Yale Environment 360

Andes Meltdown: New Insights into Rapidly Retreating Glaciers

*Using satellite data, scientists are documenting the inexorable melting of South America’s glaciers and ice fields, with Andean glaciers thinning by nearly three feet a year since 2000. The loss of ice poses a threat to water supplies and agriculture from Bolivia to Chile.*

BY [JONATHAN MOENS](https://e360.yale.edu/authors/jonathan-moens) **•** JANUARY 30, 2020

***Extracts from article***

Across the Andes, glaciers have lost nearly 3 feet in thickness annually since 2000, according to [Etienne Berthier](http://etienne.berthier.free.fr/index.uk.htm), a glaciologist at the Laboratory of Geophysical Studies and Oceanography in Toulouse, France, who recently published his [findings](https://www-nature-com.proxy.library.nyu.edu/articles/s41561-019-0432-5) in Nature Geoscience. Warming temperatures also have caused glaciers to swiftly recede, particularly in the southern Andes, where some glaciers have retreated 5.5 miles in the past century. [Ninety-eight percent](https://aquadoc.typepad.com/files/south_american_glaciers.pdf) of Andean glaciers have shrunk this century.

Glaciers are vital resources for communities in and around the Andes, where meltwater is used for drinking, irrigation, and hydroelectric power — especially in arid regions and during periods of drought. “The disappearance of glaciers will have an impact on the cities, but not just cities — locals, farmers, and people who do agriculture more broadly,” says Francou.

No mountain region has [lost more ice, relative to its size,](https://www.nature.com/articles/s41586-019-1071-0/) than the Andes.

The south Patagonian ice fields are the fastest-melting on the continent, thinning by an average of nearly 3.3 feet a year, according to Berthier’s study. Together with the northern Patagonian ice fields, these regions account for [83 percent of all ice loss in South America](https://www.nature.com/articles/s41558-018-0375-7). The reason for this, explains Francou, is that the low-altitude glaciers of Patagonia make them particularly vulnerable to rising air temperatures.

My images from Journey to Patagonia and Chile - Feb 2019

Southern Chile glacial retreat and ice flows – 10 years ago this area in the Chilean Fjords was covered with a glacier





Retreating Glaciers







