

Italy seeks to study, sample Europe's southernmost glacier

March 17 2022, by Luigi Navarra



In this photo provided by CNR and Ca Foscari University, scientists haul an ice scanner on the slopes of the Mt. Gran Sasso d'Italia in central Italy, Sunday, March 13, 2022. Italian scientists are racing against time to study, scan and sample Europe's southern-most glacier before it melts and disappears as a result of rising global temperatures. Researchers conducted a preliminary radar survey of the Calderone glacier in Italy's central Apennine Mountains on March 13 and plan to return next month to drill into it and take samples. Credit: Riccardo Selvatico/CNR and Ca Foscari University via AP

Italian scientists are racing against time to study, scan and sample Europe's southernmost glacier before it melts and disappears as a result of rising global temperatures.

Researchers conducted a preliminary radar survey of the Calderone glacier in Italy's central Apennine Mountains on March 13 and plan to return next month to drill into it and take samples. The aim is to extract chunks of the glacier and store them in Antarctica for future study.

"This glacier can tell us the Mediterranean's climate and [environmental history](#)," said researcher Jacopo Gabrieli, of the Institute of Polar Sciences at the Italian National Council of Research.

The Associated Press accompanied Gabrieli and the team to the snow-covered glacier for the radar survey, arriving at the peak by helicopter and traipsing up and down the mountainside of the Gran Sasso massif. Researchers in snow shoes probed the ground with electromagnetic equipment to determine how the glacier is stratified.

The survey will allow experts to "record the depth and morphology between snow and ice, and between ice and rock. In this way we can measure the thicknesses and reconstruct the glacier bottom morphology," said Stefano Urbini, researcher at the National Institute of Geophysics and Volcanology, who also took part in the survey.



In this photo provided by CNR and Ca Foscari University, scientists haul an ice scanner on the slopes of the Mt. Gran Sasso d'Italia, in central Italy, Sunday, March 13, 2022. Italian scientists are racing against time to study, scan and sample Europe's southern-most glacier before it melts and disappears as a result of rising global temperatures. Researchers conducted a preliminary radar survey of the Calderone glacier in Italy's central Apennine Mountains on March 13 and plan to return next month to drill into it and take samples. Credit: Riccardo Selvatico/CNR and Ca Foscari University via AP



In this photo provided by CNR and Ca Foscari University, a scientist sets up sound equipment on the slopes of the Mt. Gran Sasso d'Italia, in central Italy, Sunday, March 13, 2022. Italian scientists are racing against time to study, scan and sample Europe's southern-most glacier before it melts and disappears as a result of rising global temperatures. Researchers conducted a preliminary radar survey of the Calderone glacier in Italy's central Apennine Mountains on March 13 and plan to return next month to drill into it and take samples. Credit: Riccardo Selvatico/CNR and Ca Foscari University via AP



In this photo provided by CNR and Ca Foscari University, a firefighters' helicopter transports scientists on the slopes of the Mt. Gran Sasso d'Italia in central Italy, Sunday, March 13, 2022. Italian scientists are racing against time to study, scan and sample Europe's southern-most glacier before it melts and disappears as a result of rising global temperatures. Researchers conducted a preliminary radar survey of the Calderone glacier in Italy's central Apennine Mountains on March 13 and plan to return next month to drill into it and take samples. Credit: Riccardo Selvatico/CNR and Ca Foscari University via AP



In this photo provided by CNR and Ca Foscari University, scientists walk on the slopes of the Mt. Gran Sasso d'Italia, in central Italy, Sunday, March 13, 2022. Italian scientists are racing against time to study, scan and sample Europe's southern-most glacier before it melts and disappears as a result of rising global temperatures. Researchers conducted a preliminary radar survey of the Calderone glacier in Italy's central Apennine Mountains on March 13 and plan to return next month to drill into it and take samples. Credit: Riccardo Selvatico/CNR and Ca Foscari University via AP



In this photo provided by CNR and Ca Foscari University a firefighters' helicopter departs after transporting scientists, on the slopes of the Mt. Gran Sasso d'Italia in central Italy, Sunday, March 13, 2022. Italian scientists are racing against time to study, scan and sample Europe's southern-most glacier before it melts and disappears as a result of rising global temperatures. Researchers conducted a preliminary radar survey of the Calderone glacier in Italy's central Apennine Mountains on March 13 and plan to return next month to drill into it and take samples. Credit: Riccardo Selvatico/CNR and Ca Foscari University via AP

The tiny Italian glacier, which already split into two as a result of global warming, is a crucial thermometer of climate change and a treasure trove of atmospheric information. Glaciologists are expecting to find a 25-meter (80-foot) thick layer of ice under the snow and debris that

covers the glacier.

The samples from the Calderone will be held in the "Ice Memory" world archive in Antarctica, a natural freezer that allows storage at -50 Celsius and is being built at the French-Italian Concordia station.

According to the Italian research council, glaciers located at an altitude of under 3,600 meters (11,800 feet) will disappear by 2100 if temperatures continue rising at the current pace. The Calderone glacier, which is located at an altitude of 2,700 meters, could melt much earlier, by 2050 if drastic measures aren't taken, experts say.

"Through these glaciers, through the interest that we all have for these fantastic environments, we can explain how the climate is changing, why it is changing, how man is impacting and what we can do to reduce our impact on our planet," said Gabrieli.

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