

## MIT Study Warns About the Dangers of Geoengineering and Weather Modification

[Source: Activist Post](#)

By [Derrick Broze](#)

As humanity works to avoid further environmental and ecological destruction to the planet, scientists continue to search for possible solutions to the numerous issues facing our species. One of these proposed solutions has been the science of geoengineering.

According to a 2013 congressional [report](#):

The term ‘geoengineering’ describes this array of technologies that aim, through large-scale and deliberate modifications of the Earth’s energy balance, to reduce temperatures and counteract anthropogenic climate change. Most of these technologies are at the conceptual and research stages, and their effectiveness at reducing global temperatures has yet to be proven. Moreover, very few studies have been published that document the cost, environmental effects, socio-political impacts, and legal implications of geoengineering. If geoengineering technologies were to be deployed, they are expected to have the potential to cause significant transboundary effects.

In general, geoengineering technologies are categorized as either a carbon dioxide removal (CDR) method or a solar radiation management (SRM) method. CDR methods address the warming effects of greenhouse gases by removing carbon dioxide (CO<sub>2</sub>) from the atmosphere. CDR methods include ocean fertilization, and carbon capture and sequestration. SRM methods address climate change by increasing the reflectivity of the Earth’s atmosphere or surface.

Aerosol injection and space-based reflectors are examples of SRM methods. SRM methods do not remove greenhouse gases from the atmosphere, but can be deployed faster with relatively immediate global cooling results compared to CDR methods.

[Geoengineering](#) is seen as a controversial solution, to say the least. That controversy is likely to deepen following a recent study from MIT’s Center for Global Change Science and the Department of Earth, Atmospheric, and Planetary Sciences. The study, published in [Nature’s Scientific Reports](#), has found that ocean fertilization geoengineering would alter global rainfall patterns and affect water resources.

Ocean fertilization is a type of geoengineering that seeks to mimic the ability of phytoplankton, the microalgae at the base of most oceanic food webs, to photosynthesize sunlight. As the phytoplankton absorb carbon dioxide, they also release dimethyl sulfide (DMS) into the atmosphere, which can form sulfate aerosols and reflect sunlight and cool the climate. Geoengineers hope to reproduce this natural process and thus reflect sunlight and cool the Earth.

[According to Phys.org](#), the researchers used one of the global climate models used by the Intergovernmental Panel on Climate Change (IPCC), which simulates the evolution of and

interactions among the ocean, atmosphere, and land masses. These simulations found that increased DMS emissions would actually lead to an increase of 1.2 degrees Celsius by 2100 and “*substantial reduction in precipitation for some regions.*”

Chien Wang, a co-author of the study and a senior research scientist at MIT’s Center for Global Change Science and the Department of Earth, said the study was “*the first in-depth analysis of ocean fertilization that has highlighted the potential danger of impacting rainfall adversely.*”

Benjamin Grandey, a senior postdoc in Wang’s group who configured the model simulations and analyzed the data, said that although “Generally, our results suggest that the cooling effect associated with enhanced DMS emissions would offset warming across the globe, especially in the Arctic,” it would also lead to dangerous changes in global weather. “Precipitation would also decline worldwide, and some parts of the world would be worse off. Europe, the Horn of Africa, and Pakistan may receive less rainfall than they have historically,” Grandey stated.

The lower rainfall could reduce water resources considerably and threaten the environment and livelihoods of the animals and people in the affected regions.

The MIT team is not the first to ring the alarm bells when it comes to geoengineering and other forms of [weather modification](#). Although a number of authorities have warned about the dangers of geoengineering techniques, the risks are seen as secondary to the perceived risks of climate change. The interesting thing to note is that although proponents of geoengineering hail it as the solution to climate change and sustaining life, studies show that geoengineering could actually have the reverse effect of heating the Earth.

In February of 2015, an international committee of scientists released a [report](#) stating that geoengineering techniques are not a viable alternative to reducing greenhouse gas emissions to combat the effects of climate change. The committee report called for further research and understanding of various geoengineering techniques, including carbon dioxide removal schemes and solar-radiation management before implementation.

The scientists found that Solar Radiation Management, or albedo-modification techniques, are likely to present “*serious known and possible unknown environmental, social, and political risks, including the possibility of being deployed unilaterally.*” The report was sponsored by the National Academy of Sciences, the U.S. intelligence community, NASA, National Oceanic and Atmospheric Administration, and the U.S. Department of Energy.

Another danger of manipulating the weather is the loss of blue skies. According to a report by the [New Scientist](#), Ben Kravitz of the Carnegie Institution for Science has shown that releasing sulphate aerosols high in the atmosphere would scatter sunlight into the atmosphere. He says this could decrease the amount of sunlight that hits the ground by 20% and make the sky appear more hazy.

According to a [2013 study](#) published in the *Journal of Geophysical Research: Atmospheres*, if [geoengineering](#) programs were started and then suddenly halted, the planet could see an immediate rise in temperatures, particularly over land. The study, titled, “The impact of abrupt

suspension of solar radiation management,” seems to indicate that once you begin geoengineering, you cannot suspend the programs without causing the very problem you were seeking to resolve.

What are the solutions to the many ecological and environmental problems facing humanity? The studies indicate that attempting to play God with the weather will have disastrous effects on the ability of the human population to live and prosper. If you fear the results of mad scientists controlling the weather or pursuing dangerous solutions like geoengineering, please share this article and continue to spread knowledge. It is time for the awakened people of this Earth to stand together against those who seek to destroy the planet — and seek solutions that work *with* Earth rather than seeking to dominate and exploit it.

**Also Read:** [Masters Of The World Meet To Play God With The Climate](#)

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