

# **GEOENGINEERING RESEARCH DOCUMENTS**

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### **THE LEADERSHIP OF RHODE ISLAND SENATOR CLAIBORNE PELL**

**1/1 Prohibition of Geophysical Modification Activity as a Weapon of War: CLAIBORNE PELL** Congressional Record July 20, 1972 Source: CIA Archive  
<https://www.cia.gov/library/readingroom/docs/CIA-RDP74B00415R000100110006-9.pdf>

**1/2 The Need for an International Agreement Prohibiting the Use of Environmental and Geophysical Modification as a Weapon of War** Committee on Foreign Relations United States Congress 1974 and **BRIEFING ON DEPARTMENT OF DEFENSE WEATHER MODIFICATION ACTIVITY** January 25 and March 20, 1974 TOP SECRET made public on May 19, 1974 Senator **CLAIBORNE PELL** source: <https://www.vietnam.ttu.edu/star/images/239/2390601002A.pdf>

**1/3 Environmental Modification: Senator CLAIBORNE PELL** Congressional Record February 6, 1976 Source: CIA Archive <https://www.cia.gov/library/readingroom/docs/CIA-RD-P79M00467A000400020041-1.pdf>

## **FEDERAL GOVERNMENT DOCUMENTS**

**1/4 The Federal Weather Enterprise: Fiscal Year 2019 Budget and Coordination Report - Federal Coordinator for Meteorological Services and Supporting Research**

Source: [www.OFCM.gov](http://www.OFCM.gov)

[https://www.ofcm.gov/publications/fedrep/2019\\_fedrep.pdf](https://www.ofcm.gov/publications/fedrep/2019_fedrep.pdf)

**1/5 The Federal Weather Enterprise: Fiscal Year 2018 Budget and Coordination Report**

Source: [https://www.ofcm.gov/publications/fedrep/2018\\_fedrep.pdf](https://www.ofcm.gov/publications/fedrep/2018_fedrep.pdf)

**1/6 Department of Commerce Budget FY2018**

The 2018 Budget funds NOAA's programs and activities within the Operations, Research, and Facilities account at approximately **\$3.0 billion.**" Page 191 Source: <https://www.gpo.gov/fdsys/pkg/BUDGET-2018-APP/pdf/BUDGET-2018-APP-1-6.pdf>

**1/7 H.R. 353 Weather Researching and Forecasting Innovation Act of 2017**

Source: <https://www.congress.gov/bill/115th-congress/house-bill/353>

**1/8 H.R. 4586 Geoengineering Research Evaluation Act of 2017**

Source: <https://www.congress.gov/115/bills/hr4586/BILLS-115hr4586ih.pdf>

Ac-

tions: <https://www.congress.gov/bill/115th-congress/house-bill/4586/all-actions?overview=closed#tabs>

**1/9 FUNDING OPPORTUNITY: U. S. Department of Energy Office of Science Office of Biological and Environmental Research** Atmospheric System Research (ASR) Funding Opportunity Number: DE FOA-0001845

[https://science.energy.gov/~media/grants/pdf/foas/2018/SC\\_FOA\\_0001845.pdf](https://science.energy.gov/~media/grants/pdf/foas/2018/SC_FOA_0001845.pdf)

**1/10 DEPARTMENT OF DEFENSE WEATHER PROGRAMS Air Force Weather Mission Statement** Source: Internet Archive Wayback Machine <http://www.ofcm.noaa.gov/fedplan/fp-fy10/pdf/3Sec3c-DOD.pdf> (SCRUBBED - reports of three captures 10 Sep 2016 - 2 Feb 2017)

Currently available at : [http://agriculturedefensecoalition.org/sites/default/files/pdfs/5P\\_U.S.\\_Air\\_-\\_Force\\_Document\\_Weather\\_Modification\\_Programs\\_sec3b\\_dod.pdf](http://agriculturedefensecoalition.org/sites/default/files/pdfs/5P_U.S._Air_-_Force_Document_Weather_Modification_Programs_sec3b_dod.pdf)

**1/11 H.R. 2413 Weather Forecasting Improvement Act of 2014**

113th Congress (2013-2014) Source: <https://www.congress.gov/bill/113th-congress/house-bill/2413>

**1/12 Arctic Research Plan: FY2013 - 2017 Interagency Arctic Research Policy Committee (IARPC)** May 2012 Source: [https://www.arcus.org/files/page/documents/1776/arc\\_res\\_5yr\\_plan\\_-\\_draft.pdf](https://www.arcus.org/files/page/documents/1776/arc_res_5yr_plan_-_draft.pdf)

- 1/13 TECHNOLOGY ASSESSMENT Climate Engineering - Technical Status, Future Directions, and Potential Responses.** July 2011 GOA report to Congressional Requester , September 1998. Source: <https://www.gao.gov/new.items/d1171.pdf>
- 1/14 GAO TESTIMONY Before the Committee on science and Technology, House of Representatives.** CLIMATE CHANGE Preliminary Observations on Geoengineering Science, Federal Efforts, and Governance Issues. Statement of Frank Rusco, Director of Natural Resources and Environment. March 18, 2010. Source: <https://www.gao.gov/new.items/d10546t.pdf>
- 1/15 U.S. HOUSE OF REPRESENTATIVES Engineering the Climate: Research Needs and Strategies for International Coordination Report by Bart Gordon Committee on Science and Technology.** October 2010 Source: <https://science.house.gov/sites/democrats.science.house.gov/files/10-29%20Chairman%20Gordon%20Climate%20Engineering%20report%20-%20FINAL.pdf>
- 2/16 S.601 - Weather Mitigation Research and Development Policy Authorization Act of 2009** Senate Report of The Committee on Commerce, Science, and Transportation 111th Congress (2009-2010) Source: <https://www.congress.gov/bill/111th-congress/senate-bill/601>
- 2/17 AVIATION AND CLIMATE CHANGE** Report to Congressional Committees United States Government Accountability Office January 2009 <https://www.gao.gov/new.items/d09554.pdf>
- 2/18 NOAA Spreadsheets Listing Ongoing Weather Modification Programs in the United States (2004-2011)** Source: [450WV 2011 NOAA Interim Listing of Weather Modification Programs Spreadsheet 11WXMOD5 as of July 7, 2011.pdf](#) , [450WV 2010 NOAA Final Listing of Weather Modification Programs Spreadsheet 10WXMOD5.pdf](#) , [450WV 2009 NOAA Final Listing of Weather Modification Programs Spreadsheet 09WXMOD5.pdf](#) , [450WV 2008 NOAA Final Listing of Weather Modification Programs Spreadsheet 08WXMOD5.pdf](#) , [450VW 2006 NOAA Final Listing of Weather Modification Programs Spreadsheet 06WXMOD5.pdf](#) , [450VW 2005 NOAA Final Listing of Weather Modification Programs Spreadsheet 05WXMOD5.pdf](#) , [450VW 2004 NOAA Final Listing of Weather Modification Programs Spreadsheet 04WXMOD5.pdf](#)
- 2/19 Weather Modification Research and Technology Transfer Authorization Act of 2005 Senate Report of the Committee on Commerce, Science, and Transportation on S.517** 109th Congress 1st session Senate Report 109-202 Source: <https://www.congress.gov/congressional-report/109th-congress/senate-report/202/1>
- 2/20 Letter from Executive Office of the President- Office of Science and Technology Policy to The Honorable Kay Bailey Hutchison.** Response to S.517 ‘the Weather Modification Research and Development Policy Authorization Act of 2005’. December 13, 2005 Source: <https://www.legislative.noaa.gov/viewsletters/marburgerweathermodviewsletter121305.pdf>
- 2/21 Tropospheric Aerosol Program Program Plan March 2001.** U.S. Department of Energy, Office of Science, Office of Biological and Environmental Research, Environmental Sciences Division. Source: <https://digital.library.unt.edu/ark:/67531/metadc723106/>

**2/22 DOD Management Issues Related to Chaff**

GOA report to Senator Harry Reid, September 1998. Chaff is composed of aluminum-coated silica glass fibers that can be spread by aircraft in flight, ships at sea, and vehicles on the ground to help them evade enemy radar.

<https://www.gao.gov/assets/230/226441.pdf>

**2/23 DESIGN OF PHYSICAL CLOUD SEEDING EXPERIMENTS FOR THE ARIZONA ATMOSPHERIC MODIFICATION RESEARCH PROGRAM**

“Cloud seeding experiments have been designed by the Bureau of Reclamation for winter orographic cloud systems over the Mogollon Rim of Arizona. The experiments are intended to test whether key physical processes proceed as hypothesized during both ground-based and aircraft seeding with silver iodide.”

Source: U.S. Department of the Interior. February 1991 Source: <https://www.usbr.gov/tsc/techreferences/rec/R9102.pdf>

**2/24 WEATHER MODIFICATION: PROGRAMS, PROBLEMS, POLICY, AND POTENTIAL**

Prepared for the Committee on Commerce Science and Transportation United States Senate, November 15, 1978 Source: <http://ufdc.ufl.edu/AA00025909/00001>

**2/25 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)**

US Department of State - Bureau of International Security and Non-proliferation. Signed in Geneva on May 18, 1977. Entered into force October 5, 1978. “The Convention defines environmental modification techniques as changing -- through the deliberate manipulation of natural processes -- the dynamics, composition or structure of the earth, including its biota, lithosphere, hydro-sphere, and atmosphere, or of outer space.” Source:

<https://www.state.gov/t/isn/4783.htm>

**2/26 Need for a National Weather Modification Research Program**

Congressional Report “Our review was made pursuant to the Budget and Accounting Act, 1921 (31 u. s. c. 53), and the Accounting and Auditing Act of 1950 (31 U. S. C. 67).” August 23, 1974 Source: <https://www.gao.gov/assets/210/200512.pdf>

**2/27 1974 WEATHER MODIFICATION FUNDING time line**

of approved funding from the Oval Office for national weather modification program started in 1966 on NSF budget, later transferred to NOAA in 1972. Request is for 1974 budget. Source: <https://www.fordlibrarymuseum.gov/library/document/0055/1668699.pdf>

**2/28 National Weather Modification Policy Act of 1976**

PUBLIC LAW 94-490—OCT. 13, 1976 94th Congress An Act To authorize and direct the Secretary of Commerce to develop a national policy Oct. 13, 1976 on weather modification, and for other purposes.

Source: <https://www.govinfo.gov/content/pkg/STATUTE-90/pdf/STATUTE-90-Pg2359.pdf>

**2/29 INTERNATIONAL ASPECTS OF WEATHER MODIFICATION**

**NSC UNDER SECRETARIES COMMITTEE** Confidential August 1, 1972 Source: CIA

<https://www.cia.gov/library/readingroom/docs/CIA-RDP75B00514R000200060012-6.pdf>

**2/30 ENGINEERING DESIGN HANDBOOK Military Pyrotechnics Series Part One - Theory and Application** United States Army Materiel Command April 28,1967  
<http://www.dtic.mil/dtic/tr/fulltext/u2/817071.pdf>

**2/31 MANUFACTURING METHODS - BRANCH METHODS AND MATERIALS DIVISION FIBER REINFORCEMENT OF METALIC AND NON-METALIC COMPOSITES** Aeronautical Systems Division Air Force Command United States Air Force 17 January 1962 - 17 April 1962  
<http://www.dtic.mil/dtic/tr/fulltext/u2/275565.pdf>

**2/32 274. Memorandum From the Deputy Under Secretary of State for Political Affairs (Kohler) to Secretary of State Rusk.** Foreign Relations of the United States, 1964–1968, Volume XXVIII, Laos. Weather Modification in North Vietnam and Laos (Project Popeye)  
 Source: <https://history.state.gov/historicaldocuments/frus1964-68v28/d274>

**3/33 Weather and Climate Modification Report of the Special Commission on Weather Modification** National Science Foundation NSF 66-3. December 20, 1965 Source: <https://www.nsf.gov/nsb/publications/1965/nsb1265.pdf>

## **STATE GOVERNMENT DOCUMENTS**

**3/34 WEATHER MODIFICATION - REGULATING RAIN MAKING Act of Jan. 19, (1968) 1967 PENNSYLVANIA** - Providing temporarily for the regulation and licensing of rain-making activities; creating a Weather Modification Board within the Department of Agriculture and defining its powers and duties; imposing powers and duties on the Department of Agriculture and certain other State agencies; and providing penalties. Source: <http://www.legis.state.pa.us/WU01/LI/LI/US/PDF/1967/0/0449..PDF>

**3/35 WEST VIRGINIA Weather Modification - Regulating Rain Making Act of January 19, 1968 Pennsylvania and ARTICLE 2B Weather Modification Chapter 29 CODE OF WEST VIRGINIA** Passed February 26, 1969 Repealed March 9, 1995 Source: <http://www.wvlegislature.gov/WVCode/ChapterEntire.cfm?chap=29&art=2B>

**3/36 ILLINOIS CRITERIA FOR WEATHER MODIFICATION OPERATIONS AND EFFECTIVE EVALUATION : 1980** <https://www.isws.illinois.edu/pubdoc/CR/ISWSCR-240.pdf>

**3/37 MARYLAND “Cloud Seeding” – Archives of Maryland, Volume 0676, Page 0202 – Session Laws, 1965 / 1983 / 2005** Sources: <http://aomol.msa.maryland.gov/000001/000676/pdf/am676--202.pdf> / <https://msa.maryland.gov/megafile/msa/speccol/sc2900/sc2908/000001/000745/html/am745--121.html> / <https://law.justia.com/codes/maryland/2005/g25/3.html>

**3/38 TEXAS Weather Modification and Control Agriculture Code, Title 9, Weather and Climate Chapters 301 and 3102. September 2007** Source: <https://www.tdlr.texas.gov/weather/wmlaw090107.pdf>

**3/39 CALIFORNIA Optimizing Cloud Seeding for Water and Energy in California. California Energy Commission March 2007** Source: <https://www.energy.ca.gov/2007publications/CEC-500-2007-008/CEC-500-2007-008.PDF>

**3/40 COLORADO WEATHER MODIFICATION RULES AND REGULATIONS August 1,1986** Source: <https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=5336>

**3/41 RHODE ISLAND - H6011 THE GEOENGINEERING ACT OF 2017** Source: <http://webserver.rilin.state.ri.us/BillText17/HouseText17/H6011.pdf>

**3/42 TITLE 785. OKLAHOMA WATER RESOURCES BOARD CHAPTER 15. WEATHER MODIFICATION September 14, 2018** Source: <https://www.owrb.ok.gov/rules/pdf/current/Ch15.pdf>

**3/43 The Florida Senate legislation search results for “Weather Modification Statutes”** Source: <https://www.flsenate.gov/search/results?q=FLsenate+Weather+Modification+>

## **INTELLIGENCE DOCUMENTS**

### **3/44 CONFIDENTIAL: INTERNATIONAL ASPECTS OF WEATHER MODIFICATION**

NSC Secretaries Committee August 1, 1972 Source CIA Archive  
<https://www.cia.gov/library/readingroom/docs/CIA-RDP75B00514R000200060012-6.pdf>

### **3/45 The Problem of the Application of Toxic Chemicals in the Form of Aerosols**

Information from Foreign Documents or Radio Broadcasts Country: USSR July 1951  
Source: CIA Archive  
<https://www.cia.gov/library/readingroom/docs/CIA-RDP80-00809A000700070284-8.pdf>

### **3/46 Microlepton Radiation Effects on Weather, Human Organism Studied.**

Programma Zombi USSR December 3, 1990 Source: CIA Archive  
<https://www.cia.gov/library/readingroom/docs/CIA-RDP96-00792R000500680015-3.pdf>

**3/47 US-USSR WEATHER MODIFICATION EXCHANGE**

August 1974 Source: CIA Archive

<https://www.cia.gov/library/readingroom/docs/CIA-RDP79-00798A001000070009-1.pdf>**3/48 BIOLOGICAL EFFECTS OF ELECTROMAGNETIC RADIATION (RADIO WAVES AND MICROWAVES) EURASIAN COMMUNIST COUNTRIES**source: DEFENSE INTELLIGENCE AGENCY – 1976 Source: [http://www.ehsfri.dk/artikler/BIOLOGICAL\\_EFFECTS\\_OF\\_ELECTROMAGNETIC\\_RADIATION-RADIO WAVES\\_AND\\_MICROWAVES-EURASIAN\\_COMMUNIST\\_COUNTRIES.pdf](http://www.ehsfri.dk/artikler/BIOLOGICAL_EFFECTS_OF_ELECTROMAGNETIC_RADIATION-RADIO WAVES_AND_MICROWAVES-EURASIAN_COMMUNIST_COUNTRIES.pdf)**3/49 THE PROBLEM OF OBTAINING HIGH CONCENTRATIONS OF AEROSOLS**

Information from Foreign Documents or Radio Broadcasts USSR Nov/Dec 1948 Source: CIA Archive

<https://www.cia.gov/library/readingroom/docs/CIA-RDP80-00809A000600270643-8.pdf>**3/50 EXCERPTS FROM MECHANICS OF AEROSOLS**

144 page report RE work of Mekhanika Aerolev, Moscow, 1955, October 28, 1957

Source: CIA Archive

<https://www.cia.gov/library/readingroom/document/cia-rdp81-01043r001400130002-6>

**4/1 PROSPECTUS: The Travelers Research Center, Incorporated.** CIA gathered document regarding the staff scientists, research and experiments of insurance company connected weather research corporation in Hartford, CT which provided specialized services to US government sponsored National Weather System 433L. Date unknown / circa 1960 Source: CIA Archive <https://www.cia.gov/library/readingroom/docs/CIA-RDP78-03425A002100020012-4.pdf>

**4/2 U-2 Support for Weather Modification Experiments - Naval Intelligence Command** SECRET Memorandum weather modification experiments held near Santa Barbara, CA from January - April 1973. January 5, 1973 Source: CIA Library: <https://www.cia.gov/library/readingroom/document/cia-rdp76b00734r000100250006-8>

**4/3 SURVEY OF WEATHER MODIFICATION** brief survey of the status of weather modification from Dr. Earl G. Droessler, responsible for the coordination of Department of Defense R&D in Meteorology. SECRET March 1, 1968 <https://www.cia.gov/library/readingroom/document/cia-rdp78-03425a002100020023-2>

**PATENTS**

**4/4 Weather Control Patents (Class 239/14.1) Vortex ring-producing gun with recoiling nozzle Patent number: 9927205 Snowmaking (Class 239/14.2)**  
source: JUSTIA Patents DATE OF PATENT March 27, 2018 Inventor: Jeffery M. Davis  
<https://patents.justia.com/patents-by-us-classification/239/14.1>

**4/5 Patent Application Publication January 17, 2013 CONCEPT AND MODEL FOR UTILIZING HIGH FREQUENCY OR RADAR OR MICROWAVE PRODUCING OR EMITTING DEVICES TO PRODUCE, EFFECT, CREATE, OR INDUCE LIGHTENING OR LIGHT SPEED 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.** Source: <https://patents.google.com/patent/US20130015260>

**4/6 US Patent SOLAR POWERED AIRPLANE** Date of Patent: April 4, 2000 Inventor: Franklin Y.K. Chen - **\*\*\*of interest\*\*\* RELATED U.S. APPLICATION DATA ABSTRACT for : A SATELLITE WEATHER MODIFICATION SYSTEM (SWMS)**  
source: <https://patentimages.storage.googleapis.com/32/39/ba/ba706c1562e2a6/US6045089.pdf>

**4/7 Apparatus and Related Methods for Weather Modification by Electrical Processes in the Atmosphere** United States Patent US13056646 Inventor: Helmut Fluhrer, Elena Davydova, Yuri Saveliev. application date July 7, 2009 Assignment Owner name: METEO SYSTEMS INTERNATIONAL AG, SWITZERLAND January 31, 2011 Source: <https://patents.google.com/patent/US20110174892>

**4/8 Antenna phasing control system** United States Patent US 3271770 A  
Inventor: Alan B Lees. Current Assignee: Electronic Specialty Co. Priority date: July, 07, 1963  
Source: <https://patents.google.com/patent/US3271770>

**4/9 Antenna structure for providing a uniform field** United States Patent US5258766A  
Inventor: Graham A. M. Murdoch Current Assignee: Magellan Tech Pty Ltd Original Assignee: Magellan Tech Pty Ltd. Uniscan Ltd. Priority date: December 10, 1987 Source: <https://patents.google.com/patent/US5258766>

**4/10 Creation of artificial ionization clouds above the earth** United States Patent US4999637A Inventor Ronald M. Bass . Current Assignee: BAE Systems Information and Electronic Systems Integration Inc . Original Assignee: Apti Inc. Priority date: June 14, 1987 <https://patents.google.com/patent/US4999637>

**4/11 GENERATION OF ELECTRICAL FIELDS B. VONNEGUT**  
UNITED STATES PATENT 2,881,335 April 7, 1959 This invention relates to the conversion of mechanical energy into electrical energy and more particularly to a regenerative system for charging bodies or clouds. Source: <https://patentimages.storage.googleapis.com/c9/60/e7/36e504b4f3d01f/US2881335.pdf>

**PUBLISHED RESEARCH*****health:*****4/12 Climate and health implications of future aerosol emission scenarios**

Antti-Ilari Partanen, Jean-Sébastien Landry, and H Damon Matthews

Published 13 February 2018 • © 2018 IOP Publishing Ltd Environmental Research Letters, Volume 13, Number 2 Source: <http://iopscience.iop.org/article/10.1088/1748-9326/aaa511/pdf>**4/13 Assessing the direct occupational and public health impacts of solar radiation management with stratospheric aerosols**US National Library of Medicine / National Institutes of Health Department of Environmental Health Sciences, University of Michigan, Utibe Effiong and Richard L. Neitzel Published online Jan 19, 2016 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4717532/>**4/14 Toxic Potential of Materials at the Nanolevel** Andre Nel, Tian Xia, Lutz Mädler, Ning Li. *Science* 03 Feb 2006: Vol. 311, Issue 5761, pp. 622-627 DOI: 10.1126/science.1114397Source: <http://science.sciencemag.org/content/311/5761/622>**4/15 Potential Impacts of Nanoparticles** Annual Review of Public Health Vol. 30:137-150 (Volume publication date 21 April 2009) Tian Xia, Ning Li, and Andre E. Nel Division of NanoMedicine, Department of Medicine, University of California, Los Angeles. Asthma and Allergic Diseases Cooperative Research Centers, University of California, Los Angeles. The Southern California Particle Center, University of California, Los Angeles NanoSystems Institute, University of California, Los Angeles Source: <https://www.annualreviews.org/doi/pdf/10.1146/annurev.publhealth.031308.100155>**4/16 Oxidative stress induced by aluminum oxide nanomaterials after acute oral treatment in Wistar rats** P. V. Prabhakar, Utkarsh A. Reddy, S. P. Singh, A. Balasubramanyam, M. F. Rahman, S. Indu Kumari, Sachin B. Agawane, U. S. N. Murty, Paramjit Grover, Mohammed Mahboob. *Journal of Applied Toxicology* Volume 32, Issue 6, June 2012 Pages 436-445 Source: <https://onlinelibrary.wiley.com/doi/full/10.1002/jat.1775>**5/17 Exploring Inhaled Particles and Human Health at the New York University Institute of Environmental Medicine** Beverly S. Cohen. **Chapter 5** of *Aerosol Science and Technology: History and Reviews*, Edited by David S. Ensor ©2011 Research Triangle Institute.Source: [https://www.rti.org/sites/default/files/resources/14154593\\_BK\\_0003\\_1109\\_Ensor.pdf](https://www.rti.org/sites/default/files/resources/14154593_BK_0003_1109_Ensor.pdf)**5/18 EVIDENCE ON THE DEVELOPMENTAL AND REPRODUCTIVE TOXICITY OF SULFUR DIOXIDE** Reproductive and Cancer Hazard Assessment Branch Office of Environmental Health Hazard Assessment California Environmental Protection Agency February 2011 Source: <https://oehha.ca.gov/media/downloads/proposition-65/chemicals/so2hid022511.pdf>

**6/19 A Systemic Review of Potential Human Health Risks of Aluminum**

Daniel Krewski, PhD, MHA, Professor and Director McLaughlin Center for Population Health Risk Assessment & Risk Sciences International presented at the 15th BfR Consumer Protection Forum November 26, 2014, University of Ottawa. Source: <http://www.bfr.bund.de/cm/343/a-systematic-review-of-potential-human-health-risks-of-aluminium.pdf>

**6/20 Geoengineering Cost Analysis FINAL REPORT** Prepared Under Contract to The University

Of Calgary October 30, 2010 Source: Aurora Flight Sciences / SCRIBD uploaded by Matin Hume

Source: <https://www.scribd.com/document/290015460/25-1-2010-University-of-Calgary-Geoengineering-Cost-Analysis-Using-Jets-October-30-2010-Aurora-Flight-Sciences-Final-Report-Keith-pdf>

**6/21 Global, regional and local health impacts of civil aviation emissions**

Steve H L Yim, Gideon L Lee, In Hwan Lee, Florian Allroggen, Akshay Ashok, Fabio Caiazzo, Sebastian D Eastham, Robert Malina and Steven R H Barrett Laboratory for Aviation and the Environment, Department of Aeronautics and Astronautics, Massachusetts Institute of Technology Published February 26, 2015 Source: <http://iopscience.iop.org/article/10.1088/1748-9326/10/3/034001/pdf>

**6/22 Barium Promotes Anchorage-Independent Growth and Invasion of Human HaCaT**

**Keratinocytes via Activation of c-SRC Kinase** Nguyen Dinh Thang, Ichiro Yajima, Mayuko Y. Kumasaka, Shoko Ohnuma, Takeshi Yanagishita, Rumiko Hayashi, Hossain U. Shekhar, Daisuke Watanabe, Masashi Kato “biological and biochemical findings newly suggest that the levels of barium shown in drinking well water independently has the cancer-promoting effects on precancerous keratinocytes, fibroblast and melanocytes *in vitro*.” Published: October 12, 2011 Source: <https://doi.org/10.1371/journal.pone.0025636>

**6/23 Current and Future Particulate-Matter-Related Mortality Risks in the United States from Aviation Emissions During Landing and Takeoff.**

Jonathan I. Levy, Matthew Woody, Bok Haeng Baek, Uma Shankar, Saravanan Arunachalam published July 30, 2011 source: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1539-6924.2011.01660.x>

**6/24 Signal Strength RF Microwave Radiation Guidelines Graph**

explains why close proximity microwave antennas are hazardous and should not be allowed in public right-of-way in residential zones. NOTE: hard copy of Vol 7 includes locally distributed ELECTROMAGNETIC & RADIO FREQUENCY CONVERSION CHART outlining level of health effects. Source: <http://mystreetmychoice.com/press.html>

**6/25 Electrosmog and Autoimmune Disease** Trevor G. Marshall and Trudy J. Rumann Heil

July 13, 2016 US National Library of Medicine / National Institutes of Health Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5406447/>

**6/26 Epidemiological Research on Cell Towers**

COMPENDIUM of sources and discussion. Abdel-Rassoul, G., El-Fateh, O. A., Salem, M. A., Michael, A., Farahat, F. & El-Batanouny, M. (2007). Neurobehavioral effects among inhabitants around mobile phone base stations, Neurotoxicology Source: <http://www.emfresearch.com/epidemiological-research-on-cell-towers/>

**6/27 Research on Radio- and TV-Transmitters + Radars Epidemiological studies of radio and TV transmitters**

COMPENDIUM of sources and discussion. Dolk, H., Shaddick, G., Walls, P., Grundy, C., Thakrar, B., Kleinschmidt, I., et al. (1997) Source: <http://www.chronicexposure.org/transmitters.html>  
<http://www.emfresearch.com/epidemiological-research-on-radio-and-tv-transmitters-radars/>

**6/28 THE NUREMBERG CODE** drafted at end of NAZI doctor trial in Nuremberg 1947 has been hailed as a landmark document in medical and research ethics. Close examination of this code reveals that it was based on the Guidelines for Human Experimentation of 1931 Source: <https://history.nih.gov/research/downloads/nuremberg.pdf>

**PUBLISHED RESEARCH*****industry:*****6/29 Chemical Properties of Aircraft Engine Particulate Exhaust Emissions**

“The test aircraft was the NASA DC-8 equipped with CFM56-2-C1 engines and the test matrix included 11 different engine throttle levels, three fuel compositions, and three sampling distances.” Source: Aerospace Research Central sighting Journal of Propulsion and Power Vol. 25, No. 5, Sept-Oct 2009  
<https://arc.aiaa.org/doi/abs/10.2514/1.36371?journalCode=jpp>

**6/30 SO<sub>x</sub> oxidation and volatile aerosol in aircraft exhaust plumes depend on fuel sulfur content**

Center for Aero-Thermodynamics, Aerodyne Research, Inc. , Atmospheric Sciences Division, NASA Langley Research Center, US Air Force Research Laboratory, Space Vehicles Directorate (VSBP), GEOPHYSICAL RESEARCH LETTERS, vol. 25. no. 10 May 15, 1998 referencing Paper number 98GL00064 Copyright 1998 by the American Geophysical Union  
<https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/98GL00064>

**6/31 Air Force F-16 Aircraft Engine Aerosol Emissions Under Cruise Altitude Conditions**

Source: Langley Research Center and The NASA Scientific and Technical Information Program Office. March 1999  
<https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19990027430.pdf>

**6/32 Lifting options for stratospheric aerosol geoengineering: advantages of tethered balloon systems**

“The Royal Society report ‘Geoengineering the Climate’ identified solar radiation management using albedo-enhancing aerosols injected into the stratosphere as the most affordable and effective option for geoengineering, but did not consider in any detail the options for delivery.” Source: Philosophic Transactions of the Royal Society 2012  
[http://www2.eng.cam.ac.uk/~hemh1/SPICE/papers/PhilTransRoySoc\\_LiftingOptions\\_Davidson\\_Burgoyne\\_Hunt\\_Causier.pdf](http://www2.eng.cam.ac.uk/~hemh1/SPICE/papers/PhilTransRoySoc_LiftingOptions_Davidson_Burgoyne_Hunt_Causier.pdf)

**6/33 Variability in morphology, hygroscopicity, and optical properties of soot aerosols during atmospheric processing** Renyi Zhang, Alexei F. Khalizov, Joakim Pagels, Dan Zhang, Huaxin Xue, and Peter H. McMurry \*Department of Atmospheric Sciences, Texas A&M University, Department of Mechanical Engineering, University of Minnesota, Division of Aerosol Technology, Ergonomics and Aerosol Technology, SE-211 00 Lund, Sweden Communicated by Mario J. Molina, University of California at San Diego, La Jolla, CA. May 19, 2008  
Source: <http://www.pnas.org/content/pnas/105/30/10291.full.pdf>

**6/34 Atmospheric New Particle Formation Enhanced by Organic Acids** Renyi Zhang, Inseon Suh, Jun Zhao, Dan Zhang, Edward C. Fortner, Xuexi Tie, Luisa T. Molina, Mario J. Molina Published in *Science* Jun 4, 2004: Vol. 304, Issue 5676, pp. 1487-1490  
Source: <http://science.sciencemag.org/content/304/5676/1487>

**6/35 Rapid Formation of Sulfuric Acid Particles at Near-Atmospheric Conditions** Torsten Berndt, Olaf Böge, Frank Stratmann, Jost Heintzenberg, Markku Kulmala Published in *Science* Feb 4, 2005 Vol 307, Issue 5710 Source: <http://science.sciencemag.org/content/307/5710/698>

**6/37 A Response by the Weather Modification Association to the National Research Council's Report titled "CRITICAL ISSUES IN WEATHER MODIFICATION RESEARCH"** "The NRC panel notes operational programs in 24 countries and at least 66 large-scale operational weather modification programs in the U.S.." January 2004 Source: <http://www.weathermodification.org/images/FinalReport.pdf>

## **PUBLISHED RESEARCH**

### ***Academic:***

**6/38 BENEFITS, RISKS, AND COSTS OF STRATOSPHERIC GEOENGINEERING** Alan Robock, Allison Marquardt, Ben Kravitz, and Georgiy Stenchikov  
Received 21 May 2009; revised 17 August 2009; accepted 20 August 2009; published 2 October 2009.  
<http://climate.envsci.rutgers.edu/pdf/2009GL039209.pdf>

**6/39 Operational Defenses through Weather Control in 2030**  
Discussion of Directed Energy Weapons in the Electromagnetic Spectrum, Autonomous Nanotechnology Swarm, Four Generations of Nanotechnology Michael C. Boger, Major, United States Air Force graduation requirement published by AIR COMMAND AND STAFF COLLEGE AIR UNIVERSITY April 2009 Source: <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ada539515>

**6/40 From PSYOP to MindWar: The Psychology of Victory by Colonel Paul E. Valley Commander with Major Michael A. Aquino PSYOP Research & Analysis Team Leader**  
psychological warfare discussion is included because of the relevance of the footnotes on page 10. 1980  
Source: <https://www.wanttoknow.info/mk/mindwar-michael-aquino.pdf>

**6/41 Short-pulse lasers for weather control**

J

P Wolf, Department of Applied Physics, University of Geneva, 1211 Geneva 4, Switzerland. Published December 19, 2017 Source: <http://www.nccr-must.ch/libraries.files/wolf-2018.pdf>

**6/42 Use of Radar Chaff for Studying Circulations in and around Shallow Cumulus**

**Clouds** Eunsil Jung and Bruce Albrecht, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami Florida. April 20, 2014 Source: <https://journals.ametsoc.org/doi/full/10.1175/JAMC-D-13-0255.1>

**6/43 Development and evaluation of the unified tropospheric - stratospheric chemistry extension (UCX) for the global chemistry-transport model GEOS-Chem**

Sebastian D. Eastham, Debra K. Weisenstein, Steven R.H. Barrett  
Laboratory for Aviation and the Environment, Department of Aeronautics and Astronautics, Massachusetts Institute of Technology  
Harvard School of Engineering and Applied Sciences, Accepted 4 February 2014  
<https://keith.seas.harvard.edu/files/tkg/files/Eastham-Weisenstein-Barrett-2014.pdf>

**6/44 An Overview of Geoengineering of Climate using Stratospheric Sulfate Aerosols**

Philip J. Rasch, Simone Tilmes, Richard P. Turco, Alan Robock, Luke Oman, Chih-Chieh (Jack) Chen, Georgiy L. Stenchikov National Center for Atmospheric Research, Department of Atmospheric and Oceanic Sciences, University of California, Los Angeles, Department of Environmental Sciences, Rutgers University, Department of Earth and Planetary Sciences, Johns Hopkins University Source: The National Center for Atmospheric Research is sponsored by the National Science Foundation Printed: March 11, 2008  
<https://pdfs.semanticscholar.org/29db/4d32c06014d3ef80a39919a3e3b5d639c702.pdf>

**7/45 Solar Geoengineering Using Solid Aerosol in the Stratosphere**

D. K. Weisenstein, D. W. Keith, J. A. Dykema. School of Engineering and Applied Science, Harvard University, Cambridge, MA. Kennedy School of Government, Harvard University, Cambridge, MA. Correspondence to: D. K. Weisenstein Revised: 7 October 2015 Published: 26 October 2015 source: <https://www.atmos-chem-phys.net/15/11835/2015/acp-15-11835-2015.pdf>

**7/46 Stratospheric sulfate geoengineering could enhance the terrestrial photosynthesis**

**rate** L. Xia, A. Robock, S. Tilmes, and R. R. Neely III Published: 10 February 2016  
Department of Environmental Sciences, Rutgers University, New Brunswick, NJ, USA  
National Center for Atmospheric Research, Atmospheric Chemistry Division, Boulder, CO, USA  
National Centre for Atmospheric Science and the Institute of Climate and Atmospheric Science, University of Leeds, Leeds, UK Source: Atmospheric Chemistry and Physics  
<http://eprints.whiterose.ac.uk/92077/7/acp-16-1479-2016.pdf>

**7/47 Carbon capture, storage and utilisation technologies: A critical analysis and comparison of their life cycle environmental impacts**

source: [Journal of CO2 Utilization](https://www.sciencedirect.com/science/article/pii/S2212982014000626)

Volume 9, March 2015, Pages 82-102

<https://www.sciencedirect.com/science/article/pii/S2212982014000626>

**7/48 Sulfuric acid measurements in the exhaust plume of a jet aircraft in flight: Implications for the sulfuric acid formation efficiency**

Max-Planck-Institut für Kernphysik, Bereich Atmosphärenphysik, Heidelberg, Germany  
Deutsches Zentrum für Luft und Raumfahrt, Institut für Physik der Atmosphäre, Oberpfaffenhofen, Germany published 10 April 2002.

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2001GL013813>

**7/49 Simulation of the evolution of aircraft exhaust plumes including detailed chemistry and segregation**

Journal of Geophysical Research ATMOSPHERES Volume 114, Issue D8 27  
April 2008 <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2007JD009104>

**7/50 Climatic impacts of stratospheric geoengineering with sulfate, black carbon and titanium injection**

“We find that the global-mean temperature is effectively maintained at historical levels for the entirety of the period for all three aerosol-injection scenarios, though there is a wide range of side-effects which are discussed in detail.” Source: Atmospheric Chemistry and Physics Received: 12 Published: 4 March 2016 <https://www.atmos-chem-phys.net/16/2843/2016/acp-16-2843-2016.pdf>

**7/1 Microphysical simulations of sulfur burdens from stratospheric sulfur geoengineering**

Source: Atmospheric Chemistry and Physics Received: 19 December 2011 – Published in Atmos. Chem. Phys. Discuss.: 25 January 2012 Revised: 28 April 2012 – Accepted: 8 May 2012 – Published: 31 May 2012 <https://www.atmos-chem-phys.net/12/4775/2012/acp-12-4775-2012.pdf>

**7/2 GEOENGINEERING THE CLIMATE: History and Prospect DAVID KEITH**

Annual Review of Energy and the Environment Vol. 25:245-284 (Volume publication date November 2000) <https://www.annualreviews.org/doi/abs/10.1146/annurev.energy.25.1.245>

**7/3 Tailoring Meridional and Seasonal Radiative Forcing by Sulfate Aerosol Solar Geoengineering**

Z. Dai, D. K. Weisenstein, and D. W. Keith  
John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, USA, John F. Kennedy School of Government, Harvard University, Cambridge, MA, USA  
Source: AGU Publications Geophysical Research Letters January 8, 2018  
[https://keith.seas.harvard.edu/files/tkg/files/dai\\_et\\_al\\_2018\\_geophysical\\_research\\_letters.pdf](https://keith.seas.harvard.edu/files/tkg/files/dai_et_al_2018_geophysical_research_letters.pdf)

**7/4 Efficient formation of stratospheric aerosol for climate engineering by emission of condensible vapor from aircraft**

Jeffrey R. Pierce, Debra K. Weisenstein, Patricia Heckendorn, Thomas Peter, David W. Keith  
Source: GEOPHYSICAL RESEARCH LETTERS, VOL. 37 2010  
<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2010GL043975>

**7/5 Ice Nucleation Kinetics of Aerosols Containing Aqueous and Solid Ammonium Sulfate Particles**

Hui-Ming Hung, Adam Malinowski, and Scot T. Martin  
Division of Engineering and Applied Sciences, Harvard University Publication Date : December 15, 2001  
<https://pubs.acs.org/doi/pdf/10.1021/jp012064h>

**7/6 Negative Aerosol-Cloud re Relationship From Aircraft Observations Over Hebei, China** STUDY shows robust negative aerosol-cloud droplet effective radius ( $r_e$ ) relationship for liquid clouds, which is different from previous studies that found positive aerosol-cloud ( $r_e$ ) relationship over East China using satellite observations.

Received 29 OCT 2017 Accepted 22 DEC 2017 Published online 24 JAN 2018

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2017EA000346>

**7/7 Microphysics and heterogeneous chemistry in aircraft plumes – high sensitivity on local meteorology and atmospheric composition**

European Geosciences Union S. K. Meilinger, B. Karcher, and Th. Peter Max Planck Institute for Chemistry, Mainz, Germany DLR Oberpfaffenhofen, Institute for Atmospheric Physics, Wessling, Germany Institute for Atmospheric and Climate Sciences, ETH Zurich, Switzerland

Published: 21 February 2005

<https://www.atmos-chem-phys.net/5/533/2005/acp-5-533-2005.pdf>

**7/8 The use of aircraft for meteorological research in the United Kingdom KRISTY McBEATH Royal Meteorological Society** Received 22 August 2013; Revised 12 November 2013;

Accepted 20 November 2013

<https://rmets.onlinelibrary.wiley.com/doi/epdf/10.1002/met.1448>

**7/9 AIRCRAFT EMISSIONS AT CRUISE AND PLUME PROCESSES**

Atmospheric Physics pp 675-692 17 July 2012

[https://link.springer.com/chapter/10.1007/978-3-642-30183-4\\_41](https://link.springer.com/chapter/10.1007/978-3-642-30183-4_41)

**7/10 ON THE POTENTIAL IMPORTANCE OF SULFUR-INDUCED ACTIVATION OF SOOT PARTICLES IN NASCENT JET AIRCRAFT EXHAUST PLUMES**

*Atmospheric Research* Volume 46, Issues 3–4, May 1998, Pages 293-305

<https://www.sciencedirect.com/science/article/pii/S0169809597000707>

**7/11 Field and Laboratory Studies of Atmospheric Organic Aerosol**

Thesis by **Matthew Mitchell Coggon** California Institute of Technology 2016

<https://search.proquest.com/openview/d38978e2c2b7327b58da1920418e8ff3/1?pq-origsite=gscholar&cbl=18750&diss=y>

**7/12 Composite study of aerosol export events from East Asia and North America**

*Atmospheric Chemistry and Physics* an open-access journal of the **European Geosciences Union** Received : 30 Jul 2012 Published: 01 Feb 2013

<https://www.atmos-chem-phys.net/13/1221/2013/acp-13-1221-2013.html>

**7/13 Ultrafine particle size distributions measured in aircraft exhaust plumes**

Charles A. Brock, Department of Engineering, University of Denver, Denver Colorado. Franz Schroder, Bernd Karcher, Andreas Petzold, Reinhold Busen, Markus Fiebig **Copyright 2000 American Geophysical Union**

[http://www.pa.op.dlr.de/~pa1c/JGR105\\_26555-26568\\_2000.pdf](http://www.pa.op.dlr.de/~pa1c/JGR105_26555-26568_2000.pdf)

**7/14 Substantial convection and precipitation enhancements by ultrafine aerosol particles** Research article downloaded from <http://science.sciencemag.org/> January 25, 2018  
This article cites 49 articles, 9 of which you can access for free. Source: Research Gate  
<https://zerogeengineering.com/wp-content/uploads/2018/04/SubstantialconvectionandprecipitationenhancementsbyultrafineaerosolparticlesGoAmazonScience25Jan2018.full-2.pdf>

## **NON-GOVERNMENT ORGANIZATIONS & WORKING GROUPS & GOVERNANCE**

**7/15 Institutional Legitimacy and Geoengineering Governance** by Daniel Edward Calles  
Chair of International Political Theory, Goethe-Universität, Frankfurt, Germany. January 8, 2019. "...if we are to move forward with significant research, development, and certainly any future deployment, legitimate governance is a must." Source: <https://www.tandfonline.com/doi/full/10.1080/21550085.2018.1562523>

**7/16 Geoengineering: Governance and Technology Policy** Congressional Research Services. Last paragraph of the research paper concludes that governance will be challenging legally. January 10, 2011 Source: <https://www.tandfonline.com/doi/full/10.1080/21550085.2018.1562523>

**7/17 A New Security Framework for Geoengineering** Elizabeth L. Chalecki, Lisa L. Ferrari  
"We argue that, lacking explicit scientific or legal guidance, Just War Theory provides a useful normative framework for restraining the use of environmental force." source: **Strategic Studies Quarterly** – Summer 2018 [http://www.airuniversity.af.mil/Portals/10/SSQ/documents/Volume-12\\_Issue-2/Summer2018.pdf](http://www.airuniversity.af.mil/Portals/10/SSQ/documents/Volume-12_Issue-2/Summer2018.pdf)

**7/18 MANIFESTO AGAINST GEOENGINEERING** 110 civil society organizations and popular movements denounce geoengineering and demand an immediate stop to all open-air experiments. October 2018 Source: <http://www.geoengineeringmonitor.org/2018/10/hands-off-mother-earth-manifesto-against-geoengineering/>

**7/19 Vatican Seminar on the Governance of Geoengineering** "...scientists are developing new technologies, including carbon dioxide removals and solar radiation management... what risks do these technologies pose, and what potential benefits might they offer? What ethical, diplomatic, economic and governance concerns do they raise? And how should these concerns be addressed?" in conjunction with the Carnegie Climate Geoengineering Governance Initiative December 2017 Source: <https://www.c2g2.net/vatican-seminar-on-governance-ethical-dimensions-of-geoengineering/>

**7/20 Can Our Governments Manage Large-Scale Carbon Dioxide Removal?** Carnegie Council for Ethics in International Affairs Seminar/Working Group January 18, 2019 Source: <https://www.c2g2.net/>

**8/21 Keutsch Research Group, Harvard University, SCoPEX Governance** "The SCoPEX research team has sought external advice from a range of stakeholders for governing SCoPEX." The document outlines the how decisions regarding experiments are made. Source: <https://projects.iq.harvard.edu/keutschgroup/scopex-governance>

**8/22 PNAS COLLOQUIUM INTRODUCTION**

Improving our fundamental understanding of the role of aerosol - cloud interactions in the climate system. climate | aerosol | cloud effects | general circulation models | radiative forcing | satellite observations Source: Proceedings of the National Academy of Sciences (PNAS) May 24, 2016 vol. 113 no. 21

<http://www.pnas.org/content/pnas/113/21/5781.full.pdf>

**8/23 A Plan for the next phase in Weather Modification Science and Technology Development** by T. P. DeFelice WMA Annual Meeting, San Diego, CA 2005; 16th Weather Modification Conference Source: <https://ams.confex.com/ams/pdfpapers/86444.pdf>

**8/24 WMO OPERATING PLAN 2016-2019** World Meteorological Organization Weather, Climate, Water. October 2016 Version “Improved delivery of high quality weather, climate, water, and related environmental products and services to users’ communities, especially for aviation” Source: [https://www.wmo.int/pages/about/documents/WMOOP2016-2019\\_October2016version.pdf](https://www.wmo.int/pages/about/documents/WMOOP2016-2019_October2016version.pdf)

**8/25 Aviation and the Global Atmosphere - Special Report IPCC - Aerosol Emission and Formation in Aircraft Plumes** “Aviation-produced aerosol can directly or indirectly influence the radiation budget of the atmosphere” Source: AVIATION AND GLOBAL ATMOSPHERE Cambridge University Press 1999 Summary for Policymakers IPCC, Geneva, Switzerland. WMO / UNEP report sights numerous 1997 studies. <http://www.ipcc.ch/ipccreports/sres/aviation/index.php?idp=34>

**8/26 Governing Solar Radiation Management - Academic Working Group on Climate Engineering Governance. Forum for Climate Engineering Assessment.** Source: <http://ce-assessment.org/srmreport/>

**8/27 Harvard Project Conducts Research Workshop on Governance of Solar Geoengineering** The Harvard Project on Climate Agreements press release regarding 26 leading academic researchers and scholars considered **the laws in other countries** while discussing the need for new governance ideas regarding geoengineering. .Source: <https://www.belfercenter.org/publication/harvard-project-conducts-research-workshop-governance-solar-geoengineering>

**8/28 STANFORD JOURNAL of LAW SCIENCE AND POLICY Editor’s Note: Geoengineering Governance Systems** This journal’s volume on geoengineering builds off of our previous environmental issue, on **maritime governance**... Source: <https://law.stanford.edu/wp-content/uploads/2018/05/wannier.pdf>

**8/29 Scenario for Planning Solar Radiation Management - Yale Climate and Energy Institute Workshop Report and Scenarios August 2013**

Source: Yale Climate and Energy Institute with thanks to the Government of Canada and Ontario [https://www.cigionline.org/sites/default/files/gswg1\\_scenario\\_planning\\_for\\_srm\\_august\\_2013.pdf](https://www.cigionline.org/sites/default/files/gswg1_scenario_planning_for_srm_august_2013.pdf)

**8/30 Monitoring of geoengineering effects and their natural and anthropogenic analogues**

Graeme Stephens, Riley Duren, Douglas MacMynowski, Alan Robock  
Source: KECK Institute for Space Studies March-December 2011  
[http://kiss.caltech.edu/final\\_reports/Geoengineering\\_final\\_report.pdf](http://kiss.caltech.edu/final_reports/Geoengineering_final_report.pdf)

**NEWS****8/31 Solar Geoengineering Research Needs Rules as Outdoor Experiments Planned, Carnegie C2G2 Initiative warns**

Source: (PRWEB) April 06, 2018 MEDIA ADVISORY from Carnegie Climate Geoengineering Governance Initiative (C2G2), an initiative of Carnegie Council for Ethics in International Affairs.

<http://www.prweb.com/releases/2018/04/prweb15387056.htm>

**8/32 U.S. CONSIDERS SELLING PARTS OF WEATHER SERVICE TO PRIVATE**

**SIDE** Washington Post Article March 8, 1983 Source CIA Archive - <https://www.cia.gov/library/read-ingroom/document/cia-rdp85m00363r001102400006-2>

**8/33 Will the world ever be ready for solar geoengineering?**

C&EN Washington

*C&EN*, 2018, 96 (13), pp 28–33 March 26, 2018

<https://pubs.acs.org/doi/abs/10.1021/cen-09613-cover?journalCode=cgeabj>

**8/34 THE BIG BAD FIX** ETC Group, BiofuelWatch and Heinrich Boell Foundation present a comprehensive argument against geoengineering in this report. Source: Geoengineering Monitor Category: Carbon Capture and Storage December 6, 2017

<http://www.geoengineeringmonitor.org/cat/technologies/carbon-dioxide-removal/carbon-capture-storage-ccs/>

**8/35 C-130 Hercules Aerial Spraying**

Source: Lockheed Martin CODE ONE: 2016 Vol. 31, No. 1 23 August 2011

[http://www.codeonemagazine.com/article.html?item\\_id=79](http://www.codeonemagazine.com/article.html?item_id=79)

**8/36 Ionogenics Announces Corporate Launch: First Environmentally Friendly Weather Modification Technology for US and Canadian Markets**

Business Wire. Press Release February 25, 2003 source: <https://www.businesswire.com/news/home/20030225005435/en/Ionogenics-Announces-Corporate-Launch-Introduces-Environmentally-Friendly-Weather>

**8/37 A Critical Examination of Geoengineering: Economic and Technological Rationality in Social Context**

source: ARTICLE in Sustainability 2018,10, 269

[www.mdpi.com/journal/sustainability](http://www.mdpi.com/journal/sustainability) ©2018 by the authors. Licensee MDPI, Basel, Switzerland.

<https://zerogeoeengineering.com/wp-content/uploads/2018/04/sustainability-10-00269.pdf>

**8/38 China to Make it Rain Over Area Three Times the Size of Spain**

source: RussiaToday April 8, 2018

<https://www.rt.com/business/423508-china-project-forces-rainfall/>

**8/39 Genetically Modified Weather: The Tale of FROSTBAN™ Synthetic Bacteria**

Sights additional articles about the origins of geoengineered weather. Source: MIT ClimateX December 2017

<https://climatex.mit.edu/genetically-modified-weather-tale-frostban%E2%84%A2-synthetic-bacteria>

#### **8/40 CIA Backs \$630,000 Scientific Study on Controlling Global Climate**

Well Researched ARTICLE Source: Mother Jones Magazine Jul. 17, 2013

<https://www.motherjones.com/politics/2013/07/cia-geoengineering-control-climate-change/>

#### **8/41 Geoengineering: The Technological Fix to Climate Change?**

source: Article / Broadcast By Ellis Robinson Aspen Public Radio Jul 31, 2013

<http://aspenpublicradio.org/post/geoengineering-technological-fix-climate-change>

#### **8/42 How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation**

Article By Mark Hertsgaard and Mark Dowie. The Nation Magazine March 29, 2018 <https://www.thenation.com/article/how-big-wireless-made-us-think-that-cell-phones-are-safe-a-special-investigation/>

#### **8/43 Could Fiber be the Final Frontier of High-Speed Internet?**

Article by Herald-Times, Bloomington, Ind. / April 18, 2017

GOVERNMENT TECHNOLOGY MAGAZINE

<http://www.govtech.com/network/Could-Fiber-be-the-Final-Frontier-of-High-Speed-Internet.html>

#### **8/44 Military Wants to Develop RF Phased Array Common Modules for the Defense Industry**

by John Keller “DARPA ACT contractors have developed a common module solution that serves as a broadband 32-channel digital receiver, exciter, and beam-forming module. Now military researchers want to move this technology to a third party for commercializing and production manufacturing.”

Source: Military & Aerospace Electronics, May 2018 pg. 27-29. [https://digital.militaryaerospace.com/militaryaerospace/201805/MobilePagedReplica.action?sub\\_id=CfrFHADUEUjn&u1=DA0518&pm=2&folio=26#pg28](https://digital.militaryaerospace.com/militaryaerospace/201805/MobilePagedReplica.action?sub_id=CfrFHADUEUjn&u1=DA0518&pm=2&folio=26#pg28)

#### **8/45 Researcher: Ban Patents on Geoengineering Technology**

Physicist David Keith, who has been working on technologies to block sunlight to slow global warming, argues that such efforts need to remain in the public domain

Source : Scientific American By Anne C. Mulkern, ClimateWire April 18, 2012

<https://www.scientificamerican.com/article/researcher-ban-patents-on-geoengineering-technology/>

#### **8/46 Blasting aerosol into the sky to cool the planet might lead to drought and hurricanes**

ARTICLE The Verge Magazine By Angela Chen Nov 14, 2017

stratospheric aerosol injection: Aerosols are supposed to build a reflective layer that blocks out part of the Sun and cool the Earth.

<https://www.theverge.com/2017/11/14/16644188/stratospheric-aerosol-injection-climate-geoengineering-weather-hurricane-drought-africa>

#### **8/47 First Comprehensive Weather Policy Update Since 1992 Now Law** (AIP) American

Institute of Physics. Publication date: 21 April 2017 Number: 48 Source: <https://www.aip.org/fyi/2017/first-comprehensive-weather-policy-update-1992-now-law>

**8/48 SCIENCE DIRECT Cloud Seeding An Overview** a compendium of helpful definitions. Cloud seeding involves the addition of aerosol, such as silver iodide aerosol, that modifies the phase and size distribution of hydrometeors. 2018 source: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/cloud-seeding>

**8/49 National Severe Storms Laboratory NSSL Research Tools: NEXRAD**  
Source: <https://www.nssl.noaa.gov/tools/radar/nexrad/>

**8/50 Your Towers Can Make a Buck as Meteorological Data Providers**  
Source: <https://insidetowers.com/cell-tower-news-towers-can-make-buck-meteorological-data-providers/>

**8/1 Sebastopol, CA: Consider The Plights of Those Living At An Attractive and Well-Managed Affordable Housing Project - 250 to 500 feet from a Macro Cell Tower** [Scientists for Wired Technology](#) Advocacy based on Scientists' research of the hazards of pulsed, data-modulated, Radiofrequency Microwave Radiation <http://scientists4wiredtech.com/sebastopol/>

**8/2 High Levels Of Wireless Radiation At Arundel High School**  
Long-term exposure is now being linked to cancer, ADHD, and DNA damage.  
By [Brian Dobbs, Patch Poster](#) | Feb 14, 2019 3:00 pm ET | Updated Feb 14, 2019 3:23 pm ET  
Source: [https://patch.com/maryland/edgewater/high-levels-wireless-radiation-arundel-high-school?fbclid=IwAR0DZwyZv87Jg9k07XIIC17ZEzRMq\\_LLnRHxjYILDyFK45s8Qq1A-32zZhU](https://patch.com/maryland/edgewater/high-levels-wireless-radiation-arundel-high-school?fbclid=IwAR0DZwyZv87Jg9k07XIIC17ZEzRMq_LLnRHxjYILDyFK45s8Qq1A-32zZhU)

**8/3 Lasers Used To Trigger Thunderstorms For The First Time Optical** Published January 11, 2019 Optical Society of America Source: <https://principia-scientific.org/lasers-used-to-trigger-thunderstorms-for-the-first-time/>

## **IMPORTANT VIDEO PRESENTATIONS**

**8/4 UN Keynote speaker Rosalind Peterson of AgricultureDefenseCoalition.org**  
Keynote speaker at the UN in 2007, talking about the dangers and harmful impacts of Weather Modification, climate remediation, and GeoEngineering regimes on the public health and agriculture. Ms. Peterson was a primary author of THE GEOENGINEERING ACT of 2017. source: <https://www.youtube.com/watch?v=OpR5vzstDD4>

**8/5 2007 U.S. Congressional Staff Briefing** by B. Blake Levitt Cell Phone Tower Radiation Pollution A U.S. Regulatory Health Issue and What To Do About It Source: [https://www.youtube.com/watch?time\\_continue=10&v=00CBHFoL5Hw](https://www.youtube.com/watch?time_continue=10&v=00CBHFoL5Hw)

**8/6 Potential Risks to Human Health from Future Sub-MM Communication Systems: Paul Ben-Ishai, PhD**  
presented February 15, 2017 Israel Institute for Advanced Studies at Hebrew University  
FULL LECTURE  
<https://www.youtube.com/watch?v=VuVtGldYXK4>

**8/7 Dr. Erica Mallery-Blythe - Electromagnetic Radiation, Health and Children 2014**

Dr. Erica Mallery-Blythe highlights the health concerns regarding use of radiofrequency (Group 2b Carcinogen) communication devices in this concise summary. Aimed especially at protecting the health of children, but valuable to all, this presentation highlights the current cautions from independent scientists globally on the issue of unregulated microwave exposure from rapidly escalating use of such devices and cell towers, etc. Unprecedented revenue has blocked appropriate precaution to hazards of electromagnetic technology on living systems, and how to protect health. FULL LECTURE [https://www.youtube.com/watch?time\\_continue=341&v=sNFdZVeXw7M](https://www.youtube.com/watch?time_continue=341&v=sNFdZVeXw7M)

**8/8 "The truth about mobile phone and wireless radiation" -- Dr Devra Davis** "The truth about mobile phone and wireless radiation: what we know, what we need to find out, and what you can do now" Presented by Dr Devra Davis, Visiting Professor of Medicine at the Hebrew University Hadassah Medical School, and Visiting Professor of Medicine at Ondokuz Mayıs University, Turkey. December 02, 2015 source: [https://www.youtube.com/watch?time\\_continue=27&v=BwyDCHf5iCY](https://www.youtube.com/watch?time_continue=27&v=BwyDCHf5iCY)

**8/9 Wireless wake-up call | Jeromy Johnson | TEDxBerkeley** . Jeromy Johnson has an advanced degree in Civil Engineering and has worked in Silicon Valley for 15 years. After becoming what medical doctors call "Electro-hypersensitive" (EHS) in 2011 after extensive exposure to EMF radiation, he embarked on a journey of regaining his own health and educating others to critically evaluate theirs. February 18, 2016 source: <https://www.youtube.com/watch?v=F0NEaPTu9oI>

**8/10 INVESTORS TRADING ON WEATHER** Investors at Chicago Mercantile Exchange trading weather futures and options WISN 12 News Published on Mar 1, 2011 Source: <https://www.youtube.com/watch?v=DJ34lh5LVSU&feature=related>

**8/11 Weather Modification Using Electromagnetic Beams Common Knowledge at Aqiess,Inc.** Aqiess Global Rain Project. KTNKenya News interview clips. Important Note: Aqiess company website is no longer available. Also of Note: finance background of second founder. Published on YouTube June 26, 2014 Source: [https://www.youtube.com/watch?time\\_continue=126&v=cEQC-jYMjf8](https://www.youtube.com/watch?time_continue=126&v=cEQC-jYMjf8)

**RHODE ISLAND LOCAL TEST RESULTS**

**8/12 Rain Water and Snow** certified lab reports showing levels of Aluminum, Barium, Strontium, and Sulfur across Rhode Island.

**8/13 Microwave Readings from East Greenwich to Providence** taken by a civilian using an \$400 piece of equipment called an Accoustimeter.

**BOOKS & REPORTS**

**9/1 Investigations of Cloud Altering Effects of Atmospheric Aerosols using a New Mixed Eulerian-Lagrangian Aerosol Model** HENRY DONNAN STEELE Center for Global Change - Science Department of Earth, Atmospheric and Planetary Sciences - MIT, Cambridge, MA September 2004  
source: [http://web.mit.edu/cgcs/www/MIT\\_CGCS\\_Rpt74.pdf](http://web.mit.edu/cgcs/www/MIT_CGCS_Rpt74.pdf)

**10/1 AIR FORCE WEATHER – OUR HERITAGE 1937 TO 2012**  
<https://media.defense.gov/2015/Sep/11/2001329838/-1/-1/0/AFD-150911-027.pdf>