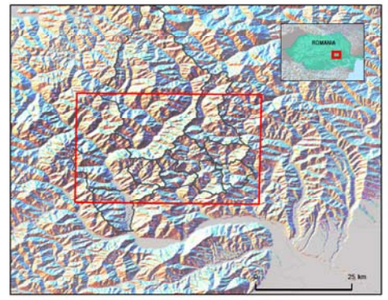
IncREO - WP 204 - 201a - v2.0

# Landslide susceptibility map for shallow landslides Buzau County / Romania

## Overview maps




## Legend

**Population**
- Settlement
- Local Administrative Unit Boundary

**Hydrology**
- River

**Elevation**
- Normal Contourline
- Index Contourline
- Contour Interval 20 meter
- Mapped Area

**Infrastructure / Transport**
- Road

**Landslides**
- Recent landslide
- Outline of large landslide

**Susceptibility**
- Very low
- Low
- Moderate
- High
- Very high

## Interpretation

The map display the susceptibility for shallow landslides in a part of Buzau County, Romania. The map is based on a historical landslide inventory, using a combination of statistical and heuristic analysis.
The following methodological steps have been followed:
(1) Inventory of recent landslides was compiled based on records from Buzau County Inspectorate for Emergency Situations, with identification of locations on Google Earth images.
(2) A Digital Elevation Model was generated from contourlines with 20 meter contoru interval, and 4 slope classe were generated.
(3) Existing soil and lithological maps were analyzed and the most important units for landslide occurrence were extracted.
(4) Distance buffers from roads and from drainage lines were generated and combined with slope classes.
(5) Land cover classes were generated through satellite image classification.
(6) Weights of Evidence modelling was used to analyze the relationship between landslides and causal factors.
(7) Import of the data in the Integrated Land and Water Information System (ILWIS Version 3.4, Fact. ITC, University of Twente, The Netherlands);
(8) Spatial Multi-Criteria Evaluation was used to combine the factor maps which were standardized, and weighted based on WoE results and expert opinion. The following main groups were used:
- Slope, 5 classes, weight 0.19)
- Litholoogy: 16 classes, weight 0.19
- Road distance (25 and 50 m) with slope classes, weight 0.19
- River distance classes (25 and 50 m) with slope classes, weight 0.19
- Large landslides, with activity classes and scarp/body: weight 0.19
- Landcover classes, with slope classes: weight 0.03
- Soil types, 5 classes: weight 0.03

(9) The procedure was done iteratively, by compairgn the results with the landslide pattern and by discussion with local landslide experts.
(10) The final version was converted to Arc-GIS and classified into 5 classes.

## Cartographic Information

Local projection: Romania - Double-Stereographic
Datum: D. Pulkovo 1942

Scale 1:50,000

0 0.5 1 2 3 4 5 Kilometers

## Data Sources

(1) Digital color aerial ortho-photographs; cell size 0.5m; year 2005
(2) Topographic contour lines; interval 20 m from Military Topographic Directorate (DTM).
(3) Roads, streams and built-up areas with topographical names from DTM.
(4) Recent landslide inventory was compiled from records of Buzau County Inspectorate for Emergency Situations.
(5) Geological map of the Geological Institute of Romania

## Framework

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Work package partners:

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Susceptibility assessment by Veronica Zumpano, Mihai Micu and Cees van Westen
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