

How To Talk To a Climate Denier

It is very discouraging to be speaking at a meeting and have someone stand up and say, “This is all nonsense. There are many climate scientists who dispute what you are saying. There has always been climate change. They were predicting global cooling back in the 1970s, and besides, the hockey stick graph has been proven wrong. Satellite measurements show that the lower atmosphere is cooling, not warming. Volcanoes produce far more CO₂ than humans. The ice-core record from the past shows that the increase in CO₂ follows the rise in temperature; it does not cause it. Why should we trust such flimsy science?”

Fortunately, Britain’s *New Scientist* magazine has published a list of 28 climate myths that lay to rest the most common misunderstandings, and “How to Talk to Climate Skeptics” on the *Gristmill* refutes 61 contrary arguments. Here are just a few of the myths that the contrarians like to promote:

Many leading scientists question climate change

Not true. The handful of climate scientists who oppose the consensus stand against tens of thousands who have signed dozens of statements from scientific organizations all around the world supporting the consensus position. In a 2004 review of the abstracts of 928 peer-reviewed papers published from 1993 to 2003 that referenced global climate change, 100% supported the consensus position.¹

The “hockey stick” graph has been proven wrong

Not true. The hockey stick graph shows that temperatures were basically level during the past

A firm and ever-growing body of evidence points to a clear picture: the world is warming, this warming is due to human activity increasing levels of greenhouse gases in the atmosphere, and if emissions continue unabated the warming will too, with increasingly serious consequences.

— Michael Le Page, *New Scientist*,

1,000 years and then rose sharply in the late 20th century. In 2006 the US National Academy of Science endorsed its findings and showed that it has been supported by an array of evidence.

Global warming is being caused by the Sun and cosmic rays, not humans

Not true. A 2007 study showed that solar output has been falling since 1985, eliminating also the theory that cosmic rays that create cloud cover, cooling the Earth, are being blocked by the Sun’s more intense heat. Most of the 20th century saw a steady decrease in solar output, not an increase.²

The cooling after 1940 shows that CO₂ does not cause warming

Not true. The world did cool from 1940 to 1970, largely because the release of aerosols into the atmosphere, resulting from dirty industrial activities and warfare, scattered light from the Sun and reflected its heat back into space. There was also a large volcanic eruption at Mount Agung in 1963 that cooled things down by 0.5 °C.

The lower atmosphere is cooling, not warming

Not true. The apparent cooling was caused by errors in the way satellite data was collected and inaccurate data from weather balloons. More recent data reveals that it is warming as expected.

Ice cores show that past increases in CO₂ lagged behind temperature rises, disproving the link to global warming

The data is correct, but the conclusion is invalid.



USGS/CASCADES VOLCANO OBSERVATORY, ROBERT KIRKMAN

Mount St Helens, May 18th, 1980. Volcanoes produce less than 1% of the CO₂ from human activities.

The initial warming when Earth emerged from an ice age was caused by variations in Earth's orbit, known as the Milankovitch cycles. After a lag of about 800 years, CO₂ emissions from the warmer oceans increased, and CO₂ and temperature rose together for about 4,200 years. The evidence that CO₂ traps heat comes from physics, not from correlations with past temperature.

It was warmer during the medieval period, when there were vineyards in England

Not true. There were some warm periods in Europe from 900 to 1300 AD, but the accumulated evidence shows that the planet has been warmer in the past few decades than at any time during the medieval period, and maybe warmer than it has been for 125,000 years.³

Scientists were predicting global cooling in the 1970s

True. "They" were a handful of scientists who were concerned that increased air pollution might

- A Rundown of the Skeptics and Deniers: logicalscience.com/skeptics/skeptics.htm
- Climate Change: A Guide for the Perplexed (New Scientist): tinyurl.com/3bl5e6
- *Climate Cover-up: The Crusade to Deny Global Warming*, by James Hoggan: desmogblog.com/climate-cover-up
- Deep Climate: deepclimate.org
- Desmogblog: desmogblog.com
- Global Temperatures: tinyurl.com/3xmghm
- Great Global Warming Swindle: realclimate.org/index.php/archives/2007/03/swindled
- Hockey stick graph: tinyurl.com/2f96hb
- How to Talk to a Climate Skeptic: gristmill.grist.org/skeptics
- Naomi Oreskes Study: tinyurl.com/ywtgpi
- NASA/GISS Temperature animation: tinyurl.com/2onur8
- Real Climate Denial Wiki: realclimate.org/wiki
- The Consensus on Global Warming: logicalscience.com/consensus/consensus.htm
- The Heat is Online: heatisonline.org

outweigh the influence of rising CO₂ emissions, and they called for more research. Subsequent research by thousands of scientists has found that warming caused by greenhouse gases far outweighs the cooling caused by air pollution.

Mars and Pluto are warming too

Maybe true. Our knowledge about these planets is still very sketchy. If it is true, the warming is not being caused by increased solar activity, as the Sun's output has not increased since direct measurements began in 1978.

To many climate skeptics, no amount of debate will change their views. For these people, the alternative framing presented in Solution #65 may be more effective.