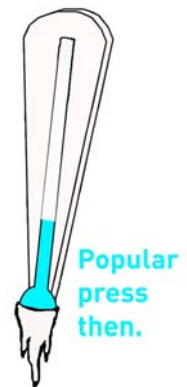


Global Cooling

Popular Press Not Scientific Consensus

Global warming skeptics often point to the “imminent ice age” described in the popular press in the 1970s to dissuade the public from believing the very real threat of global warming today. The news headlines of that time were certainly alarming: *Another Ice Age?* (*Time*, 1972), “The Cooling World” (*Newsweek*, 1975) and “Scientists Ask Why World Climate Is Changing: Major Cooling May Be Ahead” (*The New York Times*, 1975).

What the skeptics fail to admit is that within the scientific literature – as opposed to the popular press – global warming remained a serious concern. More importantly, in the more than 30 years that have since passed, scientific understanding of the global climate has advanced; extensive research on climate records from ice cores and other sources and ever-improving climate models have led the vast majority of climate scientists to the consensus that “global warming is occurring”ⁱⁱⁱ and “most of the warming observed is attributable to human activities.”ⁱⁱⁱ



Scientific understanding of global climate evolved over the past century

As early as the 19th century scientists recognized that greenhouse gases warm the planet and that increases in atmospheric carbon dioxide could lead to global warming. Since that time scientific understanding of global climate change and the impacts human activity might have on it continued to improve and evolve.

By the mid-1970’s scientists had begun to identify the mechanisms that lead to natural climatic fluctuations. Millennium-scale cycles between ice ages and inner-glacial warmer periods are triggered by changes in the earth’s orbit about the sun, while modest decade- and century-long fluctuations can often be attributed to volcanic eruptions or solar variations. And in 1979, a report of the National Academy of Sciences warned that a doubling of carbon dioxide would increase global temperatures by 1.5 to 4.5 degrees Celsius.ⁱⁱⁱ

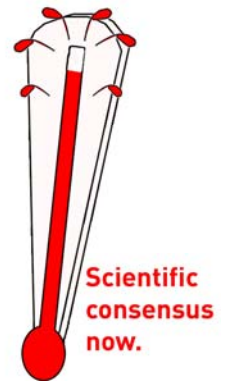
Over the past quarter century, scientific research on global climate change has intensified, and programs on an international scale have been organized. More and more data are included in computer models that are capable of recreating past trends and more accurately predict future scenarios.

Cooling scare also caused by human activity

In the midst of this evolution the upward trend in global temperatures unexpectedly halted, and temperatures declined somewhat in the mid-20th century. This led some scientists to become concerned about global cooling and hence the headlines about an immanent ice age. Many scientists of the time argued, however, that whatever the cause of this cooling, natural or otherwise, it would be eventually overshadowed by the greenhouse effects of carbon dioxide. We now know that this pause in global warming was caused by pollution from burning coal which produced tiny particles or aerosols that blocked the energy from the sun. As aerosol emissions were controlled but greenhouse gas pollution continued to increase, the cooling effect of the aerosols was overwhelmed by the greenhouse gases and global warming resumed.

Scientific consensus in the 21st century

By the beginning of the 21st century a firm scientific consensus had emerged on the dangers of global warming and the need for action. In 2001, the U.S. National Academy of Sciences concluded that, "Greenhouse gases are accumulating in the Earth's atmosphere as a result of human activities, causing surface air temperatures ... to rise." And in June, 2005 the Academy stated that, "The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action... We urge all nations ... to take prompt action to reduce the causes of climate change."



ⁱ "Joint Science Academies' Statement: Global Response to Climate Change," July 2005 -- a statement signed by the national science academies of 11 different countries.

ⁱⁱ International Panel on Climate Change, January 2001.

ⁱⁱⁱ National Academy of Sciences, Climate Research Board (1979). *Carbon Dioxide and Climate: A Scientific Assessment* (Jules Charney, Chair). Washington, DC: National Academy of Sciences.