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Soil degradation



Effectiveness of different treatments for post-fire soil losses reduction

General information

| Description | Recopilation of different treatment effectiveness for post-fire soil | | |
|-----------------------------|---|--------------------|--|
| | erosion mitigation. Planning and execution of those treatments. | | |
| Geographical area | Galicia (can be expanded to the North of the Iberian Peninsula) | | |
| Group of tree species | | | |
| Date | September 2018 | | |
| Authors (affiliation) | Centro de Investigación Forestal de Lourizán | | |
| | Subdir. Xeral de Prevención e Defensa contra os Incendios Forestais | | |
| | Servicios Agrarios Galegos, S.A. (SEAGA) | | |
| Contact e-mail | <u>cristina.fernandez.filgueira@xunta.es</u> | | |
| Tool type | Report | | |
| Tool format | Text | | |
| Language | Spanish | | |
| Risk management plans to | Soil degradation risk management plan | | |
| which the tools can be | | | |
| added | | | |
| Risk management plans link | https://plurifor.efi.int/wp-content/uploads/WP2/plans/Soil- | | |
| | degradation-plan_ES.pdf | | |
| This tool is | ⊠ a new tool | ☐ an improved tool | |
| | Acciones urgentes contras la erosion en áreas forestales quemadas. | | |
| Original tool of which this | Guía para su planificación en Galicia (Vega et al., 2013). | | |
| one is an improvement | https://lourizan.xunta.gal/gl/transferencias/accions-urxentes-contra- | | |
| | erosion-en-areas-forestais-queimadas | | |

Topic

| Risk | Soil degradation | | |
|--------------------------------|--|----------|-----------------|
| Risk component | ⊠ hazard | ☐ impact | □ vulnerability |
| Risk area | Risk management | | |
| Risk phase | Rehabilitation/restoration | | |
| Risk phase (alternative terms) | Response | | |
| Level | Regional | | |
| Sendai priorities | □ Priority 1: Understanding disaster risk ☑ Priority 2: Strengthening disaster risk governance to manage disaster risk ☑ Priority 3: Investing in disaster risk reduction for resilience □ Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction | | |

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| Contribution to Sendai targets | ☐ Reduce global disaster mortality | |
|-----------------------------------|---|--|
| | ☐ Reduce the number of affected people | |
| | ☑ Reduce the direct disaster economic loss | |
| | ☐ Reduce disaster damage to critical infrastructure | |
| | \square Increase the number of national and local disaster risk reduction | |
| | strategies | |
| | ☐ Enhance international cooperation to developing countries | |
| | ☐ Increase availability of and access to multi-hazard early warning systems | |
| | and disaster risk information and assessment | |

Description and analysis

Summary

It presents a catalog of different soil stabilization techniques for soil erosion mitigation after fires. Data on their effectivieness under the conditions of NW Spain are provided. It also includes examples of plannification and execution at landscape level. It could help to undertake similar actions in other regions affected by summer forest fires to reduce post-fire soil losses.

Place in national/regional policy

Soil erosion mitigation plans after forest fires that is included in the Plan de prevención y defensa contra incendios forestales de Galicia (PLADIGA)

Goals and achievements

There is information on how post-fire soil erosion mitigation techniques reduce post-fire soil losses under the meteorological conditions of the North of Spain. Also, logistical aspects of the treatments application are explained.

Stakeholders involved

A public company and the forestry authorities collaborate in the preparation of the report

Implementation stage

The text was designed as a technical report that is fully accesible

State of technical knowledge

This tool summarizes the technical and scientific knowledge about the effectiveness of different postfire soil stabilization treatments

Regulatory and/or socio-economic contexts

This tool can be used for the planning of post-fire measures to reduce erosive-hydrological risk under similar conditions of soils and climate than those of NW Spain.

Impacts of the tool

This report will provide information on post-fire activities planning but also to make aware local population about the importance of post-fire erosion risk

Implementation requirements and durability

Description of the implementation steps

- -Soil erosion reduction treatment effectiveness compilation in Galicia
- -Managent issues in post-fire soil erosion mitigation planning
- -Logistical and technical aspects of treatment application

Governance

Pos-fire treatments monitoring is being carried out by the Lourizán Forestry Research Center

Regulatory framework

There is no regulatory framework

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Human resources requirements

Forestry authorities, managers, public companies and researchers

Financial requirements

The tool is freely available

Technical requirements

None

Priorities identified for successful implementation of the tool (political, technical, human, financial...)

The promotion between managers and researchers

Challenges or risk factors (legal, financial, safety...) expected during the implementation and solutions proposed

The main aim is to try to focus the attention on soil protection after fire

Additional and non-formal experiences to help the implementation of good practice

The report is written in a common way to be easily used.

SWOT analysis

| Strengths | Weaknesses |
|--|--|
| Scientifically and technically based information | The results were obtained under the particular |
| on the effectiveness on a set of treatments for | conditions of NW Spain |
| reduce soil losses after fire | |
| It is part of the soil stabilization plan in Galicia | |
| Opportunities | Threats |
| Example of coordination between managers and | There is a need to increase knowledge under |
| researchers to reduce erosive risk after wildfire | global change conditions and with probable |
| | changes in fire and precipitation regimes |

Lessons learnt

Evaluation process, if exists (internal or external)

Verbal feedback with forest managers

Assessment of results (quantitative and qualitative) and comparison with main goals

Tool meets the original goals

Negative aspects identified

There is a need to increase the dataset under wider soil and climatic conditions

Unexpected consequences (short- / mid- / long-term) and corrective measures implemented None

Access to complete tool

| Files | Connectivity |
|-----------|---|
| Web links | https://plurifor.efi.int/wp-content/uploads/WP2/tools/Soil-degradation- |
| | <u>Connectivity.pdf</u> |



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