

The Seven Theories of Climate Change

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One of the most important factors contributing to the prosperity of the United States throughout its existence has been the availability of low cost energy. During this time the major source of energy has evolved from wood to coal to oil and natural gas. The main uses of these fuels are the generation of electricity and transportation.

All of these fuels have one thing in common – they are carbon based. As modern society developed the amount of carbon dioxide in the atmosphere has gradually increased to its current level of 350 parts per million. At the same time the temperature of the Earth has gradually increased. This has led some to develop the theory that the increase in the earth's temperature is the result of the increased amount of carbon dioxide in the atmosphere.

This theory has been publicized and promoted by many different groups and has been widely accepted as fact despite there being no way that the theory can be proven. The promoters of the theory have lost sight of a fundamental principle of science:

Coincidence is not a proof of causality.

In the heated discussion (no pun intended) related to global warming/climate change little attention has been paid to other theories that could be used when trying to understand the factors that influence conditions on Earth.

Below is a concise summary of theories that should be considered when discussing climate change. Many of them appear to give a good explanation of the effects we are experiencing and could be used to make predictions about the future that would lead to different thoughts about energy sources for the United States.

Theory 1 – Anthropogenic Global Warming

This is the well known carbon dioxide theory. Backers of this theory contend that the 0.7C warming of the last century-and-a-half is mostly due to man-made gases (from burning carbon-based fuels). Their computer programs predict that the Earth's temperature could rise an additional 3C by 2100.

Theory 2 – Bio-Thermostat

There are biological and chemical processes that offset the increased carbon dioxide effect. The increase uptake of carbon dioxide by plants is the best known of these phenomena. Others include carbonyl sulfide, diffuse light, iodocompounds, dimethyl sulfide, and other aerosols.

Theory 3 – Cloud Formation and Albedo

This theory postulates that changes in the formation and albedo of clouds creates a feedback that cancels out the effects of increased carbon dioxide. Albedo is a fancy word for the ability of clouds to reflect solar radiation. Recent work by Dr. Roy Spencer has shown that clouds are a major factor in the Earth's temperature profile.

Theory 4 – Human Forcings Besides Greenhouse Gases

This theory espouses that mankind's greatest impact on climate is its transformation of the Earth's surface by clearing forests, irrigating deserts, and building cities.. The urban heat island has been documented by many authors..

Theory 5 – Ocean Currents

This theory contends that global temperature variation over the past century has been due to the slow down of the ocean's Thermohaline Circulation. Major anomalies, such as El Nino, La Nina, and the Pacific Decadal Oscillation have received considerable attention for their apparent impact on the Earth's temperature. However, no one seems to understand what causes these effects.

Theory 6 – Planetary Motion

This theory states that all of the warming in the latter part of the twentieth century can be explained by natural gravitational and magnetic oscillations of the solar system induced by the Earth's movement through space. These oscillations modulate solar variation which then drives climate change.

Theory 7 – Solar Variability

This theory claims that solar variability accounts for most or all of the recent warming and will dominate climate in the 21st century regardless of man-made greenhouse gas emissions.

Changes in the brightness of the sun are caused by sun spots. These are bursts of energetic particles and radiation that vary in frequency in cycles of 11, 87, and 210 years.

There you have it – six additional theories that are every bit as plausible as the carbon dioxide theory. The media have not given these theories the same publicity as the carbon dioxide theory.

The abundance of the theories listed above might account for the fact that in 2007, a petition signed by 31,478 American scientists, including 9,029 with Ph.D.s read in part, ***“there is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing, or will, in the foreseeable future, cause catastrophic heating of the earth's atmosphere and disruption of the earth's climate.”***

The next time someone tells you that the 'science' is settled ask them about these other theories.

Note: These theories are discussed in greater detail in Joseph Bast's book “The Seven Theories of Climate Change” Heartland Institute, 2010

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