

Loss of the Ice Mass in Antarctica. Increasing Sea Level Rise

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Theme: [Environment](#)

In-depth Report: [Climate Change](#)

The most recent gathering of scientists at the American Geophysical Union in Washington, DC, brought [deeply troubling news about the Antarctic](#).

Jeremy Shakun, a paleoclimatologist at Boston College, [told Science](#) that the large increase in the loss of ice mass in Antarctica in the last decade or two could already be the beginning stage of the process of collapse of the Western Antarctic Ice Sheet.

Ice loss in the Antarctic has [tripled in just the last decade alone](#), and is currently losing 219 billion metric tons of ice annually. That number is up from 73 billion metric tons per year as of a decade ago.

“The big uptick in mass loss observed there in the past decade or two is perhaps the start of” the larger-scale collapse of the glaciers, Shakun [told Science](#).

If that is the case, the world must begin preparations immediately for sea levels that will rise far more abruptly than previously expected, with ocean waters rising as fast as 2.5 meters every one hundred years.

The aforementioned discovery presented at the annual meeting of scientists also revealed that during the last brief warm period between Earth’s ice ages, which took place 125,000 years ago and when global temperatures were barely higher than they are today in our greenhouse-warmed planet, sea levels were six to nine meters (20 to 30 feet) higher than they are right now.

That amount of sea level rise means that New York, Boston, Miami, Tampa, New Orleans, Jakarta, Singapore, Osaka, Tokyo, Mumbai, Kolkata, Dhaka and Ho Chi Minh City are among the many cities that will, sooner or later, have to be moved or abandoned entirely to the sea.

East Antarctica Is Melting From Below

Eastern Antarctica has always been seen as a place virtually impervious to melting, and has [often been referred to as the “last bastion”](#) of stable ice on the planet.

However, recent data has shown that a group of glaciers covering 13 percent of the coastline of that side of the frozen continent are melting from below due to warming oceans.

And disturbingly, [2017 was the hottest year on record for the oceans](#), and the fifth year in a row that oceans set a record for how warm they had become due to human-caused climate

change.

It is [already known](#) that the Western Antarctic Ice Sheet is experiencing serious retreat with a three-fold increase in acceleration having been reported in recent years. But NASA scientist Catherine Walker used measurements of ocean temperatures and computer modeling to show that the heat being delivered to certain glaciers in the Eastern Antarctic was coming from warming oceans.

“The finding has very serious repercussions for climate change and particularly sea-level rise,” Chris Fogwill, a professor at Keele University in England [told The Guardian](#). “It has the potential to mean that our sea-level projections could be [in] an order of magnitude higher than we’re anticipating.”

Given the remoteness of the Eastern part of Antarctica, it hasn’t been studied nearly as much as the rest of the Antarctic.

Hence, since there is little data on it thus far, we should expect more bad news of melting as more studies are published on the region.

The NASA data, coupled with the study mentioned at the American Geophysical Union, show that the speed of sea level rise from melting Antarctic glaciers is consistently increasing each year.

At the current trajectory, 17.7 trillion metric tons of ice will be shed in the Antarctic by 2100. This assumes the current rate of loss will remain linear — an unrealistic assumption given that the rate is increasing annually.

*Dahr Jamail, a Truthout staff reporter, is the author of [The Will to Resist: Soldiers Who Refuse to Fight in Iraq and Afghanistan](#) (Haymarket Books, 2009), and [Beyond the Green Zone: Dispatches From an Unembedded Journalist in Occupied Iraq](#) (Haymarket Books, 2007). Jamail reported from Iraq for more than a year, as well as from Lebanon, Syria, Jordan and Turkey over the last 10 years, and has won the Martha Gellhorn Award for Investigative Journalism, among other awards. His third book, [The Mass Destruction of Iraq: Why It Is Happening, and Who Is Responsible](#), co-written with [William Rivers Pitt](#), is available now on Amazon. Dahr Jamail is also the author of the book, *The End of Ice*, forthcoming from The New Press. He lives and works in Washington State.*

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