

Climate Change April 2009

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WHAT IS CLIMATE CHANGE?

The term “climate change” is often assumed to have the same meaning as the term “global warming.” Yet, it is important to note that the two terms do NOT refer to the same thing. “Global warming” deals with changes in Earth’s average temperature, while the term “climate change” encompasses long-term changes in all average weather patterns, like changes in “temperature, precipitation and wind.”



Source: <http://www.epa.gov/climatechange>

Should we be concerned?



Some people are not concerned with climate change because they do not fully understand the effects that this phenomenon is bringing about. The majority of people only know that according to scientists, the Earth is getting warmer, that the polar caps are melting and that polar bears are having a hard time surviving. But are helpless animals in the Arctic the only ones who will suffer if this situation continues?

Unfortunately, the answer is no. Let us take a closer look at what climate change is really doing to our entire planet.

Photo of polar bear from: http://www.woottonwebdevclass.com/webdevclass/Lim_Ketnita_MP3Project/Global%20Warming/index.html

Changes in precipitation

One of the impacts of climate change, is change in precipitation patterns. In other words, some places on Earth are getting wetter while others are getting drier.

And when it comes to droughts, Texas has been experiencing one first hand. For the past eight months, especially in Central and South Texas, conditions have been “drier than any year since 1918¹.”



Other places, particularly in South America, have seen extreme increases in rainfall amounts.

So, what does all of this lead to? Well, long-term changes in precipitation will eventually lead to changes in crops grown in the areas impacted. For example, in South America, they currently grow maize, wheat and potatoes on a wide scale, but with temperatures and rainfall increasing, they are likely to switch to more tropical crops within a couple of years².



Meanwhile, in areas like Texas, if droughts continue becoming more severe, not only are crops at risk but so are livestock. Several Texas ranchers have already made significant cuts to the sizes of their herds either because their water supply has dried up or they have run out of foliage for their cattle to graze on. As one Texas rancher said, “All you can do is sell of part of your cows as you go along...[because]...buying hay or feed gets expensive¹.”

Sources:

- 1) Jervis, Rick. “Drought grips Texas cattle country.” *USA Today*. 17 March 2009: http://www.usatoday.com/weather/drought/2009-03-17-texas-drought_N.htm
- 2) Seo, Niggol, and Robert Mendelsohn. “An Analysis of Crop Choice: Adapting to Climate in South American Farms.” *Ecological Economics* 67 (2008): 109-116.
- 3) Both photos from: <http://www.connectamarillo.com/News/story.aspx?id=273082>

Climate Change & Human Health

It is true that extreme weather events are not a new emergence but evidence suggests that the **INTENSITY** of such phenomena are increasing as climate change is progressing. Can this trend have an impact on our health?

Well, in the summer of 2003, Europe experienced one of the worse heat waves in history. Did this heat wave have an impact on human health in that area? Unfortunately, it did; it was responsible for 22,000-45,000 heat related deaths within a two week period¹.



Photo by: Mario Anzuoni

But it does not stop there. The increased severity in heat waves and droughts since the 1950's also provide perfect conditions for wildfires. In 2006, 2007 and 2008, the U.S. saw records broken for the number of wildfires across the country. Unfortunately lives were lost and others

threatened by the affects of inhaling smoke.

Other extreme weather events like tropical storms and hurricanes vary in number from year to year but have been increasing in intensity and duration since the 1970's². These occurrences also result in massive losses of life and illness.



Another area that climate change has influenced, is that of infectious diseases. Agents that cause infection like viruses, bacteria and protozoa, as well as the vectors that carry them (mosquitoes, ticks, sandflies, etc.) all have survival rates that depend on changes in temperature. Hence, one of the results of climate change is an increase in the number of cases of infection with diseases like malaria, dengue fever and dengue haemorrhagic fever particularly in Africa and smaller countries in other parts of the world¹.

Even vector-borne diseases that affect animals are increasing in the number of cases. For example, Bluetongue, a disease that affects livestock has increased in the number of cases especially in Europe since 1998¹.

Changes in temperature also affect food-borne infectious diseases. "For example, higher than average temperatures contribute to an estimated 30% of reported cases of salmonellosis across much of...Europe¹."

Sources:

1) Patz, Jonathon A., Diarmid Campbell-Lendrum, Tracey Holloway, and Jonathon A. Foley. "Impact of Regional Climate Change on Human Health." *Nature* 483 (2005): 310-17.

2) <http://www.epa.gov/climatechange>

3) Photo of California Wildfire from:

O'Connor, Anahad. "Sunday Update on California Wildfires." *New York Times* 16 Nov. 2008. 26 Mar. 2009 <<http://thelede.blogs.nytimes.com/2008/11/16/sunday-update-on-california-wildfires/?scp=7&sq=california%20wildfires&st=cse>>.

4) Photo of hurricane from: http://www.weatherquestions.com/What_causes_hurricanes.htm

How can you help?

As individuals, we release greenhouse gas emissions throughout our daily routines. We can help stop climate change by reducing our personal emissions. And there are several ways to do this. You can:

- Look for ENERGY STAR qualified products when shopping for new ones
- Keep our vehicles well-maintained; they are more fuel efficient when they are tuned up
- Check the tire pressure of our vehicles frequently; under-inflation can reduce your vehicle's fuel efficiency by up to 3%
- Use public transportation, carpool, or walk or bike whenever possible
- Use green power (electricity generated from renewable resources)
- Reduce, Reuse and Recycle

Source: <http://www.epa.gov/climatechange>

Events!!!

EARTH DAY 2009!

There are two observances worldwide for the holiday known as Earth Day. One celebration is traditionally held on the March Equinox; this celebration is known as the "First Earth Day." The "Second Earth Day" is celebrated by many on April 22. Both were founded with the intention of creating awareness about environmental issues, but were founded by two different people.

Here in the Bryan/College Station Area, Earth Day is celebrated by most on the April 22 date. In honor of that date, every year there is a celebration in Downtown Bryan on the Saturday before April 22. This year's celebration falls on:

April 18, from 10 a.m.—3 p.m.

There will be live entertainment, refreshments, informational booths, demonstrations and even a special recreation area for children. For a full schedule of events and more information visit:

<http://www.brazosvalleyearthday.com>

