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FORRISK Workshop

Bilbao – 10th September 2014

Soil degradation: Comparative strengths, weaknesses and opportunities for soil protection in cultivated forests in the SUDOE area

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Project partners : EFI, ISA, CETEMAS, NEIKER, HAZI, INRA, CRPF, CNPF/IDF, FCBA, TRAGSA

Soil management in planted forests : a context at risk

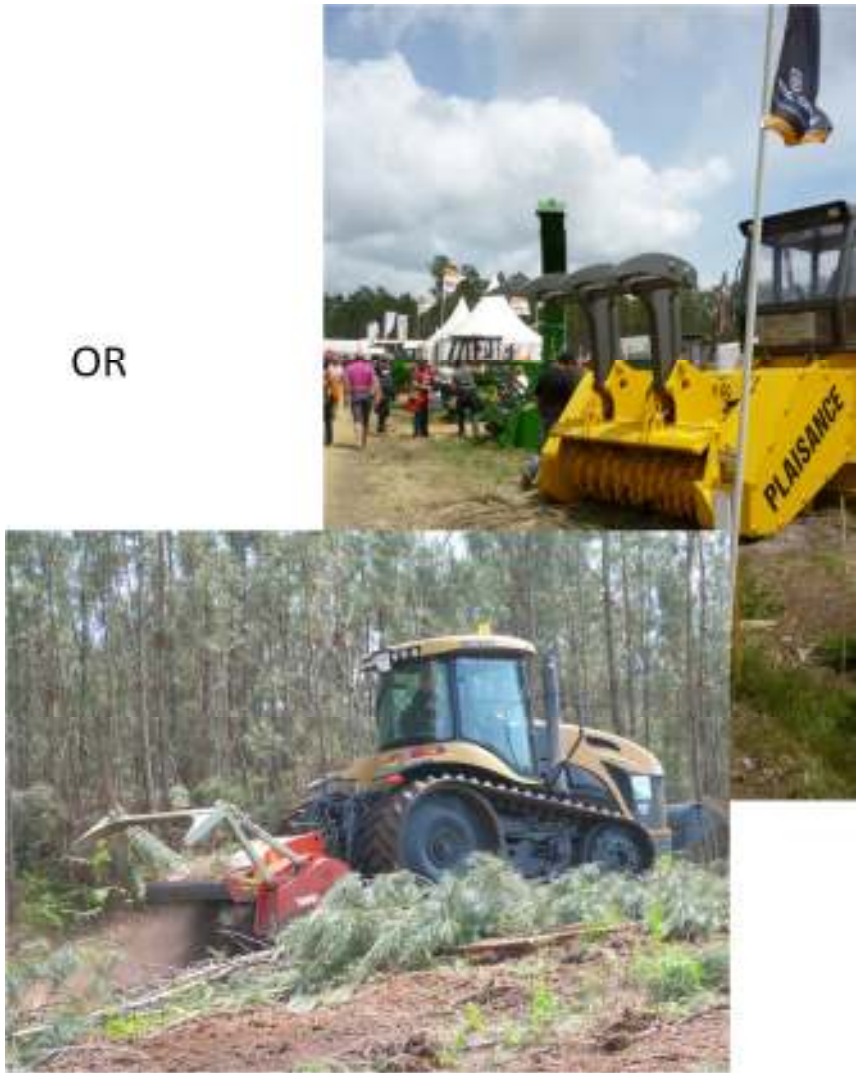
In most cases planted forests requires specific soil management not common in other forest types :

- Cleaning : to facilitate access and make easier soil plantation (even aged stands)
- Stump removal in some case
- Residues management
- Tillage to improve growth (nutrient availability and water competition)
- Road opening
- Harvesting machines
- Fertilisation to increase productivity on poor soils

For every action there is a choice with different impact

- Cleaning

OR



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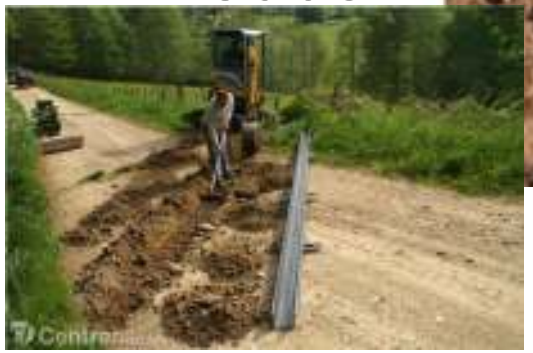
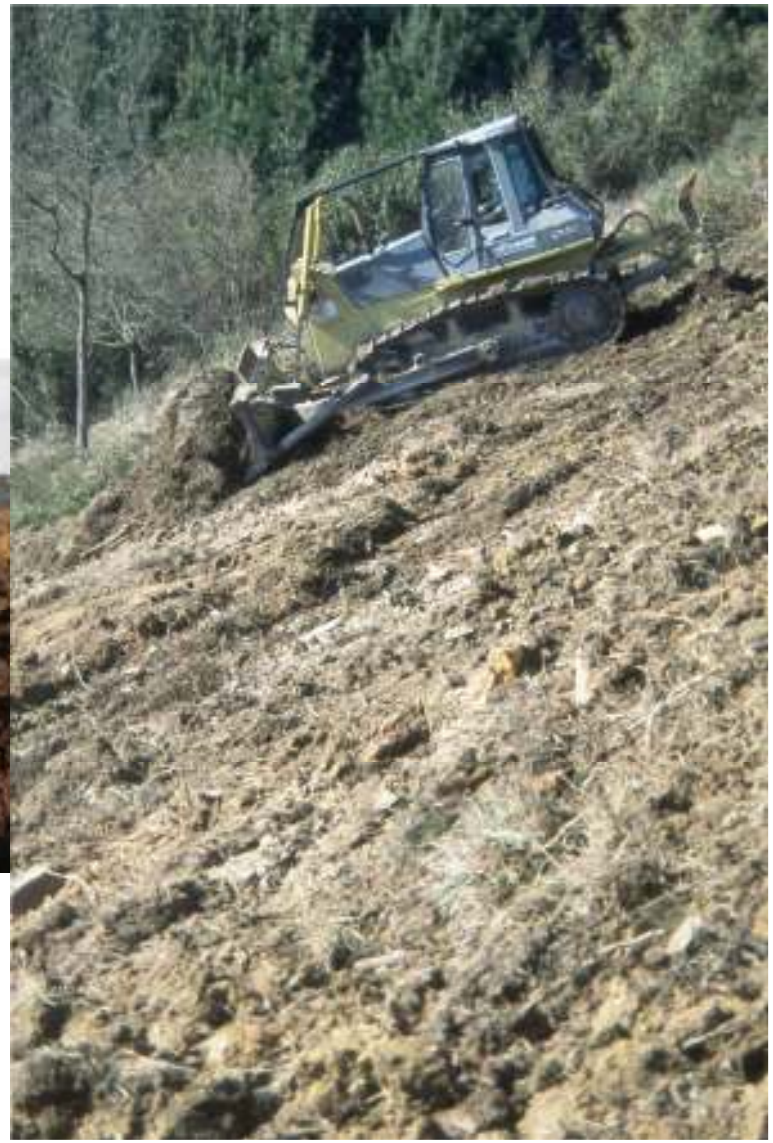
- Tilliage

- Roads





These practices expose forest soils in planted forest to many risks

- Rain erosion : combination of slope, water precipitation and practices
- Wind erosion in sandy soils
- Organic matter removal or reduction with consequences on CEC and water capacity
- Compaction with heavy machineries
- Nutrient balance with intensive export

Main threat : sustainabilty of productivity

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Soil risk assessment in the FORRISK project
(South-western Europe)
Methodology

Challenges

- Identify what is at risk
- Promote best practices

Methodology overview

<u>Action 2.1</u> : Existing tools inventory and description for each region

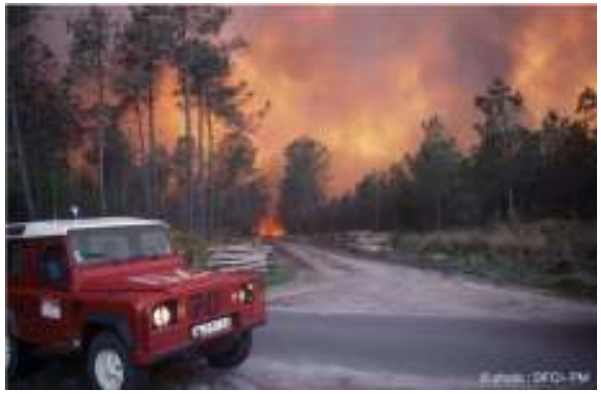
<u>Action 2.2</u> : Analysis and comparison of existing tools between project regions

<u>Action 2.3</u> : Improvment proposals

Inventory and analysis of existing tools for risk management, anticipation and monitoring:

- At a regional scale
- Efficiency observation
- Detection of the presence or lack of a multi risk integration

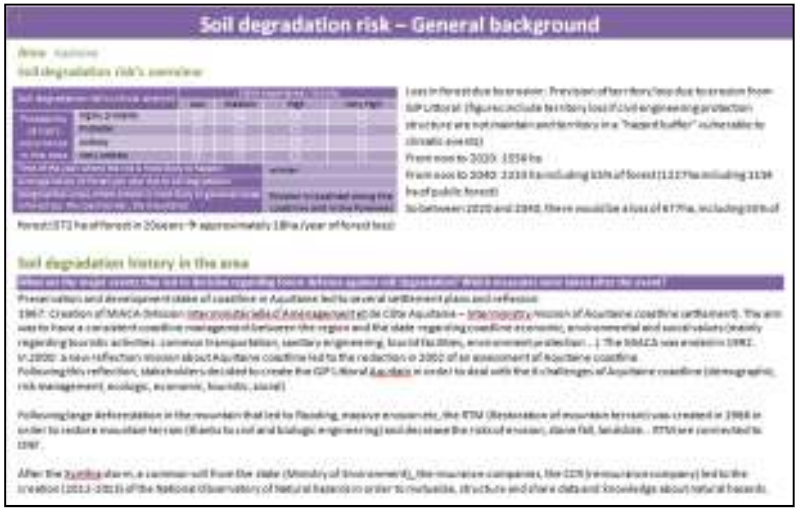
Comparative analysis of systems

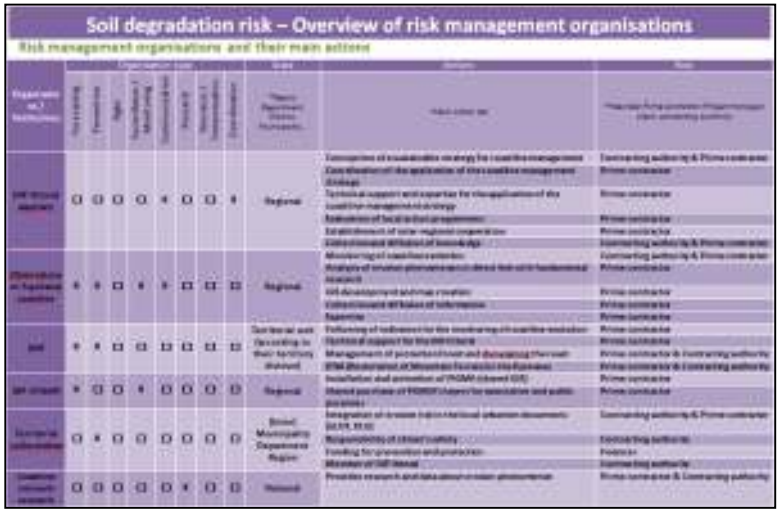


Proposals in order to improve risk management tools in the South-west of Europe
=> identification of possible cooperations between regions

Grid of information collected on soils

[1] Risk general background: risk overview in the region, figures, risk history in the area
[2] Risk evolution and climate change regarding defence system
[3] Overview of risk management organizations and their main actions
[4] Overview of existing laws regarding the risk
[5] Detailed presentation of each organization
[6] SWOT analysis of the general risk management system
[7] Diagram: actors of risk management systems and their links





Data collected by the project partners in each FORRISK region

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Specific case of SUDOE area soil management
SWOT analysis

Strengths	Weaknesses
Opportunities	**Threats**

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Forest certification: the positive economic impact of forest certification may encourage forest owners and contractors to take part in the network and thus to follow the requirements of PEFC regarding the limitation of impacts on the soil.	
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Recommandations for improvement

- Need of an identification of threats, pressures and risks of degradation to soils related to forest management

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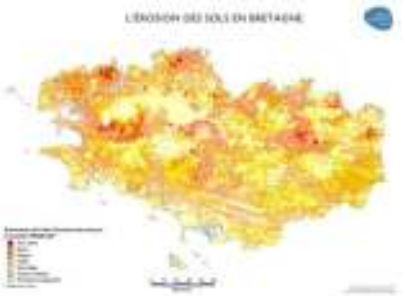
- Need of tools for deciders: maps of identified sensitive areas and of areas with a potential risk of erosion



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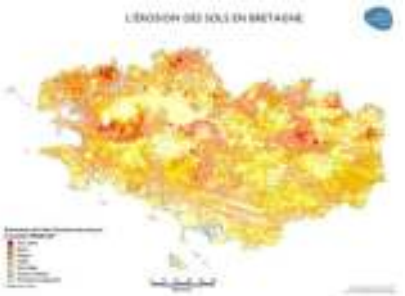

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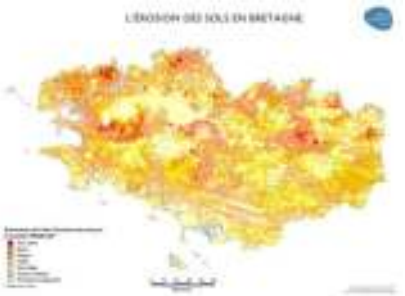

-Encourage the activities with less impact on the soil

-Regulate the management operations on sensitive soils (PES?)

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Merci! Gracias! Obrigado!