

IMPACT of CLIMATE CHANGE on SLOPE FAILURES initiation at high elevation in the Italian ALPS

Background

Climate change in the Greater Alpine Region is seriously affecting glacial and periglacial areas, with relevant consequences on slope stability. In the last years, a growing number of slope failures have been documented in the Italian Alps. Cryosphere degradation, in particular permafrost degradation, changes of the precipitation and temperature patterns and of the hydrological regimes, are some of the main terrestrial indicators of climatic change. Moreover, the increasing number of tourists and activities in alpine regions made these areas particularly critical in relation to natural hazards.

Main goals

- ◇ Studying the relationship between climatic variables and slope failures triggering in the alpine glacial and periglacial areas (>1500 m a.s.l.).
- ◇ Implementation of a statistical-based approach method which allow to compare the meteorological conditions at the time when the instability occurred with the typical conditions in the same place.
- ◇ Interpreting the mechanism of initiation of slope failure based on the results of this study.

Study area

