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Wild Weather Unleashed as Arctic Thaws

Last week, I received yet another vitriolic e-mail chiding me for speaking and writing about global warming when northeastern United States was under feet of snow in addition to unseasonably cold temperatures. So how can a warming world, especially in the mid latitudes, be experiencing such intense periods of deep-freezes?

Perhaps it may best be summed up by a quote from Dr. Jane Lubchenco, the undersecretary of commerce for oceans and atmosphere and NOAA administrator: "Whatever is going to happen in the rest of the world happens first, and to the greatest extent, in the Arctic."

On MSNBC's *Countdown* in late December of 2010, I used the analogy of the Arctic being likened to the freezer on a kitchen refrigerator. If the door of the freezer is left open, cold air spills out, and at the same time the refrigerator motor warms up as cold air pours into the house.

In many ways that's exactly what's happening, now bringing governors of Louisiana, Alabama, Georgia and Tennessee to declare emergencies and cancel schools and college classes as sleet, ice and at least several inches of snow, in some places as much as 9 inches of snow, blanket the southeast of the U.S. In fact, the weather service has posted winter storm warnings from east Texas to the Carolinas.

The real story here is what's going wrong in the Arctic. But before I address that, consider the following: The first decade of the 21st century was the warmest since standard records began in

1910. The World Meteorological Organization, based on data collected from 189 countries and territories, shows that the year 2010 to the end of October was the warmest since instrumental, continuous climate records began in 1850. NASA's Goddard Institute for Space Studies says that the temperatures across the planet between December 1, 2009, and November 30, 2010, rank 2010 as the hottest on record.

In fact, five cities in northeastern United States broke their own records of all-time hottest year in 2010, according to statistics released by the Northeastern Regional Climate Center at Cornell University. Boston had the highest average temperature since the inception of record keeping began in 1872 and the year of The Great Fire. The other four cities were: Providence, R.I., Hartford, Conn., Concord, N.H., and Caribou, Maine.

Now let's go back and take a much closer look at what's going on in the Arctic, because it's thawing at an alarming rate.

In September, the Arctic ice cover was the third smallest ever recorded since 1979, about 1.78 million square miles. It was missing an area over 815,000 square miles of ice (the equivalent of Alaska plus most of California) compared to the 30-year average.

Thirty years ago there were over 386,000 square miles of Arctic ice that was older than five years. This September, there were only 22,000 square miles of five-year-old, thicker ice remaining. In a matter of just three decades, we are missing 97 percent of older, thicker ice.

Ice in the Arctic and around the globe is important for a number of reasons. Primarily, it helps reflect incoming solar radiation keeping our planet within a habitable range for humankind.

Last Monday, a colleague of mine called and informed me that it was raining in Iqaluit, the capital city of Nunavut, the Inuit territory of far northeastern Canada (latitude 63 degrees). On January 4, 2011, the temperatures around South Baffin Island reached record highs, as much as 40 degrees Fahrenheit above normal. I was utterly speechless.

The heat that is being stored-up in the ice-free Arctic Ocean, which is about 2 degrees Fahrenheit above normal, is getting pumped into the atmosphere. A vast area of the eastern Arctic waterways is ice-free; Frobisher Bay has not yet frozen over entirely, nor has Davis Strait. By the end of November, at least half of Hudson's Bay is normally frozen-over; in early January, 2011, only 17 percent is frozen.

The latent heat being pumped into the air is continuing to fuel the Arctic heat wave and clearly impeding the freeze-up of Hudson's Bay and Davis Strait. The amount of ice missing in December of 2010 equals the area of California, Oregon, Washington, Idaho and Nevada combined.

Without that Arctic ice, the Polar Jet Stream, which normally moves from west to east, has begun like our open refrigerator, freezer door to spill polar air as far south as Texas and Florida. It's also swamping Southern California with more than twice the normal precipitation, apparently overriding the otherwise very dry, and this year particularly strong, Pacific La Nina weather pattern.

The human and monetary costs of the epic December blizzard in New York City, or the sleet

and snow storm that cancelled more than 2,000 flights at Hartsfield-Jackson Atlanta International Airport, the world's busiest airport, continue to escalate.

One of the real concerns of a warming world is the effect of wild weather on our food crops. Three deep-freezes in Florida in 2010 (one in January and two in December) are biting hard into the \$9B citrus and \$2B sugar farms across the state. Gov. Charlie Crist has declared an emergency disaster in 35 counties. Almost 50 percent of this year's sugar crop has yet to be harvested or over 850,000 tons of sugar has not come off the fields.

For every problem there are at least three solutions. The indecisive actions of the lawmakers in Washington, DC must come to an end. It is unacceptable that some lawmakers refuse to acknowledge climate change; and that the human-induced, increased levels of temperature-trapping greenhouse gases are forcing our climate to more extremes.

The Arctic is melting, rapidly. The time for a greenhouse gas cap is now.

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