Fact or Fiction?

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Heat and Cold-Related Deaths

During the past 100 years the earth has become warmer. Some questions are: How much warmer? Who (or what) is responsible? Is it really a disaster in the making?

This has led to a number of factoids about climate change. We hear that humans are responsible for the temperature increase, extreme weather events will increase, sea levels will rise, mosquito borne diseases will increase, more people will die because of rising temperatures and the Kyoto Protocol will solve the global warming problem. The operative word here is that many of these are "factoids." What's a factoid? Here's a dictionary definition: "A piece of unverified or inaccurate information that is presented in the press as factual, often as part of a publicity effort, and that is then accepted as true because of frequent repetition."[1]

This month, I would like to present some information on the influence of temperature on humans. If you are in urgent need to discern my thoughts on the other factoids listed above, get a copy of my book, *Challenging Environmental Mythology*.

The question is—which is more deadly for humans—heat or cold? The alarmists would have us believe that warming is to be avoided at all costs.[2] When you check the data you find a different picture.

"Far more people die in winter than at any other time of year, and not necessarily with snow shovels in their hands," reports Anthony Wood. "In a study of 28 U.S. cities, rates of death from all causes were found to be more than 20 percent higher in January than in August, regardless of climate. Whether Philadelphia or Phoenix, Minneapolis or Miami, the pattern held."[3] Another study that included 259,891 cases of sudden heart attacks revealed that there were 53 percent more heart attacks in the winter months than in the summer months. Surprisingly, it also found the same effect in both the warmer and colder states of the U.S.[4] In the United Kingdom, between forty thousand and fifty thousand more deaths occur during the winter months than in summer months.[5]

So why does winter claim more lives? There appears to be no simple answer. Potential reasons include the fact that people fail to see the connection between the weather and illness and don't dress properly[5], the sharing of diseases since folks spend more time indoors in winter, holiday tension, and influenza, which shows up every winter. No one seems to know why flu is a winter disease. It's also been suggested that winter mortality might be tied to vitamin D deficiencies from lack of sunlight.[3]

During adverse weather conditions, heart attacks and strokes, two of the most common causes of death, occur slightly earlier than they would have otherwise. This highlights two problems with mortality statistics. Michaels and Balling note: "First, after a major heat wave, subsequent days typically have total deaths well below the average, which suggests the heat may only be advancing death in the susceptible populace by a few days. Second, even a professional medical examiner has trouble determining whether heat or cold was ultimately a significant factor in a given death."[6]

Here's an example from Thomas Gale Moore regarding a major heat wave in Chicago during July 1995 when 522 deaths were recorded. "The coroner reported a marked increase in deaths. What was very curious was that on Friday, Saturday, and Sunday, July 14, 15, and 16, the reported deaths were way below the normal of 78 per day—only 14 people were reported to have died on Saturday—but on the two following days, Monday and Tuesday, fatalities were well above normal. The previous record low body count for any day in the last 30 years had been 46! Given that on Friday, July 14, a record temperature of 106°F was measured at Midway Airport, those numbers are not only remarkable but suspicious. Could it have been that most people in the coroner's office took the hot weekend off and counted bodies on Monday and Tuesday?"[7] In summary, the number of deaths over and above the normal rate was 100, not 522, and the total number of deaths for Chicago in 1995 was about average. Essentially, this means that the heat wave hastened by a few days or weeks the deaths of those who would have died anyway.

What About the Summer 2003 Heat Wave in France?

It's been estimated that about 15,000 more people died in France during an August 2003 heat wave than would have

been expected for an average August. Sid Perkins reports, "The heat waves struck during a traditional vacation period when many residents head for the countryside and doctors are hard to find. Many of the country's victims were elderly and either alone at home without air conditioning or confined to crowded hospitals or nursing homes."[8]

Rebecca Goldsmith adds, "Public investigations found that despite France's highly centralized form of government, the sprawling bureaucracy had no mechanism to recognize the magnitude of the disaster as it was happening. And once officials noticed the problem, there was no way to respond quickly and alert local authorities. The French private response to the heat wave also came under attack. In America, dangerous weather prompts a media blitz of warnings advising people on staying safe. No such thing occurred in France. In addition, families remained away on holidays and nursing home managers failed to call staff back from vacation to provide additional help."[9]

What About Tropical Diseases?

Some alarmists promote the idea that tropical diseases will spread because of global warming. However, the geographical spread of these diseases has very little to do with climate.[10] Throughout the Little Ice Age, malaria was a major epidemic disease in Europe and far into the Arctic Circle. In the nineteenth century, malaria, cholera, and other diarrhoeal and parasitic diseases were prevalent around the world, including northern Europe.[11] Malaria was endemic in England until the late 1800s and in Finland until after World War II. Malaria in the U.S. was still endemic in 36 states until after World War II[10]. Today these diseases are problems only in countries where the necessary public health measures are unaffordable or have been compromised. Past history reveals that combating malaria is primarily a question of development to ensure efficient monitoring of the disease and resources to secure a strong effort to eradicate the mosquitoes and their breeding grounds. Wealth and a functioning public health system is what matters when is comes to combating tropical diseases.[11]

Summary

Martin Ague concludes, "Global warming is not likely to have a negative effect on human health. Humans have successfully adapted to varying climates. There is no general temperature level at which heat suddenly becomes dangerous to human health. On the contrary, heat related mortality increases when the temperature rises above what the local population is accustomed to. In Finland heat related mortality set in at 17.3°C, in Athens at 25.7°C."[10]

Michaels and Balling add, "Over the course of a century, humans will adapt to rising temperatures, or they will adapt their environment to the temperature, and they will suffer no adverse health effects. In fact, since death rates due to extreme cold are double those to extreme heat, there might be a net benefit from warming in the number of lives saved."[12]

They also note, "Almost all global warming theory predicts that most of the warming will occur in the high latitudes and in winter. Furthermore, most of the warming is occurring in the coldest air masses—the ones responsible for the winter cold air outbreaks. Warming of those air masses would presumably reduce future winter mortality rates. In comparison, if the observed trends of the last third of the 20th century are meaningful, summer warming will be about 60 percent of what occurs in winter. When the additional future use of air conditioning is considered, summer mortality rates could very well decline, even with a modest warming."[12] ***P&SF***

References

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5. Laura Lee, *100 Most Dangerous Things in Everyday Life*, (New York, Broadway Books, 2004), 72,
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7. Thomas Gale Moore, *Climate of Fear*, (Washington, DC, The Cato Institute, 1998), 73.
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9. Rebecca Goldsmith, "Deaths in heat wave reveal flaws in France's treatment of elderly," *San Francisco Chronicle*, December 12, 2003, page D6.
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11. Bjorn Lomborg, *The Skeptical Environmentalist*, (Cambridge, United Kingdom, Cambridge University Press, 2001), 291.
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Advice & Counsel

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Following ion exchange, an accumulation tank is used to allow for verification of compliance prior to discharge.

We like the second system, but have the following comments:

1. The ion exchange columns must be protected from incoming solids, oils and greases. The resin can become clogged with solids/grease and will then no longer function. The supplier intends to provide a 50 micron pre-filter and indicates that this is sufficient filtration to protect the resin, but we have some reservations. The pre-filter may need to be a smaller pore size (5–10 micron) and be followed with a carbon pack to capture trace oils/greases to prevent resin fouling.
2. The use of a single filter press does not allow for smooth operation. We recommend using two filter presses in alternating mode.

A pre-coat system (tank, mixer) should be included in the design to allow for the use of pre-coat on the filter cloths. The effluent from the filter press needs to be piped in such a manner that the initial discharge is by-passed back to the neutralization tank, as the first 15–20 minutes of filter flow is high in suspended solids and may blind any filter used ahead of the ion exchange columns. ***P&SF***