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Developing a Web-based Information System for mapping Areas with Natural Constraints in the Balkan countries

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Web-based Information System for mapping Areas with Natural Constraints in the Balkan countries

Objective

Developing a web-based Geographic Information System for characterization and Mapping Areas with natural Constraints in the Western Balkan Countries suitable with the Infrastructure for Spatial Information in the European Community (INSPIRE Directive).

Outcome:

Facilitate the process of EU accession of Western Balkan countries as well as assist them to modernise and adjust their national information databases according to the standards set up by the EU.

(Albania, Bosnia & Herzegovina, Macedonia, Montenegro, Kosovo, Serbia)

EU policy on Areas with Natural Constraints?

Regulation (EC) 1698/2005 provides for supports to farmers in areas with handicaps. Article 50.3 (a) of the same regulation defines the so-called .“Intermediate Less Favoured Areas (iLFA).” as areas “*affected by significant natural handicaps, notably a low soil productivity or poor climate conditions and where maintaining extensive farming activity is important for the management of the land.”*

Changes in terminology: **Less Favoured Areas (LFA)** are now called **Areas with Natural Constraints (ANC)** because conditions for farming are more difficult which increase production costs and reduce agricultural opportunities. The EU has provided funding for the ANCs since 1975.

Council Regulation (EC) No 1698/2005 which referred to areas affected by **natural handicaps, notably low soil productivity or poor climate conditions.** Nevertheless Council Regulation (EC) No. 1257/1999 is still in force.

Communication from the Commission: **"Towards a better targeting of the aid to farmers in areas with natural handicaps"** of 21 Apr. 2011.

Categories of Areas with Natural Constraints

 Mountain and hilly areas – are characterised as those areas handicapped by a short growing season because of a high altitude, or by steep slopes, or by a combination of the two at a lower altitude. Areas north of 62nd parallel are also considered as mountain areas due to the shortened growing period.

 Intermediate ANC – are those areas affected by significant natural handicaps, notably a low soil productivity or poor climate conditions and where maintaining extensive farming activity is important for the management of the land

Areas at risk of abandonment

 Areas affected by specific handicaps - are areas where farming should be continued in order to conserve or improve the environment, maintain the countryside, and preserve the tourist potential of the areas, or in order to protect the coastline.

The boundary conditions as specified by DG Agriculture and Rural Development

- The classification relates to areas that have *natural handicaps to agriculture and not* to how the land is managed (e.g. irrigation or drainage);

- Criteria have to apply to agricultural activity in general, not to specific production/crops, so as to avoid any production related support. They implicitly refer to conventional agriculture;

- The criteria concern the area designation and not the ANC scheme as whole (no eligibility rules, no payment calculation at this stage);

- Criteria have to be adapted for pan-European (Balkan) assessment. They have to provide a common framework and cover the whole range of European bio-physical conditions;

- Criteria must be clear, simple, robust, easily understandable and fit for policy use.

Criteria and threshold values for the definition of Areas with Natural Constraints?

CRITERION	DEFINITION	THRESHOLD
CLIMATE		
Low Temperature	Length of Growing Period (number of days) defined by number of days with daily average temperature > 5°C (LGP_{t5}) OR	≤ 180 days
	Thermal-time sum (degree-days) for Growing Period defined by accumulated daily average temperature > 5°C.	≤ 1500 degree-days
Dryness	Ratio of the annual precipitation (P) to the annual potential evapotranspiration (PET)	P/PET ≤ 0.5
CLIMATE AND SOIL		
Excess Soil Moisture	Number of days at or above Field capacity	≥ 230 days
TERRAIN		
Steep Slope	Change of elevation with respect to planimetric distance (%).	≥ 15%

Criteria and threshold values for the definition of Areas with Natural Constraints?

SOIL		
Limited Soil Drainage	Areas which are water logged for significant duration of the year	Wet within 80cm from the surface for over 6 months, or wet within 40cm for over 11 months OR Poorly or very poorly drained soil OR Gleyic colour pattern within 40cm from the surface
Unfavourable Texture and Stoniness	Relative abundance of clay, silt, sand, organic matter (weight %) and coarse material (volumetric %) fractions	≥ 15% of topsoil volume is coarse material, including rock outcrop, boulder OR
		Topsoil texture class of sand, loamy sand defined as: silt% + (2 x clay%) ≤ 30% OR
		Topsoil texture class is heavy clay (≥ 60% clay) OR
		Organic soil (organic matter ≥30%) of at least 40cm OR
		Topsoil texture class of clay, silty clay, sandy clay and vertic properties within 100cm of the soil surface
Shallow Rooting Depth	Depth (cm) from soil surface to coherent hard rock or hard pan.	≤ 30cm
Poor Chemical Properties	Presence in topsoil of salts, exchangeable sodium, excessive acidity	Salinity: ≥ 4 deci-Siemens per meter (dS/m) OR
		Sodicity: ≥ 6 Exchangeable Sodium Percentage (ESP) OR
		Soil Acidity: pH ≤ 5 (in water)

Basic principles for delineation of ANCs

- No crop specificity.

- Suitability assessment is based on a limited selection of soil and climate characteristics complemented with one topographic characteristic

- 2 range classes: Characteristics are either not limiting, or severely limiting.

- Criteria are combined according to the agronomic law of the minimum (Liebig's law).

- Climate-related criteria are treated in a probabilistic way. A characteristic is classified as being severely limiting if the probability of exceedance of the severe limit is more than 20% of the total number of years (in 7 or more years out of 30)

Final list of criteria

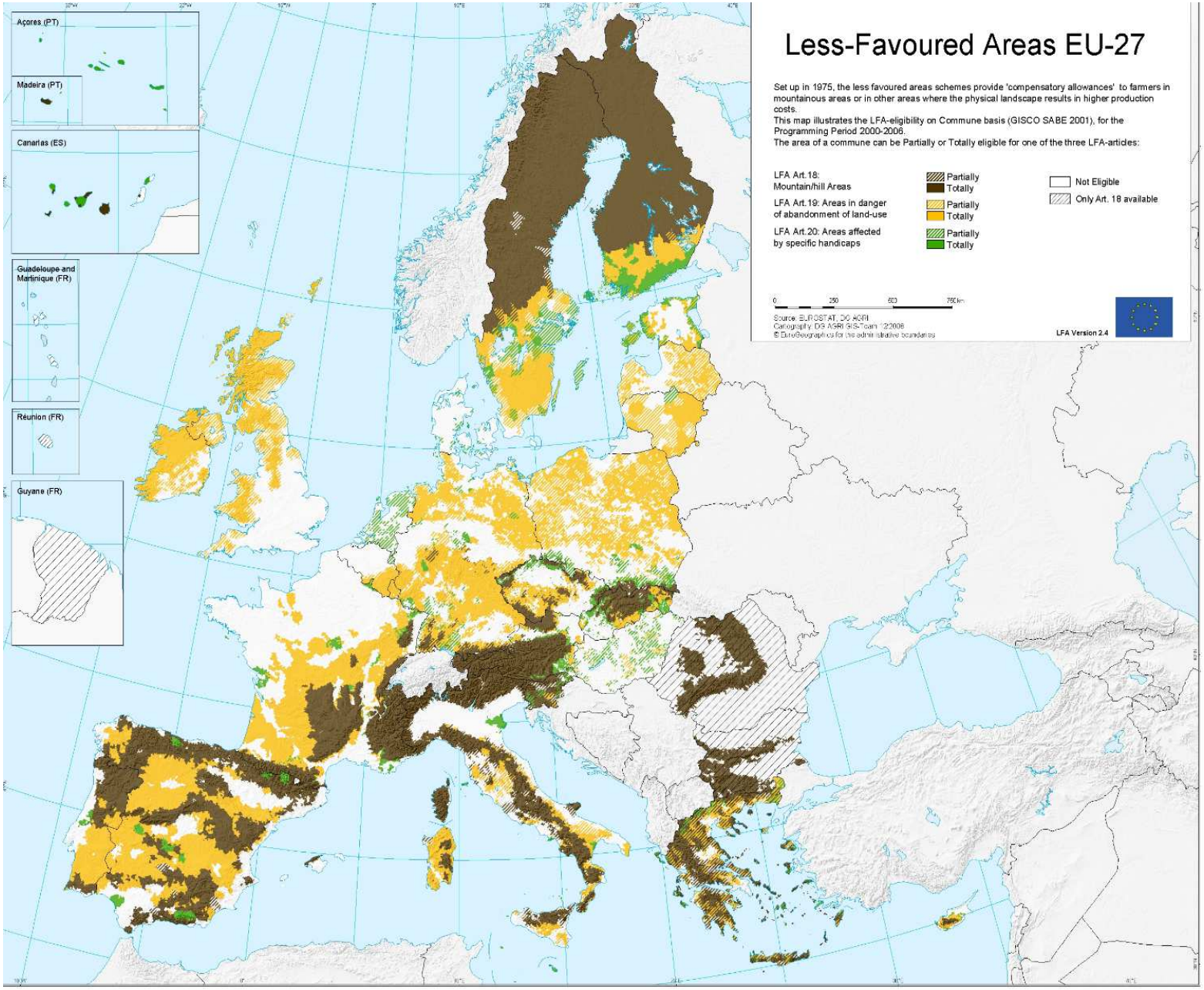
1. Low temperature
2. Dryness- -too dry conditions using UNEP Aridity Index
3. Limited soil drainage (Gleysols, Stagnosols)
3bis. Excess soil moisture condition when water content is larger than field capacity ("wet season").
4. Unfavourable Soil Texture and Stoniness
5. Shallow Rooting Depth: Physical rooting depth < 30cm
6. Poor Chemical Properties
6.1. Salinity: over 4 dS/M
6.2. Sodicity: ESP over 6
6.3. Soil acidity: pH lower than 5
7. Steep slope: over 15%

Classification of zones	Dryness Index
Hyperarid	$AI \leq 0.05$
Arid	$0.05 < AI \leq 0.20$
Semi-arid	$0.20 < AI \leq 0.50$
Dry sub-humid	$0.50 < AI \leq 0.65$

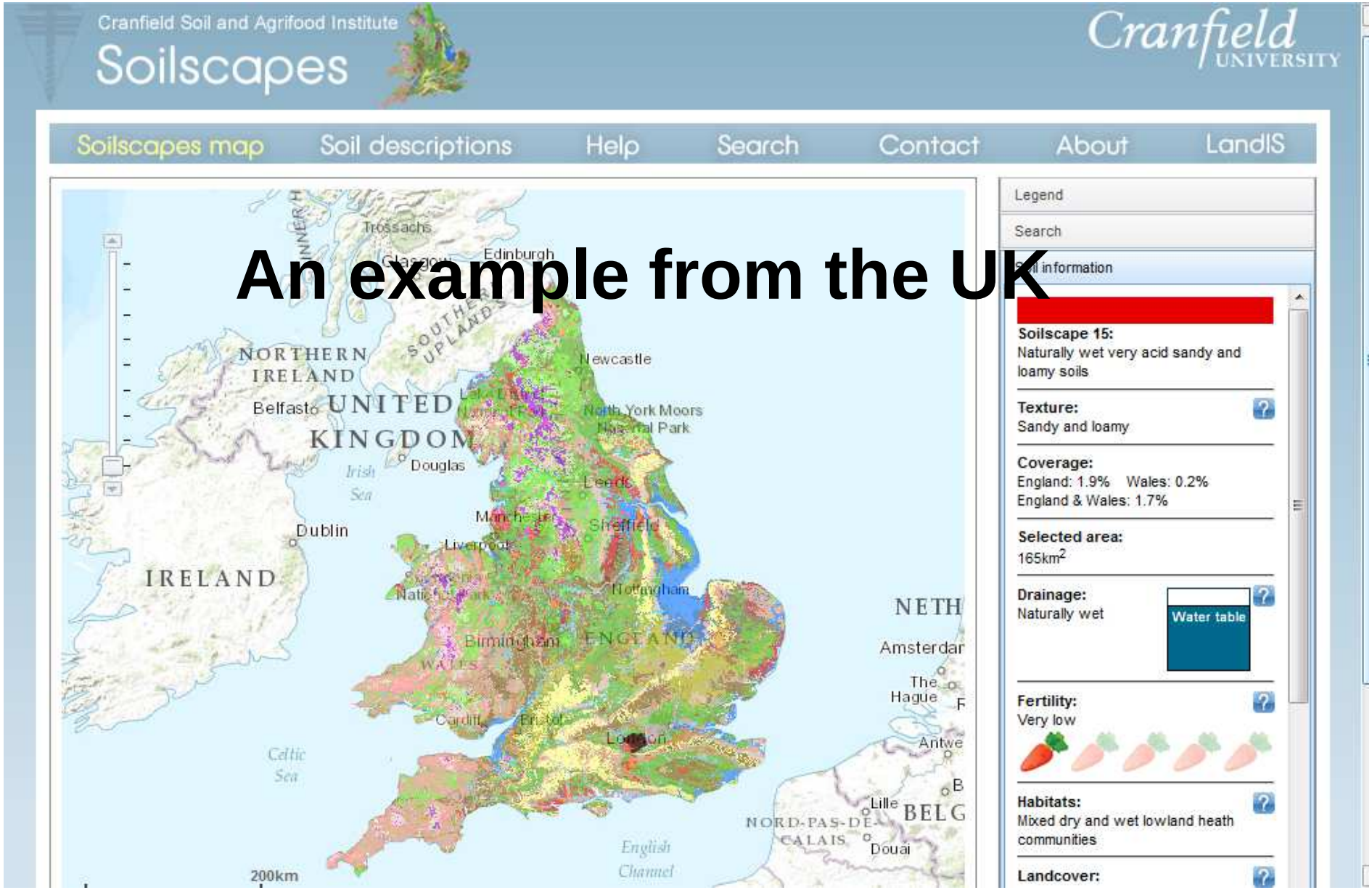
Updated common bio-physical criteria to define natural constraints for agriculture in Europe
Definition and scientific justification for the common biophysical criteria
Editors: Jos Van Orshoven, Jean-Michel Terres, Tibor Tóth
Contributors: Robert Jones, Christine Le-Bas, Freddy Nachtergaele, David Rossiter, Jos Van Orshoven, Rogier Schulte, Harrij van Velthuizen

EUR 25203 EN - 2012

Areas with Natural Constraints in the EU27



Building a Web based information system of Areas with Natural Constraints in the Balkan countries



What is required?

Willingness to be part of this project

Willingness to collect all data available at country level (soil, climate, topography, cadastral, etc)

Willingness to share the data both in digital or hard copy format

Willingness to coordinate the work with all relevant national institutions

Willingness to collect new (missing) data

Willingness to cooperate with all parties in the project

Willingness to implement project results

Willingness to update results as new data may become available

Willingness to endorse a concept note of this event to be presented at the IX Ministerial Meeting in Tirana 11-13 November 2015

Roles and duties

Countries involved: Albania, Bosnia & Herzegovina, Macedonia, Montenegro, Kosovo, Serbia

CIHEAM IAMB and SWG will be the implementing agencies

CIHEAM IAMB in cooperation with two other partners from the Balkans will coordinate the technical aspects of the project including developing methodology, training and implementation

SWG will coordinate all the administrative aspects including budget allocation to partners and EU reporting

CIHEAM IAMB and SWG will coordinate the work with JRC in Ispra

SWG will access DG AGRI for funding

If approved, the project will have the duration of 3 years with possibility of extension

It is foreseen that the project may start in Spring 2016


Thank you!
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