Overview of activities of the JRC-hosted European landslide expert group and objectives of the meeting

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http://eusoils.jrc.ec.europa.eu/library/themes/LandSlides/
• The **European Soil Thematic Strategy** and the associated **Proposal for a Framework Directive** on the protection and sustainable use of soil (2006) calls for specific strategies for **risk area delineation and mitigation measures** management of eight major soil threats including also landslides.

• For five soil threats including landslides, the **Soil Information Working Group (SIWG)** of the **European Soil Bureau Network (ESBN)** developed a uniform framework for risk area assessments where hierarchically ordered, nested geographical analysis schemes ("Tiers") are envisaged.

• In this common framework, the **European landslide experts group hosted by JRC** suggested the generation of a **European-wide landslide susceptibility map** and other susceptibility maps at national or regional scales.
General landslide susceptibility mapping approach

- Based on geographically nested approaches (Tiers)

- Two main Tiers: Tier 1 and Tier 2, ranging from smaller to larger scale mapping:
  - Areas identified as of higher susceptibility in small-scale Tier 1 are assessed and mapped at larger scale and higher accuracy in Tier 2

- A possible Tier 3 approach in high-susceptibility areas identified in Tier 2
• **Tier 1**

  — Production of a preliminary map over Europe at 1:1 Million scale and 1 km grid cell using a heuristic approach (see A. Günther’s presentation)

  — Experiment for France using a heuristic approach: a few departments mapped at 1:1 Million scale (see J.-P. Malet’s presentation)

• **Tier 2**

  — Experiment for Italy using a (multivariate) probabilistic model with data at 1:1 Million (see P. Reichenbach’s presentation)


• JRC Work Programme 2010: “Delivery of a landslide susceptibility map for Europe (“Tier 1”) and recommendations for national- and regional-level maps from successive Tiers” (as a collaborative effort of the JRC-hosted European landslide experts group) by December 2010

• ICL-IPL (International Programme on Landslides of the International Consortium on Landslides) project “Tier-based harmonised approach for landslide susceptibility mapping over Europe”, submitted in 2009 as a joint activity of the JRC-hosted European landslide experts group
• Title: Tier-based harmonised approach for landslide susceptibility mapping over Europe

• Objectives:
  – Produce a Europe-wide landslide susceptibility map
    ✓ using already available datasets for the whole of Europe
    ✓ using a common approach
  – Identify areas in Europe where more detailed landslide susceptibility mapping is required
    ✓ using a common quantitative methodology
Meeting objectives

- Present the status of work within the expert group on landslide susceptibility assessment using Tier-based approaches (Tier 1 and 2)

- Discuss further work to complete the Tier 1 landslide susceptibility map for Europe within 2010, defining a work plan and output

- Discuss complementary initiatives for Tier 1 in some EU countries

- Discuss further work on Tier-2 models and data for selected EU countries or regions
Some topics for discussion (1)

• **General approach**
  
  — **Model**
  
  — **Mapping unit**
  
  — Previous geographical segmentation based on topographical, structural or other area properties
  
  — Landslide factor data used including newly available datasets
  
  — Generation of a generic landslide susceptibility map versus generation of maps for major landslide types (e.g. rockfalls/topples and other landslide types) and possible further integration into a unique map, etc.

• **Model calibration and validation**: availability and use of (non-harmonised) inventory data

• **Selecting Tier 1 or Tier 2 at national level for selected countries**
Some topics for discussion (2)

- Output
  - Map (digital and printed versions)
    - Coverage and projection
    - Representation/symbology, including also background data
    - Ancillary information for the downloadable and printed version (authorship, methodology including data input, etc.)
    - Format(s)
  - Publications (in addition to minutes)
    - Peer-review article(s)
    - Conference papers
    - Report to ICL-IPL
    - EUR Report?
Some topics for discussion

• General approach
  — Application in areas identified in Tier 1 versus country-wide application
  — Model
  — Mapping unit
  — Previous geographical segmentation based on topographical, structural or other area properties
  — Landslide factor data used
  — Generation of a generic landslide susceptibility map versus generation of maps for basic landslide types (e.g. rockfalls/topples and other landslide types) and possible further integration into a unique map, etc.

• Model calibration and validation

• Harmonisation and interoperability issues for different countries