



Integration of geomorphological field surveys and geomatics methodologies for natural hazards assessment in glacial and periglacial areas of the Piemonte Region (NW-Italy)

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In the contest of a global climate change, which is promptly affecting glacial and periglacial environments because of the occurrence of the cryosphere, it is of critical importance a detailed inventory, mapping and characterization of remaining glaciers and recently deglaciated areas.

In high altitude areas, climate change is impacting both natural resources and hazards. Any attempt to cope the effects of climate change, and related impacts down valley, has to rely on accurate and up-to-date information about glacier location and characteristics, and about extent and properties of recently deglaciated areas.

That information can be obtained by means of remote sensing techniques, which are particularly suitable for large glacial areas or remote ones. In the Italian Alps, glaciers are often accessible, small, and debris covered. In these cases, an integrated methodology, combining geomorphological field surveys and geomatics methodologies (remote sensing, photogrammetry and GIS) might give the most accurate results, and perhaps be the less expensive. Our work will illustrate which problems have been faced, and which solutions have been envisaged, in a ongoing study on glaciers and periglacial areas of the Piemonte Region (NW Italy), aimed to identify natural hazards and critical situations, in a contest of climate change. The study is part of the Alcotra 2007-2013 project n. 056 "GlaRiskAlp".