Researchers issue report saying climate damage already is irreversible

By Randolph E. Schmid
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WASHINGTON – Many damaging effects of climate change are already basically irreversible, researchers declared Monday, warning that even if carbon emissions can somehow be halted, temperatures around the globe will remain high until at least the year 3000.

"People have imagined that if we stopped emitting carbon dioxide, the climate would go back to normal in 100 years, 200 years; that's not true," climate researcher Susan Solomon said in a teleconference.

Solomon, of the National Oceanic and Atmospheric Administration's Earth System Research Laboratory in Boulder is lead author of an international team's paper reporting irreversible damage from climate change, being published in today's edition of *Proceedings of the National Academy of Sciences.*

She defines " irreversible" as change that would remain for 1,000 years even if humans stopped adding carbon to the atmosphere immediately.

The findings were announced as President Barack Obama ordered reviews that could lead to greater fuel efficiency and cleaner air, saying the Earth's future depends on cutting air pollution. Said Solomon, "Climate change is slow, but it is unstoppable" – all the more reason to act quickly, so the long-term situation doesn't get even worse.

Alan Robock, of the Center for Environmental Prediction at Rutgers University, agreed with the report's assessment.

" It's not like air pollution where if we turn off a smokestack, in a few days the air is clear," said Robock, who was not part of Solomon's research team. "It means we have to try even harder to reduce emissions," he said. In her paper, Solomon, a leader of the International Panel on Climate Change and one of the world's best known researchers on the subject, noted that temperatures around the globe have risen and changes in rainfall patterns have been observed in areas around the Med-iterranean, southern Africa and southwestern North America.

Warmer climate also is causing expansion of the ocean, and that is expected to increase with the melting of ice on Greenland and Antarctica, the researchers said.

" I don't think that the very long time scale of the persistence of these effects has been understood," Solomon said.