A Geodatabase of the Northern Portugal region

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In the northern Portugal region there are several geomorphologic evidences and notices of landslides that until today weren’t aggregated in a geodatabase, in order to perform a geostatistical analysis. It is presented a project of landslides geodatabase in a Geographical Information System environment. This database construction was based in the main conditioning elements (morphology, geology, slope angle, slope hydrology, weathered materials), and triggering factors (rainfall and human activity). The main information sources used were landslides records published in local, regional and national journals, papers, historical documents, aerial photographs, local testimonials and landscape geomorphologic evidences, between 1950 and 2006. These records were selected and interpreted on a scientific basis before being inserted in the database. This work is in constant update process, and will have the information about the spatial (type, age, velocity, state of activity, style and distribution), temporal distribution and damages. The geodatabase will give the necessary information to define the landslide hazard, vulnerability and risk. The landslides records and characterization is very important, because in a short period of time after the process occurrence they can’t be recognized in the landscape due to a fast geomorphologic evolution and vegetation growth, cleaning of the materials, rebuilding and streets reconstruction that erases the scare evidences and other landslide features. The proposed landslide geodatabase is composed by several records, descriptions, photography’s, classifications, cartographical information (e.g. geology, morphological systems, DEM’s, hydrographical network and soil usages) at several scales (from regional to local) in different landslides stages. This work pretends to be a contribution in landslides risk cartography in the planning and territorial order, at the northern Portugal. This will help to compile data in order to determine rainfall thresholds to the different landslides types, useful to organize civil protection strategies.