

COLLECTION AND MAPPING OF PRESCRIBED BURNING PRACTICES IN EUROPE: A first approach

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

Logos: Gi PSF, FIRE PARADOX, and a stylized '6' logo.



The FIRE PARADOX project

An innovative approach of Integrated Wildland Fire Management (IWM)

Overall objective: creation of the scientific and technological bases for new practices and policies under IWM in Europe

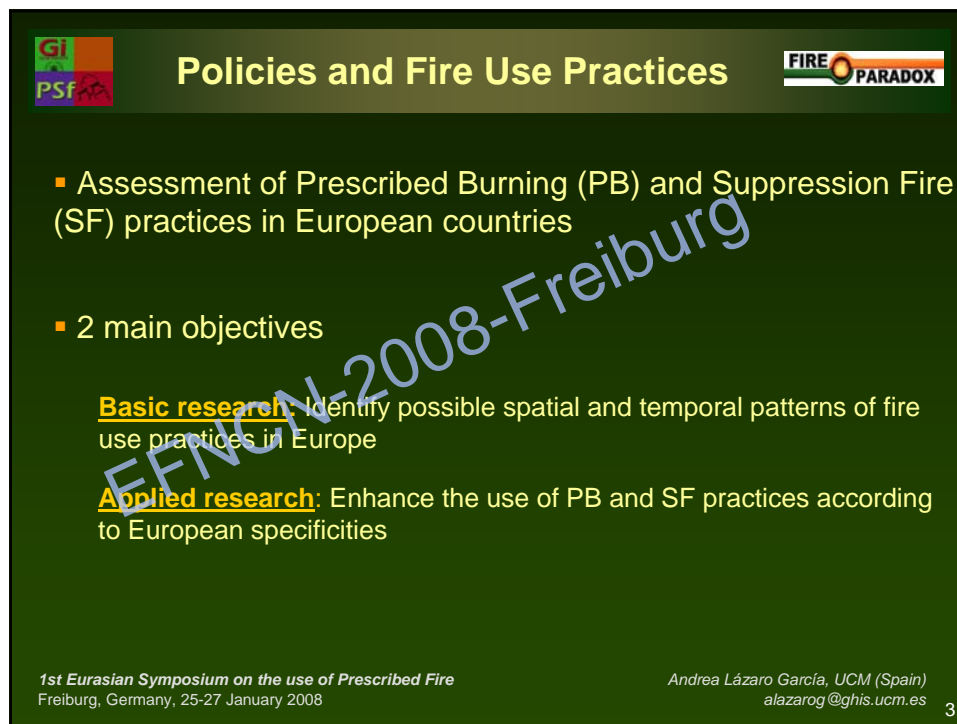
An opening to sharing experiences from the various geographical regions of Europe

3 Domains: Research, Development and Dissemination

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

Logos: Gi PSF, FIRE PARADOX, and a small '2' in the bottom right corner.



GI PSF **Policies and Fire Use Practices** **FIRE PARADOX**

- Assessment of Prescribed Burning (PB) and Suppression Fire (SF) practices in European countries
- 2 main objectives
 - Basic research:** Identify possible spatial and temporal patterns of fire use practices in Europe
 - Applied research:** Enhance the use of PB and SF practices according to European specificities

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

3




GI PSF **Methodological approach** **FIRE PARADOX**

I. COLLECTION
II. CLASSIFICATION
III. MAPPING


1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

4

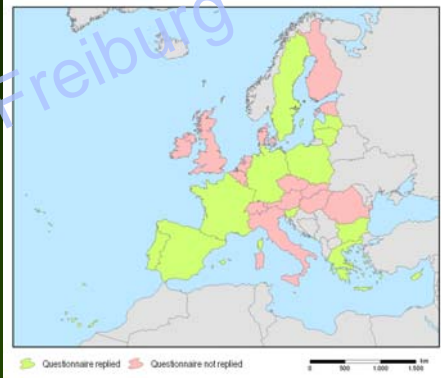


I. COLLECTION



FIRE PARADOX questionnaire

- **Questionnaire (UCM)** gathering Fire Management related issues in EU-27 member-states
- **Target:** national experts of the Working Group of Forest Fire Prevention Experts (WGFFP)
- In **decentralized countries** need to consider the multi-level governance structure
- **On going process** : 12/27 countries replied




Legend: ■ Questionnaire replied ■ Questionnaire not replied


1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

5



I. COLLECTION




TRADITIONAL PRACTICES (See & fill in NUTS3.xls)	Are traditional practices, which imply the use of fire, maintained in your country 's/region 's rural areas? Please specify the different types	Could you please specify any historic reference to their existence in the past? (e.g. historic texts, common knowledge, bibliography, pictures)	
PRESCRIBED BURNING (PB) (See & fill in NUTS3.xls)	If PB is used, which are its objectives as a management tool? Choose more than one option if necessary. Fuel management Facilitate regeneration of vegetal species Habitat improvement Plant succession control To facilitate grazing Increase recreational use (a.ressibility) Landscape maintenance Others:.....	Please specify the agents in charge of this tasks	In case of using PB with fuel management objectives, check those purposes in favour: 1. Strategic sites to control fire propagation 2. Fuel breaks along mayor roads 3. Improve-renew rangeland 4. WUI (Wildland Urban Interface)*
SUPPRESSION FIRE (SF) (See & fill in NUTS3.xls)	Please specify which of the following SF techniques are used in your country/region in suppression Backfiring* Burning out before fire is controlled * * Burning out after fire is controlled * * * None Others:.....	In case of using SF, check those purposes in favour: 1. To induce a vertical upright of the wildland fire column 2. To remove available fuel previously to the wildfire arrival, 3. To secure an already controlled fire spread	Please specify pros and cons for the use of PB as a management tool in your country/region: PROS: CONS:


1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

6




I. COLLECTION




COUNTRY		INSTRUCTIONS																
BELGIQUE/BELGIE	Belgium = BE	<p>According to the NUTS 3 classification (NUTS 2 for Belgium, The Netherlands and Germany) please select the areas in your country where practices related with the use of fire are developed as follows:</p> <p>- For TRADITIONAL PRACTICES: mark with a X</p> <p>- For PRESCRIBED BURNING and SUPPRESSION FIRE: with the appropriate year they begin</p>																
ČESKÁ REPUBLIKA	Czech Republic = CZ																	
DANMARK	Denmark = DK																	
DEUTSCHLAND	Germany = DE																	
EESTI	Estonia = EE																	
ELLADA	Greece = GR																	
ESPAÑA	Spain = ES																	
FRANCE	France = FR																	
IRELAND	Ireland = IE																	
ITALIA	Italy = IT																	
ΚΥΠΡΟΣ / KIBRIS	Cyprus = CY																	
LATVIJA	Latvia = LV																	
LIETUVA	Lithuania = LT																	
LUXEMBOURG (GRAND-DUCHÉ)	Luxembourg = LU																	
MAGYARORSZÁG	Hungary = HU																	
MALTA	Malta = MT																	
NEDERLAND	Netherlands = NL																	
ÖSTERREICH	Austria = AT																	
POLSKA	Poland = PL																	
PORTUGAL	Portugal = PT																	
SLOVENIJA	Slovenia = SI																	
SLOVENSKÁ REPUBLIKA	Slovakia = SK																	
SUOMI / FINLAND	Finland = FI																	
SVERIGE	Sweden = SE																	
UNITED KINGDOM	United Kingdom = UK																	

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es



I. COLLECTION



Complementary sources

- **Expert Contacts:** FP Partners, EFNCN, Local and Regional Planners, Research institutions, Forestry Universities
- **Regulation texts and planning documents:** within the forestry and wildfire policy frame for the EU level as well as for Member States countries (national and regional level)
- **Bibliographical and literature references:** governmental and non-governmental agencies (e.g. FAO, EC, GFMC, JRC, Forest and Fire Services), European research project's (e.g. EUFIRELAB and FIRE TORCH) and on-line research databases (e.g. scientific journals and universities)

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

II. CLASSIFICATION

2 main criteria

C1. Fire use objectives

- Wildfire Prevention
- Forestry
- Nature conservation
- Rural activities (e.g. grazing, agriculture)
- Others (e.g. landscape management, improve access)

C2. Degree of standarization

- Traditional use
- Experimental use
- Management use (renovated or innovative)

*1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008*

*Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es*

9

II. CLASSIFICATION

C2. Degree of standarization

TRADITIONAL USE



Ribera d'Ebre, Tarragona, Spain (Municipality of Rasquera)

MANAGEMENT



Valle de Baztán, Spain (Bomberos de Navarra, 2003).

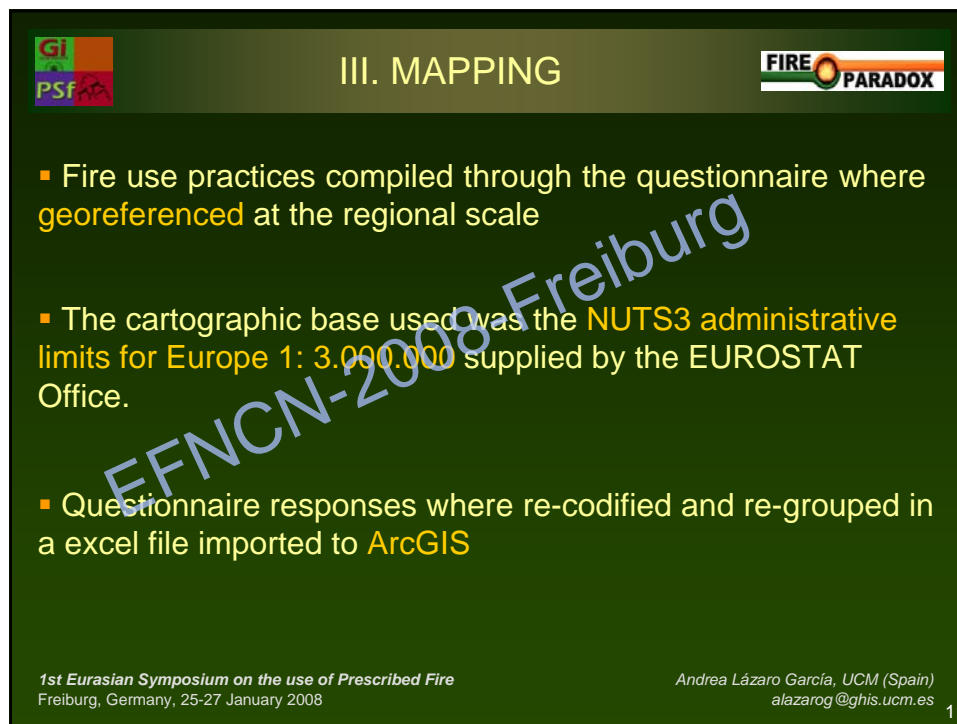
EXPERIMENTAL



Marão mountains, northern Portugal (M. Rainha, 2003)

*1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008*

10



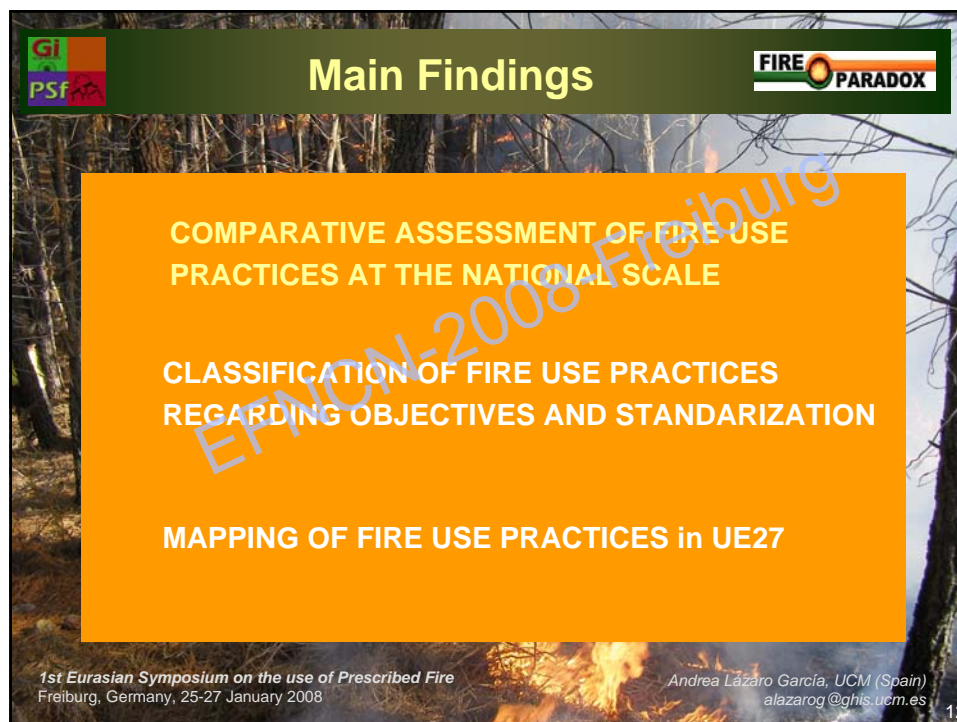
III. MAPPING

- Fire use practices compiled through the questionnaire where **georeferenced** at the regional scale
- The cartographic base used was the **NUTS3 administrative limits for Europe 1: 3.000.000** supplied by the EUROSTAT Office.
- Questionnaire responses where re-codified and re-grouped in a excel file imported to **ArcGIS**

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

11



Main Findings

- COMPARATIVE ASSESSMENT OF FIRE USE PRACTICES AT THE NATIONAL SCALE
- CLASSIFICATION OF FIRE USE PRACTICES REGARDING OBJECTIVES AND STANDARIZATION
- MAPPING OF FIRE USE PRACTICES in UE27

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

12

GI PSF **PB Comparative assessment** **FIRE PARADOX**

Some examples...

PASTORAL BURNING IN THE MANAGEMENT OF VEGETATION FOR LIVESTOCK (MARGHINE-MONTIFERRU, SARDINIA, ITALY)
Author: M. Ribelli, 2006

PB FOR NATURE CONSERVATION IN ATLANTIC CALLUNA HEATHLAND (LÜTJENHOLM SCHLESWIG-HOLSTEIN, GERMANY)
Author: J.C. Godwin, 2004

PB FOR SELF PROTECTION OF A COASTAL PINUS STAND (BAGES FOREST, VAUDE, FRANCE)
Author: E. Rigault

EXPERIMENTAL PB FOR TRAINING (MARÃO MOUNTAINS, PORTUGAL)
Author: M. Ribeiro, 2003

13

GI PSF **Main Findings** **FIRE PARADOX**

COMPARATIVE ASSESSMENT OF FIRE USE PRACTICES AT THE NATIONAL SCALE


CLASSIFICATION OF FIRE USE PRACTICES REGARDING OBJECTIVES AND STANDARIZATION

MAPPING OF FIRE USE PRACTICES in UE27


1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

14



Classification




- A country is included in as many categories as types of practices are present within the country

- The incorporation of a country to a given category does not imply the national representativity of the practice


	Traditional Fire Use	Management Use	Experimental Fire Use
A. Rural activities	BULGARIA CYPRUS FRANCE LATVIA LITHUANIA PORTUGAL SPAIN SLOVENIA GREECE	FRANCE GERMANY SPAIN PORTUGAL	GERMANY SPAIN
B. Wildfire Prevention		FRANCE GERMANY PORTUGAL SPAIN SLOVENIA	GERMANY ITALY PORTUGAL SPAIN
D. Silviculture		POLAND PORTUGAL SPAIN SWEDEN	SWEDEN
E. Nature conservation		FRANCE GERMANY PORTUGAL SPAIN SWEDEN	FRANCE GERMANY ITALY LATVIA SPAIN SWEDEN
F. Others (Landscape, hunting, improve access)	FRANCE GERMANY	FRANCE GERMANY SPAIN	FRANCE GERMANY

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es



Main Findings



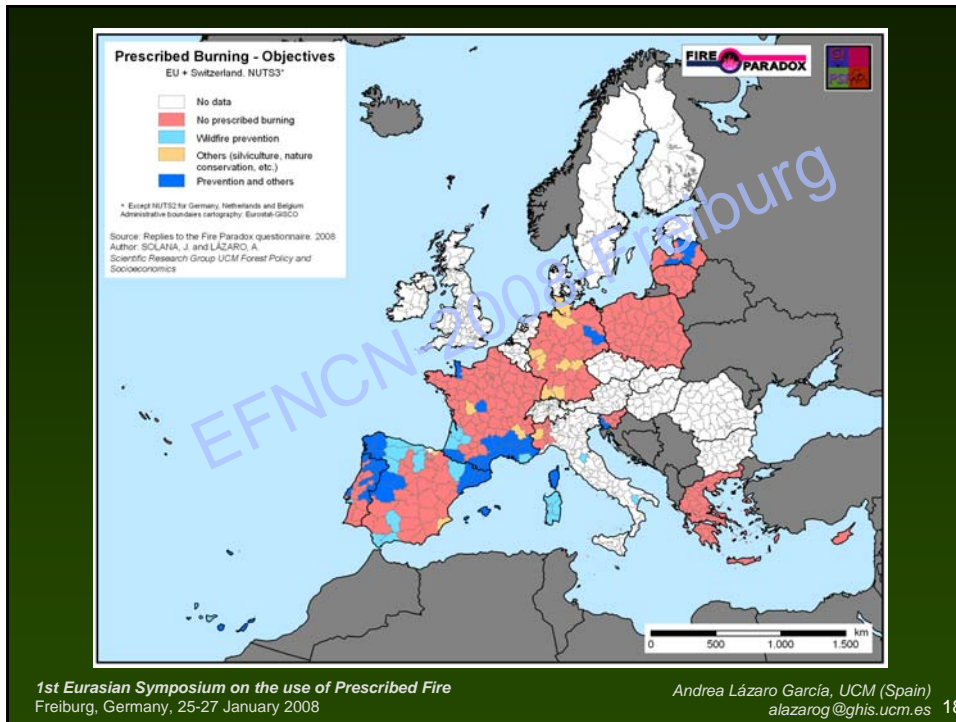
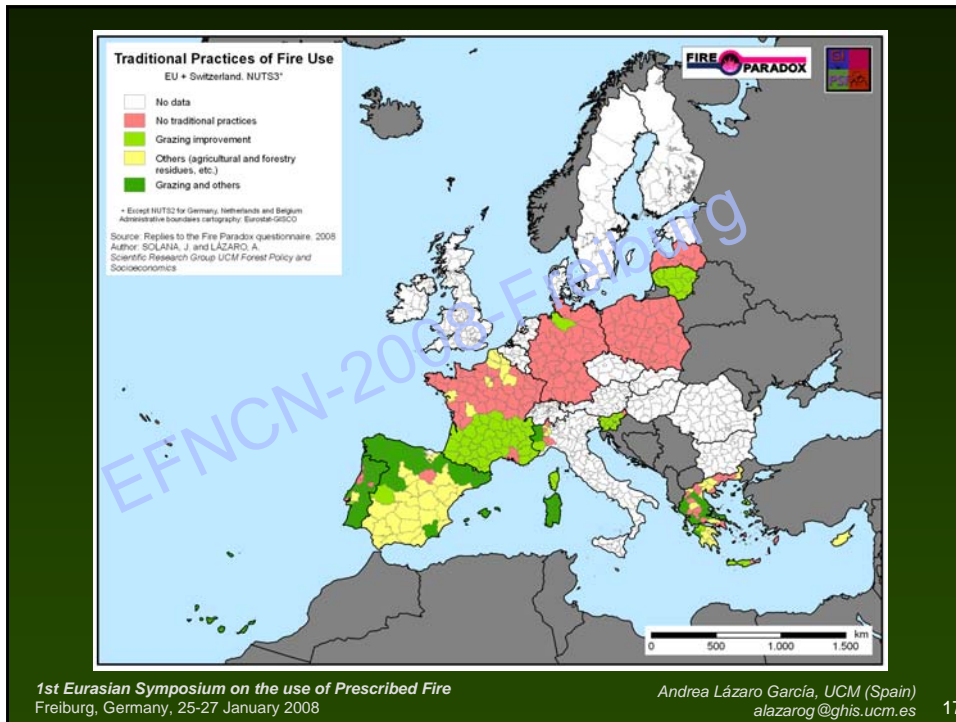
COMPARATIVE ASSESSMENT OF FIRE USE PRACTICES AT THE NATIONAL SCALE

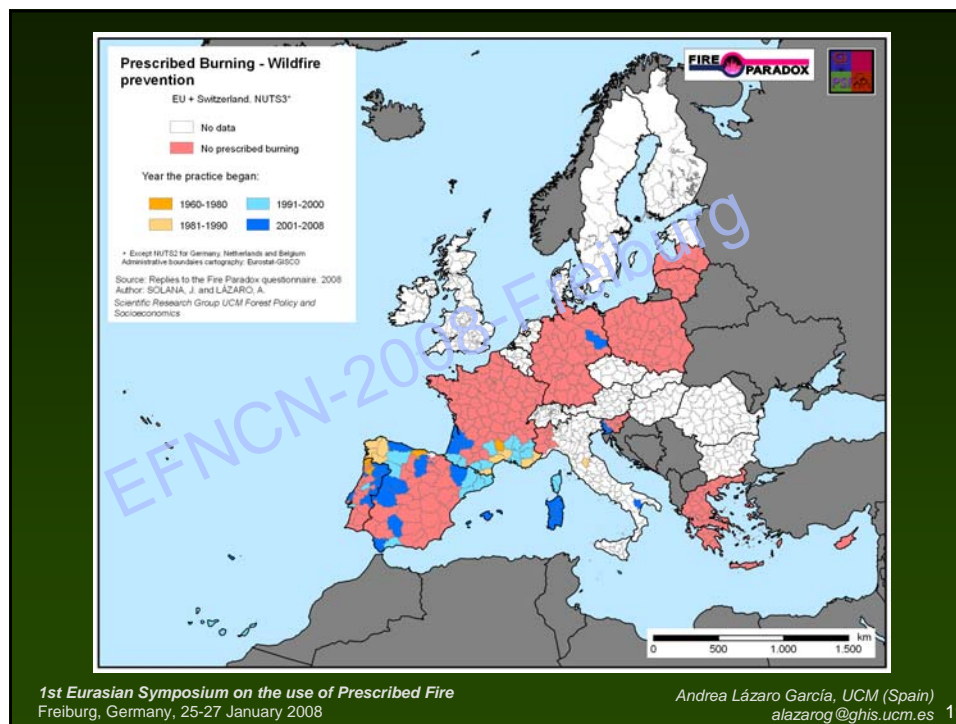
CLASSIFICATION OF FIRE USE PRACTICES REGARDING OBJECTIVES AND STANDARIZATION

MAPPING OF FIRE USE PRACTICES in UE27

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es





Further research

- Assessment of the **main supporting and impeding factors** for the enhancement of PB practices in European and North African countries (UCM)
- **Recommendations** for the development of PB practices in European and North African countries (UCM)
- Elaboration of a **recording system** (DGESC-GRAF) and a **handbook of good practices** (UCM) for PB.
- **Guidelines to mitigate personal risk** in Prescribed Burning (UL-UFF)

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es 20

Further Research

```
graph TD; E1[E1 SPATIAL CONTEXT] --> C1[C1 OBJECTIVES FOR FIRE USE]; E2[E2 SOCIOECONOMIC DYNAMICS] --> C1; C1 --> C2[C2 STANDARIZATION OF PRACTICES];
```

1st Eurasian Symposium on the use of Prescribed Fire
Freiburg, Germany, 25-27 January 2008

Andrea Lázaro García, UCM (Spain)
alazarog@ghis.ucm.es

21

Thank you for your attention!

Jesús Solana

Cristina Montiel

Luis Galiana

Andrea Lázaro

Research Group Forest Policy and Socioeconomics
University Complutense of Madrid
Department of Regional Geography and Physical Geograhly
alazarog@ghis.ucm.es