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GEOMORPHOLOGY OF ALPE DI CISLES IN THE ODLE GROUP (DOLOMITES, ITALY)

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This paper shows the preliminary results of a detailed geomorphological research carried out in the Alpe di Cises - Odle Group which is located in the north-eastern sector of the Gardena valley, a popular destination of summer and winter tourism. The study area is also part of the Dolomites UNESCO World Heritage Site, which was established in 2009 for its scenic beauty and scientific interest.

The core of the research consisted of a detailed geomorphological field survey, coupled by the interpretation of multi-temporal aerial photographs. The research enabled the reconstruction of the geomorphological evolution of the area and the elaboration of a detailed geomorphological map. Landforms in the area are closely related to the complex interaction between geological factors and modelling processes that have been active since the Last Glacial Maximum. Several glacial landforms testify the presence and the activity of a glacial tongue hosted in the valley during the Lateglacial, mainly located in the northern sector of the area, where altitudes range from about 2000 m to about 2300 m a.s.l. Among these, worth of note are the well-preserved glacial cirques of Val dla Roa and those located at the southern margin of the Odle Group. Quite well preserved moraine ridges are present at a mean altitude of some 2000 m at the Alpe di Cises as well as scattered glacial deposits, marking the stadial advance of the glacial tongue. The well preserved morphology of a frontal moraine arc is quite unusual for this sector of the Dolomites where gravity-induced slope processes, active since the retreat of the last glaciers, have partly hid the till and the glacial landforms.

A peculiar example of rock glacier and protalus rampart can be found in the upper part of Val dla Roa. Moreover, gravity-induced features such as scree slopes, talus cones and landslides of various type and size affect every sector of the area. The results of this study represents a starting point for the reconstruction of geomorphological evolution of the whole Gardena Valley since the Last Glacial Maximum which has only been schematically outlined by past authors. In particular, the study of moraine ridges could allow the reconstruction of the temporal evolution of the glacial tongues of the valley during the Lateglacial.

