



## **Creation and test of software SRG<sup>2</sup>, a support for reliable geomorphological field data collection, GIS and mapping activities**

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In the last 10 years, the use of computers for the collection, elaboration and distribution of geological and geomorphological data had a notable development. Many problems, not yet resolved, still concern both the conceptual framework and the practical solutions for field data collection and their transposition into a complete GIS. Looking for faster and more suitable procedures of field mapping activities, either for research and university teaching purposes, it has been created an application called “SRG<sup>2</sup>” (Italian: “*Supporto al Rilevamento Geologico/Geomorfologico*”: Support to Geological/Geomorphological Surveys), an extension for ArcPad (GIS-ESRI for palms) developed in Visual Basic. Into ArcPad, the SRG<sup>2</sup> application adds a toolbar made up of several functions for a useful mapping and classification of geological/geomorphological features. In order to catalogue erosional and depositional landforms and related deposits, the SRG application is structured into 16 layers (shape file format) and associated databases. As a first-step, surveyed features are classified by geometry (punctual, linear, areal) and by related geomorphic process, either endogenic or exogenic (glacial, fluvial, gravity-induced, tectonic, complex, etc.). Further alphanumeric data (morphometrical, chronological, lithological, etc.) are requested to complete description and to support interpretations. A test for SRG<sup>2</sup> has been performed in the Thuras Valley (Upper Susa Valley) during a national research project devoted to geomorphological analysis in the mountain area of Torino 2006 Winter Olympic Games. Landforms distribution and activity has been surveyed with respect to land use patterns and infrastructures. “Automatic” distribution of field data into the SRG<sup>2</sup>structured geodatabase allowed immediate creation of publishable maps. This way, the field survey becomes an integral part of a complete and easy-to-update GIS,

without other intermediate passages.