

What's happening to the Arctic ice?

Staff Reports

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I recently received another vitriolic e-mail chiding me for writing about global warming when the Northeast was under several feet of snow and experiencing unseasonably cold temperatures. So how can a warming world, especially in the mid-latitudes, be undergoing such intense periods of deep freezes?

Perhaps it's best summed up by 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, I used the analogy of the Arctic being akin 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 occurred recently, prompting the governors of Louisiana, Alabama, Georgia and Tennessee to declare emergencies after sleet, ice and several feet of snow blanketed the Southeast. In fact, on Jan. 10, the National Weather Service 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 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, reports the first 10 months of 2010 were the warmest since 1850, when instrumental, continuous climate records were first tracked. NASA's Goddard Institute for Space Studies said that the temperatures across the planet between Dec. 1, 2009 and Nov. 30, rank 2010 as the hottest on record.

In fact, five cities in the northeastern United States broke their own record 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 in 1872. The other four cities were Providence, R.I., Hartford, Conn., Concord, N.H., and Caribou, Maine.

Now let's take a closer look at what's going on in the Arctic because it's thawing at an

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

Thirty years ago, there was more than 386,000 square miles of Arctic ice that was older than five years. This September, there was 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.

Two weeks ago, a colleague of mine called and informed me that it was raining in Iqaluit, the capital city of Nunavut in the Inuit territory of far northeastern Canada. On Jan. 4, the temperatures around South Baffin Island reached record highs, as much as 40 degrees Fahrenheit above normal. The heat that is being stored 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 Bay is normally frozen over, but by early this month, only 17 percent was frozen. The latent heat being pumped into the air is continuing to fuel the Arctic heat wave and is clearly impeding the freeze-up of Hudson Bay and Davis Strait. The amount of ice missing in December 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 Niña weather pattern.

The human and monetary costs of the epic December blizzard in New York City and the sleet and snowstorm that cancelled more than 2,000 flights earlier this month 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 last year (one in January and two in December) hit the \$9 billion citrus and \$2 billion sugar farms hard. Florida 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. In other words, more than 850,000 tons of sugar cane has not come from the fields.

The indecisive actions of the lawmakers in Washington, D.C., 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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