



This is the print version of the [Skeptical Science](http://sks.to/impacts) article '[It's not bad](http://sks.to/impacts)', which can be found at <http://sks.to/impacts>.

Positives and negatives of global warming

What The Science Says:

Negative impacts of global warming on agriculture, health & environment far outweigh any positives.

Climate Myth: It's not bad

"Two thousand years of published human histories say that warm periods were good for people. It was the harsh, unstable Dark Ages and Little Ice Age that brought bigger storms, untimely frost, widespread famine and plagues of disease." ([Dennis Avery](#))

Here's a list of cause and effect relationships, showing that most climate change impacts will confer few or no benefits, but may do great harm at considerable cost.

Agriculture

While CO₂ is essential for plant growth, all agriculture depends also on steady water supplies, and climate change is likely to disrupt those supplies through floods and droughts. It has been suggested that higher latitudes – Siberia, for example – may become productive due to global warming, but the soil in Arctic and bordering territories is very poor, and the amount of sunlight reaching the ground in summer will not change because it is governed by the tilt of the earth. Agriculture can also be disrupted by wildfires and changes in seasonal periodicity, which is already taking place, and changes to grasslands and water supplies could impact grazing and welfare of domestic livestock. Increased warming may also have a greater effect on countries whose climate is already near or at a temperature limit over which yields reduce or crops fail – in the tropics or sub-Sahara, for example.

Health

Warmer winters would mean fewer deaths, particularly among vulnerable groups like the aged. However, the same groups are also vulnerable to additional heat, and deaths attributable to heatwaves are expected to be approximately five times as great as winter deaths prevented. It is widely believed that warmer climates will encourage migration of disease-bearing insects like mosquitoes and malaria is already appearing in places it hasn't been seen before.

Polar Melting

While the opening of a year-round ice free Arctic passage between the Atlantic and Pacific oceans would confer some commercial benefits, these are considerably outweighed by the negatives. Detrimental effects include loss of polar bear habitat and increased mobile ice hazards to shipping. The loss of ice albedo (the reflection of heat), causing the ocean to absorb more heat, is also a positive feedback; the warming waters increase glacier and Greenland ice cap melt, as well as raising the temperature of Arctic tundra, which then releases methane, a very potent greenhouse gas (methane is also released from the seabed, where it is trapped in ice-crystals called clathrates). Melting of the Antarctic ice shelves is predicted to add further to sea-level rise with no benefits accruing.

Ocean Acidification

A cause for considerable concern, there appear to be no benefits to the change in pH of the oceans. This process is caused by additional CO₂ being absorbed in the water, and may have severe destabilising effects on the entire oceanic food-chain.

Melting Glaciers

The effects of glaciers melting are largely detrimental, the principle impact being that many millions of people (one-sixth of the world's population) depend on fresh water supplied each year by natural spring melt and regrowth cycles and those water supplies – drinking water, agriculture – may fail.

Sea Level Rise

Many parts of the world are low-lying and will be severely affected by modest sea rises. Rice paddies are being inundated with salt water, which destroys the crops. Seawater is contaminating rivers as it mixes with fresh water further upstream, and aquifers are becoming polluted. Given that the IPCC did not include melt-water from the Greenland and Antarctic ice-caps due to uncertainties at that time, estimates of sea-level rise are feared to considerably underestimate the scale of the problem. There are no proposed benefits to sea-level rise.

Environmental

Positive effects of climate change may include greener rainforests and enhanced plant growth in the Amazon, increased vegetation in northern latitudes and possible increases in plankton biomass in some parts of the ocean. Negative responses may include further growth of oxygen poor ocean zones, contamination or exhaustion of fresh water, increased incidence of natural fires, extensive vegetation die-off due to droughts, increased risk of coral extinction, decline in global phytoplankton, changes in migration patterns of birds and animals, changes in seasonal periodicity, disruption to food chains and species loss.

Economic

The economic impacts of climate change may be catastrophic, while there have been very few benefits projected at all. The Stern report made clear the overall pattern of economic distress, and while the specific numbers may be contested, the costs of climate change were far in excess of the costs of preventing it. Certain scenarios projected in the IPCC AR4 report would witness massive migration as low-lying countries were flooded. Disruptions to global trade, transport, energy supplies and labour markets, banking and finance, investment and insurance, would all wreak havoc on the stability of both developed and developing nations. Markets would endure increased volatility and institutional investors such as pension funds and insurance companies would experience considerable difficulty.

Developing countries, some of which are already embroiled in military conflict, may be drawn into larger and more protracted disputes over water, energy supplies or food, all of which may disrupt economic growth at a time when developing countries are beset by more egregious manifestations of climate change. It is widely accepted that the detrimental effects of climate change will be visited largely on the countries least equipped to adapt, socially or economically.

Basic rebuttal written by [GPWayne](#)

Update July 2015:

Here is a related lecture-video from [Denial101x - Making Sense of Climate Science Denial](#)



Skeptical Science explains the science of global warming and examines climate misinformation through the lens of peer-reviewed research. The website won the Australian Museum 2011 Eureka Prize for the Advancement of Climate Change Knowledge. Members of the Skeptical Science team have authored peer-reviewed papers, a [college textbook on climate change](#) and the book [Climate Change Denial: Heads in the Sand](#). Skeptical Science content has been used in university courses, textbooks, government reports on climate change, television documentaries and numerous books.



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