

Global  
Carbon  
II



### Climate Efforts Falling Short, U.N. Panel Says

The countries of the world have dragged their feet so long on global warming that only an intensive push in the next 15 years can stave off potential disaster, United Nations-appointed experts said.



BY DEGREES

### Scientists Sound Alarm on Climate

A stark new report seeks to cut through confusion and awaken the public to the urgency of the dangers of global warming.



### Study Links Temperature to a Peruvian Glacier's Growth and Retreat

Scientists from Dartmouth say heat, not other factors like diminished snowfall, is the prime culprit in the melting of the Peruvian Quelccaya ice cap.



### Freezing January for Easterners Was Not Felt Round the World

Despite ice storms in the American South, it was the fourth-warmest January on record for the earth as a whole.



BY DEGREES

### Freezing Out the Bigger Picture

What seems like unusually cold weather in the Northeast is still milder than what was normal a few decades ago, but it has stoked confusion and given fodder to global warming skeptics.



### For Already Vulnerable Penguins, Study Finds Climate Change Is Another Danger

Intense rainfall and extreme heat combined with predation and starvation make life difficult for penguins, a University of Washington scientist says.



### U.N. Says Lag in Confronting Climate Woes Will Be Costly

Another 15 years of failure by nations to limit carbon emissions could make the situation virtually impossible to solve with current technologies, according to a draft United Nations report.



### Moose Die-Off Alarms Scientists

Populations across the continent are experiencing a sharp decline, and the exact cause is a mystery. But there is a common thread among possible factors: climate change.



### Global Temperatures Highest in 4,000 Years

The modern warming period is unique over a longer period than previously thought, according to research published in the journal Science.



### Not Even Close: 2012 Was Hottest Ever in U.S.

Last year's 55.3 degree average topped the previous record, set in 1998, by a full degree Fahrenheit.

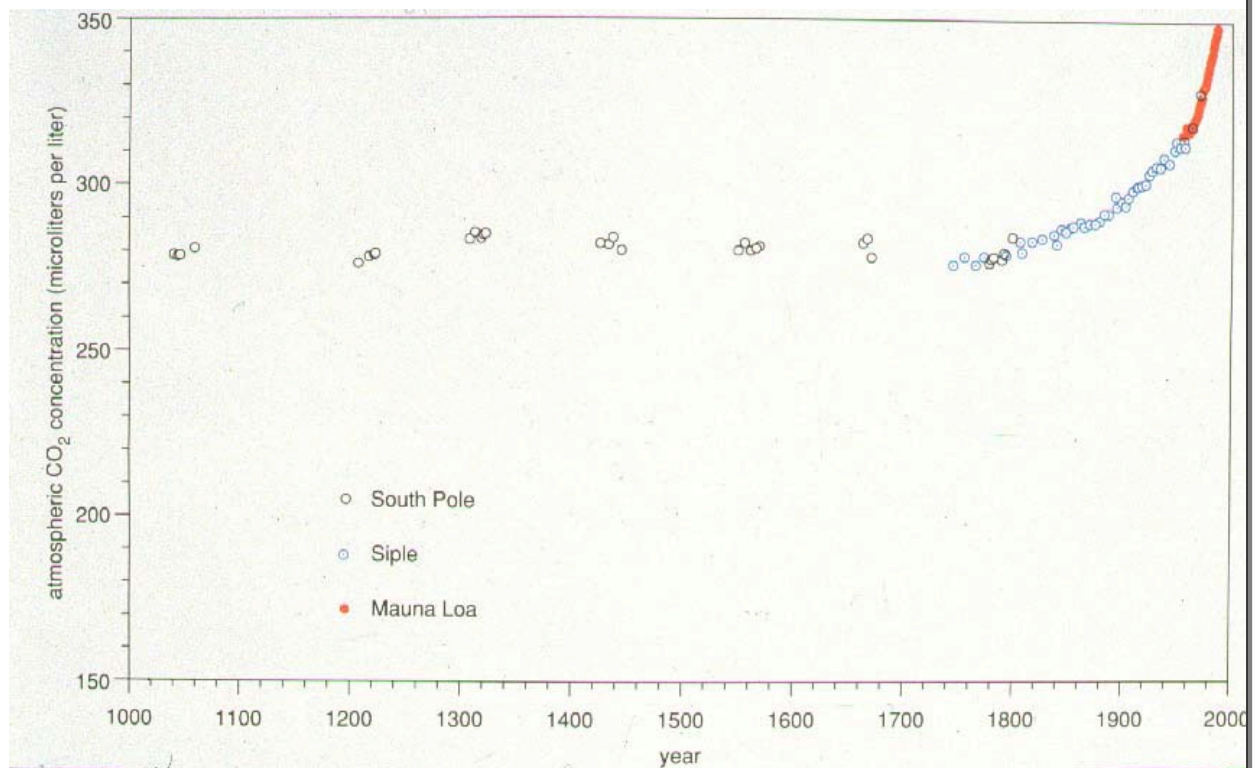
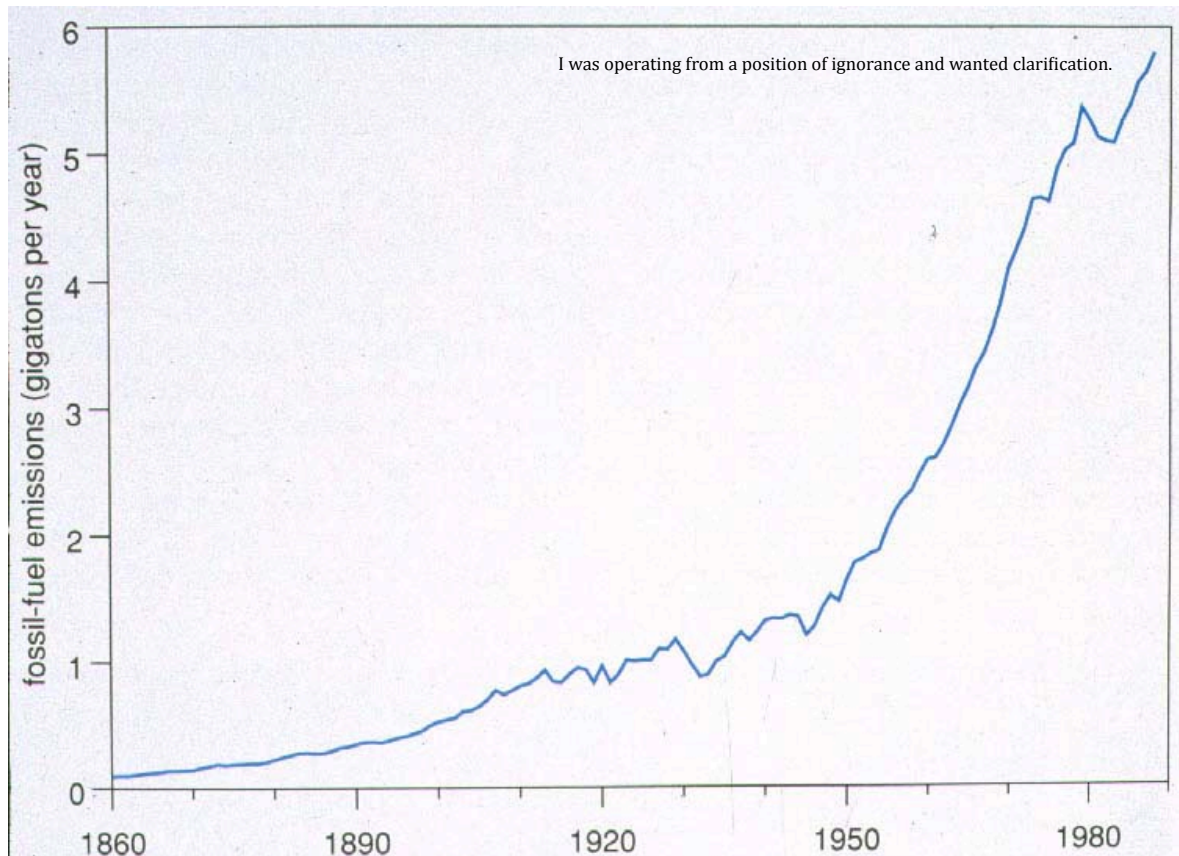


### U.N. Agency Says 2012 Ranks Among Hottest Years

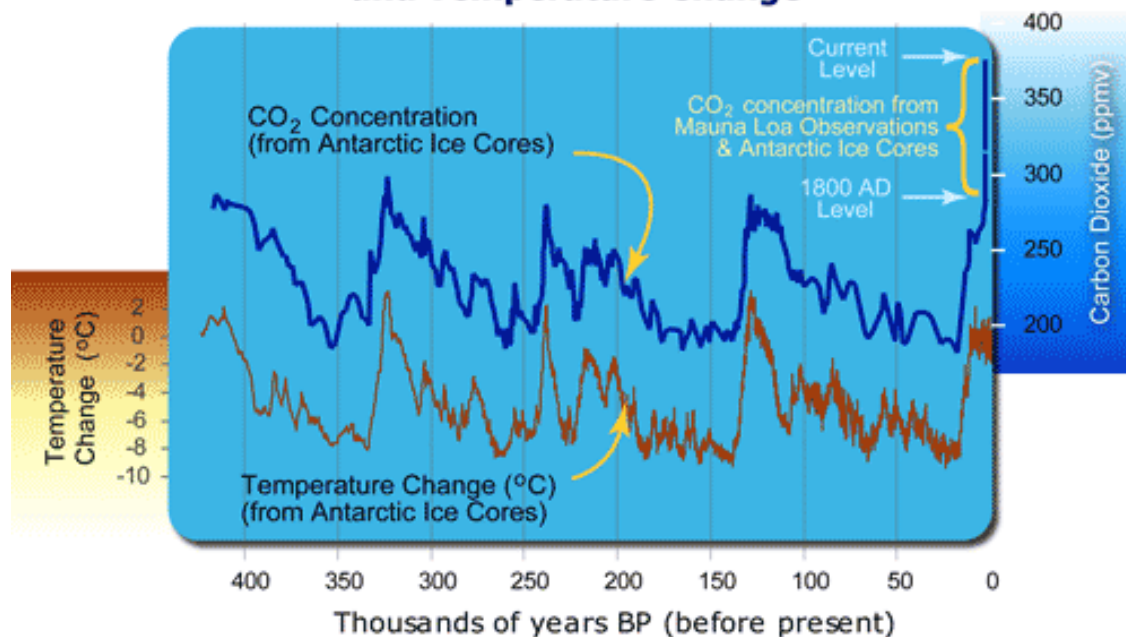
The World Meteorological Organization is warning that a warming trend and the melting of Arctic ice are increasing the risks of weather disasters.

### Ending Its Summer Melt, Arctic Sea Ice Sets a New Low That Leads to Warnings

The apparent low point for 2012 was reached Sunday, when sea ice covered 24 percent of the surface of the Arctic Ocean, down from the previous low of 29 percent set in 2007.



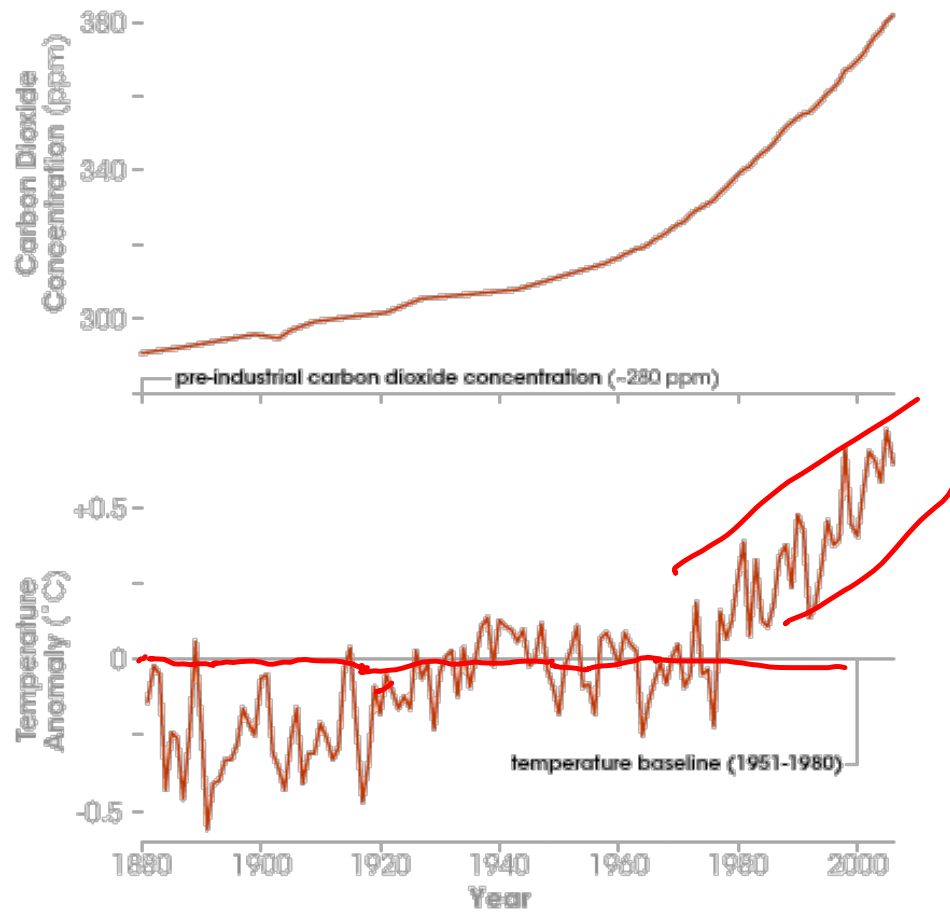
## 400 Thousand Years of Atmospheric Carbon Dioxide Concentration and Temperature Change

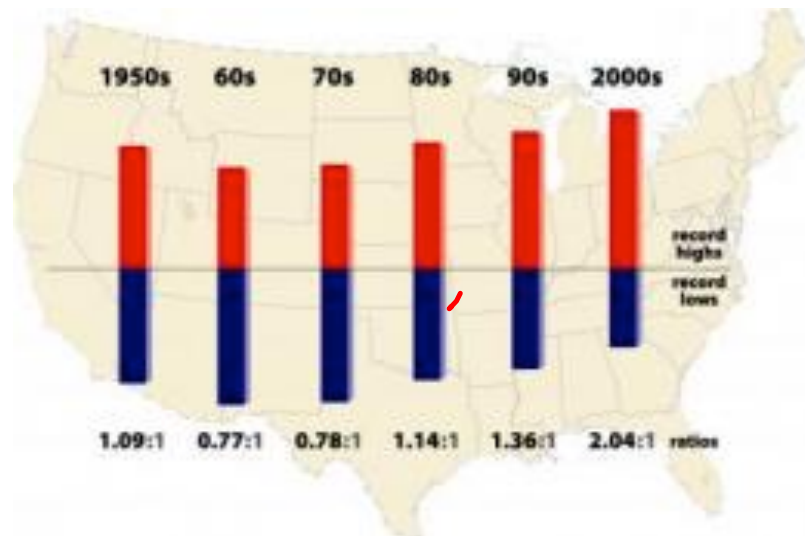


Data Source CO<sub>2</sub>: <http://cdiac.ornl.gov/pub/trends/co2/vostok.icecore.co2>  
 Data Source Temp: <http://cdiac.esd.ornl.gov/ftp/trends/temp/vostok/vostok.1999.temp.dat>

Graphic: Michael Ernst, The Woods Hole Research Center







Click on graph for explanation





PORTAGE GLACIER AK, 1914 • NOAA



PORTAGE GLACIER AK  
© 2004 GARY BRAASCH  
(AERIAL ESTIMATION OF 1914)



Pasterze Glacier 1875



Pasterze Glacier (site), Austria © 2004 Gary Braasch



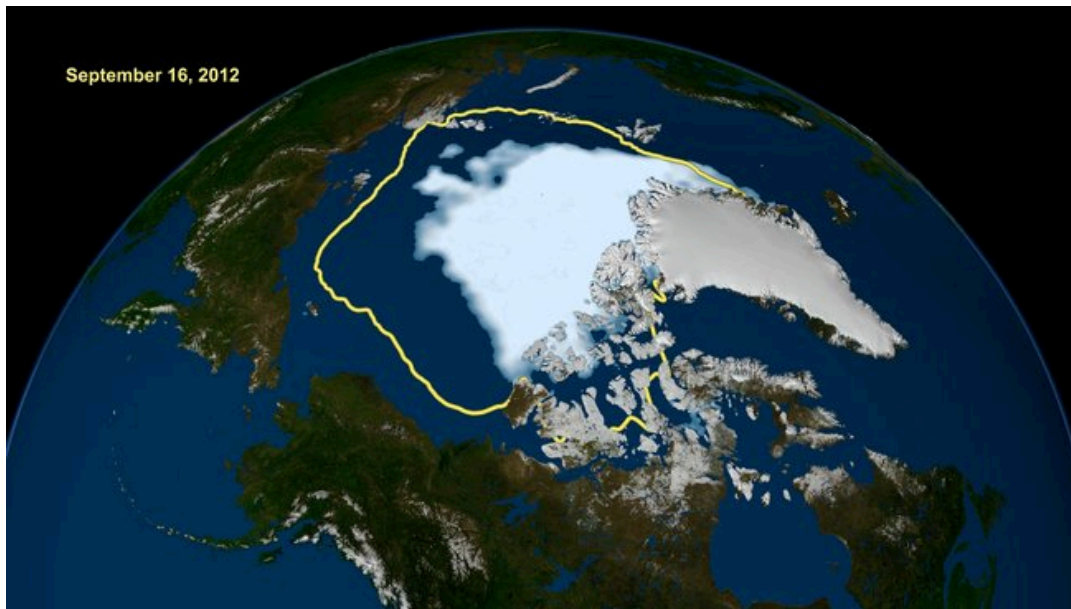
Athabasca Glacier, Jasper National Park Canada in 1917 and 2005. Wheeler Survey photo (bottom) © 2005 Gary Braasch



© 2001 Gary Braasch

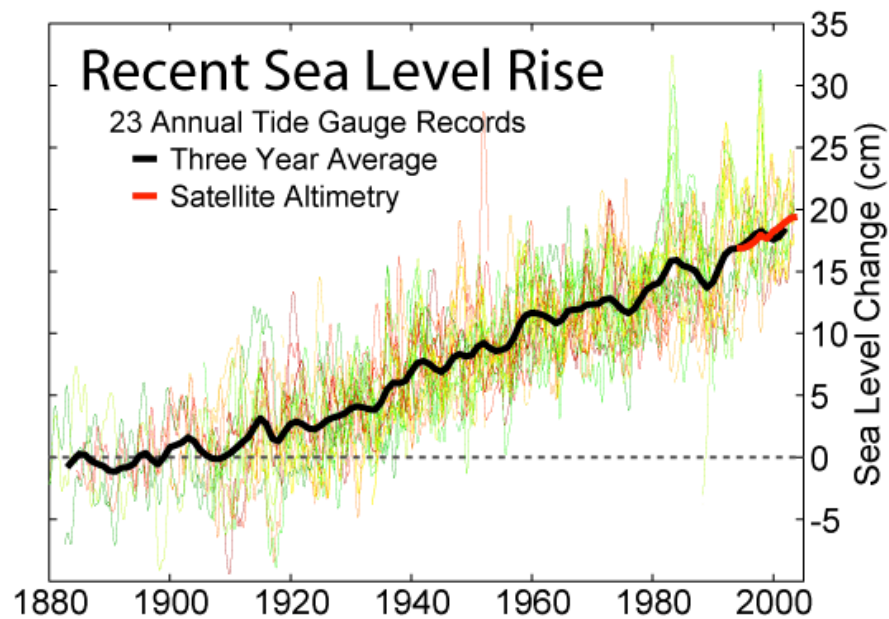
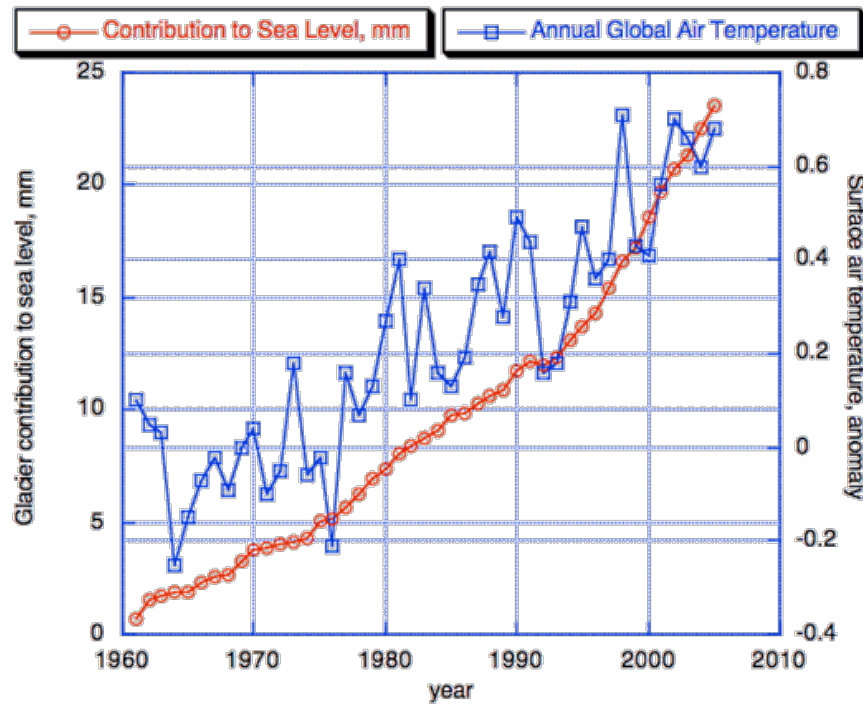


Greenland Glacier © 2004 Gary Braasch



A NASA image shows how the record-low Arctic sea ice extent compares with the average minimum extent over the past 30 years, in yellow.







Warming climate/Change in rain  
and storm patterns

Rising sea levels

Ocean acidification

Extinctions

Disproportionate effects  
on LDCs

Decades of foot-dragging by political leaders had propelled humanity into a critical situation, with greenhouse emissions rising faster than ever.

The emissions problem is still outrunning the determination to tackle it, with atmospheric carbon dioxide levels rising almost twice as fast in the first decade of this century as they did in the last decades of the 20th century.

While it remains technically possible to keep planetary warming to a tolerable level, only an intensive push over the next 15 years to bring those emissions under control can achieve the goal.

If we lose another decade, it becomes extremely costly to achieve climate stabilization.

If countries keep stalling on tougher climate rules, trillions of dollars will be invested in coming years in power plants, cars and buildings that use too much energy from fossil fuels. The result would be an emissions path that would be almost impossible to alter in time to get to the very low carbon pollution levels that scientists think are necessary by 2050.

While the costs of renewable energy like wind and solar power are falling fast, the longer society waits to implement strong measures to cut greenhouse gas emissions, the more costly and difficult it will become to limit climate change to less than catastrophic levels.

Scientists do not know how likely it is that unchecked global warming could cause some sort of wildly expensive calamity, such as a rapid melting of ice sheets that would drown the world's major coastal cities.

This and other disasters are distinctly possible, the authors found.

Tackling the problem in a serious way would carry costs, shaving a few hundredths of a percentage point off global economic growth each year.

Against those costs, the economic benefits of acting are essentially impossible to calculate,

