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# Glacier melt worse than feared, OSU pair says

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THE COLUMBUS DISPATCH

A new study suggests that Greenland's glaciers are melting at a rate three times as fast as 60 years ago. As scary as that sounds, two scientists at Ohio State University warn the situation is even worse.

Jason Box and David Bromwich, of the OSU Byrd Polar Research Center, say figures published in the current issue of the journal *Science* are too conservative.

They say melting glaciers are raising sea levels as much as 50 percent faster than the *Science* paper indicates.

"Greenland is very susceptible to what the climate is doing," said Bromwich, a polar weather scientist.

The melting glaciers in Greenland might be responsible for as much as one-third of current sea-level increases, he said.

The Ohio State data is based on a polar weather model developed at the Byrd center. The model portrays the atmosphere above the ice sheet and estimates the amount of energy available for melting.

Box said the data for the *Science* paper, at least in part, are not current.

"It's from an older, colder period. There's been strong warming around Greenland in the last decade," he said.

Eric Rignot, a researcher at NASA's Jet Propulsion Laboratory in Pasadena, Calif., and lead author of the *Science* paper, said this melting could double in the next decade.

"We don't know how fast they can go," Rignot said last week in St. Louis at the annual meeting of the American Association for the Advancement of Science.

"There's a very clear signal of warming in Greenland. We are witnessing enormous changes."

About the size of Mexico and nearly 2 miles thick, the glaciers contain enough water to raise the world's oceans 23 feet.

Sea levels are rising about one-eighth inch a year. It sounds tiny, but year after year it builds up and is projected to increase as global warming accelerates.

The current warming rate, for example, is three times greater than during the first 75 years of the 20th century, according to the National Oceanographic and Atmospheric Administration.

Higher sea levels threaten Pacific islands and coastal areas in lowlying Bangladesh and other countries. In the United States, higher sea levels mean greater storm surge damage.

Some say the damage caused by storms such as Hurricane Katrina will become more common.

"For every increase in sea level of a foot, you lose 10 feet of beach," Box said.

At the same meeting, researchers warned that burning all fossil fuels on the planet could heat Earth to its warmest temperatures in 55 million years, turning oceans into stagnant, oxygen-depleted pools.

In a separate study, scientists at the Woods Hole Oceanographic Institution in Massachusetts said the tropical Atlantic could rise to 107 degrees Fahrenheit, 25 degrees warmer than today.

Sea temperatures that warm were last thought to have occurred between 84 million and 100 million years ago, when tropical Atlantic temperatures ranged from about 91 degrees to about 107 degrees.

That's hot-tub warm.

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