

United States: Climate Change, Winter Storm, Infrastructure and Texas

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The colder air and winter storms that came down the central part of the United States were another example of extreme weather due to global warming.

This event also revealed that the basic infrastructure of the country is not up to effectively dealing with the effects of climate change now and in the future as more extreme weather develops.

Contents

- [Infrastructure Collapse](#)
- [The Example of Texas](#)
- [Tasks Ahead](#)

In particular, the experience of Texas is in itself a glaring and intensified example.

Scientists tell us that particular events cannot be reduced to climate change alone, but that it does portend more extreme weather world wide.

But this current event is connected to a development due to global warming directly. That is the fact that the artic is warming faster than the rest of the globe. As global warming in general reduces the amount of artic ice, a vicious circle has developed, that accelerates the warming of the artic.

The ice cap is white, which reflects sunlight back into space during the summer. As the ice cap is becoming smaller due to melting because of global warming, it reflects less sunlight which increases the amount of warming sunlight reaching the earth, and exposes the water of the artic ocean to warming which also contributes to global warming.

The cycle reinforces itself.

One effect of the warming of the artic is that it weakens the jet stream, which serves to limit the amount of cold artic air going south. The weakened jet stream has begun to wander more, affecting global weather, and allowing more artic air to mix with air to the south.

This sets the stage for more cold air to move south. But this is occurring every year, so doesn't account for the current extreme event alone.

But this year saw a sudden stratospheric warming (SSW) above the ice cap. In just a few days in late December, temperatures in the atmosphere high above the north pole warmed by 100 degrees Fahrenheit, jumping from minus 110 degrees to minus 10.

Global warming is increasing the frequency of SSW events.

The result was a further weakening of the jet stream that elongated it allowing cold air to plunge

south all the way to the border with Mexico.

While the Pacific and Atlantic oceans kept the coasts warmer, this cold arctic air came down into the south-central plains. Hundreds of historic records were set as the unprecedented cold gripped cities and towns unprepared for the bitter blast.

Then the cold air and storms moved eastward.

Infrastructure Collapse

An article in the February 21 New York Times began with a description of the risks revealed by the cold and storms:

“Even as Texas struggled to restore electricity and water over the past week, signs of the risks posed by increasingly extreme weather to America’s aging infrastructure were cropping up across the country.

“The continent-spanning winter storms triggered blackouts in Texas, Oklahoma, Mississippi and several other states. One-third of oil production in the nation was halted. Drinking water systems in Ohio were knocked offline. Road networks nationwide were paralyzed and vaccination efforts in 20 states were disrupted.

“The crisis carries a profound warning. As climate change brings more frequent and intense storms, floods, heat waves, wildfires and other extreme events, it is placing growing stress on the foundations of the country’s economy: its network of roads and railways, drinking water systems, power plants, electrical grids, industrial waste sites and even homes.

“Failures in just one sector can set off a domino effect of breakdowns in hard-to-predict ways.

“Much of this infrastructure was built decades ago, under expectation that the environment would remain stable, or at least fluctuate within predictable bounds. Now climate change is upending that assumption.”

The long article went on to list the many examples of failures of infrastructure in recent years in extreme weather events across the country.

The Example of Texas

When much of Texas’ electric power failed, the climate change denier Governor Greg Abbott said, “This shows how the Green New Deal would be a deadly deal for the United States of America.

“Texas is blessed with multiple sources of energy such as natural gas and oil and nuclear, as well as solar and wind. But ... our wind and solar got shut down, and they were more than 10% of our power grid. And that thrust Texas into a situation where it was lacking power in a statewide basis.”

But officials of his own government contradicted this absurd claim, and said the blackout was caused by the cold freezing up valves, pipes, etc. in power plants using natural gas, coal and nuclear fuel to generate electricity.

While Abbott has been forced to walk back his claim a bit, Fox News and others have continued to

spread this falsity.

More is involved in the state's power grid's failure. In the first place, back in the 1930s Texas' electric grid was deliberately separate from the two major grids in the east and west of the country, in order to avoid regulations governing those grids.

So when the Texas grid was overwhelmed, it couldn't draw power from the national grids. This was a result of Texas' famed "independence". One city, was an exception, El Paso, which is connected to one of the national grids, and as a result had no blackout.

In the 1990s, the electric system was completely deregulated and privatized. There many different companies competing to supply electricity.

These companies have different legal formulas for how much to charge. Taking advantage of the crisis (I'm not sure of the details) many homes and other users whose electricity stayed on, and others now again receiving power, have been charged with skyrocketing prices.

Some have received bills in the thousands of dollars, whose bills were less than \$100 before the cold and storms hit.

This is all legal. In face of the outcry this has caused, the state is now preventing the sending out of electric bills, but not controlling these prices. Perhaps the monies the federal government is sending to Texas, as a state of emergency has been declared, will be used to pay these bills.

What electricity will cost as warming weather slowly returns the electricity system to "normal" remains to be seen.

Natural gas companies also suffered shutdowns from freezing equipment. Most homes are heated by natural gas. On the news we have seen people frantically attempting to stay warm during the freeze. The better off could go to hotels that still had heat.

Others were shown on TV chopping up wooden tables, chairs, bookcases, etc. to burn if they had fireplaces.

Now the gas companies are also price gouging as they come back on line and face high demand.

Capitalists who are so situated never fail to make profits off of catastrophes.

Without trying to cover all the hardships, we have seen that the cold has frozen water pipes with the result that many homes have become flooded and severely damaged. Many others have no running water at all.

Hospitals have been hard hit around the state due to lack of water and electricity necessary to treat many patients, for example those on dialysis. Some of these patients who were treated at home but whose water and electricity was cut off had to rely on the hospitals.

Some hospitals had flooding due to frozen water pipes.

As has been the case in Texas in other extreme events like powerful hurricanes, the hardest hit have been Blacks and Latinos.

In an interview on Democracy Now, Dr. Robert Bullard, a professor at Texas Southern University in Houston, Texas, known as the "father of environmental justice" pointed to the situation many people

of color faced, “hurting with no power, no money, no water, no form of transportation to get to the grocery store to get water and food.”

He also said, “The impact of this storm is more than power outages and inconveniences for those communities that historically have been impacted by energy insecurity, having to pay a larger portion of household income for energy.

“And this kind of disruption, with this cold spell and with people having to raise the thermostat to keep warm after this power outage has been restored, people are going to have high utility bills, and some won’t be able to pay and will get shutoffs.

“That’s the inequity that’s piled on top of the [usual] inequity. And we see this happening all across the city, as well as the state.”

Tasks Ahead

We know that very little is being done to curb and eliminate greenhouse gases, caused by burning of fossil fuels, either in the U.S. or internationally. We know the disaster that awaits humanity if not much is done, and soon, to take on this huge task.

We also face the task of upgrading infrastructure to be able to mitigate the effects of the extreme weather that is already occurring and will intensify with increasing warming.

We have to do both, and now. Increasing catastrophes due to global warming are a warning to humanity that we must get our heads out of the sand, open our eyes, look around, and face reality or we will see runaway global warming with lethal effects.

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