

MOTHER EARTH

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TRANSCRIPTS

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Remarks

In 2007 the Intergovernmental Panel on Climate Change (IPCC) stated the following:

“...most of the observed warming over the last 50 years is very likely to have been due to the increase in greenhouse gas concentrations.”
—IPCC 4th Assessment (2007).

This international scientific body explicitly rejected the claim that observed changes are due solely or largely to natural causes:

“The observed widespread warming of the atmosphere and ocean, together with ice mass loss, support the conclusion that it is extremely unlikely that global climate change of the past fifty years can be explained without external forcing....”

In other words, global warming is real, and we are virtually certain to have contributed significantly to this problem for the last 50 years or so, and are expected to be the dominant contributor to this problem for decades to come.

What is the IPCC? It is an international body established in 1988 by the UN and the WMO to periodically advise parties (approximately 78 countries) to the UN Framework Convention on Climate Change (UNFCCC) on the state of knowledge on climate change.

The IPCC process today involves scientific experts from over 130 countries. The most recent assessment, in 2007, involved over 800 authors and over 1000 expert reviewers.

In short, the IPCC is nothing less than an historically unprecedented scientific consensus—there is probably no counterpart to this effort in the history of science and perhaps history itself.

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Concern about the climate implications of the build-up of greenhouse gases is not new news. Concerns were raised as early as 1938. In fact, the scientific position on global warming has hardly changed since 1979 when the U.S. National Academy of Sciences stated:

“If carbon dioxide continues to increase, [we] find no reason to doubt that climate changes will result, and no reason to believe that these changes will be negligible.”
Carbon Dioxide and Climate: A Scientific Assessment (Charney report), 1979.

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However, since the mid 1980s, there has been a steady stream of speculative claims challenging climate science. Such claims have generally asserted:

- No “proof” (science is uncertain)
- No “consensus”; scientists are divided)
- If warming is happening, it has nothing to do with human behavior; it’s all natural variability (i.e., the sun is to blame).
- If it is human in origin, it isn’t necessarily bad.
- Warnings are “alarmist,” “catastrophist,” or “apocalyptic.”
- We can readily adapt to any changes that occur.
- Controlling GHG emissions would destroy the US economy.

Unfortunately, small numbers of contrarians have succeeded in sowing doubt and confusion on our collective perceptions on the overwhelming scientific evidence and consensus. For example, a recent ABC News poll of March 2006 indicated “Little consensus on global warming....”

- Only 41% of those surveyed believe warming is caused by human activities.
- 64% perceive “a lot of disagreement among scientists” on the question.
- Only 1/3 think scientists agree that global warming has begun.
- Only 1/3 think the rise in world temperatures is mainly caused by human activities.

Climate models, in particular, have been attacked as “unreliable” while, curiously enough, the accuracy and reliability of economic models seem to be a foregone conclusion.

In reality however, many climate model-based projections have come true:

- Melting and enhanced melting of polar ice sheets and continental glaciers
- Polar warming above the global average
- Rise in sea level
- Earlier onset of spring
- More warming at night than in day
- Intensification of weather events

Some have also asserted that “science is not about consensus.” But in fact, according to the noted science historian, Naomi Oreskes, the opposite is true—science is precisely about consensus, it is the way knowledge is acquired, refined and ultimately agreed upon and accepted.

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It’s fair to ask, how do we know that the consensus is correct? How do we know we’re not wrong? How do we know our current science won’t be overturned in the future?

We don’t of course; that is, not with 100% certainty. But, the fact remains that there are no identifiable “alternative hypotheses” for which there is any substantial evidence that can explain the observed climate effects.

At the core of the scientific consensus on global warming are multiple, independent lines of evidence converging on a single coherent account. In addition, that consensus is broadly shared by the world’s major scientific organizations including an international cadre of national academies of science.

In four IPCC reports spanning nearly 20 years, leading scientific experts from around globe have affirmed the reality of a human-induced warming—no longer a prediction, but an observational reality.

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In 1965, President Lyndon Johnson, in a Special Message to Congress, stated:

“This generation has altered the composition of the atmosphere on a global scale through...a steady increase in carbon dioxide from the burning of fossil fuels.”

The effect of that alteration is becoming increasingly clear.

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And finally, in asking Congress to support his goal of landing Americans on the moon and bringing them safely back to Earth, President Kennedy said that the effort “will last for many years and carry very heavy costs” and that it demanded “a major national commitment of scientific and technical manpower.”

Without question, it will take an international effort, at every social level, to stave off the worst of the climate problems and adapt to what is ultimately unavoidable. But the good news is that we have a legacy of successfully addressing grand-scale problems. Such successes include the Apollo Space Program, the Manhattan Project, and the Marshall Plan. Yet it would be naïve in the case of climate change to suppose that we can technologize our way out of the problem without altering our lifestyles and reassessing our relationship with Mother Earth.

Source: Naomi Oreskes, *Science*, 2004.