object*	1-42
type	varchar	*Type of object*	SkidTrails
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
Plot	Integer	*Number or name of plot*	See Appendix 2
Geom	Geometry	*Geometry object*	POLYGONE

- **Source : :** CIRAD forest Team - Petronelli, P., 1987
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taGaps.shp	This spatial layer shows the gaps created during the 1987 logging operation at Paracou	POLYGON	412	

- **Attribute Table**

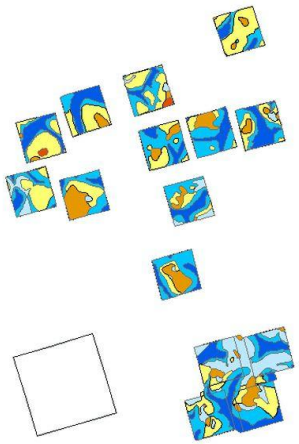
Name variable	Type	Description	Attributes of the variable
idGap	Integer	*Unique identifier object*	1-42
TypeGap	varchar	*Type of object*	SkidTrails
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
Plot	Integer	*Number or name of plot*	See Appendix 2
Geom	Geometry	*Geometry object*	POLYGON

TOPIC : Pedology

Since the creation of Paracou, ecologists have regularly expressed the need for a soil map of the site. Soils are known to have a role in forest dynamics and / or species distribution (*eg Paoli et al., 2006, Baribault et al., 2012).* The soil map was begun in 1991 and completed in 2012 (Annex 4). However, to date, no synthesis or reference article has been written on this soil mapping, unlike other tropical forest systems (e.g. the Piste de St Elie (Sabatier et al., 1997)).

There were several stages in the creation of the Paracou soil map: (i) soil mapping in the field to delineate soil units according to the type of drainage; (ii) soil sampling for physio-chemical analysis; (iii) digitization of this soil mapping within the Paracou Geographic Information System (GIS).

- **Source :** *Soucemarianadin, L., 2004, Weigel, J., 2006, 2009, Roelens, J.B., 2007*
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Right to use :** Open data
- **Referent contact :** Freycon, V. - CIRAD

Name	Resume	Entity		Description
		Spatial format	Number	
taDrainages.shp	This spatial layer shows the different types of drainage according to IRD classification (Sabatier et al. 1997) for plots 1 to 15. This map is version 3.	POLYGON	195	

- **Attribute Table**

A.Dourdain (UMR EcoFoG - CIRAD)

Septembre-2017

Name variable	Type	Description	Attributes of the variable
idDrainage	Integer	*Unique identifier object*	1 - 195
TypeDrainage	Varchar	*Type of drainage : 6 attributes* *Alt : vertical mode engaged ;* *SLD : Superficial Lateral Drainage ;* *DVD : Deep Vertical drainage ;* *UhS: Uphill System ;* *DhS : Downhill System ;* *SH : hydromorph soil*	Alt, DhS, DVD, SH, SLD, UhS
TypeDrainageEN	Varchar		
idPlot	Integer	*Unique plot identifier (Guyafor network)*	Voir annexe 2
Plot	Integer	*Number or name of plot*	Voir annexe 2
Geom	Geometry	*Geometry object*	POLYGON

- **Alt** : Slow vertical drainage : the appearance of this soil is characterized by a silty red alloterite to a depth greater than 1.2m. This is a transitional soil between DVD and SLD soil types. Water circulation is slow and always vertical. It can be found at the top of low slopes.
- DLS ou **SLD (Superficial Lateral Drainage)** : Drainage latéral superficiel : the appearance of this soil is characterized by silty alloterite to a depth of less than 1.2m. The alloterite characteristically seems 'dry to the touch'. Water circulation is lateral.
- DVL ou **DVD (Deep Vertical drainage)** : Drainage vertical libre : This soil is characterized by a thick horizon (greater than 2 m) by red clay, with microaggregated structure, ensuring good infiltration and water retention. Rainwater seeps vertically and deeply; This soil corresponds to the initial ferralitic cover.
- SAm or **UhS (Uphill System)**: Uphill hydromorphic system : in these soils, the dark red horizon of the alloterite becomes pale red. This system has a perched water table that generally corresponds to a top layer that promotes the accumulation of water, inducing hydromorphic conditions.
- SAv or **DhS (Downhill System):** Downhill hydromorphic system : this soil is characterized by the appearance of a mottled horizon less than 1.2 m deep. It is a 'à battement' water table system found at the bases of slopes, near the permanent water table of lowlands.
- **SH** or HS: Lowland hydromorphic Soils : this soil is characterized by a gray and often sandy surface horizon. It corresponds more or less to lowlands.

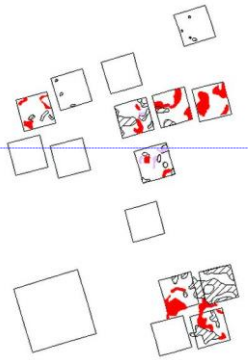
Commentaire [TC1]: Is it an alloterite or an alterite ?

Commentaire [TC2]: Had difficulty translating this phrase, is this okay ?

Commentaire [TC3]: Amont translates to both downhill and downstream, and aval translates to both uphill and upstream. Uphill/downhill seem more likely given that these are included in the names of the soil types, and given that when I searched online for these terms they appeared in relevant sources. However, just to let you know I am not 100% sure for these translations so rely on your technical knowledge

Commentaire [TC4]: I don't know how to translate this – should it be re/rabattement? In which case it could be 'a lowering of the water table' or 'a lowered water table'…?

- **Source :** *Soucemarianadin, L., 2004, Weigel, J., 2006, 2009, Roelens, J.B., 2007*
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Right to use :** Open data
- **Referent contact :** Freycon, V. - CIRAD

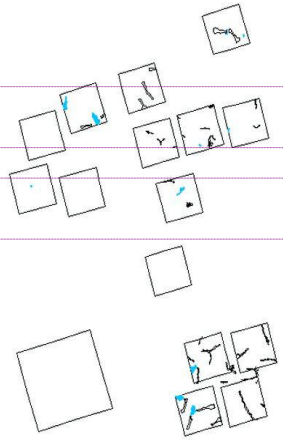
Name	Resume	Entity		Description
		Spatial format	Number	
taCoarseElements .shp	This spatial layer shows the spatial distribution of coarse material (duricrust, remnant of rock, pegmatite) and saprolite soils.	POLYGON	59	

Commentaire [U5]: To confirm Freycon

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idElement	Integer	*A unique identifier object*	1-59
TypeElement	varchar	*Type of coarse elements in french: 3 attributes*	Breastplate / Lithorélique pegmatite Saprolite
TypeElementEN	varchar	*Type of coarse elements in english: 3 attributes*	duricrust / Remnant of rock pegmatite Saprolite
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
plot	Integer	*Number or name of plot*	See Annex 2
Geom	Geometry	*Geometry object*	POLYGONE

- **Source :** *Soucemarianadin, L., 2004, Weigel, J., 2006, 2009, Roelens, J.B., 2007*
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Freycon, V. - CIRAD

Name	Resume	Entity		Description
		Spatial format	Number	
taThalwegs.shp	This spatial layer shows thalwegs and Djougoungs-Petes (Extension small depressions orbicularis and temporarily waterlogged, Blancaneaux 1973). Additional topographic Paracou.	POLYGONE	18	

Commentaire [TC6]: Modern spelling is Talweg but I have seen both spellings in the literature. Up to you which one is best to use.

Commentaire [TC7]: Orbicular – ring, disk, or sphere-shaped. Orbicularis - Latin

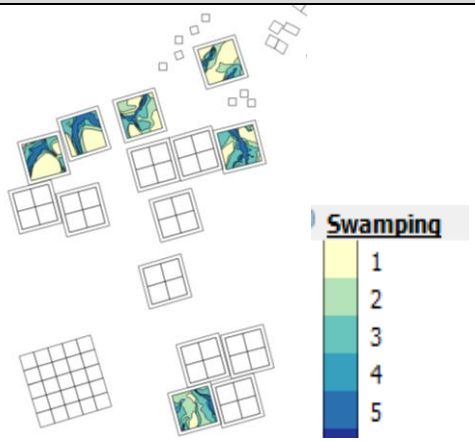
Commentaire [TC8]: Small, temporarly waterlogged, circular extensions of depressions ????

Commentaire [TC9]: ?

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idThalweg	Integer	*A unique identifier object*	1-18
TypeThalweg	varchar	*Topographic type (2 attributes and no English translation for Djougoung Pété (Saramaka language)*	Thalweg Djougoung Pété
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
Plot	Integer	*Number or name of plot*	See Annex 2
Geom	Geometry	*Geometry object*	POLYGONE

- **Source :** *Cantet, 2004*
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Ferry, B. - AgroParisTech

Name	Resume	Entity		Description
		Spatial format	Number	
taWaterlogging.shp	This spatial layer shows the waterlogged surface of the control plots:1, 6, 11, 13, 14, and 15 at Paracou. Soil color at 20 cm depth was evaluated with the Munsell color system. The link between soil color and level of waterlogging uses the 1st axis of a correspondence factor analysis of tree species and topography. There are five classes of waterlogged surface: from the driest soil (class 1) to the most waterlogged soil (class 5). 130 samples were taken per plot.	POLYGONE	91	

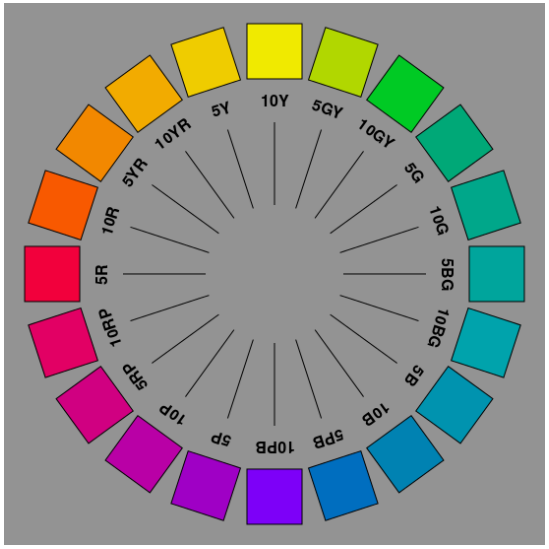
➢ Attribute Table

Name variable	Type	Description	Attributes of the variable
idWaterLog	Integer	*A unique identifier object*	1-91
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
Plot	Integer	*Number or name of plot*	See Annex 2
LevelWater	Integer	*Waterlogging gradient (5 attributes)*	*Class 1 : driest soil* *Class 5: the most clogged soil*
hue	varchar	*Munsell hue. The dominant color, usually a mixture of yellow (Y) and red (R) (4 attributes)*	5Y, 2.5Y , 10YR, 7.5YR
Value	Integer	*Munsell value (lightness) The darker or lighter color. (4 attributes)*	*4, 5, 6, 7*
Chroma	Integer	*Munsell saturation (chroma). The colorbrightness (8 attributes)*	*1-8*
Geom	Geometry	Geometry object	POLYGON

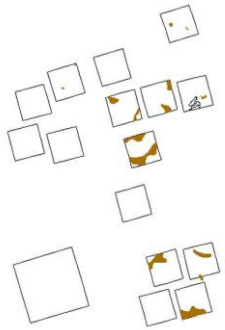
Commentaire [TC10]: This is US English

Commentaire [TC11]: Shade ??
OR
Intensity ??

➢ Munsell color system



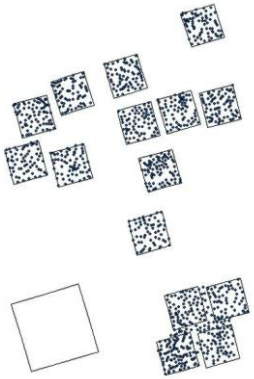
- **Source :** *Soucemarianadin, L., 2004, Weigel, J., 2006, 2009, Roelens, J.B., 2007*
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Right to use :** Open data
- **Referent contact :** Freycon, V. - CIRAD

Name	Resume	Entity		Description
		Spatial format	Number	
taSpecificSoils.shp	This spatial layer represents specific soils: Colluviosol or Soil with quartz	POLYGON	18	

- **Attribute Table**

Name variable	Type	*Description*	Attributes of the variable
idSpecSoil	Integer	*A unique identifier object*	1-18
TypeSpecSoil	varchar	*Type of specific soil in french : 2 attributes*	Soil contribution, Sol quartz
TypeSpecSoilEN	varchar	*Type of specific soil in english : 2 attributes*	Colluviosol, with Soil quartz
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
plot	Integer	*Number or name of plot*	See Annex 2
Geom	Geometry	*Geometry object*	POLYGON

- **Source :** *Soucemarianadin, L., 2004, Weigel, J., 2006, 2009, Roelens, J.B., 2007*
- **Right to use :** Conditions
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Freycon, V. - CIRAD

Name	Resume	Entity		Description
		Spatial format	Number	
taSoilSurvey.shp	This spatial layer shows the auger survey, which identified soils, their position, and their characteristics.	POINT	1094	

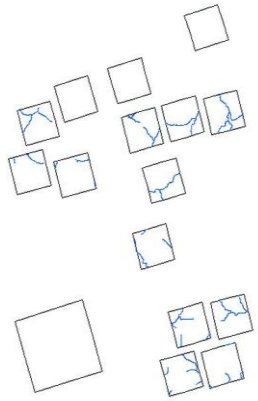
- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idSurvey	Integer	*A unique identifier object*	1 - 419
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See Annex 2
Plot	Integer	*Number or name of plot*	See Annex 2
0-10	Integer	*Charcoal, Depth = 0-100 cm*	*0=no presence ; 1=presence*
10-20	Integer	*Charcoal, Depth = 10-20 cm*	*0=no presence ; 1=presence*

20-40	Integer	*Charcoal, Depth = 20-40 cm*	*0=no presence ; 1=presence*
40-60	Integer	*Charcoal, Depth = 40-60 cm*	*0=no presence ; 1=presence*
60-80	Integer	*Charcoal, Depth = 60-80 cm*	*0=no presence ; 1=presence*
80-100	Integer	*Charcoal, Depth = 80-100 cm*	*0=no presence ; 1=presence*
Coal	Integer	*Charcoal, Depth = 0-100 cm*	*0=no presence ; 1=presence*
NumSurvey	Varchar	*Number of the auger survey in the form: <PLOT>-<N° auger survey>*	Ex. 8-28
idFieldWk	Varchar	*Unique sampling identifier from fieldwork. This variable matches NUM_SONDAG in order to understand the link between the spatial data and the attribute table of the chemical analyses. s.*	-
Refus	Float	*Coarse element (%)*	0 – 9.54
MO	Float	*Organic matter (%)*	0.62 – 7.84
C	Float	*Organic Carbon (%)*	0.36 – 4.55
N	Float	*Nitrogen (‰)*	0.24 – 3.22
C_N	Float	*C/N ratio*	12.02 – 20.44
Polsen	Float	*Phosphorus (mg/kg) extracted using Olsen method*	1.06 – 11.4
PBray2	Float	*Phosphorus (mg/kg) extracted using Bray2 method*	0.66 – 25.78
Al_KCl	Float	*Al exchangeable in KCl (cmolc+/kg)*	0.04 - 2.79
H_KCl	Float	*H exchangeable in KCl (cmolc+/kg)*	0
Ca_ech	Float	*Ca exchangeable i by Metson method (cmolc+/kg)*	0.03 - 4.66
Mg_ech	Float	*Mg exchangeable by Metson method (cmolc + / kg)*	0.04 – 0.89
K_ech	Float	*K exchangeable by Metson method (cmolc + / kg)*	0.02 - 0.37
Na_ech	Float	*Na exchangeable by Metson method (cmolc + / kg)*	0.01 – 0.18
S	Float	*Sum of exchangeable bases by Metson method (cmolc + / kg)*	0.14 - 5
CEC	Float	*cation exchange capacity by method Metson (cmolc + / kg)*	1.52 – 12.65
TS	Float	*Saturation rate (%)*	2.16 – 93.4
Geom	Geometry	*Geometry object*	POINT

TOPIC : Hydrography / Topography

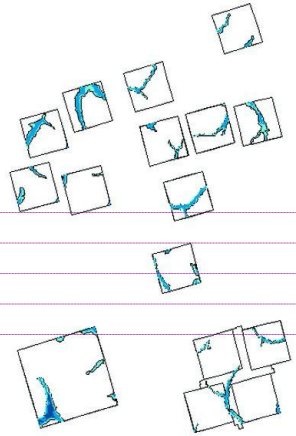
- **Source :** Unknown, 1983-1984
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taCreek.shp	This spatial layer shows the various creeks for plot 1 to 12 in Paracou.	LINESTRING	46	

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idCreek	Integer	*A unique identifier object*	1 - 46
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See annex 2
Plot	Integer	*Number or name of plot*	See annex 2
Geom	Geometry	*Geometry object*	LINESTRING

- **Source :** Gourlet-Fleury S., Ferry B., Molino J.-F., Petronelli P., Schmitt L., 2004 "Experimental Plots: Key Features." In: S. Gourlet-Fleury, J.-M. Guehl and O. Laroussinie (Eds). Ecology and Management of a Neotropical Rainforest. Lessons drawn from Paracou, a long-term experimental research site in French Guiana. Elsevier, Paris, 3-60
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Right to use :** Open data
- **Referent contact :** Ferry, B. - AgroParisTech

Name	Resume	Entity		Description
		Spatial format	Number	
taWaterTable.shp (Water tables which accompany watercourses)	This spatial layer shows : The "lowland" mapping, undertaken and supervised by B. Ferry between 1999 and 2002, in the course of the ENGREF FTH teaching module (Janet et al., 1999), classified soils with the lowering of the water table aquifer between 0 - 0.6 - 1 m in the dry season on all plots. Note: this relates to water tables which accompany rivers or creeks not "underground" groundwater, which would be much deeper.	POLYGON	99	

Commentaire [TC12]: Battement – see previous comment about this translation.

Commentaire [TC13]: This is a literal translation, but I believe that water table and aquifer are 2 different things… ?

Commentaire [TC14]: You need to break up this sentence in order for it to make sense. After a while reading it I am not able to

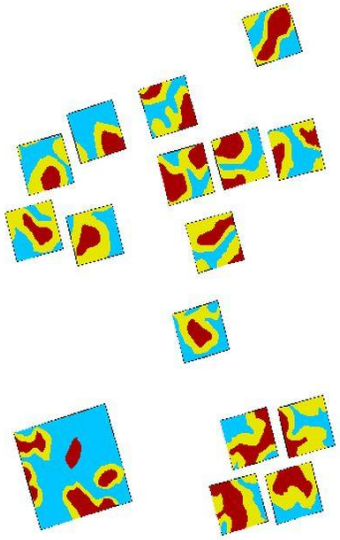
Commentaire [TC15]: See earlier comment about this translation

Commentaire [TC16]: Another possible translation of nappe in English – now you have groundwater, water table, and aquifer… sorry.

➢ **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idWaterTable	Integer	*A unique identifier object*	1 -99
TypeWater	Varchar	*Water-table depth at the beginning of the dry season (in French)* *4 attributes*	0 : nappe d'accompagnement du cours d'eau Nappe entre 0 et 60 cm Nappe entre 60 et 100 cm Nappe au-delà de 100 cm
TypeWaterEN	Varchar	*Water table depth at the beginning of the dry season (in English)* *4 attributes*	0 : water table equal to the stream Water table 0 and 60 cm deeper Water table 60 and 100 cm deeper Water table deeper than 100 cm
idPlot	Integer	*Unique plot identifier (Guyafor network)*	See annexe 2
Plot	Integer	*Number or name of plot*	See annexe 2
Geom	Geometry	*Geometry object*	POLYGON

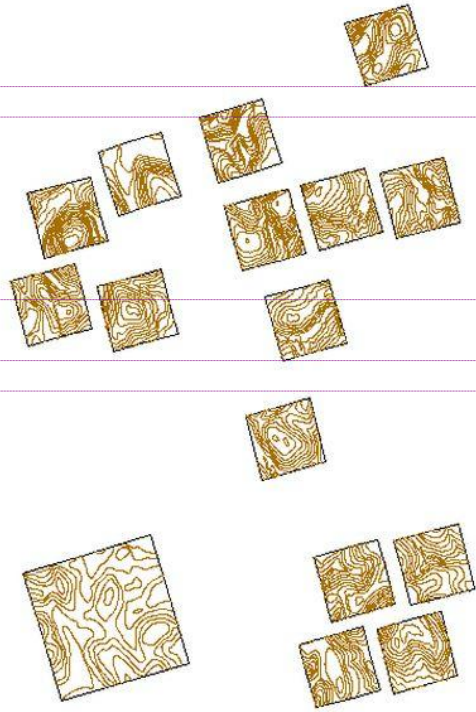
- **Source :** F.Morneau (2007) + méthode de délimitation est également expliquée dans : Ferry, B., Morneau, F., Bontemps, J.D., Blanc, L. & Freycon, V., 2010. "Higher treefall rates on slopes and waterlogged soils.
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Ferry, B. - AgroParisTech

Name	Resume	Entity		Description
		Spatial format	Number	
taTopographicLevels.shp	This spatial layer shows a topographic survey of Paracou was carried out at its inception. Three general terrain types were established according to altitude and slope. **Plateau**: highest relative altitude and low to 0 incline. **Slope:** medium to strong incline. **Low zone:** low altitude, generally less than 10m, and low to zero slope.	POLYGON	52	

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idTopo	Integer	*A unique identifier object*	1 - 52
TypeTopo	Varchar	*Topographic type in french (3 attributes)*	Bas-fond, Pente, Plateau
TypeTopoEN	Varchar	*Topographic type in english (3 attributes)*	Bottomland, Slope, Plateau
idPlot	Integer	*Unique plot identifier (Guyafor network)*	Voir annexe 2
Geom	Geometry	*Geometry object*	POLYGONE

- **Source :** Forest CIRAD team - Petronelli, P., 1983-84
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

Name	Resume	Entity		Description
		Spatial format	Number	
taContourLinePlots .shp	The base map includes contour lines, equidistant from 2.5m elevation, calculated from side points at the rate of 1 per 100m². The contour lines are calculated relative to the lowest elevation of the plot. The topographic survey was made at the inauguration of Paracou. A topographer surveyed the perimeter of the plots; the plots, 100m on each side, were divided into 10x10 squares of 10m to a side (100m² each), oriented N/S. Altitude was measured using a clismeter at the NE corner of each square. Thus the topographic map was created using one altitude point per 100 m², calculated manually by elevation relative to the preceding point, taken at the perimeter of the plot or the corner of a square. The map support used is the basis of the map of Paracou GIS (CIRAD -Forest) on a scale of about 1/500.	POLYGONE	462	

Commentaire [TC17]: This is unclear – EITHER the contour lines are 2.5m apart, but given they are contour lines there is no need to say they are equidistant, no? - OR the contour lines begin at an altitude of 2.5m, and after which they are equidistant, but you need to say equidistant by how much

Commentaire [TC18]: Not sure what you mean by this

Commentaire [TC19]: The individual plot, or the whole plot of PAracou ?

Commentaire [TC20]: Is the implication here that this is the moment that a topographer delimited the parcels ?

Commentaire [TC21]: What do you mean by manually ? I think this is implied by the tool you have said was used.

Commentaire [TC22]: This is not clear. I cannot understand the process you describe.

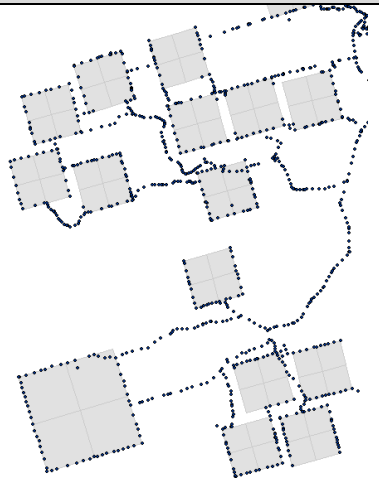
Commentaire [TC23]: Repetition ?

➢ **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idCurve	Integer	*A unique identifier object*	1 - 462
idPlot	Integer	*Unique plot identifier (Guyafor network)*	Voir annexe 2
Plot	Integer	*Number or name of plot*	Voir annexe 2
idCurvPlot	Integer	*Unique curve identifier*	0 - 36
CoteRelat	Float	*Relative altitude (relative to the lowest point in the plot).*	0 – 32.5 m
CoteReel	Float	*Real altitude above sea level*	3.05 à 40.2 m
CoteAbs	Float	*Absolute altitude (see JB Roelens)*	11.5 à 39 m
Geom	Geometry	*Geometry object*	POLYGONE

Commentaire [TC24]: Date

- **Source :** Forest CIRAD team - Petronelli, P., 1983-84
- **Right to use :** Open data
- **Projection :** EPSG : 32622 – WGS 1984 UTM 22N
- **Referent contact :** Petronelli, P. – CIRAD, UMR EcoFoG

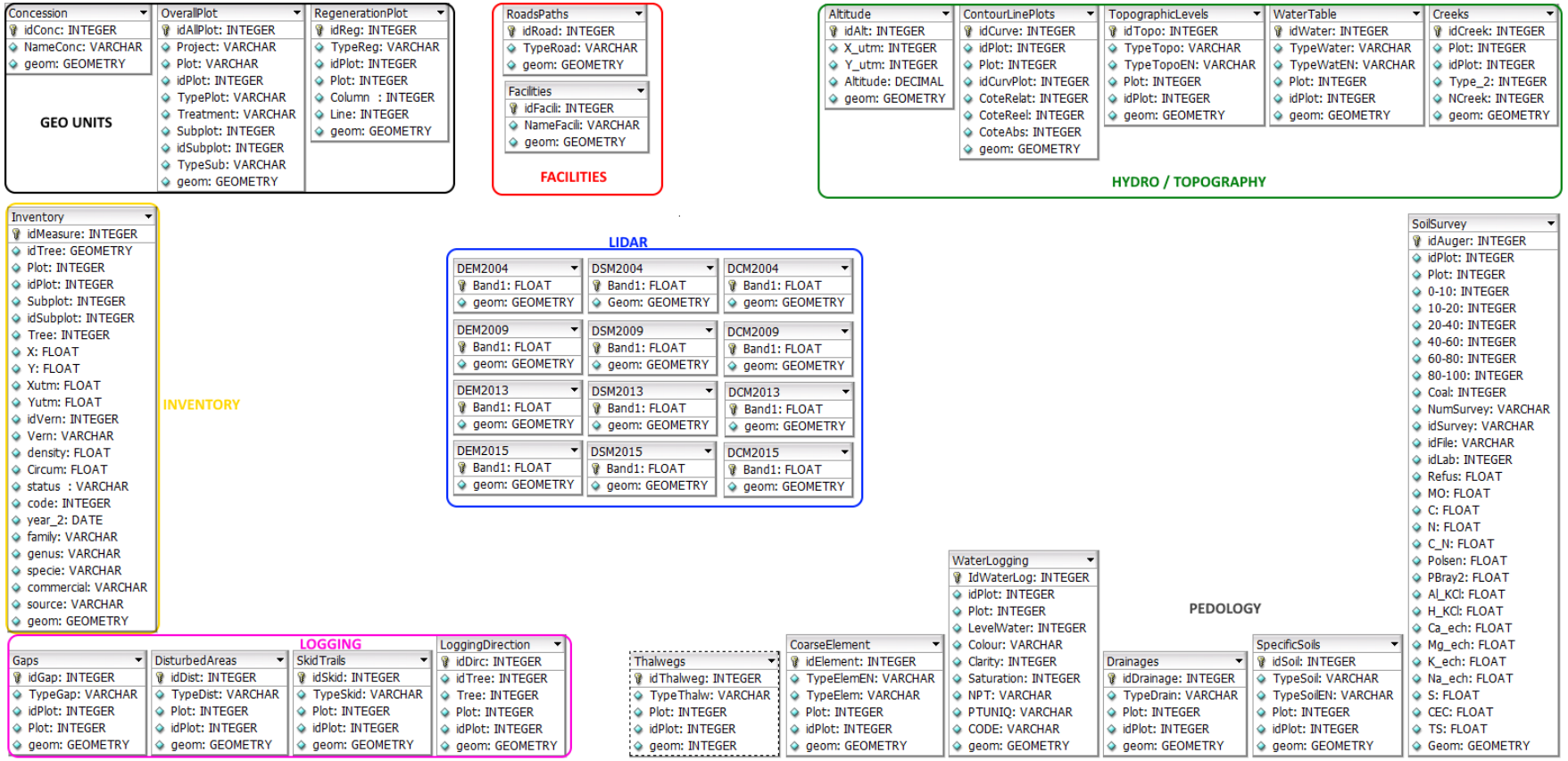
Name	Resume	Entity		Description
		Spatial format	Number	
taAltitude.shp	The basemap includes level set equidistant 2.5 m in height difference, which have been calculated from sides points at 1 per are. Each curve is characterized by its relative altitude with respect to the lowest point of the plot. The topographical survey was made to install the device and was based on: a survey by a surveyor of the perimeter of the plots; installing strips of 10 m wide, limited to the cords and oriented N / S. The strips were subdivided into square every 10 m, which creates a 10 mesh * 10m; readings at clinometer, measure stalled in the NE corner of each mesh. The data therefore comprise an elevation point 100 m^2, calculated manually by elevation relating to point above, taken on the perimeter or mesh. The cartographic support used is the GIS base map Paracou (CIRAD -Forest) at a scale of about 1/500.	POINT	1026	

- **Attribute Table**

Name variable	Type	Description	Attributes of the variable
idAltitude	Integer	*A unique identifier object*	1 - 1026
Xutm	Double	*Longitude : geographic and projected coordinates (in meters) (projection : WGS84, UTM22N)*	28 5015 - 28 7606
Yutm	Double	*Latitude : geographic and projected coordinates (in meters) (projection : WGS84, UTM22N)*	58 1174 - 584074
Altitude	Double	*Elevation*	2.60 – 39 m
Geom	Geometry	*Geometry object*	POINT

ANNEXES

Annex 1: Model of the database



Forest	Plot	idPlot	Subplot	idSubplot
Paracou	1	91	1	9101
Paracou	1	91	2	9102
Paracou	1	91	3	9103
Paracou	1	91	4	9104
Paracou	2	92	1	9201
Paracou	2	92	2	9202
Paracou	2	92	3	9203
Paracou	2	92	4	9204
Paracou	3	93	1	9301
Paracou	3	93	2	9302
Paracou	3	93	3	9303
Paracou	3	93	4	9304
Paracou	4	94	1	9401
Paracou	4	94	2	9402
Paracou	4	94	3	9403
Paracou	4	94	4	9404
Paracou	5	95	1	9501
Paracou	5	95	2	9502
Paracou	5	95	3	9503
Paracou	5	95	4	9504
Paracou	6	96	1	9601
Paracou	6	96	2	9602
Paracou	6	96	3	9603
Paracou	6	96	4	9604
Paracou	7	97	1	9701
Paracou	7	97	2	9702
Paracou	7	97	3	9703
Paracou	7	97	4	9704
Paracou	8	98	1	9801
Paracou	8	98	2	9802
Paracou	8	98	3	9803
Paracou	8	98	4	9804
Paracou	9	99	1	9901
Paracou	9	99	2	9902
Paracou	9	99	3	9903
Paracou	9	99	4	9904

Forest	Plot	idPlot	Subplot	idSubplot
Paracou	10	910	1	91001
Paracou	10	910	2	91002
Paracou	10	910	3	91003
Paracou	10	910	4	91004
Paracou	11	911	1	91101
Paracou	11	911	2	91102
Paracou	11	911	3	91103
Paracou	11	911	4	91104
Paracou	12	912	1	91201
Paracou	12	912	2	91202
Paracou	12	912	3	91203
Paracou	12	912	4	91204
Paracou	13	913	1	91301
Paracou	13	913	2	91302
Paracou	13	913	3	91303
Paracou	13	913	4	91304
Paracou	14	914	1	91401
Paracou	14	914	2	91402
Paracou	14	914	3	91403
Paracou	14	914	4	91404
Paracou	15	915	1	91501
Paracou	15	915	2	91502
Paracou	15	915	3	91503
Paracou	15	915	4	91504
Paracou	16	916	1	91601
Paracou	16	916	2	91602
Paracou	16	916	3	91603
Paracou	16	916	4	91604
Paracou	16	916	5	91605
Paracou	16	916	6	91606
Paracou	16	916	7	91607
Paracou	16	916	8	91608
Paracou	16	916	9	91609
Paracou	16	916	10	91610
Paracou	16	916	11	91611
Paracou	16	916	12	91612

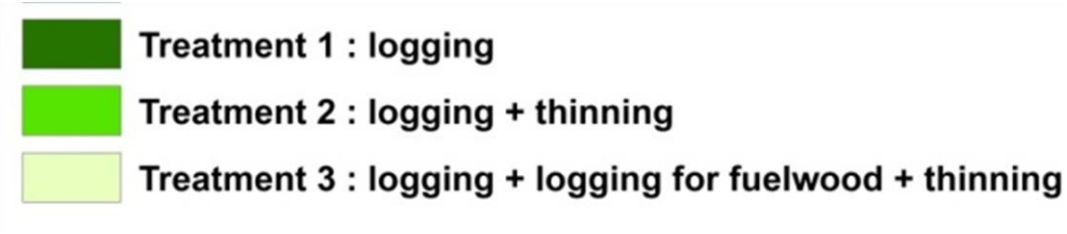
Forest	Plot	idPlot	Subplot	idSubplot
Paracou	16	916	13	91613
Paracou	16	916	14	91614
Paracou	16	916	15	91615
Paracou	16	916	16	91616
Paracou	16	916	17	91617
Paracou	16	916	18	91618
Paracou	16	916	19	91619
Paracou	16	916	20	91620
Paracou	16	916	21	91621
Paracou	16	916	22	91622
Paracou	16	916	23	91623
Paracou	16	916	24	91624
Paracou	16	916	25	91625
Paracou	18 Guyaflux)	918	1	91801
Paracou	18 Guyaflux)	918	2	91802
Paracou	18 Guyaflux)	918	3	91803
Paracou	18(Guyaflux)	918	4	91804
Paracou	18 Guyaflux)	918	5	91805
Paracou	18(Guyaflux)	918	6	91806
Paracou	18(Guyaflux)	918	7	91807
Paracou	18(Guyaflux)	918	8	91808
Paracou	18(Guyaflux)	918	9	91809
Paracou	18(Guyaflux)	918	10	91810
Paracou	ImbalanceP	920	0	920

Annex 2: conversion table between Guyafor BD & GIS BD

A.Dourdain (UMR EcoFoG - CIRAD)

Septembre-2017

Annex 3: Silviculture treatments in Paracou



	Treatment 1	Treatment 2	Treatment 3
Logging for timber	Nb trees / ha : 10 Basal area (m^2/ha): 3,3	11 trees 3.8	10 trees 3.3
Thinning		21 trees 5.2	11 trees 3.6
Logging for fuel wood			19 trees 3
Total	10 trees 3.3	32 trees 9	40 trees 9. 9
Damage	78 trees 2.3	85 trees 8.2	148 trees 4.2

Annex 4: Inventory of soil mapping studies on Paracou and related studies (geomorphology, ...) - *(adapted from Weigel 2006, simplified and completed)*

Study	Referent	Plot	Commentaires
Boulet & Brunet 1983			Prospection pédologique pour implanter le dispositif Soil sampling to impliment the site
Barthes 1991		P1, P6, P11	**Soils mapping**
Lhériteau 1994	**B. Ferry**	P16	**Soils mapping**
Ferry 1998 à 2001		All	**Carte des bas-fonds d'après profondeur de la nappe** -Map of bottomlands according to water table depth
Le-Fol 2002	**V. Freycon**	All	**Geomorphological survey**
Malherbe 2002	**V. Freycon**		**Geomorphological survey (toposequences)**
Soucémarianadin 2004	**V. Freycon**		**Description of 15 reference profiles**
Soucémarianadin 2004	**V. Freycon**	P1, P6	**Soils mapping**
Cantet 2004	**B. Ferry**	Control plots (P1, P6, P11 à P15)	**Map of water logging based on color**
Weigel 2005-2006	**V. Freycon**	P11, P13, P14, P15	**Soils mapping**
Roelens 2006-2007	**V. Freycon**	P4, P5, P7, P9, P10, P12	**Soils mapping**
Weigel 2009	**V. Freycon**	P2, P3, P8	**Soils mapping**
Weigel & Freycon 2010		All	**A printed synthesis report on soil mapping**

Commentaire [TC25]: Nappe is a word we need to discuss

Annex 5: List contacts

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