



## [Have You Noticed All The Aircraft Emissions Polluting The Sky?](#)

**What It Is:** [Cloud Seeding](#), [Weather Modification](#), [Solar Radiation Modification \(SRM\)](#), [Stratospheric Aerosol Injection \(SAI\)](#), and more.

[Geoengineering](#) is defined as planetary-scale environmental engineering of our atmosphere, our weather, the oceans, and the Earth itself.

[Human Intervention in the Earth's Climate: The Governance of Geoengineering in 2025](#)



**Global  
Governance  
Futures**

ROBERT BOSCH FOUNDATION  
MULTILATERAL DIALOGUES

# Human Intervention in the Earth's Climate: The Governance of Geoengineering in 2025+

MASAHIKO HARAGUCHI  
RONGKUN LIU  
JASDEEP RANDHAWA  
SUSANNE SALZ  
STEFAN SCHÄFER  
MUDIT SHARMA  
SUSAN CHAN SHIFFLETT  
AKIKO SUZUKI  
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BROOKINGS



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# H.R.4403 – Clear Skies Act

117TH CONGRESS  
1ST SESSION **H. R. 4403**  
To prohibit weather modification within the United States, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES  
July 23, 2020  
Mr. GREENE of Georgia introduced the following bill, which was referred to the Committee on Energy and Commerce.

**A BILL**  
To prohibit weather modification within the United States, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

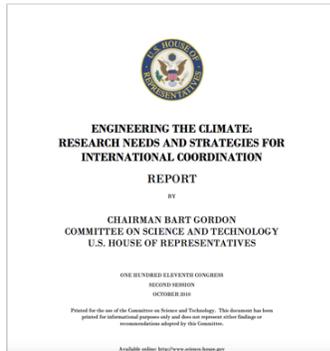
3 **SECTION 1. SHORT TITLE.**  
4 This Act may be cited as the “Clear Skies Act”.

5 **SEC. 1. PROHIBITION OF WEATHER MODIFICATION.**  
6 (a) **IN GENERAL.**—Whoever, in any circumstance de-  
7 scribed in subsection (b), knowingly conducts weather  
8 modification in the United States, including the territories  
9 and possessions of the United States, shall be subject to  
10 the penalties described in subsection (c).

23 July 2025 | ZEROGeoengineering.com | Representative Greene introduced the “Clear Skies Act” “to prohibit weather modification within the United States, and for other purposes.” The bill would provide criminal penalties of \$100,000 for each violation and up to 5 ... Continue reading



# ENGINEERING THE CLIMATE



RESEARCH NEEDS AND STRATEGIES FOR INTERNATIONAL COORDINATION Published OCTOBER 2010 GAO found that some federal agencies already conduct activities that address many of the research needs identified above, albeit without “climate engineering” as an express or intended goal. This section, in ... Continue reading



# Federal Law

Page 801 TITLE 35—COMMERCE AND TRADE 1309

SEC. 561. (a) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(b) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(c) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(d) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(e) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(f) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(g) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(h) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(i) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(j) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(k) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(l) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(m) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

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(o) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

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(r) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(s) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(t) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(u) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(v) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(w) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(x) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(y) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

(z) No person shall, for the purpose of carrying out any program authorized by this title, engage in any activity that is prohibited by this section.

22 January 2025 | ZeroGeoengineering.com | BAN ATMOSPHERIC TESTING | U.S. federal law allows for weather modification, experiments involving the use of human subjects for the testing of chemical or biological agents, and open air testing of chemical and biological ... Continue reading



# Governance of Weather Modification Activities of the US

William & Mary Environmental Law and Policy Review

Volume 46 (2021-2022) Article 5  
Issue 1

10-1-2021

Enhancing the Weather: Governance of Weather Modification Activities of the United States

Marion Simon

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Marion Simon, Enhancing the Weather: Governance of Weather Modification Activities of the United States, 46 Wm. & Mary Env'tl. L. & Pol'y Rev. 149 (2021), <https://scholarship.law.wm.edu/wmlpr/vol46/iss1/5>

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<https://scholarship.law.wm.edu/wmlpr/>

April 2, 2023 | ZeroGeoengineering.com | William & Mary Environmental Law and Policy Review | 2021 analysis of weather modification governance in the United States outlines a brief legal history of weather modification with focus on Texas and California approach to ... Continue reading





[LII]



# 15 U.S. Code CHAPTER 9A— WEATHER MODIFICATION ACTIVITIES OR ATTEMPTS; REPORTING REQUIREMENT

[U.S. Code](#)   [Notes](#)

[prev](#) | [next](#)

[§330. Definitions](#)

[§330a. Report requirement; form; information; time of submission](#)

[§330b. Duties of Secretary](#)

[§330c. Authority of Secretary](#)

[§330d. Violation; penalty](#)

[§330e. Authorization of appropriations](#)

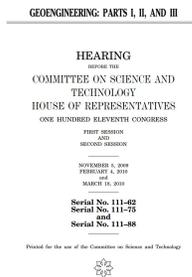
# 2018 Security Framework Characterizes Geoengineering as Weapon of War



2 May 2025 | [ZeroGeoengineering.com](http://ZeroGeoengineering.com) | Strategic Studies Quarterly article, "A New Security Framework for Geoengineering," acknowledges Geoengineering is a weapon which could be perceived as an act of war. "... geoengineering technologies are not like other weapons due to ... Continue reading



## Geoengineering Parts I, II, & III



[ZeroGeoengineering.com](http://ZeroGeoengineering.com) | On Thursday, November 5, 2009, the House Committee on Science & Technology held a hearing entitled "Geoengineering: Assessing the Implications of Large-Scale Climate Intervention." Among methods of Solar Radiation Management (SRM) or Sunlight Management is Stratospheric Sulfate Injections: "A spray ... Continue reading



# A Coordinated Strategy Could Focus Federal Geoengineering Research and Inform Governance Efforts

GAO

United States Government Accountability Office  
Report to the Chairman, Committee on  
Science and Technology, House of  
Representatives

September 2010

CLIMATE CHANGE

A Coordinated  
Strategy Could Focus  
Federal  
Geoengineering  
Research and Inform  
Governance Efforts



GAO-10-903

9 December 2018 | ZEROGeoengineering.com | "Federal agencies identified 52 research activities, totaling about \$100.9 million, relevant to geoengineering during fiscal years 2009 and 2010. GAO's analysis found that 43 activities, totaling about \$99 million, focused either on mitigation strategies ... Continue reading



# FEDERAL WEATHER MODIFICATION EFFORTS NEED CONGRESSIONAL ATTENTION

REPORT BY THE  
**Comptroller General**  
OF THE UNITED STATES

Federal Weather Modification Efforts  
Need Congressional Attention

Although the Federal Government has supported weather modification programs for more than 30 years, a coordinated Federal approach to these programs has never been established. Numerous studies have cited the need for coordination, including a GAO study in 1974.

In this report, GAO uses rainfall augmentation projects to illustrate problems of weather modification programs. Lack of dispersed formal plans and coordination that hindered the progress of these projects. Although progress has been made, critical questions remain.

The Congress should define national weather modification research and development policy and direct that a program be developed with goals, objectives, priorities, and milestones. The Congress should designate one agency to administer, maintain, and operate the program.



007663



CGD-88-6  
NOVEMBER 1, 1979

REPORT BY THE COMPTROLLER GENERAL OF THE UNITED STATES | 1 NOVEMBER 1979 Although the Federal Government has supported weather modification programs for more than 30 years, a coordinated Federal approach to these programs has never been established. Numerous studies ... Continue reading



# Creating Value in the Global Weather Enterprise

## Authors

**Alan Thorpe**, Lead Institutional Consultant on Public-Private Engagement in Hydromet Services, and

**David P. Rogers**, Lead Meteorological Consultant; both of the World Bank

*Technical Note from the series  
on specific aspects of Public  
and Private Engagement in  
Hydromet Services*

## Abstract

The global weather enterprise creates high value weather and climate information that produce a wide range of social and economic benefits, including the protection of citizens and infrastructure from natural hazards. The creation of value derives from the global cooperation of many actors in the public, private, and academic sectors.

The incentive to develop and improve national meteorological ecosystems revolve around the social, socioeconomic, and economic benefits of the weather enterprise. While meteorological infrastructure investment is critical, it is also as important to address issues such as design of market structures conducive for value creation, enhancing legislative and regulatory frameworks, and accounting for value creation in the public, private, and academic sectors. This technical note examines the ways in which the structure and operation of the weather market can maximize the creation of value.

Significant economic advantages result from establishing clarity in, and a greater recognition of, the value each producer creates. This would incentivize fair competition, pervasive cooperation, and greater exploitation of coproduction.

## Introduction

Weather and climate information<sup>1</sup> has high value and a convenient and popular way to describe the global weather enterprise<sup>2</sup> as a value chain. A theory of value has been a foundation of many schools of economic thinking and some leading economists (Mazucato 2018; Carney 2021) have underlined the benefits from viewing the economy through a value lens. These benefits include a reappraisal of the role of the public sector in value creation and of the relationship between price and value of goods and services.

# Meteorology as Infrastructural Globalism

## Meteorology as Infrastructural Globalism

By Paul N. Edwards\*

### ABSTRACT

This chapter explores the history of a global governance institution, the World Meteorological Organization (WMO), from its nineteenth-century origins through the beginnings of a planetary meteorological observing network, via WWI's World Weather Watch (WWW), to the 1960s. This history illustrates a profoundly important transition from voluntarist arrangements, based on shared interests, to quasi-obligatory globalism, based on a more permanent shared infrastructure. The WMO and the WWW are important infrastructural globalisms by which "the world" as a whole is produced and maintained in its both object of knowledge and united arms of human action through global infrastructures.

### INTRODUCTION

Intense debates about the nature and trajectory of globalization have consumed historiography and international relations theory in recent years. In globalization studies, global "is it new or old? What are its causes and consequences?" No one who has followed these debates can fail to notice the prominence of information and communication technologies (ICTs) in virtually all accounts. For example, Manuel Castells defines the global economy as one "whose core components have the international, organizational, and technological capacity to work as a unit in real time, or, at least, on an planetary scale" via ICT infrastructures,<sup>1</sup> and every chapter of *Global Transformations: Politics, Economics and Culture*, a major survey of globalization, discusses the role of communication infrastructures.<sup>2</sup>

In an important variation on this theme, Martin Hewson offered a three-phase notion of "informational globalism": systems and institutions dedicated to the production and transmission of information on the planetary scale. In the first, nineteenth-century phase, national informational infrastructures (NIIs), such as telegraph systems, postal services, and newspapers, were linked into interregional and intercontinental (if not yet fully global) networks. Between 1914 and 1960 (Hewson's second phase), the pace of infrastructural linking diminished, and some fading occurred. Yet simultaneously, world organizations such as the League of Nations and the International

\* School of Information, 3075 West Hall, University of Michigan, 550 East University Ave., Ann Arbor, MI 48109-1107, pnedwards@umich.edu

<sup>1</sup> Manuel Castells, *The Rise of the Network Society* (Cambridge, Mass., 1996) (complete as original).

<sup>2</sup> David Held, Anthony McGrew, David Goldblatt, and Jonathan Pollock, *Global Transformations: Politics, Economics, and Culture* (Stanford, 1999).

© 2006 by The History of Science Society. All rights reserved. 0160-7673/06/0006-0011\$10.00

1 February 2019 | ZEROGeoengineering.com | © 2006 by The History of Science Society. | By Paul N. Edwards  
This chapter explores the history of a global governance institution, the World Meteorological Organization (WMO), from its nineteenth-century origins through the beginnings ... Continue reading



# The Federal Meteorological Enterprise FY 2025

## THE FEDERAL METEOROLOGICAL ENTERPRISE

Fiscal Year 2025 Budget and Coordination Report

15 July 2025 | ZEROGeoengineering.com | The CIA declassified Climate Control MEMORANDUM below dated November 22, 1960, states: "Technological developments of the past two decades have provided the understanding, the techniques, and the means necessary for an assault on the ... Continue reading



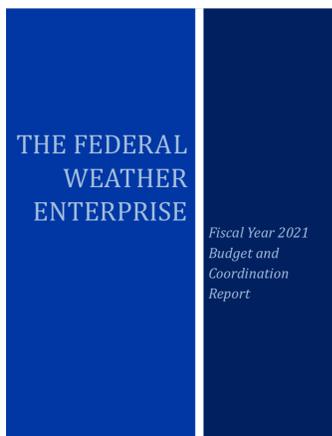
## Congressionally Mandated Research Plan and an Initial Research Governance Framework Related to Solar Radiation Modification



July 2, 2023 | ZeroGeoengineering.com | "Public policy could itself become the captive of a scientific-technological elite." -President Eisenhower, 1961 The White House has released a new report, "Congressionally Mandated Research Plan and an Initial Research Governance Framework Related to Solar Radiation ... Continue reading



## The Federal Weather Enterprise: Fiscal Year 2021 Budget and Coordination Report



4 July 2020 | ZEROGeoengineering.com | "4. Research 4.1 Exercise leadership in coordinating U.S. efforts in international weather research priorities including the current World Meteorological Organization Grand Challenges. 4.2 Foster interagency collaboration of research initiatives starting at the planning stage. ... Continue reading



# Swiss Re Insurance Group Report on Solar Radiation Management



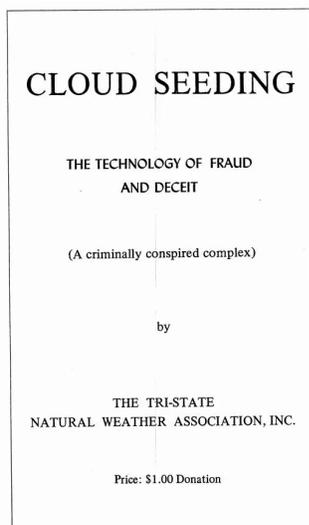
Solar radiation management: Scientific representation of Solar Radiation Management (SRM) geoengineering methods.

January 18, 2024 | ZeroGeoengineering.com | The Swiss Re Group is one of the world's leading providers of reinsurance, insurance and other forms of insurance-based risk transfer, according to their website. In their 14 June 2023 report, some of the distinct ... Continue reading



The methods, or schemes, that may be used now internationally without public oversight or consent, prior public notification or State oversight, are staggering in number and scope.

## CLOUD SEEDING – The technology of fraud and deceit



CLOUD SEEDING THE TECHNOLOGY OF FRAUD AND DECEIT (A criminally conspired complex) by THE TRI-STATE NATURAL WEATHER ASSOCIATION, INC. The purpose of this publication is to expose the fraud, deceit and dangers of uncontrolled and unregulated cloud seeding; to reveal ... Continue reading



# The pathological history of weather and climate modification

JAMES ROBERT FLEMING\*  
The pathological history of weather and climate modification: Three cycles of promise and hype

WE HAVE ALREADY experienced two major cycles of promise and hype in the history of weather modification, and they have both demonstrated large-scale pathological features. The first cycle, initiated by James Esch's speculative proposal in the 1800s to enhance precipitation by lighting huge fires, thus stimulating convective updrafts, preceded the pseudo-scientific type of the western rainmakers, or so-called "phoenixhandlers." The second cycle, dating to the 1940s, began with promising discoveries in "cloud seeding" by Irving Langmuir and his associates at the General Electric Corporation, but rapidly devolved into a suite of unreportable claims by cold warriors and again, western rainmakers. A third cycle has begun recently.<sup>1</sup> In October 2003 the U.S. National Research Council issued a report titled, "Critical issues in weather modification research." In the same month the U.S. Pentagon released a controversial report, "An abrupt climate change scenario and its implications for United States national security," that explored how global warming could lead to rapid and catastrophic global cooling.<sup>2</sup> Only three months later, in January 2004, a symposium on "Macro-engineering Options for

\* STS Program, Colby College, 5881 Mayflower Hill, Waterville, ME 04901; jfleming@colby.edu. Support from Colby College, the Smithsonian National Air and Space Museum, and the Woodrow Wilson International Center for Scholars is gratefully acknowledged.

The following abbreviations are used: AWS, Air Weather Service; NRC, National Research Council; NYT, New York Times; P, Physics note.  
1. The third cycle has begun so recently that it has gone largely unnoticed. For example, Changlin Kuo, "The rise and fall of weather modification: Changes in American attitudes toward technology, nature, and society," in C.A. Miller and P.N. Edwards, eds., *Changing the atmosphere: Expert knowledge and environmental governance* (Cambridge, 2011), 125-68 has no mention of this.  
2. U.S. National Research Council, *Critical issues in weather modification research* (Washington, DC, 2003); Peter Schwartz and Doug Randall, "An abrupt climate change

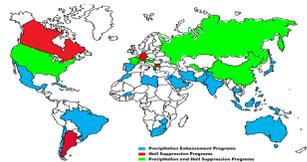
Historical Studies in the Physical and Biological Sciences, Vol. 37, Number 1, pp. 3-25, ISSN 0096-9070, electronic ISSN 1553-453X, © 2008 by the Regents of the University of California. All rights reserved. Please direct all requests for permission to photocopy or reproduce articles content through the University of California Press's Rights and Permissions website, [www.oup.com/permissions](http://www.oup.com/permissions).

20 October 2016 | [ZeroGeoengineering.com](http://ZeroGeoengineering.com) | "This paper brings the checkered history of weather modification to bear on these very recent initiatives and asks, are we at the start of a third cycle—this time involving both weather and climate modification?" ... Continue reading



# WMO Expert Committee on Weather Modification Research

Weather Modification Around the World  
56 Countries with active cloud seeding programs



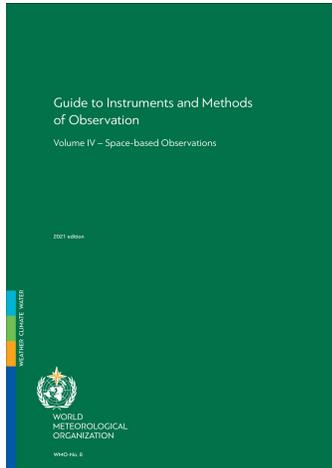
10 January 2018 | [ZEROGeoengineering.com](http://ZEROGeoengineering.com) | World Meteorological Association| Report October 2016  
Number of countries doing weather modification programs increased from 52 in 2015 to 56 in 2016 and several new programs in individual countries 2016  
Report WMO\_ET\_Weather\_Modification\_Research

[WMO\\_Expert\\_Committee\\_Weather\\_Modification\\_Research-2](#)

[WMO\\_Expert\\_Committee\\_Weather\\_Modification\\_Research-2](#) ... Continue reading



# Electromagnetic Radiation as a Tool of Observation



3 August 2025 | ZEROGeoengineering.com | An aspect of weather control that is becoming more widely understood is the use of electromagnetic radiation and microwaves as tools for observation: monitoring, data collection, and surveillance. Electromagnetic radiation may also be used ... Continue reading

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Atmospheric experimentation is [funded](#) by the [US Congress](#), involving partnerships with [federal agencies](#), the [United Nations World Meteorological Organization \(WMO\)](#), [private actors](#), [corporations](#), and [academia](#).

[Solar Radiation Modification \(SRM\)](#) and [global precipitation enhancement activities](#) include the use of interoperable ground-based, airborne, and space-based facilities. [More](#)

# U.S. H.R. 4302 related to weather management

## 117th CONGRESS For Release **H. R. 4302**

To accelerate subseasonal to seasonal prediction skills related to precipitation forecasts for water management in the western United States, improve atmospheric river forecasts across the country, and for other purposes.

**IN THE HOUSE OF REPRESENTATIVES**  
JULY 7, 2025  
Mr. Waters (for himself, Mr. Dent, and Mr. Wittman) introduced the following bill, which was referred to the Committee on Science, Space, and Technology:

**A BILL**  
To accelerate subseasonal to seasonal prediction skills related to precipitation forecasts for water management in the western United States, improve atmospheric river forecasts across the country, and for other purposes.

- 1 *Be it enacted by the Senate and House of Representatives,*
- 2 *of the United States of America in Congress assembled,*
- 3 **SECTION 1. SHORT TITLE.**
- 4 This Act may be cited as the “Improving Atmos-
- 5 pheric River Forecasts Act”.

10 August 2025 | ZEROGeoengineering.com | Re: The United States Weather Industry| Proposed legislation titled “Improving Atmospheric River Forecasts Act,” authorizes appropriations of \$15,000,000 for each of fiscal years 2026 through 2030 for weather management. Congressional weather control efforts of ...  
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# Owning the Weather: NOAA FY2025 Budget Estimates

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



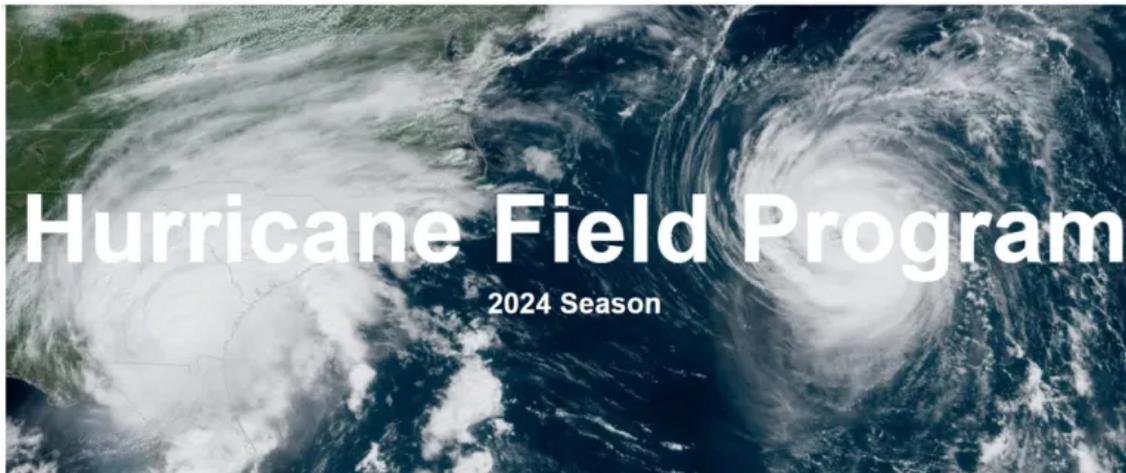
**BUDGET  
ESTIMATES**  
FISCAL YEAR 2025

CONGRESSIONAL SUBMISSION

**PRIVILEGED**  
The information contained herein must not be disclosed outside the Agency and made public by the President or by the Congress.

July 16, 2024 | ZeroGeoengineering.com | NOAA budget proposal — \$6,560,975,000 to own the weather in 2025 | Controlling the weather has been a priority for the United States and other governments for decades. In 1961 President John F. Kennedy ... Continue reading





## NOAA Hurricane Field Program 2024 Season

9 October 2024 | [ZeroGeoengineering.com](https://ZeroGeoengineering.com) | The rebranding of “weather modification” to “weather research” enables government agencies to engage in atmospheric experimentation without ethical or liability constraints. What if weather experimentation is actually contributing to severe storms, death and destruction? ...  
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 [Zero Geoengineering](#)



Send a message to your legislators to ban weather manipulation in the USA [HERE](#) [International](#) [HERE](#)

*[Connect To Get Involved in Ending Geoengineering](#)*

*[Printable Flyer\\_\\_A4ACA](#)*

*[Americans 4 A Clean Atmosphere](#)   [Australians 4 A Clean Atmosphere](#)   [Britons For A Clean Atmosphere](#)*

[Beyond Borders: NATO's Unexpected Role in Shaping Air Quality Policies Worldwide](#)



## Beyond Borders: NATO's Unexpected Role in Shaping Air Quality Policies Worldwide

March 6, 2024 | ZeroGeoengineering.com | NATO's Role in Shaping Environmental Policies Key Points: NATO's Influence on Global Standards Environmental Protection as a Racket Evolution into Solar Radiation Modification (SRM) EPA's Historical Failures IT ALL STARTS HERE... NATO is a ... Continue reading

 Zero Geoengineering

Legitimate Constitutional regulatory mechanisms to prohibit and penalize polluting atmospheric interventions are necessary to protect human health and our environment.

**Nations** and States must step up to defend the rule of law.

**Research Legislation** [HERE](#)



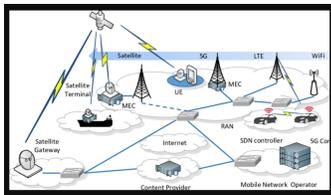
## From Towers to Clouds



16 February 2025 | ZeroGeoengineering.com | The Unrecognized Infrastructure of Weather Modification  
There are two federal laws specifically addressing weather modification. Additionally, there are 27 states plus Washington, D.C., that have some sort of pro-weather modification policies. (Florida and Louisiana repealed ... Continue reading

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## Radiation: A Central Component of Weather Control



30 September 2024 | ZeroGeoengineering.com | Microwave radiation is utilized for weather experimentation and forecasting. Did you know radiation is a central component of weather control? At the heart of weather experimentation is NEXRAD, or NEXt-generation RADar and the transmission of microwave ...

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Trump Administration – Weather Research and Forecasting Innovation Act of 2017 [H.R. 353:](#)

(c) FUTURE TECHNOLOGY.—The Under Secretary shall continue the development of Airborne Phased Array Radar under the United States Weather Research Program.

(d) AUTHORIZATION OF APPROPRIATIONS.—For each of fiscal years 2017 through 2020, support for implementing subsections (a) and (b) is authorized out of funds appropriated to the Office of Marine and Aviation Operations.

**SEC. 414. STUDY ON GAPS IN NEXRAD COVERAGE AND RECOMMENDATIONS TO ADDRESS SUCH GAPS.**

(a) STUDY ON GAPS IN NEXRAD COVERAGE.—

(1) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Commerce shall complete a study on gaps in the coverage of the Next Generation Weather Radar of the National Weather Service (“NEXRAD”).

(2) ELEMENTS.—In conducting the study required under paragraph (1), the Secretary shall—

(A) identify areas in the United States where limited or no NEXRAD coverage has resulted in—

(i) instances in which no or insufficient warnings were given for hazardous weather events, including tornadoes; or

## NEXRAD Testbed – US HR 1115

1115th CONGRESS  
1st Session  
**H. R. 1115**  
To develop the next generation of weather radar, authorize supplemental gap radar coverage, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES  
February 1, 2015  
Mr. Cramer (for himself and Mr. Hensley) introduced the following bill, which was referred to the Committee on Science, Space, and Technology

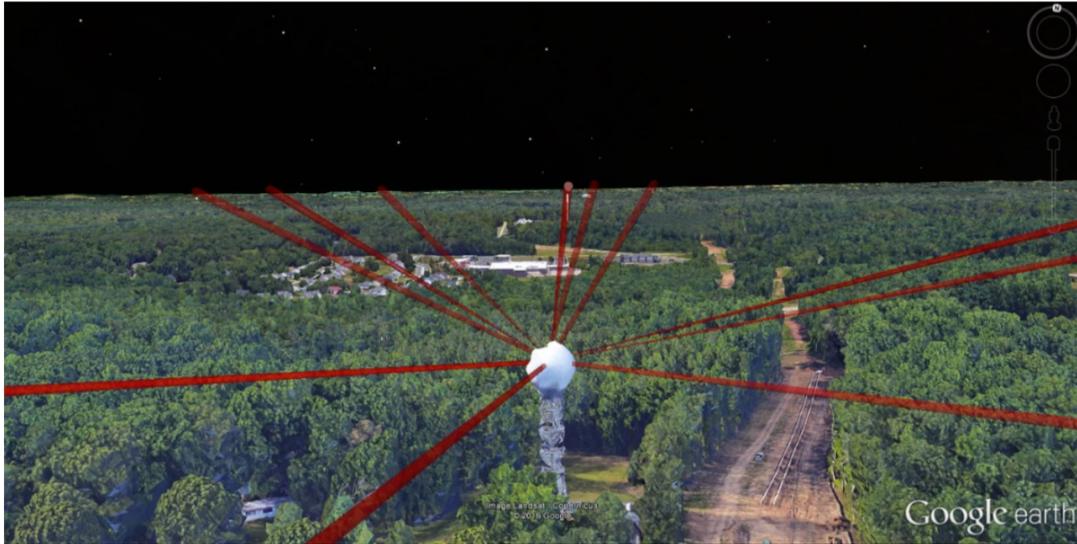
**A BILL**  
To develop the next generation of weather radar, authorize supplemental gap radar coverage, and for other purposes.

1 *Be it enacted by the Senate and House of Representatives*  
2 *of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**  
4 This Act may be cited as the “Weather Radar Co-  
5 verge Improvement Act”.

6 **SEC. 2. NEXT GENERATION PHASED ARRAY RADAR.**  
7 (a) IN GENERAL.—The Under Secretary, in consulta-  
8 tion with the Director of the National Weather Service,  
9 shall develop a plan to replace the Next Generation  
10 Weather Radar of the National Weather Service

31 March 2025 | ZeroGeoengineering.com | HR 1115, The Weather Radar Coverage Improvement Act, was introduced in Congress to replace or supplement the Next Generation Radar, or NEXRAD system. The proposal aims to fill “gaps” in NEXRAD coverage over the ... Continue reading



## Areas of High Levels of 5.6 GHz Microwave Radiation Pollution in Huntersville, North Carolina

25 June 2017 | Authors: Stewart D. Simonson, Pellervo Kaskinen | Academia.edu |

"..The reflection of the pulsed microwave radiation off steel and/or aluminum cell towers as well as the cell tower antenna arrays is irradiating the surrounding ...

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 Zero Geoengineering

**Patent US 20140145002A1: System for facilitating cloud formation and cloud precipitation**

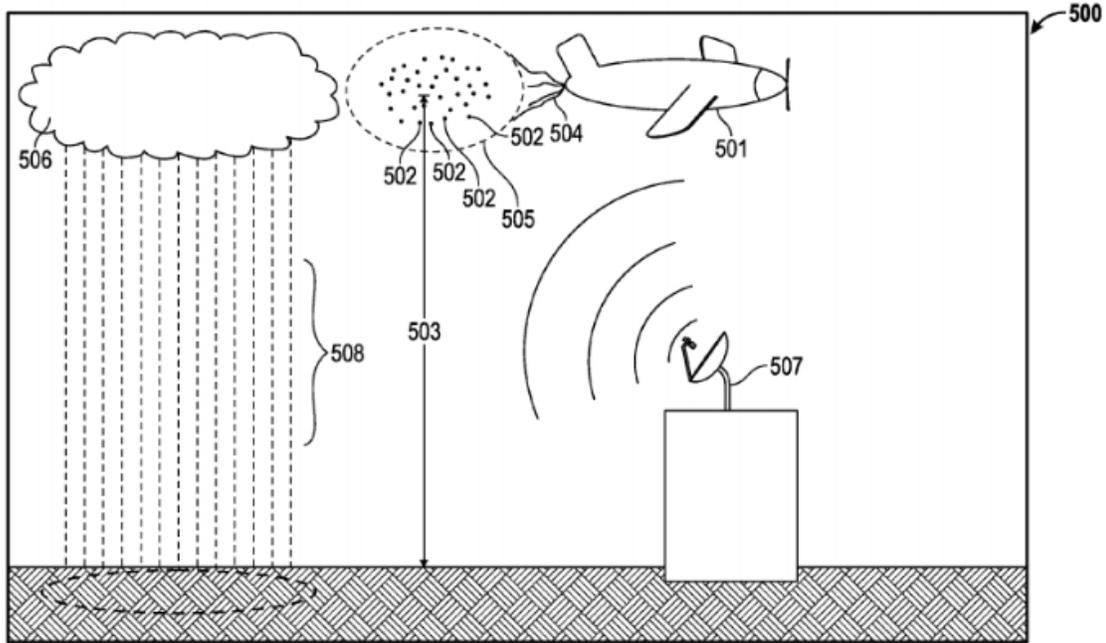


FIG. 5

Source

## Can we talk about the weather?

Patent Application Publication Aug. 25, 2011 Sheet 32 of 32 US 2011/0246159 A1

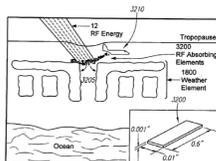


FIG. 32

July 10, 2021 | Weather Modification & Geoengineering Causing Weather Extremes and Environmental Destruction | It used to be that if one wanted to have a nice, non-controversial conversation, you could just talk about the weather... However these days, ... Continue reading

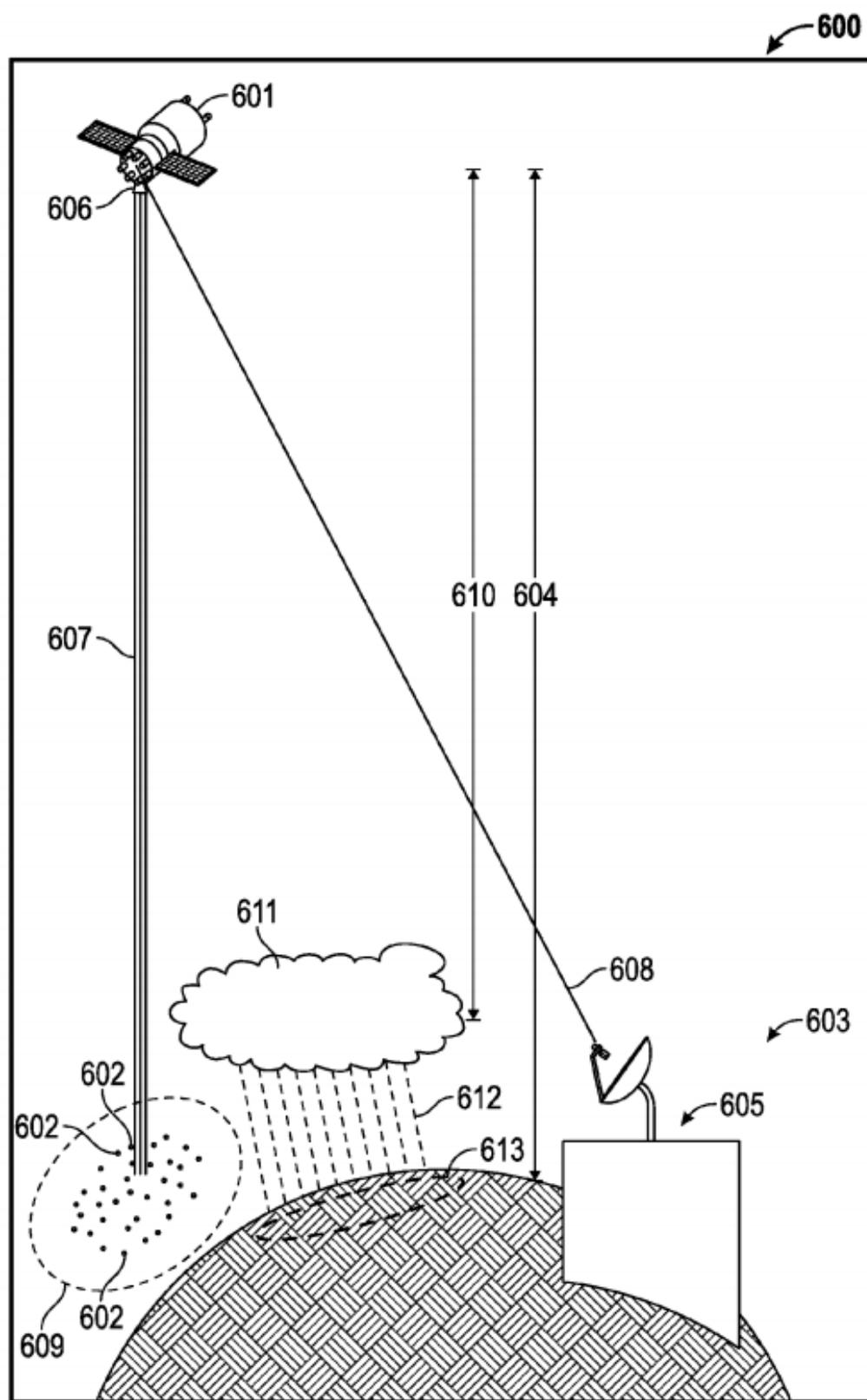


FIG. 6

[Link To More Weather Modification and Geoengineering Patents](#)

Home / Earth / Earth Sciences



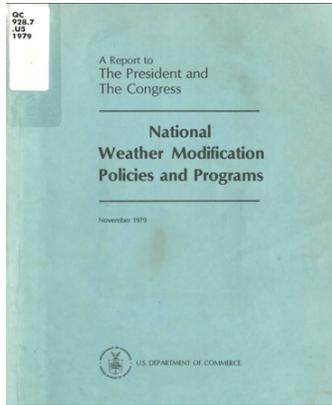
🕒 OCTOBER 30, 2018 **REPORT**

# Models suggest injection of sulfate aerosols into the stratosphere could have unintended consequences

by Bob Yirka , Phys.org



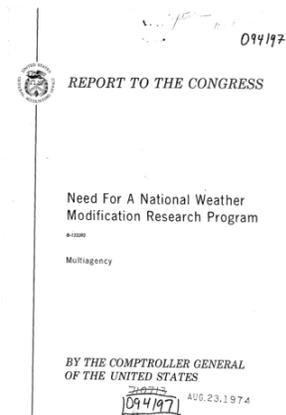
# National Weather Modification Policies and Programs



June 10, 2023 | ZeroGeoengineering.com | According to The National Weather Modification Policy Act of 1976 (P.L. 94-490), the U.S. Secretary of Commerce and the National Oceanic and Atmospheric Administration (NOAA) and other government agencies are engaged in atmospheric and ... Continue reading



# 1974 Report Details Coordination of Government Weather Modification



13 September 2024 | ZeroGeoengineering.com | Need For A National Weather Modification Research Program is a 1974 Government Accounting Office (GAO) report that documents early funding and legislative efforts to coordinate federal weather modification programs. Participating agencies included: Defense Advanced Research ... Continue reading



[Global Atmospheric Research Programme \(GARP\)](#)

00:00

17:46

[Source](#)

## **Geoengineering Experimentation and Other Polluting Atmospheric Interventions Must Be Outlawed to Protect Life on Earth.**

*[CONOPS 2025 – Fire Weather Coming](#)*

*[NOAA's 'Flying Laboratories' & ICAM's National Hurricane Operations Plan](#)*

*[Outlaw and Defund Atmospheric Manipulation](#)*

Solar geoengineering using solid aerosol in the stratosphere



# Solar geoengineering using solid aerosol in the stratosphere

D. K. Weisenstein<sup>1</sup>, D. W. Keith<sup>1,2</sup>, and J. A. Dykema<sup>1</sup>

<sup>1</sup>School of Engineering and Applied Science, Harvard University, Cambridge, MA, USA

<sup>2</sup>Kennedy School of Government, Harvard University, Cambridge, MA, USA

Correspondence to: D. K. Weisenstein (dkweis@seas.harvard.edu)

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Revised: 7 October 2015 – Accepted: 14 October 2015 – Published: 26 October 2015

**Abstract.** Solid aerosol particles have long been proposed as an alternative to sulfate aerosols for solar geoengineering. Any solid aerosol introduced into the stratosphere would be subject to coagulation with itself, producing fractal aggregates, and with the natural sulfate aerosol, producing liquid-coated solids. Solid aerosols that are coated with sulfate and/or have formed aggregates may have very different scattering properties and chemical behavior than uncoated non-aggregated monomers do. We use a two-dimensional (2-D) chemistry–transport–aerosol model to capture the dynamics of interacting solid and liquid aerosols in the stratosphere. As an example, we apply the model to the possible use of alumina and diamond particles for solar geoengineering. For 240 nm radius alumina particles, for example, an injection rate of 4 Tg yr<sup>-1</sup> produces a global-average shortwave radiative forcing of  $-1.2 \text{ W m}^{-2}$  and minimal self-coagulation of alumina although almost all alumina outside the tropics is coated with sulfate. For the same radiative forcing, these solid aerosols can produce less ozone loss, less stratospheric heating, and less forward scattering than sulfate aerosols do. Our results suggest that appropriately sized alumina, diamond or similar high-index particles may have less severe technology-specific risks than sulfate aerosols do. These results, particularly the ozone response, are subject to large uncertainties due to the limited data on the rate constants of reactions on the dry surfaces.

## 1 Introduction

Solar geoengineering, or solar radiation management (SRM) has the possibility of deliberately introducing changes to the Earth's radiative balance to partially offset the radiative forcing of accumulating greenhouse gases and so lessen the risks

of climate change. Most research on SRM has concentrated on the possibility of adding aerosols to the stratosphere, and essentially all atmospheric modeling of stratospheric aerosol injection has focused on increasing the loading of aqueous sulfuric acid aerosols (Rasch et al., 2008; Heckendorn et al., 2009; Niemeier et al., 2011; Pitari et al., 2014). The possibility that solid aerosol particles might offer advantages over sulfates, such as improved scattering properties, was first suggested almost 2 decades ago, but analysis has been almost exclusively limited to conceptual studies or simple radiative transfer models (Teller et al., 1997; Blackstock et al., 2009; Keith, 2010; Ferraro et al., 2011; Pope et al., 2012).

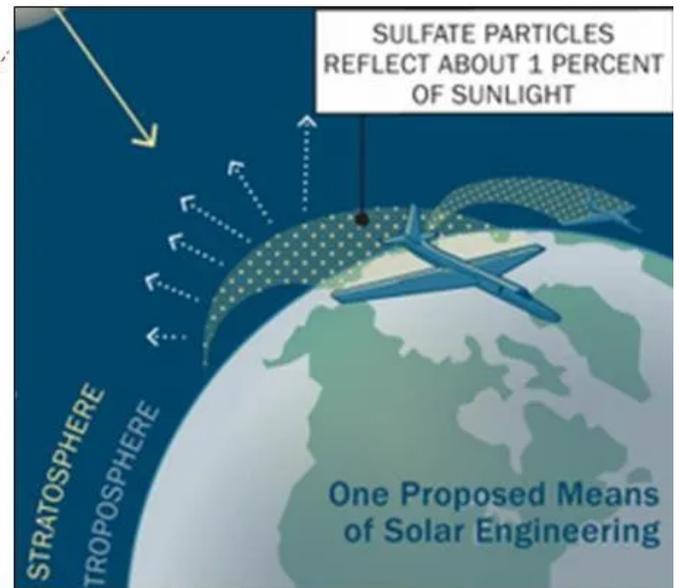
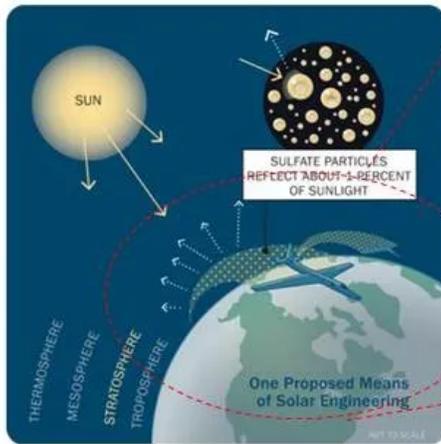
Any solid aerosol injected directly into the stratosphere for geoengineering purposes would be subject to coagulation with itself and with the natural background or volcanic sulfate aerosol. Aggregates of solid aerosols have very different physical structure and scattering properties than liquid sulfate aerosol particles do. The lifetime and scattering properties of a solid aerosol are strongly dependent on these dynamical interactions, and the chemical properties of the aerosol depend on the extent to which it becomes coated by the ambient sulfate.

We have modified the Atmospheric and Environmental Research (AER) two-dimensional (2-D) chemistry–transport–aerosol model (Weisenstein et al., 2004, 2007) to capture the dynamics of interacting solid and liquid aerosols in the stratosphere. Our model now includes a prognostic size distribution for three categories of aerosols: liquid aerosols, solid aerosols, and liquid-coated solid aerosols. The model's coalescence kernel has been modified and extended to parameterize the interactions of particles across size bins and between all combinations of the three categories. The surface area, sedimentation speed, and coalescence cross section of an aggregate of solid particles depend on the geometry of

FEATURES

## Buffering the Sun

David Keith and the question of climate engineering



“One suggestion, inspired by sulfur-spewing volcanoes, involves modifying a fleet of jets to spray sulfates into the stratosphere, where they would combine with water vapor to form aerosols. Dispersed by winds, these particles would cover the globe with a haze that would reflect roughly 1 percent of solar radiation away from Earth.”

Source



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## FUNDING

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J. Baker Foundation  
The Blue Marble Fund  
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The Crows Nest Foundation  
The William and Flora Hewlett Foundation  
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The Open Philanthropy Project  
Pritzker Innovation Fund  
Reflective Earth  
Ronin Private Investments LLC  
The Alfred P. Sloan Foundation  
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The Imperial Family  
Drew Myers  
John Rapaport  
Chris and Crystal Sacca  
Michael Smith  
Andrew Stark  
Bill Trenchard

## Naval Concepts of Chemical and Biological Warfare (1952)



Department of Defense Film Production, National Archives and Records Administration Catalogue 428.MN.9170A. Obtained by GovernmentAttic.org via the Freedom of Information Act on 30 September 2015  
Direct link: <http://www.governmentattic.org/17docs...>

[https://www.governmentattic.org/17docs/NavalBioWarfare\\_1952.mp4](https://www.governmentattic.org/17docs/NavalBioWarfare_1952.mp4) Link To\_Video  
Historical Background of the ... Continue reading



Zero Geoengineering

## Potential for Aerosol Dissemination of Biological Weapons: Lessons from Biological Control of Insects

Medscape

Biodefense Strategy, Practice, and Science

**Potential for Aerosol Dissemination of Biological Weapons: Lessons from Biological Control of Insects**

David B. Levin, Giovana Valadares de Amorim  
DISCLOSURES | Biosecur Bioteror 2003(5)

IN THIS ARTICLE

**Conclusions**

The study of the *B. thuringiensis* spray in Canada in 1959 provides data that refutes arguments asserting that there are technological barriers that would prevent all but major military programs from using *B. thuringiensis* as an aerosol disseminated bioweapon. These findings should be understood by those with responsibility for preventing or responding to the consequences of bioterrorist attacks. These data provide evidence that it is technologically feasible to disseminate biological agents from aircraft (or backpack sprayers, or truck-mounted loggers), forest protection personnel, mosquito control personnel, and farmers have been doing so for over 7 decades. Spray formulations consist of readily available ingredients that can be obtained from agricultural supply stores, and these formulations do not clog spray nozzles. And while most of the droplets in the spray are large, in the range of 100 to 150 microns, a significant amount of small droplet aerosolization occurs. Droplets of 2 to 7 microns are formed in sufficient quantities to penetrate houses and contaminate the nasal passages of residents inside their homes. The concentration of airborne spores indoors increased within a few hours after the spray and ultimately exceeded the outdoor concentration.

2003 | Authors: David B. Levin, Giovana Valadares de Amorim | Medscape | Biosecurity and Bioterrorism : Biodefense Strategy, Practice, and Science | "These data provide evidence that it is technologically feasible to disseminate biological agents from aircraft (or backpack sprayers, or ... Continue reading



Zero Geoengineering



# THE FEDERAL WEATHER ENTERPRISE

*Fiscal Year 2020  
Budget and  
Coordination  
Report*

PUBLIC LAW 115–25—APR. 18, 2017

131 STAT. 93

(1) Improving the fundamental understanding of weather consistent with section 101, including the boundary layer and other processes affecting high impact weather events.

(2) Improving the understanding of how the public receives, interprets, and responds to warnings and forecasts of high impact weather events that endanger life and property.

(3) Research and development, and transfer of knowledge, technologies, and applications to the National Weather Service and other appropriate agencies and entities, including the United States weather industry and academic partners, related to—

(A) advanced radar, radar networking technologies, and other ground-based technologies, including those emphasizing rapid, fine-scale sensing of the boundary layer and lower troposphere, and the use of innovative, dual-polarization, phased-array technologies;

(B) aerial weather observing systems;

(C) high performance computing and information technology and wireless communication networks;

(D) advanced numerical weather prediction systems and forecasting tools and techniques that improve the forecasting of timing, track, intensity, and severity of high impact weather, including through—

(i) the development of more effective mesoscale models;

(ii) more effective use of existing, and the development of new, regional and national cloud-resolving models;

(iii) enhanced global weather models; and

(iv) integrated assessment models;

(E) quantitative assessment tools for measuring the impact and value of data and observing systems, including Observing System Simulation Experiments (as described in section 107), Observing System Experiments, and Analyses of Alternatives;

(F) atmospheric chemistry and interactions essential to accurately characterizing atmospheric composition and predicting meteorological processes, including cloud microphysical, precipitation, and atmospheric electrification proc-

Source

“Deploying fifth generation (5G) wireless connectivity is even more imperative because it will enable a wide range of transformational technologies, from smart cities to the Internet of Things. The 2020 Budget supports R&D to manage spectrum, secure networks, and increase access to high-speed internet.”

industrial base, and provide substantial economic and national security benefits. QIS applications are expected to affect many areas of technology within the next two decades. Recognizing the potential of QIS, the President recently signed into law the National Quantum Initiative Act and will establish a 10-year plan to accelerate the development of QIS and technology applications. The FY 2020 Budget funding for this Initiative includes approximately \$430 million at the **DoD, DOE, NIST, and NSF**.

American leadership in emerging wireless networks is a critical global advantage, both for the economy and national security. U.S. leadership in fourth generation (4G) networks has led to significant GDP growth and job creation. **Deploying fifth generation (5G) wireless** connectivity is even more imperative because it will enable a wide range of **transformational technologies**, from **smart**

**cities to the Internet of Things**. The 2020 Budget supports R&D to manage spectrum, secure networks, and increase access to high-speed internet.

Advanced manufacturing—which includes both new manufacturing methods and the production of new products enabled by cutting-edge technologies—is an engine of America’s economic power and a pillar of its national security. The 2020 Budget prioritizes R&D aimed at advances in manufacturing and the integration of those advances into the domestic supply chain to reduce U.S. reliance on foreign sources of critical products. Budget priorities include intelligent manufacturing systems, materials and processing technologies, advances in semiconductor design and fabrication, and innovations in food and agricultural manufacturing.

## II. FEDERAL R&D DATA

-page 270 [Link To R&D\\_21\\_research-fy2020](#)

# Reauthorization of Trump’s Weather Research and Forecasting Innovation Act Introduced Under Biden

118TH CONGRESS  
2D SESSION **H. R. 6093**

### AN ACT

To improve the National Oceanic and Atmospheric Administration’s weather research, support improvements in weather forecasting and prediction, expand commercial opportunities for the provision of weather data, and for other purposes.

1. *Be it enacted by the Senate and House of Representatives*
2. *in Congress assembled,*

May 4, 2024 | [ZeroGeoengineering.com](#) | The Weather Research and Forecasting Innovation Reauthorization Act of 2023, or H.R. 6093, the “Weather Act Reauthorization Act of 2023,” passed in the U.S. House of Representatives May 1st, 2024. H.R. 6093 is the Biden ... Continue reading

 Zero Geoengineering

Meteorology, Weather and Climate Control – CIA 1960

**2. The Technological Basis for the Reexamination of the Feasibility of Climate Control**

Technological developments of the past two decades have provided the understanding, the techniques, and the means necessary for an assault on the problems of climate control. Control of any kind requires capabilities in all three of these areas. Meteorology is just now beginning to acquire such capabilities.

Achievement of an understanding of the large-scale physical processes of the atmosphere has been a continuing process over many decades. However, during the past several years the systematic exploitation of observational information on a global scale has led to a coherent description of the manner in which the large-scale physical processes in the atmosphere operate to provide for the maintenance of the global circulations against the dissipative effects of friction, and the manner in which they operate to transform the solar energy into the kinetic energy of the organized large-scale atmospheric circulations. Theoretical studies have led to an understanding of the reasons why the atmospheric physical processes operate in the observed manner. In combination these studies have led to the formation of the first consistent rudimentary theories for the causes of the fluctuations of the large-scale atmospheric circulations.

The attainment of such a theory holds broad implications for the manner in which climate control studies should be conducted. Much as the

*Department of Defense WEATHER CONTROL 1959*

*The Need For A Climate Control Study Program – November 1960 – CIA*

*Freedom Of Information Act – Weather Modification | [FOIA.CIA.GOV](https://www.foia.cia.gov)*

WEATHER AND CLIMATE MODIFICATION – 1965-NSF

**“...cooperative programs with any State through such instrumentalities as may be designated by the governor of such State.”**

Source

**Did you Know?** Several USA states banned [cloud seeding](#) in the 1960's: [Maryland](#), [West Virginia](#), and [Pennsylvania](#).

Source

*US Patent 11,573,578 B2 System and method for payload dispersion using UAVs*

*Concept and model for utilizing high-frequency or radar or microwave producing or emitting devices to produce, effect, create or induce lightning or lightspeed or visible to naked eye electromagnetic pulse or pulses, acoustic or ultrasonic shockwaves or booms in the air, space, enclosed, or upon any object or mass, to be used solely or as part of a system, platform or device including weaponry and weather modification*

**The U.S. Global Change Research Program 2022–2031**



*USGCRP: The Global Changers*

*United Nations WMO Weather Research Plan 2024-2027*

*Americans4ZeroGeoengineering.com*

*Americans 4 A Clean Atmosphere*

*Worldwide4ZeroGeoEngineering*

*Source*

Geoengineering Benefits and Risks: Sunblock with Consequences

[Source](#)

**Efficient formation of stratospheric aerosol for climate engineering by emission of condensable vapor from aircraft**

Source

**Benefits, Risks, and Costs of Geoengineering**



## Solar geoengineering using solid aerosol in the stratosphere

# Geoengineering: A Half-Century of Earth System Experimentation

[Source](#)

[Source](#)

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GEOENGINEERING IS SAFE.**

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# Pennsylvania Senator Calls on Trump Administration to Defund SRM Programs

8 November 2025 | ZEROGeoengineering.com | PA State Senator Doug Mastriano: “This week I formally called on President Trump to end the Obama-Biden era Solar Radiation Modification (SRM) program — a reckless, multibillion-dollar geoengineering experiment that diverts taxpayer dollars from national ... [More ...](#)

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## Solar Radiation Modification Policy Briefing

7 November 2025 | ZEROGeoengineering.com | The Royal Society has published a report on solar radiation modification (SRM) schemes such as stratospheric aerosol injection (SAI) and marine cloud brightening (MCB) with emphasis on governance of “research,” ultimately to be overseen ... [More ...](#)

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## “Transformational Artificial Intelligence” to Advance Weather Experimentation

4 November 2025 | ZEROGeoengineering.com | Proposed U.S. Congressional legislation, S. 1378, the “Transformational Artificial Intelligence to Modernize the Economy against Extreme Weather and Wildfires Act” or the “TAME Extreme Weather and Wildfires Act” would provide MILLIONS of dollars in funding ... [More ...](#)

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# The Sky Belongs to No One

3 November 2025 | ZEROGeoengineering.com | A pilot's perspective on geoengineering. "The question that keeps me awake is not whether the technology exists. It does. It is not whether people have motive. They do. The question is whether the sky ... [More ...](#)

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## China & Russia HAARP Weather Modification Experiments

2 November 2025 | ZEROGeoengineering.com | In addition to cloud seeding activities, irradiating infrastructures such as HAARP and NEXRAD are central components of atmospheric modification and weather control. No agencies are monitoring or measuring the Radiofrequency/Microwave Radiation (RF/MWR) pollution emitted ... [More ...](#)

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## German MPs Question Geoengineering Policies

31 October 2025 | ZEROGeoengineering.com | Members of the German Parliament requested information from the federal government regarding accountability and responsibility for SRM experiments. The response revealed that the EU Commission makes decisions about geoengineering projects within the EU while ... [More ...](#)

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# ICAMS National Hurricane Operations Plan 2025

28 October 2025 | ZEROGeoengineering.com | Interagency Council for Advancing Meteorological Services (ICAMS) “is the formal mechanism by which all relevant Federal departments and agencies coordinate implementation of policy and practices,” established in 2017 by the Weather Research and Forecasting ... [More ...](#)

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## Startup Raises \$75 Million for Global Geoengineering Experimentation

26 October 2025 | ZEROGeoengineering.com | Israeli-US “Stardust Solutions,” a for-profit company, aims to secure government contracts to conduct global sun-blocking experiments using their proprietary aerosol technology. The company is based outside Tel Aviv and it is registered in Delaware. Investors ... [More ...](#)

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## 2021 Study: Climate Intervention (CI) Methods to Enhance Aerosol Loading

25 October 2025 | ZEROGeoengineering.com | “Stratospheric aerosol injection (SAI) involves introducing large amounts of CI material well within the stratosphere to enhance the aerosol loading, thereby increasing reflection of solar radiation. We explore a delivery method termed solar-powered lofting ... [More ...](#)

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# Reduction of water in a region of air via aircraft contrail dispersion

23 October 2025 | ZEROGeoengineering.com | Patent GB2475280A United Kingdom | Abstract: A method of reducing the amount of water in a region of air 12, the contrail of an aircraft for example, comprising forming seed ice crystals 16, dispensing the ... [More ...](#)

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# Vehicles and Systems for Weather Modification

22 October 2025 | ZEROGeoengineering.com | Patent WO2017132304A1 Abstract: A weather modification system that includes both systems and vehicles capable of modifying the weather. The systems may include devices capable of utilizing compositions to create dispersants that can modify weather. The ... [More ...](#)

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# A specialised delivery system for stratospheric sulphate aerosols

18 October 2025 | ZEROGeoengineering.com | “To accommodate the extreme demands of delivering large payloads to high altitudes, a coupled optimisation procedure is used to design the system. This results in an unmanned aircraft configuration featuring a large, slender, strut-braced ... [More ...](#)

