



DIÁLOGOS SETORIAIS
UNIÃO EUROPEIA
BRASIL

Sectoral Dialogues
European Union
Brazil



EU-Brazil Sector Dialogues Support Facility

The 7th Call

Launched in November, 2013, had 38 selected actions, involving 19 institutional partners and 16 different dialogues

Geotechnology and Landscape Ecology: experiences involving their application in the context of the National Forest Inventory



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The 7th Call

Geotechnology and Landscape Ecology: experiences involving their application in the context of the National Forest Inventory

May, 2014

Brazilian International mission

Technical Discussion – JRC and Embrapa's staff





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The 7th Call

Geotechnology and Landscape Ecology: experiences involving their application in the context of the National Forest Inventory

August 2014

Workshop on “Introduction to Guidos Toolbox” – Peter Vogt

23 specialists from 9 Brazilian Institutions participated





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The 7th Call

Geotechnology and Landscape Ecology: experiences involving their application in the context of the National Forest Inventory

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Between 15 and 19 September, two events were held in succession, in Curitiba (PR)

Technical Seminar - The audience comprised 17 researchers and technical staff from seven institutions

Technical discussion – JRC and Embrapa's teams





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EU-Brazil Sector Dialogues Support Facility

The 8th Call

Launched in April, 2015, the 8th Call had a record number of 58 selected actions, involving 29 institutional partners, involving 24 of the 30 themes

Brazilian Forest national Inventory: Landscape Analysis and Forest Monitoring in connection with Climate Change



2. 2015 project

Inventário Florestal Nacional do Brasil: Análise de Paisagem e Monitoramento Florestal em Conexão com as Mudanças Climáticas

Código da Ação: CLIM0007

Convocatória: 8ª Convocatória

Diálogo: Mudança Climática

Technical Mission -

- a) **Montpellier (CIRAD-Amap) – Tofs, carbón assessment**
- b) **Soria (CESEFOR) – Model Forests**
- c) **Ávila (Universidad Católica) – Monitoring and landscape analysis**
- d) **Madrid (UPM e IFN de Espanha) – Riparian áreas analysis**
- e) **Ispra (JRC) – Landscape analysis**
- f) **Roma (FAO) - report**
- g) **Goettingen (University) - TOFs**

Technical Seminar(s) (abril (?) 2016) - Colombo-PR, Brasil – format and objectives to be discussed



Brazilian National Forest Inventory NFI-BR

A tool for strategic evaluation of Brazilian Forest Resources



Content

Institutional Framework of NFI-BR

Brazilian Forest Service

Embrapa & Embrapa Forestry

Labex

NFI-BR Objectives and componentes

Sampling design

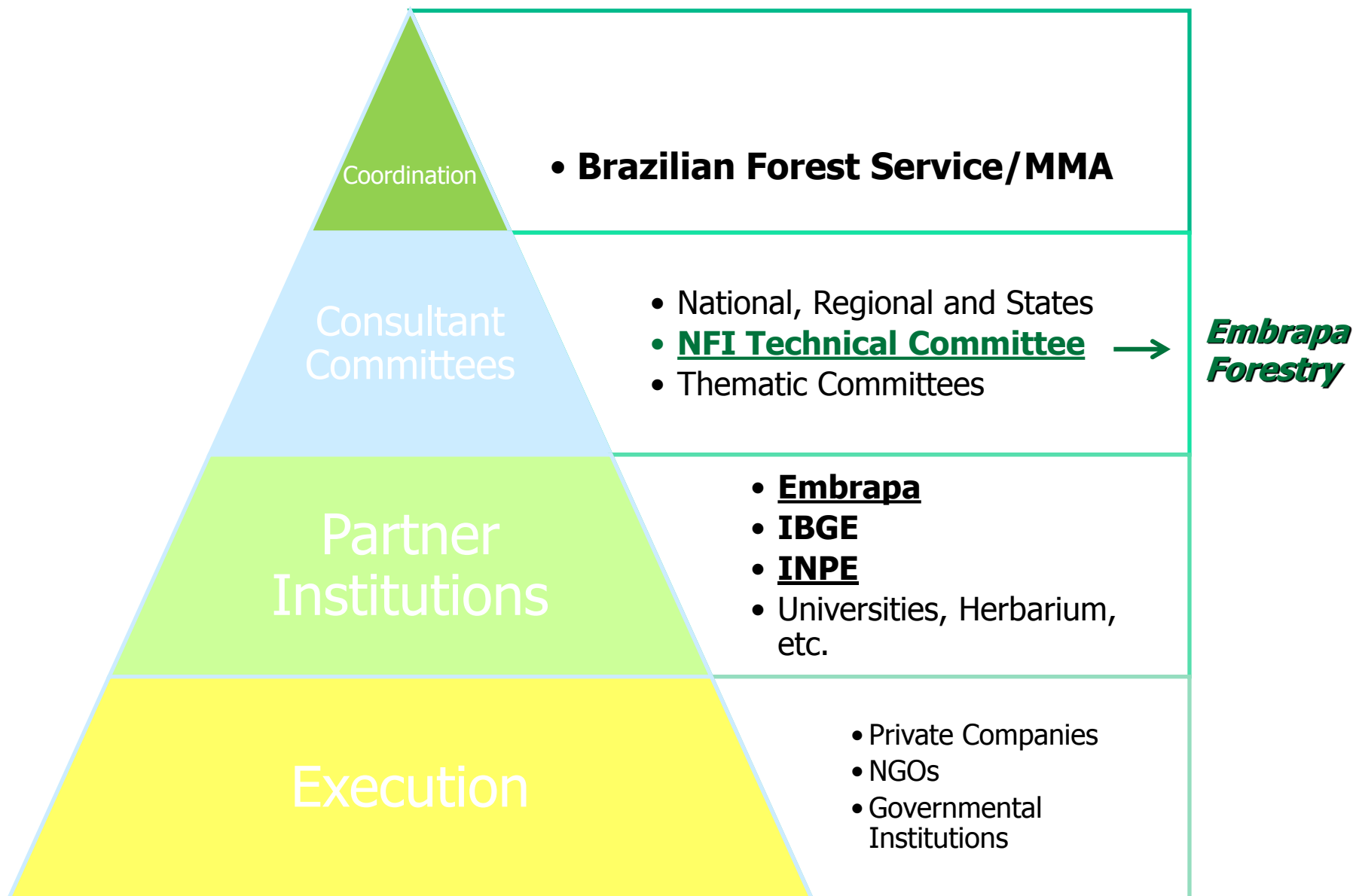
- Components
1. Field Sample plots
 2. Interviews – how people use forests
 3. Vegetation mapping
 4. Landscape Sample Units

NFI-BR – Results

Horizon 2020



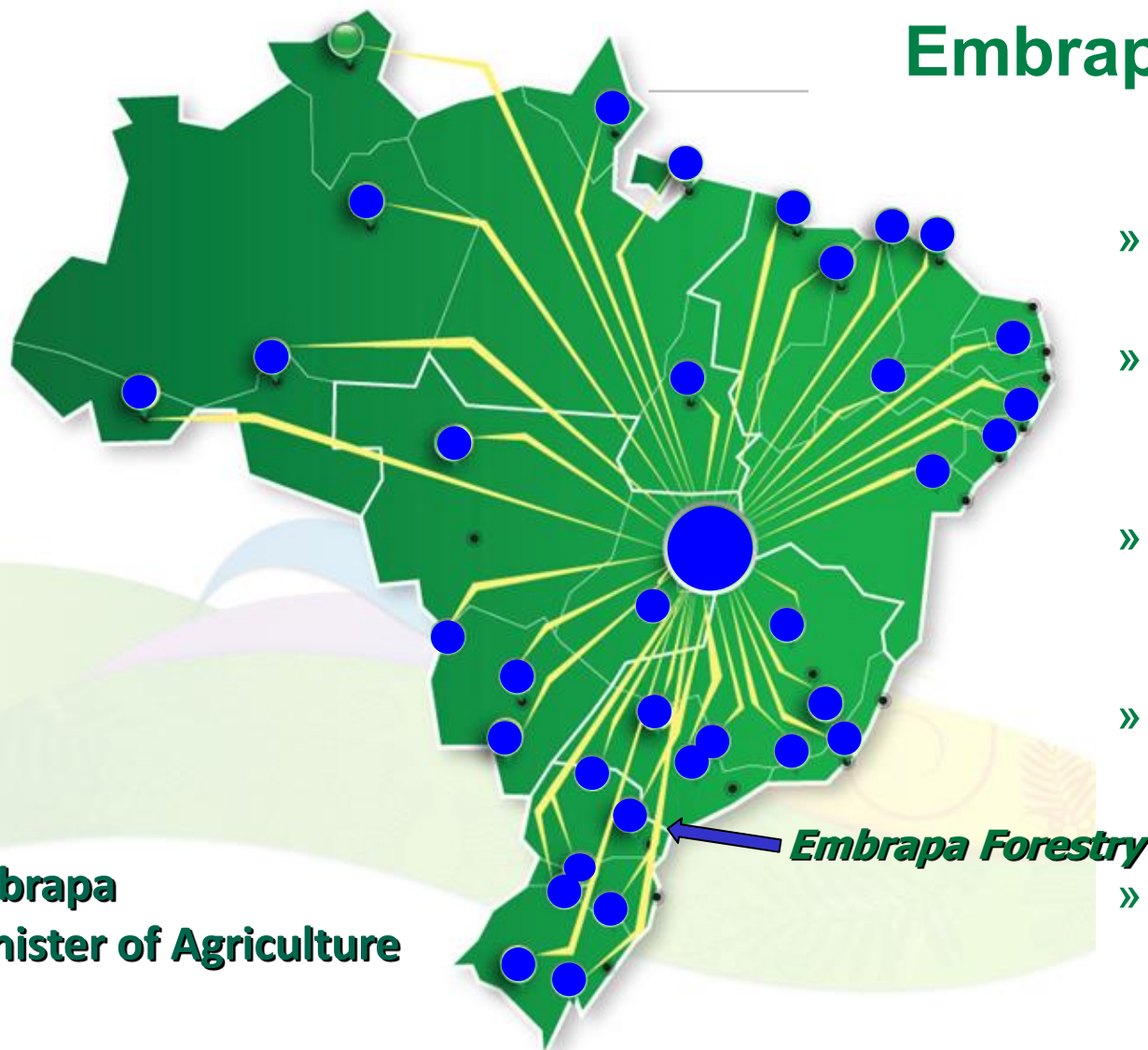
Institutional Structure of NFI-BR



Ministry of
the Environment

- **Created in 2006**
- **Almost 250 employees**
- **Headquarter in Brasilia and 4 regional offices**
- **Main activities are:**
 1. **Management of Natural Forests (Forest Concessions; Community)**
 2. **National Forest Inventory**
 3. **Forest Products Lab**
 4. **National Forest Development Fund (FNDF)**
 5. **National Forest Information System (SNIF)**
 6. **National Public Forest Cadastre (CNFP)**

Embrapa's 47 Centers



- » Headquarters
- » National Thematic Centers
- » National Product Centers
- » Eco-regional and Agroforestry Centers
- » Services

Embrapa
Minister of Agriculture

Brazilian Corporation for Agriculture and Livestock Research

LABEX

Mission: To promote scientific and technological cooperation with other countries, Embrapa launched a program to set up virtual laboratories abroad, which seek to ensure Embrapa's physical presence outside of Brazil. The concept of virtual laboratory entails sharing laboratory space and infrastructure with partner institutions.

Labex Program in the world

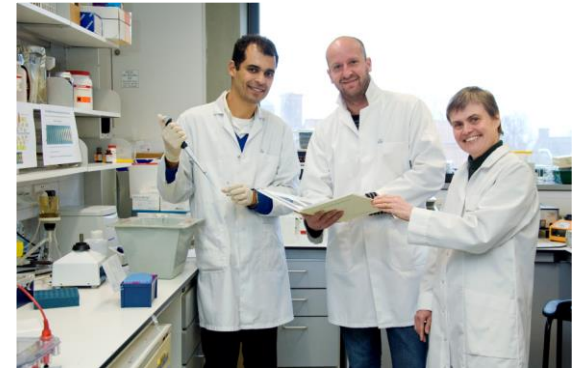
[Labex United States of America \(since 1998\)](#)

[Labex Europe \(since 2002\)](#)

[Labex South Korea \(since 2009\)](#)

[Labex China \(since 2012\)](#)

Labex Japan



Labex Europe

After four years of operation of Labex United States, Embrapa has implemented the second virtual lab in 2002 in Europe. The current structure of Labex Europe program comprises a coordinator based in [Agropolis International](#) - Montpellier, France,

+ two researchers set in Germany and UK institutions.

EMBRAPA FORESTRY

- ◆ **Seeds and seedling**
- ◆ **Silviculture**
- ◆ **Forest Management and Inventory**
- ◆ **Environmental Monitoring**
- ◆ **Ecology**
- ◆ **Entomology and Phytopatology**
- ◆ **Nanotechnology**
- ◆ **Genetics**
- ◆ **Soil Microbiology**
- ◆ **Wood Technology**
- ◆ **Agroforestry**
- ◆ **Rehabilitation and restoration**

75 RESEARCHERS



NFI-BR Objectives



- To provide relevant information on the national forest resources
- to support designing and implementation of public policies aiming at sustainable use and forest conservation.

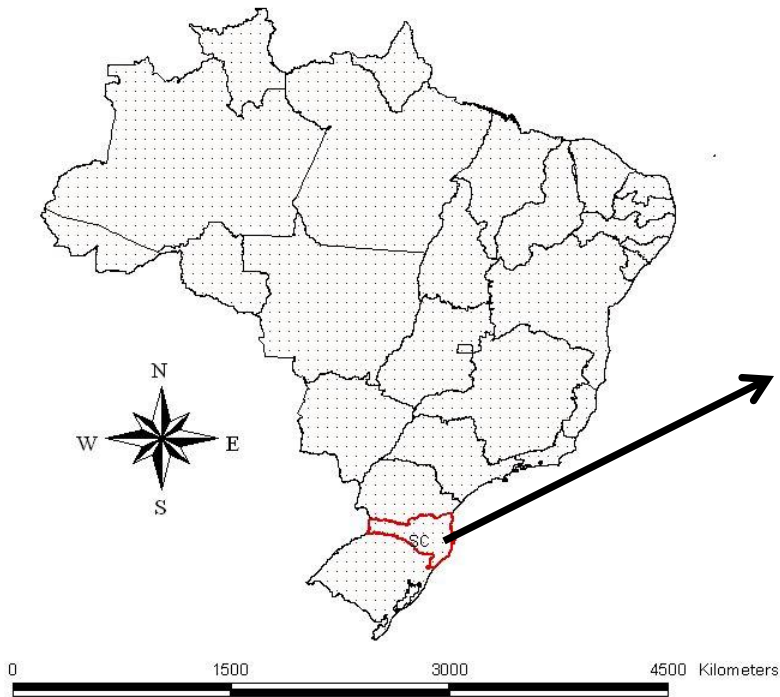
Methodology (Sources of data) - Components

1. Field sample plots (tree measurements)
2. Interviews with forest users
3. Vegetation mapping
4. **Landscape sample plots**



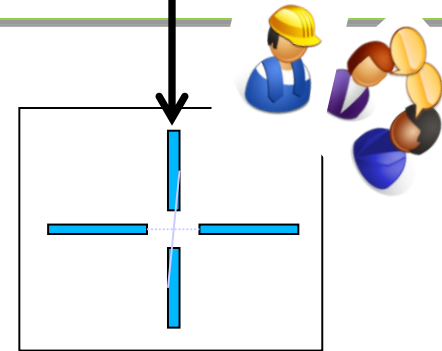
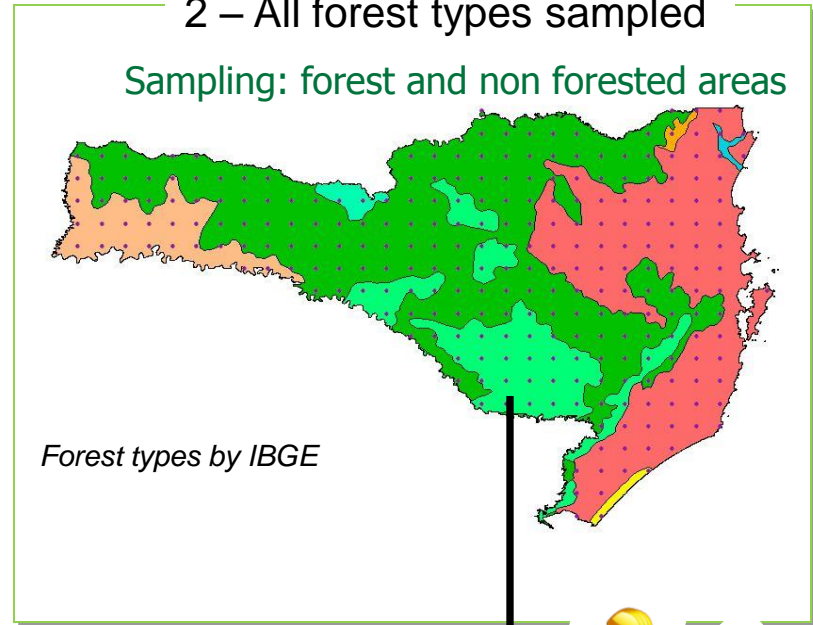
NFI-BR Sampling Design

1 – A national grid of sistematic sample points : 20 x 20 km



2 – All forest types sampled

Sampling: forest and non forested areas

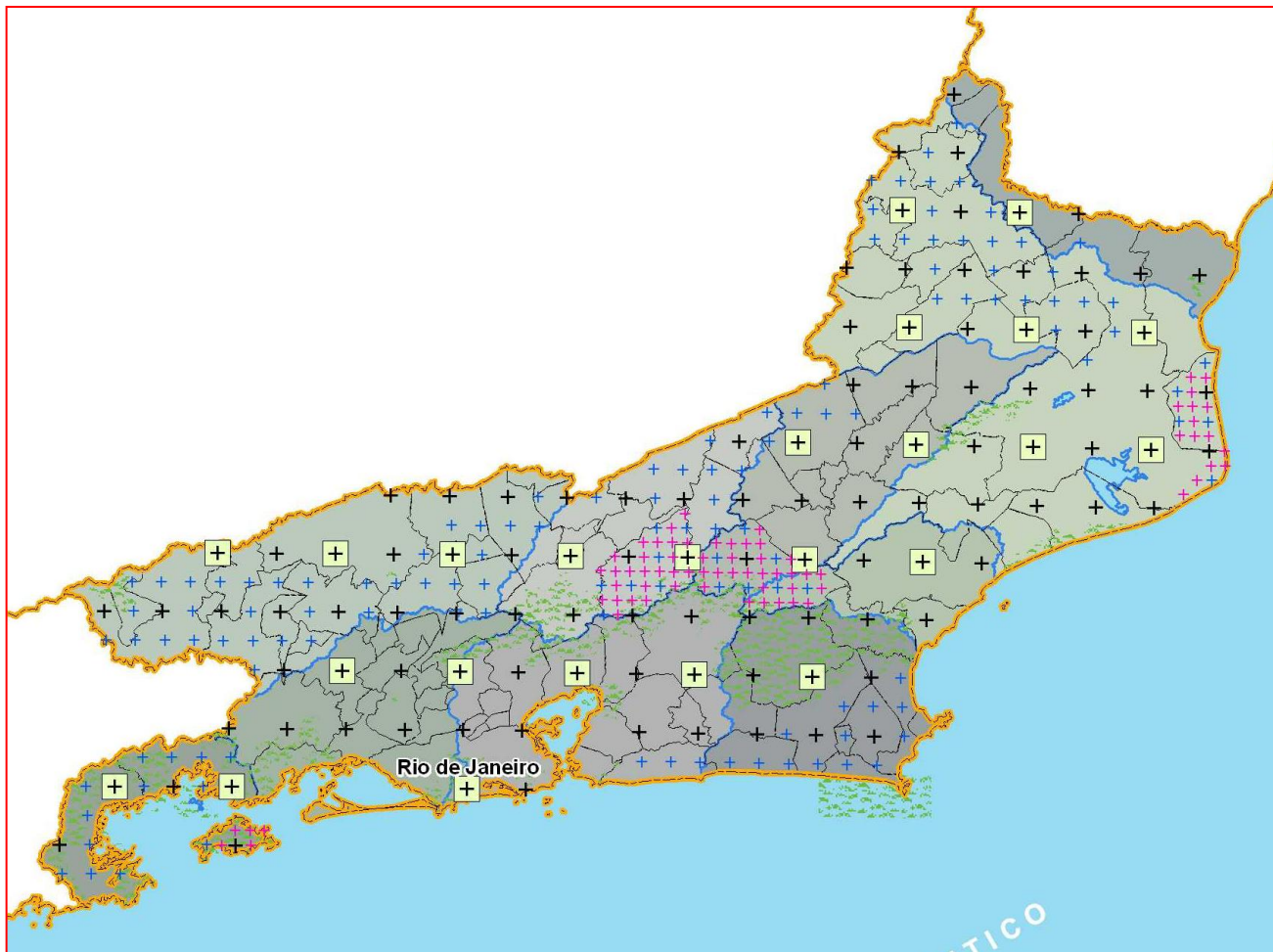


3 - Field Sample Plot for tree measurements

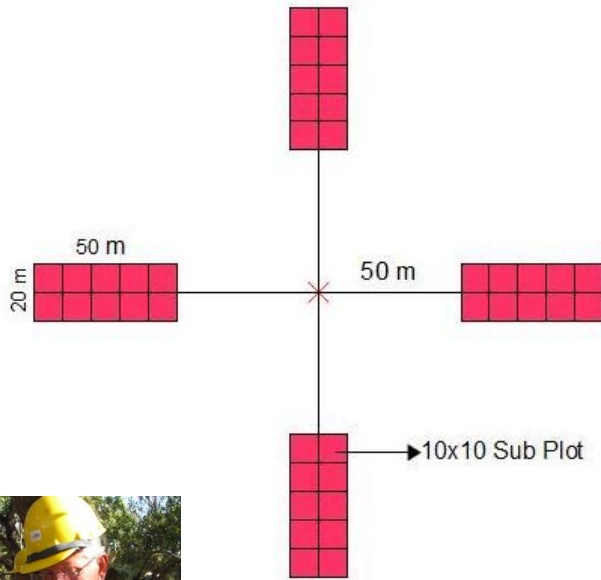
NFI-BR Sampling Design

Sampling intensity might vary

Example: Rio de Janeiro State



1 – Field Sample Plots (tree measurements)



Variables recorded in field:

All trees with DBH > 10 cm:

Tree species
DBH, height
Health condition

Deadwood

Litter

Soil sampling for C determination

Evidences of harvesting

Land use classes

Sampling points on forest / no forest sites

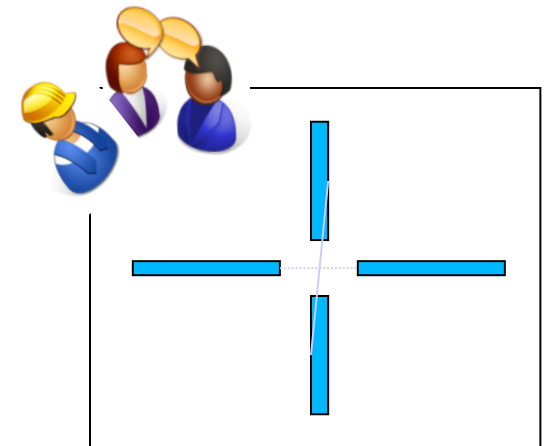
Field Manual



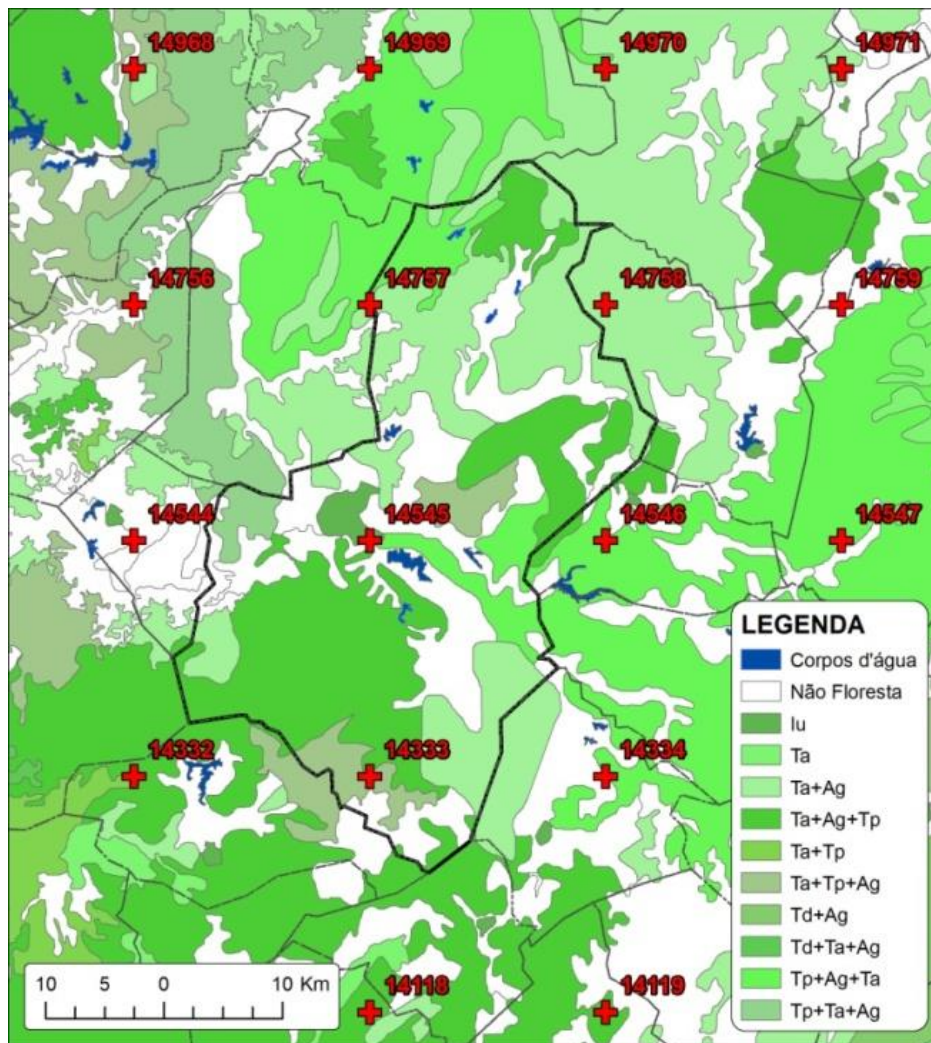
2- NFI-BR Interviews

How forest resources are being used ?

- Interviews conducted in the field plot cluster neighborhood
- Qualitative and quantitative information about forest owners and their properties
 - How forests are being used?
 - Social, economic, ecological and cultural aspects
 - Products and services delivered locally
 - Land/forest ownership, conflicts, gender
 - To inform on forest policies and opportunities
- Interviews (~4 per sample point)



3 – Vegetation mapping



Vegetation Mapping

- **Vegetation classes IBGE**
- **Guide for planning NFI**
- **Basis for estimates at country level**

2- NFI-BR implementation

Legenda

- ✚ Em Planejamento
- ✚ 1º Ciclo em Andamento
- ✚ 1º Ciclo Concluído
- ✚ 1º Ciclo Concluído e 2º Ciclo em Andamento



Currently:

- Fieldwork in 13 States (of 27) at same time
- More than 3.000 clusters measured
- Approximately 100 million ha sampled
- 2.000 tree species identified by specialized herbaria
- 5.500 people interviewed

First cycle ends in 2017.

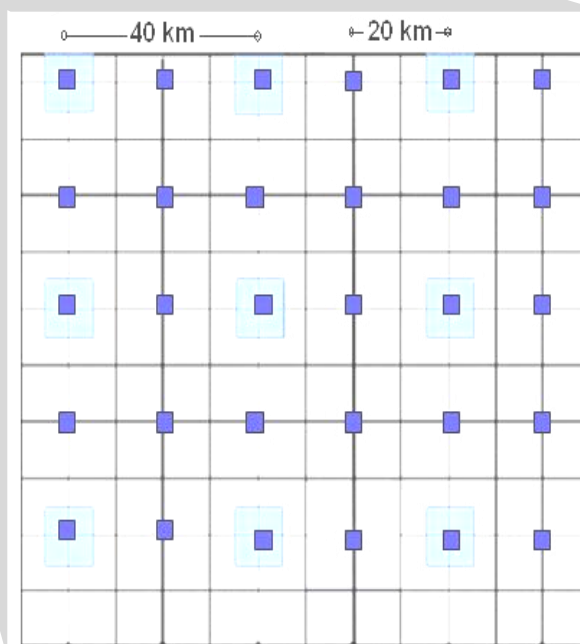
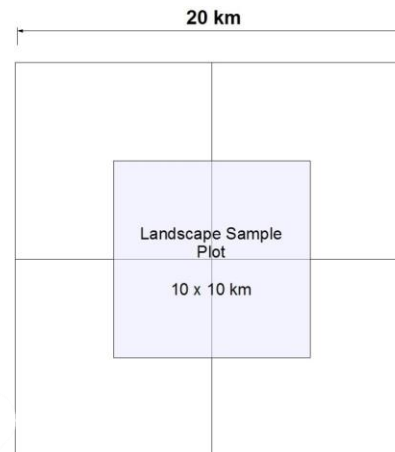
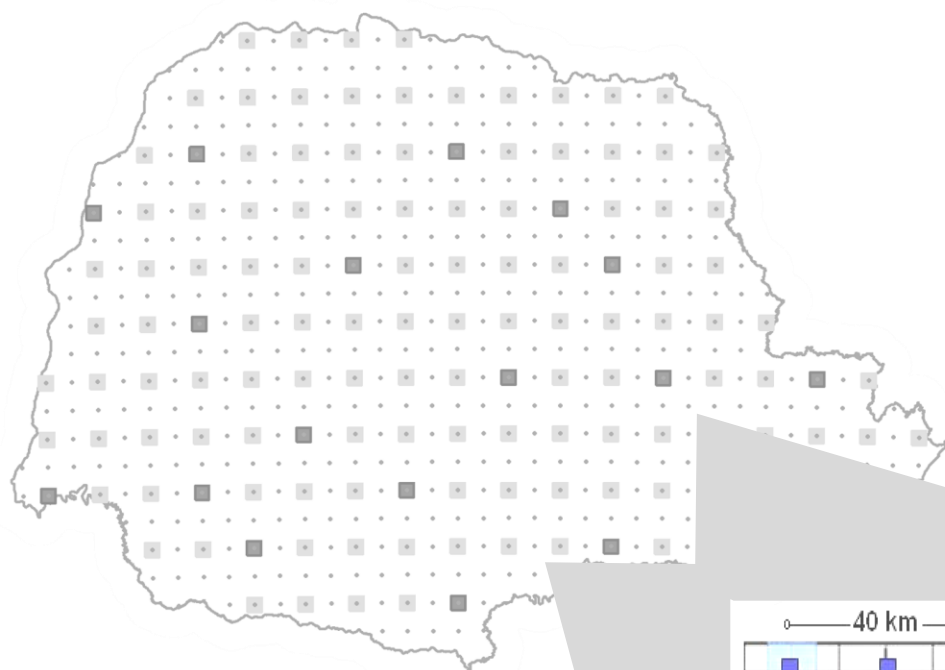
The Landscape Analysis Sampling Units - UAPs

*Brazilian Forest Service – Joberto Veloso de Freitas – Brazilian NFI Coordinator
Cláudia de Mello Rosa
Thiago Felipe de Oliveira Spagnolo*

**Embrapa Forestry - Naissa Batista da Luz - Consultant – FAO
Maria Augusta Doetzer Rosot
Marilice Cordeiro Garrastazu
Luziane Franciscon
Yeda Maria Malheiros de Oliveira**



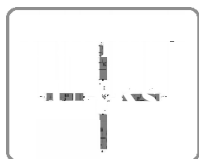
3 - Landscape Sample Plots



Attributes

- Land use/land cover changes
- Fragmentation (landscape variables)
- Riparian areas
- **Trees Outside Forests**

- Satellite image plot
- Data collection=imagery interpretation
- Sampling intensity
 - 40 x 40 km
- satellite imagery
 - *RapidEye* sensor



NFI expected results and outputs

- **Data/Results/information on:**

- Forested area
- Tree species composition
- Forest structure and stock
- Forest dynamics
- **Biomass and carbon stock**
- Forest management
- Forest product
- Forest and people
- Health conditions
- Changes in forest cover
- Forest fragmentation
- Landscape dynamics
- ...

NFI cycle is five years

Decision making



Monitoring, Time series to explore trends and scenarios

Forest policies, planning, Country reports, etc

NFI - Brasil

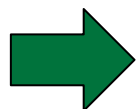
Thank you !

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Ministério da
Agricultura, Pecuária
e Abastecimento



Thanks very much!

Obrigado





