



## Presena Glacier, protected by a reflective summer sheet

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Fig. 1 - S2 (11.04.2020) - Presena Glacier is part of the Presanella mountain group, located in the Italian Alps at the north of Lake Garda. 2D view



Fig. 2 - S2 (21.05.2020) - It is situated on the border between Val di Sole and Valle Camonica, between Trentino and Lombardy.



The Presena Glacier is the crowning jewel of the Pontedilegno-Tonale area which tourism website <u>describes</u> as follows: "*With its altitude of 3069* metres above sea level the Presena Glacier is a paradise for all those who love nature, history and mountain sports. Situated on the border between Val di Sole and Valle Camonica, between Trentino and Lombardy, the glacier is part of the Presanella mountain group."

Fig. 3 - S2 (11.04.2020) - Fully capped by snow previously, some of its white cover is lost in April.



It highlights the conservation measures chosen to protect the glacier from climate change: "Thanks to the total surface of 82 hectares and the ski season that lasted from October to August at the end of the 60s the glacier became an unmissable destination for all ski lovers. Today, due to raising global temperatures the surface of our ice giant's surface is shrinking."

3D view

Fig. 4 - S2 (21.05.2020) - By the end of May, lower areas are free of snow and ice.



"For this reason in 2008 we started a conservation project that includes the use of enormous geotextile fabric covers under which the glacier can rest all summer. In the period from June to September these special textiles prevent the heat from melting all the snow that has fallen during the winter months. This way we are trying to protect the Presena Glacier from melting."

Fig. 5 - S2 (07.07.2020) - When snow becomes scarcer, Presena glacier is covered by a reflective sheet, here slightly pink.



3D view

Reuters <u>covered</u> this process in July 2021: "Battling to save northern Italy's Presena glacier from further shrinking, climate experts are covering it with long strips of cloth which will reflect the sun's rays and prevent the snow beneath from melting. They say about 70% of the snow can be saved over the summer with the protective covering which works in the same way as a silver reflective guard placed in a car window to stop overheating."



Climate change experts cover the Presena glacier in Italy with giant strips of cloth to try and stop melting - Source.

Fig. 6 - S2 (07.07.2020) - This composite shows this sheet is also bright in mid-infrared, unlike surrounding snow.



"Atop the glacier and surrounded by stunning wide peaks, a team unfurls 5-metre-wide and 70-metre-long strips to cover some 120,000 square metres of the glacier. The task takes a month to complete. The process has been carried out every year since 2008."



Large white geotextile sheets cover northern Italy's Presena glacier in order to delay snow melting on skiing slopes and reflect sunlight during summer months, at Passo del Tonale, near Trento, Italy, July 13, 2020 - Source: Flavio Lo Scalzo.

Fig. 7 - S2 (05.09.2020) - In early September, the high albedo cover is being removed, the tongue of the glacier under the sheet has been preserved. 3D view



"'Glaciers and their retreat are perhaps the most striking manifestation of ongoing global warming,' said glaciologist Christian Casarotto of Trento science museum, adding glacier mass had been falling continuously for the last 15 to 20 years. 'Studying glaciers therefore becomes important in order to understand the direction in which we are heading and to be able to correct it,' he added."

3D view

Fig. 8 - S2 (18.09.2020) - All that remains of Presena glacier was previously hidden from the sunlight under its white clothing.



The Indian media RepublicWorld.com <u>adds</u>: "Italy's Presena glacier was recently covered with long strips of cloth to slow down the catastrophic effects of global warming. Located in Northern Italy, Presena has lost over one-third of its volume since 1993." "The project began when the team used to cover 30 000 square metres. According to local Italian media outlets, the tarp is made of geotextile tarpaulins that reflect sunlight, maintaining a temperature lower than the external one, and thus preserving as much snow as possible. Situated at

tarpaulins that reflect sunlight, maintaining a temperature lower than the external one, and thus preserving as much snow as possible. Situated at an altitude of 3,000 metres, the tarp is laid down every year. It is meticulously placed across the mountain and sewed shut to prevent hot air from sneaking in. It is then covered with bags of sand to restrict movement. To someone looking from a distance, the sheets look just like snow." Fig. 9 - S2 (18.09.2020) - Now stripped of its textile sheet is has slightly shrunk but the glacier is ready to grow in Autumn and Winter. <u>3D view</u>



Fig. 10 - Landsat-5 (11.09.1984) - Comparison with 1984, when the mountain still kept a large part of its snow year-round.

<u>3D view</u>



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