

Greenland's glaciers losing ice faster this year than last year, which was record-setting itself

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Researchers watching the loss of ice flowing out from the giant island of Greenland say that the amount of ice lost this summer is nearly three times what was lost one year ago.

The loss of floating ice in 2008 pouring from Greenland's glaciers would cover an area twice the size of Manhattan Island in the U.S., they said.

Jason Box, an associate professor of geography at Ohio State, said that the loss of ice since the year 2000 is 355.4 square miles (920.5 square kilometers), or more than 10 times the size of Manhattan.

"We now know that the climate doesn't have to warm any more for Greenland to continue losing ice," Box said. "It has probably passed the point where it could maintain the mass of ice that we remember.

"But that doesn't mean that Greenland's ice will all disappear. It's likely that it will probably adjust to a new 'equilibrium' but before it reaches the equilibrium, it will shed a lot more ice.

"Greenland is deglaciating and actually has been doing so for most of the past half-century."

Box, a researcher with Ohio State's Byrd Polar Research Center, along with graduate students Russell Benson and David Decker, presented their

findings at the annual meeting of the American Geophysical Union in San Francisco.

The research team has been monitoring satellite images of Greenland to gauge just how much ice flows from landlocked glaciers towards the ocean to form floating ice shelves. Eventually, large pieces of these ice shelves will break off into the sea, speeding up the flow of more glacial ice to add to the shelves.

Warming of the climate around Greenland is believed to have added to the increased flow of ice outward from the mainland via these huge glaciers.

Using daily images from instruments called MODIS (Moderate Resolution Imaging Spectroradiometer) aboard two of NASA's satellites, Box and his team are able to monitor changes in 32 of the largest glaciers along Greenland's coast.

They determined that during the summer of 2006-2007, the floating ice shelves at the seaward end of those glaciers had diminished by 24.29 square miles (62.9 square kilometers). But one year later -- the summer of 2007-2008 -- the ice loss had nearly tripled to nearly 71 square miles (183.8 square kilometers). Much of this additional loss is from a single large floating ice tongue called the Petermann glacier

Late this summer, the Ohio State researchers were able to watch as a massive 11-square-mile (29-square kilometer) chunk broke off from the tongue of the massive Petermann Glacier in Northern Greenland. At the time, they also noted that a massive crack further up the ice shelf suggested an even larger piece of ice would soon crack off.

Box said that some findings may have confused the public's views of what is happening around Greenland. "For example, we know that

snowfall rates have increased recently in this region," he said, "but that hasn't been enough to compensate for the increased melt rate of the ice that we're seeing now."

Source: Ohio State University

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