CCDataCenter.org - Global Warming/Climate Change - Facts and Images

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CCDataCenter.Org is a Web site that I have created to display facts and images related to global warming and climate change. Let me know if you have images that you think should be included and/or would like to help with the site.

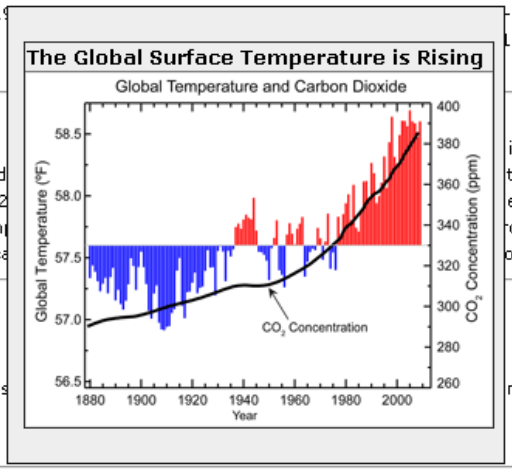
Global Warming/Climate Change - Facts and Images

The following Fact Pages display various images related to global warming and climate change
(Hover your mouse over the text below to "popup" a window with a related image or text.
Click on text to open a new window with a detailed description.)

Indications That The Earth Is Warming

Ten Indicators of a Warming Planet
Global Temperature and Carbon Dioxide - 1880-2012
Total Heat Content (Oceans, Atmosphere, and Land) 19
Northern Hemisphere Snow Cover - 1966-2009
Arctic Ice Volume in September - 1979-2013

Temperature Anomaly Last Ten Thousand Years
World Ocean Heat Content 0-700 m - 1955-2010
-2010
1860-2010
1880-2012



Most Worrisome Climate Change Facts

1. The atmospheric concentration of CO2 is increasing
3. The volume of the summer-time Arctic ice has been d
5. Expected sea level rise is over 40 feet (based on CO2
7. Expected sea level rise is over 30 feet (based on tem
9. Continuing current CO2 emissions will likely lead to ca

is Increasing
tivity
e was about 30 feet/ oF
rctic may lead to catastrophic warming
oints

Global Warming – Basic Facts, Observations, and

1. Facts
3. Observations - Since about 1870
5. Modeling is used to help climate scientists review poss
7. Expectations for a warming planet – slow feedbacks
9. Conclusions

paleoclimate data
ng planet – fast feedbacks

NAS - Climate Change: Evidence and Choices

1 Is the climate warming?
2 How do scientists know that recent climate change is largely caused by human activities?
3 CO2 is already in the atmosphere naturally, so why are emissions from human activity significant?
4 What role has the Sun played in climate change in recent decades?
5 What do changes in the vertical structure of atmospheric temperature—from the surface up to the stratosphere—tell us about the causes of recent climate change?
6 Climate is always changing. Why is climate change of concern now?
7 Is the current level of atmospheric CO2 concentration unprecedented in Earth's history?
8 Is there a point at which adding more CO2 will not cause further warming?
9 Does the rate of warming vary from one decade to another?
10 Does the recent slowdown of warming mean that climate change is no longer happening?
11 If the world is warming, why are some winters and summers still very cold?
12 Why is Arctic sea ice decreasing while Antarctic sea ice is not?
13 How does climate change affect the strength and frequency of floods, hurricanes and tornadoes?
14 How fast is sea level rising?

Indications That The Earth Is Warming

Thousands of land and ocean temperature measurements are recorded each day around the globe. This includes measurements from climate reference stations, weather stations, ships, buoys and autonomous gliders in the oceans. These surface measurements are also supplemented with satellite measurements. These measurements are processed, examined for random and systematic errors, and then finally combined to produce a time series of global average temperature change. A number of agencies around the world have produced datasets of global-scale changes in surface temperature using different techniques to process the data and remove measurement errors that could lead to false interpretations of temperature trends. The warming trend that is apparent in all of the independent methods of calculating global temperature change is also confirmed by other independent observations, such as the melting of mountain glaciers on every continent, reductions in the extent of snow cover, earlier blooming of plants in spring, a shorter ice season on lakes and rivers, ocean heat content, reduced arctic sea ice, and rising sea levels.
Source: http://www.ncdc.noaa.gov/indicators/

This Fact Page display text and images related to global warming and climate change
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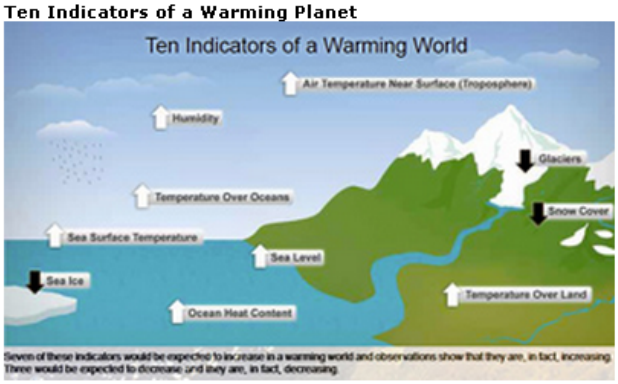
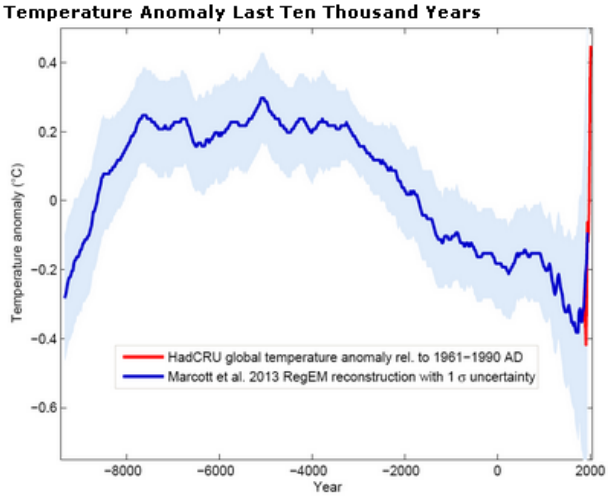
Show Details

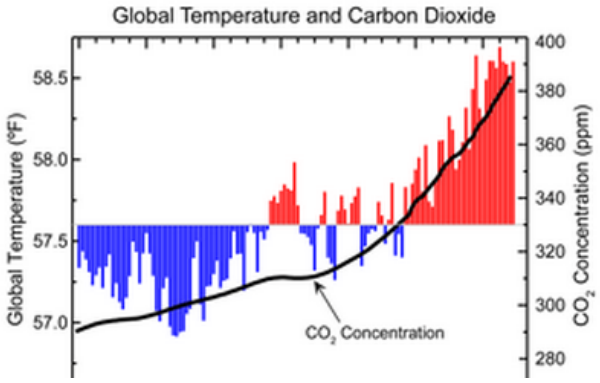
Ten Indicators of a Warming Planet



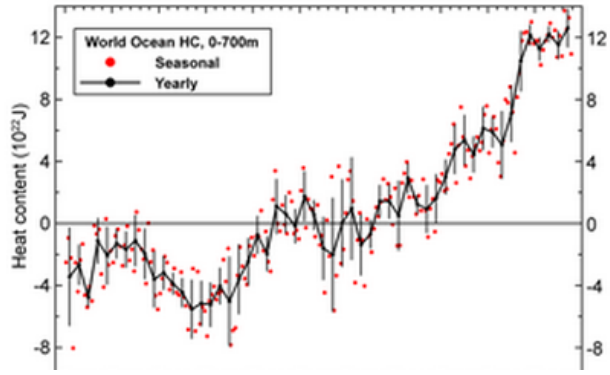
Temperature Anomaly Last Ten Thousand Years



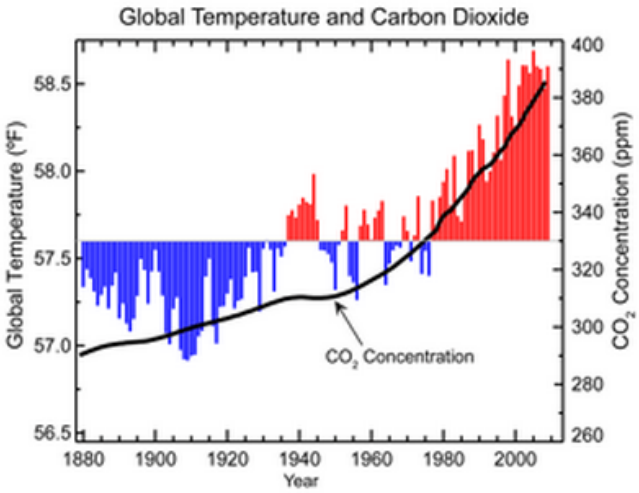
Global Temperature and Carbon Dioxide - 1880-2012



World Ocean Heat Content 0-700 m - 1955-2010



Global Temperature and Carbon Dioxide - 1880-2012



Global annual average temperature measured over land and oceans. Red bars indicate temperatures above and blue bars indicate temperatures below the 1901-2000 average temperature. The black line shows atmospheric carbon dioxide concentration in parts per million.

Global average temperature is one of the most-cited indicators of global climate change, and shows an increase of approximately 1.4°F since the early 20th Century. The global surface temperature is based on air temperature data over land and sea-surface temperatures observed from ships, buoys and satellites. There is a clear long-term global warming trend, while each individual year does not always show a temperature increase relative to the previous year, and some years show greater changes than others. These year-to-year fluctuations in temperature are due to natural processes, such as the effects of El Ninos, La Ninas, and the eruption of large volcanoes. Notably, the 20 warmest years have all occurred since 1981, and the 10 warmest have all occurred in the past 12 years.

Source: NOAA
URL: http://www.ncdc.noaa.gov/indicators/
(The text for the image(s) on this Web page was taken from the above source.)

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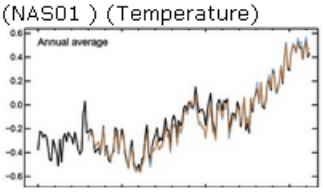
Acidification
15 What is ocean acidification and why does it matter?

Antarctic
12 Why is Arctic sea ice decreasing while Antarctic sea ice is not?

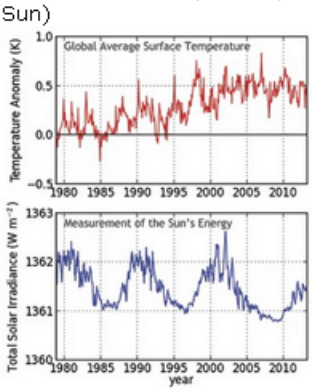
Sea level rise contributors

Global Warming/Climate Change Images

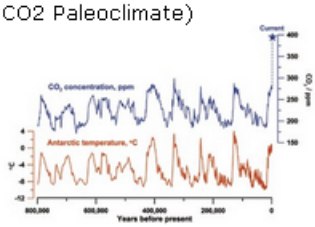
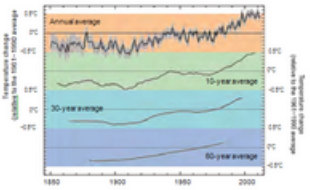
1 Is the climate warming? (NAS01) (Temperature)



4 What role has the Sun played in climate change in recent decades? (NAS04) (Sun)



7 Is the current level of atmospheric CO2 concentration unprecedented in Earth's history? (NAS07) (Atmosphere CO2 Paleoclimate)



9 Does the rate of warming vary from one decade to another? (NAS09) (Weather)