

which we can agree, and that is the need for a great deal more scientific research in order to better understand the potential risk of abrupt climate change.

Understanding and predicting climate changes are enormous scientific challenges. The challenges are made even more difficult with the recognition that the climate system is capable of dramatic and abrupt changes. Scientists have determined that past global temperatures have swung as much as 20 degrees Fahrenheit within a decade, accompanied by drought in some places and catastrophic floods in others.

An abrupt climate change triggered by the ongoing buildup of greenhouse gases in the atmosphere would also likely result in the redistribution of atmospheric moisture and rainfall, with substantial impact for the world's food supply.

Unfortunately, we have no satisfactory understanding of what triggers abrupt climate change. Both the National Academy of Sciences and the administration's Strategic Climate Change Science Plan identify abrupt climate change as the key priority for additional research. The National Academy has stated that:

Large, abrupt climate changes have repeatedly affected much or all of the earth.

The academy went on to state that:

Abrupt climate changes are not only possible but likely in the future, potentially with large impacts on ecosystems and societies.

The academy noted we are not doing nearly enough to identify even the threat of abrupt climate change. The amendment the four of us are proposing would lay the framework and provide the funds for the United States to better understand and address abrupt climate change. One reason this funding is so urgent is we are rapidly losing one of the greatest sources of information, and that is ice cores from glaciers.

The University of Maine's Climate Change Institute has one of the best known and best regarded abrupt climate change research programs in the

entire world, I am proud to say. The Climate Change Institute uses ice cores from glaciers and ice sheets around the world to make discoveries that change the way we think about climate change.

Unfortunately, numerous glaciers around the world are melting. When they go, the very record that has given us so much of this critical climate history will also be lost. I have had several terrific opportunities to see for myself how scientists are able to use glaciers and ice sheets to better understand climate change. Last year, I joined Senators MCCAIN and SUNUNU in traveling to Antarctica to see groundbreaking research taking place on ice more than 2 miles deep at the South Pole. Along the way, we toured some of the University of Maine's research sites in New Zealand with distinguished university professor George Denton. He was the first scientist from the University of Maine to be elected to the National Academy of Scientists.

According to Professor Denton, 50 percent of the glaciers in New Zealand have melted since 1860, and this melting is unprecedented in the last 5,000 years. We stood with the professor on sites that had been buried by massive glaciers at the beginning of the 20th century, but now they are ice free. It was remarkable to see this firsthand.

Two years ago, I traveled with a group of Senators to the northernmost community in the world, Ny-Alesund, in Norway. The scientists we met told us that global climate change is occurring more rapidly now than at any time since the beginning of civilization. They further stated that the region of the globe changing most rapidly is the Arctic. In fact, the Arctic, in many ways, is the proverbial canary in the coal mine when it comes to climate change. The changes are remarkable and disturbing.

In the last 30 years, the Arctic has lost sea ice cover over an area 10 times as large as the entire State of Maine. In the summer, the change has been even more dramatic with twice as much ice loss. The ice that remains is

as much as 40 percent thinner than it was only a few decades ago.

Senator MCCAIN and others and I witnessed massive blocks of ice falling off glaciers that have already retreated well back from the shores against which they once rested. The melting of glaciers and sea ice, the thawing of the permafrost, the increase in sea levels resulting from warming, are already beginning to cause environmental, social, and economic changes.

In Barrow, AK, for example, we met with native people who told us they are seeing insects they have never seen that far north before. They told us the salmon run has changed. We saw telephone poles that were tilted over because, for the first time, the permafrost is thawing. The changes were very evident and they are very troubling in many cases. If these changes were to be compounded by an abrupt climate change on the scale seen in our history, the result could be devastating.

The amendment I am proposing has passed the Senate twice before, as part of the 2001 and the 2003 Energy bills, and was initially included in the managers' package this year. I hope this is the year we finally pass this important provision into law.

We need to act now. We need to authorize this funding so we can gain a better understanding of the possibility of abrupt climate change causing enormous and relatively rapid changes in our climate.

I urge my colleagues to support the amendment.

Mr. President, I yield the floor.

ADJOURNMENT UNTIL MONDAY,
JUNE 18, 2007, at 2 p.m.

The ACTING PRESIDENT pro tempore. Under the previous order, the Senate stands adjourned until 2 p.m. on Monday, June 18, 2007.

Thereupon, the Senate, at 11:57 a.m., adjourned until Monday, June 18, 2007, at 2 p.m.