

Climate Change

Climate change? The climate has been changing since the earth began spinning. Global warming? While it is true that we are about 1.4°F warmer than our great grandfathers, we remain about 2.7°F cooler than the Crusaders, 4.3°F cooler than the Romans, and 18.0°F cooler than the dinosaurs. Most of the warming over the past 100 years took place before the 1940s and the industrialization that followed World War II. In fact, we might now be witnessing stabilization, or perhaps even reversal. The plain facts are that 2008 was cooler than 2007, which in turn was cooler than 2006. Over the past two years, more than thirty years of temperature increases have nearly been erased.

Sea levels? They have been rising for the past 17,000 years, since the end of the last great Ice Age. However, the rate has been steadily decreasing. In the next 100 years, sea levels are projected to rise less than 6". Polar ice caps? One, the Arctic, has been shrinking, and that might open up important new shipping routes. The other, the Antarctic, has been growing, and its ice sheet currently is the largest on record. Polar bears? In 1950, their population was estimated at 5,000. Today, there are at least 22,000 polar bears and they are thriving. Hurricane intensity and frequency? NOAA announced last year that global warming should reduce storm intensity and have no impact on storm frequency.

Greenhouse gases (GGs)? GGs account for less than 2.0% of the atmosphere. Carbon Dioxide (CO₂) accounts for about 3.6% of all GGs. Humans contribute about 3.4% of total CO₂ emissions. Overall, humanity is responsible for less than 0.25% of the total claimed "greenhouse effect". Cutting human CO₂ emissions by 80%, a stated goal of President Obama and the limit of what might be possible, will have little or no measurable impact on global warming. Nevertheless, legislation has been recently introduced (Waxman-Markey Cap & Trade) with just that intent. If this becomes law, it will have a disastrous impact on the United States economy: the net loss of about 2.5 million jobs, an inflation-adjusted increase in energy costs of up to 74% (gasoline) and 90% (electricity), an inflation-adjusted increase in the federal debt of about 26%, and a drop in the Gross Domestic Product (GDP) of more than \$9.6 trillion.

Climate scientists have not yet been able to firmly establish a link between GGs and climate change. John Christy, a leading climate scientist and a member of the United Nations IPCC that shared the Nobel Peace Prize with Al Gore, wrote an editorial in the Wall Street Journal in November 2007. He stated *"I see neither the developing catastrophe nor the smoking gun proving that human activity is to blame for most of the warming we see... There are some of us who remain so humbled by the task of measuring and understanding the extraordinarily complex climate system that we are skeptical of our ability to know what it is doing and why... Mother Nature simply operates at a level of complexity that is, at this point, beyond the mastery of mere mortals (such as scientists) and the tools available to us."*

History is also instructive. As recently as the 1970s, some were declaring that GGs would inevitably lead to catastrophic global cooling by 2000. For example, in a January 1970 Issue, Newsweek Magazine proclaimed “*The planet will cool, water vapor will fall and freeze, and a new Ice Age will be born.*” In April 1970, Kenneth Watt wrote “*The world will be 11 degrees colder in the year 2000. This is about twice what it would take to put us into an ice age.*” Six years later, Lowell Ponte wrote “*This cooling has already killed hundreds of thousands of people. If it continues and no strong action is taken, it will cause world famine, world chaos and world war, and this could all come about before the year 2000.*” Now, less than four decades later, their successor alarmists are declaring just the opposite.

Climate change remains a subject of ongoing study and unresolved debate among climate scientists worldwide. This is well beyond the knowledge, experience, and responsibility of the civil engineering community. Timothy Wirth, the President of the United Nations Foundation, has stated “*We’ve got to ride the global warming issue. Even if the theory of global warming is wrong, we will be doing the right thing.*” Licensed professional engineers cannot ethically adopt this the-ends-justify-the-means approach. We must have the discipline to avoid speculation and media hype. For us, doing the right thing means focusing on adaptation rather than on mitigation. It also means taking a leading role in creating a more sustainable natural and built environment based on innovation, best practices, and established science.

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