THE GLACIERS OF CIMA DEI PIAZZI

With its elegant glacial peak that reaches 3340 m of altitude and attracts dozens of climbers every year, Cima dei Piazzi separates the Adda Valley from the Viola Valley and contains numerous reasons of interest not only for mountaineering but also for those passionate about nature and landscape.

This mountain, known to many Italians at least visually since for decades its image has stood on the label of a well-known brand of mineral water, is also a SCI, or a Site of Community Importance, called "Val Viola Bormina - Cima dei Piazzi Glacier ". In addition to being a SCI for its fauna and flora, this area is also identified as a SAC or Special Area of Conservation.

At lower altitudes, you can see luxuriant spruce woods which, higher up, give way to vast pastures. Below the summit, at the boundaries of the glaciers, the environment becomes one typical of high alpine areas and you can see a wonderful area of lakes and streams fed by the melting of the glaciers of the Cima dei Piazzi. In fact, under this peak, the mountain welcomes, in the northern sector, an ice cap and two small ice bodies now separated. The latter are two small glacierets, that are ice forms previously classified as glaciers but now reduced to small parts with a maximum size of 0.03 km^2 in 2015 and uncertain activity. The first ice form stems from a portion of Val Lia glacier, detached from the main body since 2003, the other one from Rinalpi glacier. The surface of the ice cap is slightly less than a square kilometer, (data from 2015), and is composed, proceeding from east to west, of Val Lia and Cardonnè glacier, which is the second largest glacier of the Dosdè-Piazzi group.

Even the glaciers of Cima dei Piazzi, like all small Italian alpine glaciers, have responded to the climate changes taking place by intensively reducing their size: over the past sixty years the glaciers of this group have in fact lost almost 50% of their surface; the intensity of the reduction has also increased decade after decade, tripling in the past twenty years compared to the previous two decades. This acceleration of glacier shrinkage is also a consequence of the modified surface conditions of these glaciers, which over time have increased the fine and sparse debris coverage, becoming increasingly dark and less reflective. This darkening phenomenon involves a greater amount of absorbed solar radiation and in parallel an increase in the rate of glacier melting. It is very probable that by the end of this century the glaciers of Dosdè-Piazzi group will shrink to less than 20% of the current area, which means that they will be largely extinct, leaving only traces of the high altitude landscape in memory of their past extension.

Cima dei Piazzi is also an open-air laboratory for the study of Alpine permafrost. Since 2009, in fact, the rock temperatures of the summit have been constantly monitored from the surface at about 1 m depth to detect the above and below zero cycles and therefore the thermal stresses to which the rock is subjected, in order to also identify at what depth permafrost can be found in this sector of the Alps. Monitoring is still ongoing under the coordination of the University of Milan.