DUŠE K - O OVLIVŇOVÁNÍ POČASÍ S RADOVANEM ☺

Zpracoval: Radovan Dluhy-Smith

PROČ SE OVLIVŇOVÁNÍM POČASÍ ZABÝVAT

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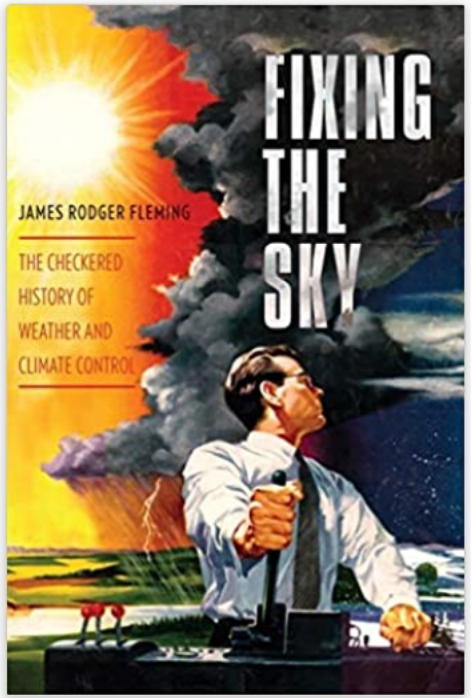
9:16
12.02.2021

*„**Masivní osévání mraků** tohoto typu a ty, které byly navrženy již v 50. letech Irvingem Langmuirem, mají takový rozsah, že **mohou mít dopad na klima**.“* vědecký historik **Jim Fleming (americký profesor z Colby College)** Jim Fleming (@JFlemingHistory) December 4, 2018



Fixing the Sky: The Checkered History of Weather and Climate Control (Columbia Studies in International and Global History)

Paperback – Illustrated, January 31, 2012

by James Fleming (Author)

★★★★☆ 15 ratings

Part of: Columbia Studies in International and Global History (20 Books)

As alarm over global warming spreads, a radical idea is gaining momentum. Forget cuts in greenhouse gas emissions, some scientists argue. Instead, bounce sunlight back into space by

CHOVÁ SE JEŠTĚ VŮBEC POČASÍ A KLIMA PŘIROZENĚ?

Polar vortex to unleash frigid Arc

yahoo.com/news/polar-vortex-unleash-frigid-arctic-042556017.html

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Arctic circle that acts to reroute pieces of the cold polar vortex southward.

/ Credit: CBS News

This type of pattern creates extremes all over the world. For the past couple of weeks, instead of a gradual temperature gradient around the Northern

Bitter Arctic blast strikes northern U.S. and pushes south

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ÚVOD A MÉ ČLÁNKY

Dluhy-Smith: Osévání mraků, ionosférická zrcadla. Co když klima doplácí na pokusy s počasím?

28. 10. 2019

Pokusy řídit počasí mohly zásadně ovlivnit klima ve světě, míní Radovan Dluhy-Smit z katedry rozvojových a environmentálních studií Univerzity Palackého v Olomouci. V komentáři nabízí jiný pohled na globální oteplování.

Komentář: Poručíme větru, dešti. Možné nedozírné následky klimatického inženýrství

AKTUALIZOVÁNO 7. 5. 2019

„Ti, kteří poroučí počasí, mohou vládnout světu," prohlásil již v roce 1962 prezident Spojených států Lyndon B. Johnson.

Dluhy-Smith: Arktida se zahřívá a mocnosti vyhlížejí zmrzlý poklad. Ropu, plyn i vzácné kovy

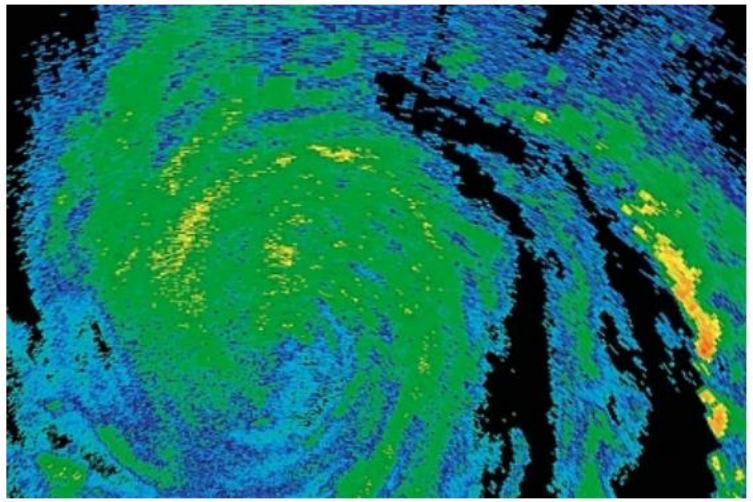
16. 1. 2020

Od dávných časů lákaly Grónsko a Arktida různé dobrodruhy, ale i vědce, průmyslníky a světové velmoci pro jejich nerostné bohatství a strategické umístění. Velkou překážkou bylo vždy zdejší nehostinné klima. Koneckonců si zde zažil své i moravský cestovatel a vypravěč Jan Eskymo Welzl, který v těchto končinách strávil mnoho let.

Pokusy s počasím mohly zásadně přispět ke globální změně klimatu

30. 11. 2020 18:00 PRO-ENERGY Martin Havel

říká pro PRO-ENERGY magazín Radovan Dluhy-Smith z Katedry rozvojových a environmentálních studií Univerzity Palackého v Olomouci.



TECHNOLÓGIE # KLÍMA # DOPRAVA # ŽIVOTNÉ PROSTREDIE

ABSTRACT: Weather modification has an important impact on climate change, says in an interview Radovan Dluhy-Smith from the Department of Development and Environmental studies at Palacký's University in Olomouc.

Dnes je v energetice ale i mimo ni zásadní téma snižování emisí ublíku či obecně skleníkových

KONTEXT A SOUVISLOSTI (ILUZE ODDĚLENOSTI) - SNAHA CIVILIZACE OVLÁDNOUT, PODMANIT SI PŘÍRODU, DOPADY

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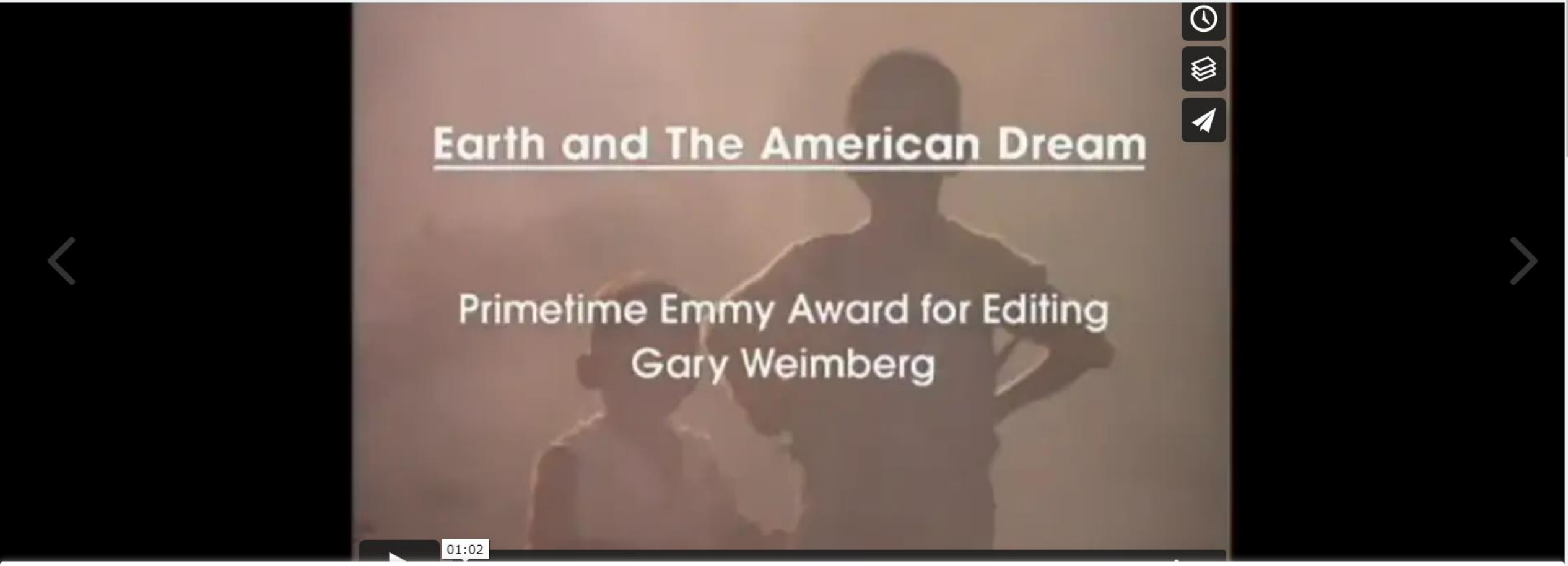

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11:00
09.02.2021

Od 70. let jsme zlikvidovali 60% divoké zvěře

60% of world's wildlife has been

cbc.ca/news/technology/living-plant-wwf-2018-1.4882819

60% of world's wildlife has been wiped out since 1970

Problem more dire in Central, South America and Caribbean, study finds

Emily Chung · CBC News · Posted: Oct 29, 2018 8:00 PM ET | Last Updated: November 1, 2018

16:15
29.01.2021

Rapidní snížení množství hmyzu hrozí kolapsem přírody

Plummeting insect numbers 'thre

theguardian.com/environment/2019/feb/10/plummeting-insect-numbers-threaten-collapse-of-nature

Insects

Plummeting insect numbers 'threaten collapse of nature'

Damian Carrington
Environment editor
@dpcarrington

Sun 10 Feb 2019
18.00 GMT

78k 1393

16:19
29.01.2021

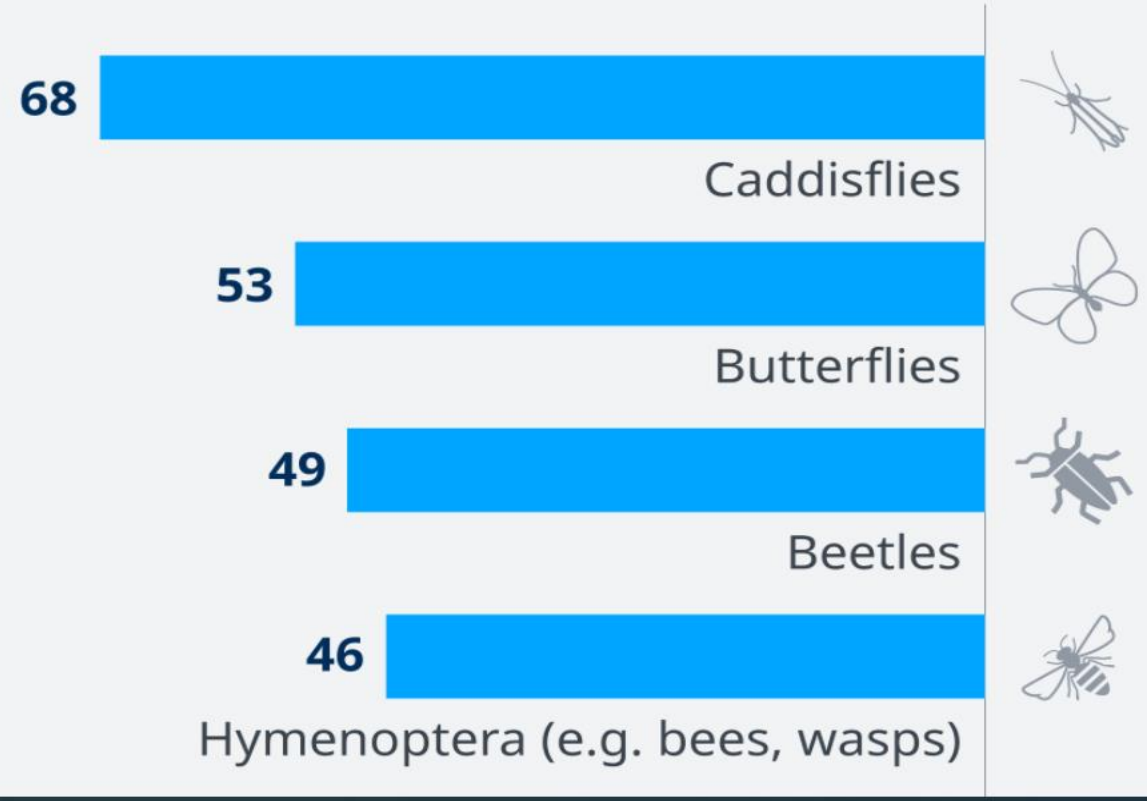
Za deset let jsme vyhubili:

How to stop an insect apocalyps

dw.com/en/how-to-stop-an-insect-apocalypse/a-47723711

Insects are disappearing

Decrease of insect populations over the past decade, in %



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Based in Lagos, Nigeria's largest city, Chris Ilems presents environmental issues and solutions from West Africa.

ECO@INDIA

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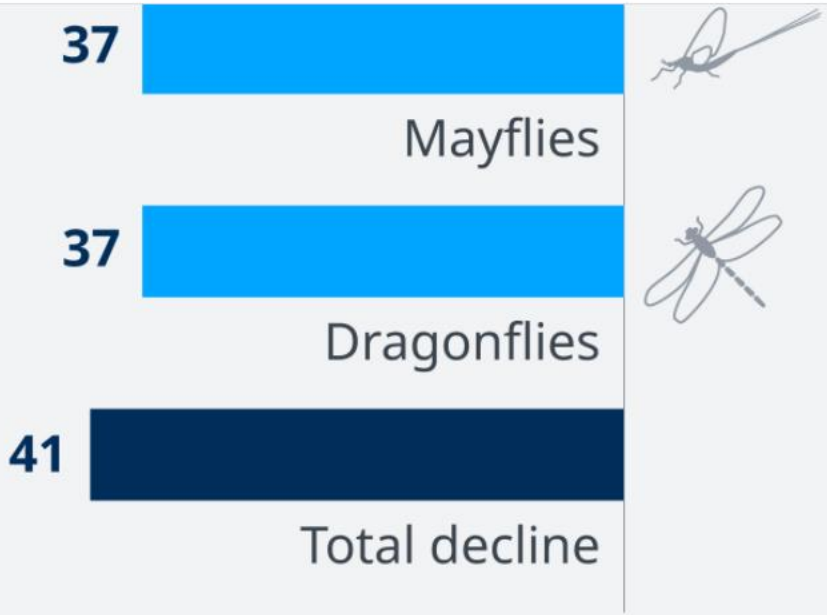


Source: Sanchez-Bayo & Wyckhuys, Biological Conservation | 2019 ©DW

The results are "shocking," says Francisco Sanchez-Bayo, environmental scientist at the University of Sydney and co-author of the study. He predicts "catastrophic consequences."

"The word catastrophic is appropriate because the disappearance of insects brings with it the starvation of myriad vertebrates that depend on them, and therefore the collapse of entire ecosystems," he told DW.

Read more: 'We cannot survive without insects'

Insects don't only play an important role in our food production, by providing a free pollination

Eco India - TheEnvironment Magazine

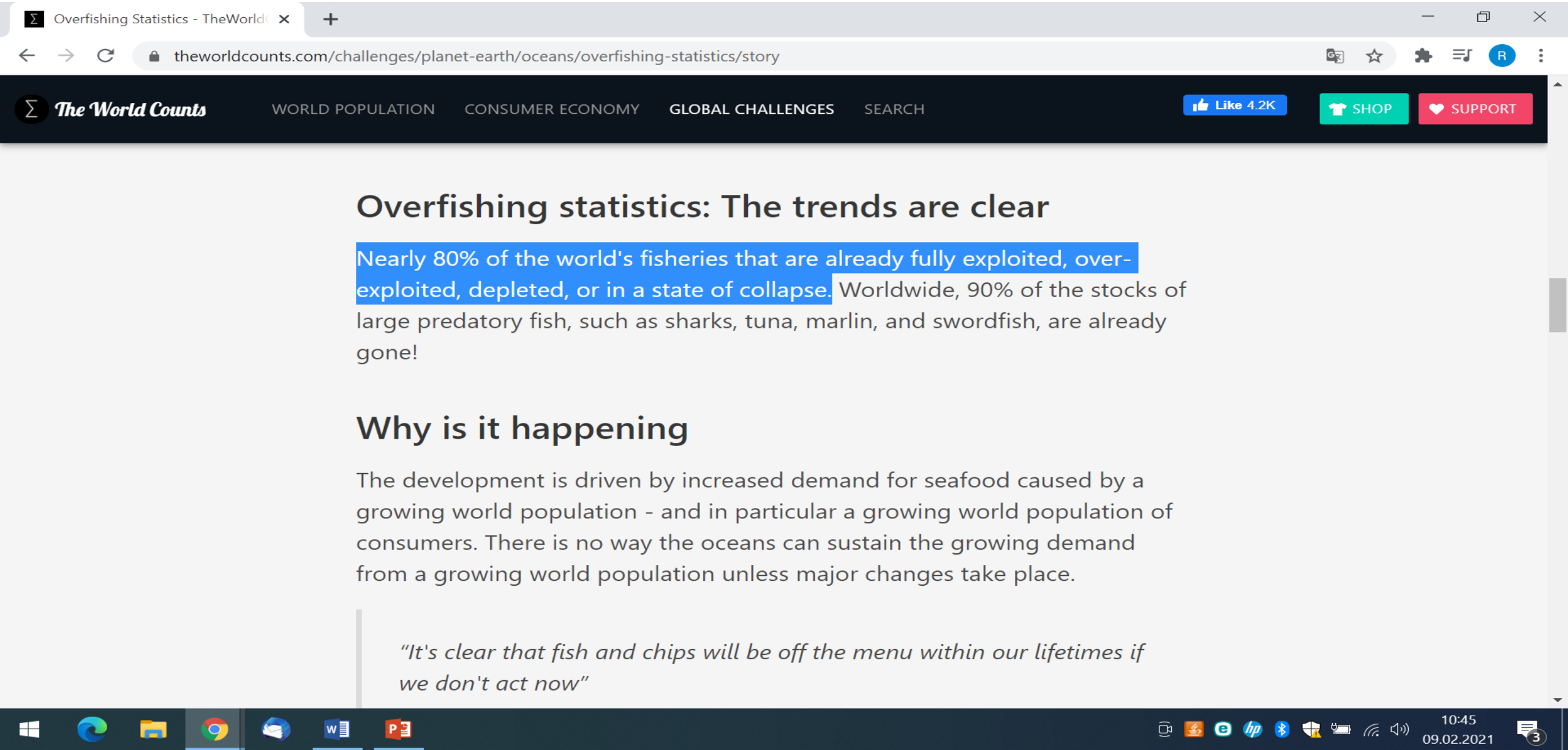
Fighting different types of pollution in order to relieve the environment and improve our quality of life.

GLOBAL IDEAS

Composting dead pets to grow new life in Colombia

A Colombian start-up allows bereaved pet-owners to return their companions to the cycle of life.

Vychytali jsme 80% z celkového množství ryb v oceánech

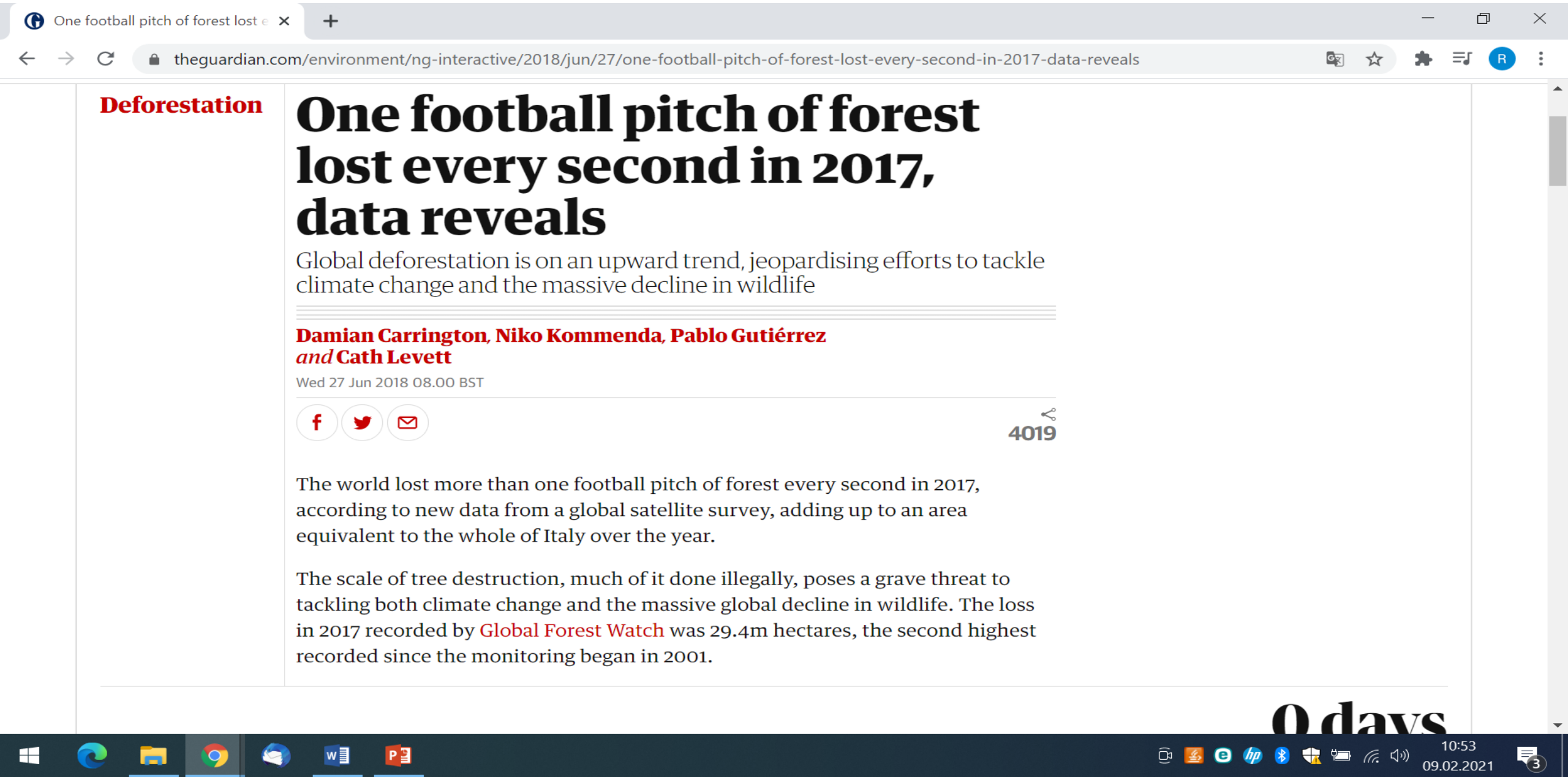


2048

No more fish

The world's oceans could be virtually emptied for fish by 2048. A study shows that if nothing changes, we will run out of seafood in 2048. If we want to preserve the ecosystems of the sea, change is needed.

Každou sekundu vykácíme les o rozloze fotbalového hřiště



Žijeme v období šestého masového vymírání druhů, tvrdí vědci

Earth's sixth mass extinction ever

theguardian.com/environment/2017/jul/10/earths-sixth-mass-extinction-event-already-underway-scientists-warn

species

Earth's sixth mass extinction event under way, scientists warn

Researchers talk of 'biological annihilation' as study reveals billions of populations of animals have been lost in recent decades

Opinion: You don't need a scientist to know what's causing the sixth mass extinction

Damian Carrington
Environment editor
@dpcarrington

Mon 10 Jul 2017
20.00 BST

27k 2 886

▲ Earth already in midst of sixth mass extinction, scientists say – video report

16:11
29.01.2021

PNAS
Proceedings of the National Academy of Sciences of the United States of America

RESEARCH ARTICLE

Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines

Gerardo Ceballos, Paul R. Ehrlich, and Rodolfo Dirzo

PNAS July 25, 2017 114 (30) E6089-E6096; first published July 10, 2017; https://doi.org/10.1073/pnas.1704949114

Contributed by Paul R. Ehrlich, May 23, 2017 (sent for review March 28, 2017; reviewed by Thomas E. Lovejoy and Peter H. Raven)

See related content:
Extinction tsunami can be avoided - Jul 26, 2017

PŘES STUDIUM A VÝZKUM KLIMATICKÝCH ZMĚN K OVLIVŇOVÁNÍ POČASÍ – ROLE MRAKŮ

Varování o klimatu a riziko společenského kolapsu

Paris climate agreement

A warning on climate and the risk of societal collapse

Letters

Sun 6 Dec 2020 16.48 GMT

Scientists and academics including **Prof Gesa Weyhenmeyer** and **Prof Will Steffen** argue that we must discuss the threat of societal disruption in order to prepare for it

LEDY TAJÍ MNOHEM RYCHLEJI, NEŽ TY NEJPESIMISTĚJŠÍ SCÉNAŘE

THE BYTE.

FEB 3

by DAN ROBITZSKI

/ EARTH & ENERGY

Climate change: Sir David Attenborough warns of 'catastrophe'

By Matt McGrath
Environment correspondent

18 April 2019

UK climate change protests

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Access appears to be partially restored as tens of thousands protest against the military coup.

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Colin Butfield, WWF's Executive Producer for the film, says: "For decades, David has brought the

Druhá světová válka je klíčem k pochopení globálního oteplování

Journal of Geography, Environment and Earth Science International

23(4): 1-13, 2019; Article no.JGEESI.52513
ISSN: 2454-7352

World War II Holds the Key to Understanding Global Warming and the Challenges Facing Science and Society

J. Marvin Herndon[1*]

[1]Transdyne Corporation, 11044 Red Rock Drive San Diego, CA 92131 USA.

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/JGEESI/2019/v23i430181
Editor(s):
(1) Dr. Anthony R. Lupo, Professor, Department of Soil, Environmental and Atmospheric Science, University of Missouri, Columbia, USA.

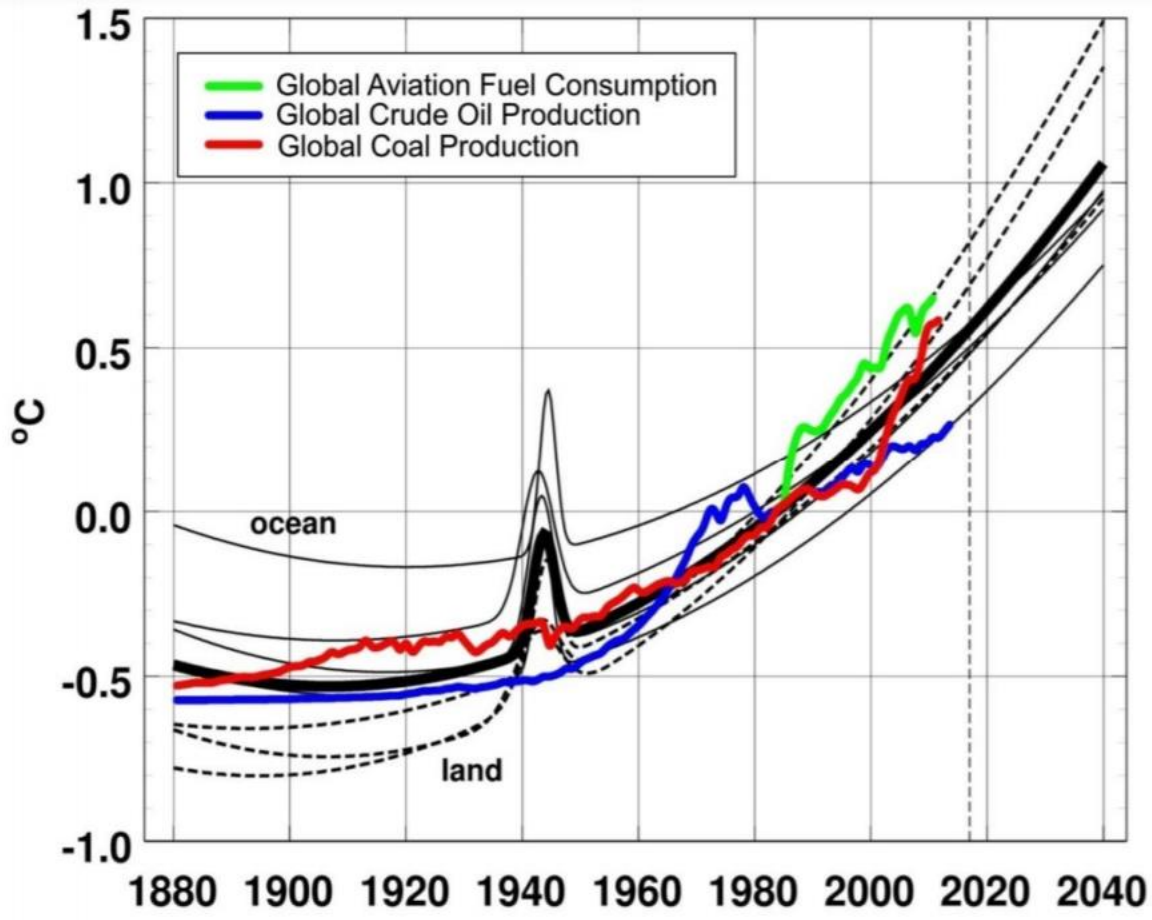


Fig. 1. From [8]. Copy of Gottschalk's fitted curves for eight NOAA data sets showing relative temperature profiles over time [13] to which are added proxies for particulate pollution

Published: 26 February 1998

Clouds, contrails and climate

John H. Seinfeld

Nature **391**, 837–838(1998) | Cite this article

Cirrus clouds warm the Earth. Their formation is incompletely understood, but recent studies hint that they can evolve from jet contrails. This is an unsuspected, but possibly important, effect of human activity on climate — offering a new way to study the processes involved.

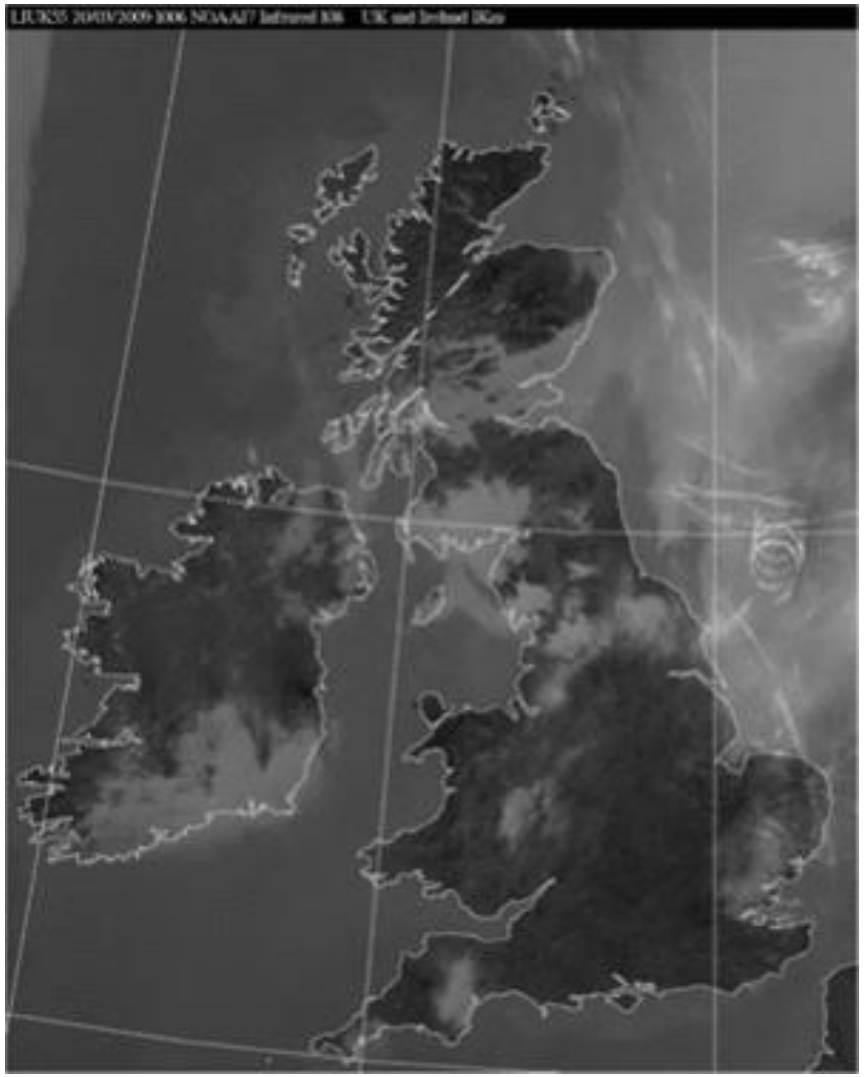
More than half of the solar radiation reflected by the Earth comes from clouds. So how might increasing levels of anthropogenic aerosols — sulphates, organics and trace gases such as nitric acid — affect the formation of cirrus clouds over the planet and thereby alter the radiation balance?

Cirrus clouds form in the upper troposphere when supercooled water droplets or ice

KLÍČOVÁ ROLE MRAKŮ PRO KLIMATICKÉ ZMĚNY - Více než polovina solární radiace, která se odráží od Země je způsobena mraky.

Cirrus Mraky> Skleníkové plyny

2009



„*Kondenzační stopy* za letadly se mění ve vysoké cirrus mraky, které je těžko rozeznat od přírodních mraků. Tyto rozšiřující se *kondenzační stopy* mohou dnes zapříčinit více globálního oteplování než veškerý oxid uhličitý emitován do ovzduší od začátku letectví.“

Boucher, Olivier (Sorbonna). "Atmospheric science: Seeing through contrails." *Nature Climate Change* 1.1 (2011): 24. – PDF

Haywood, J. M., R. P. Allan, J. Bornemann, P. Forster, P. N. Francis, S. Milton, G. Rädel, A. Rap, K. P. Shine, and R. Thorpe (2009), A case study of the radiative forcing of persistent contrails evolving into contrail-induced cirrus, J. Geophys. Res., 114, D24201, doi:10.1029/2009JD012650.

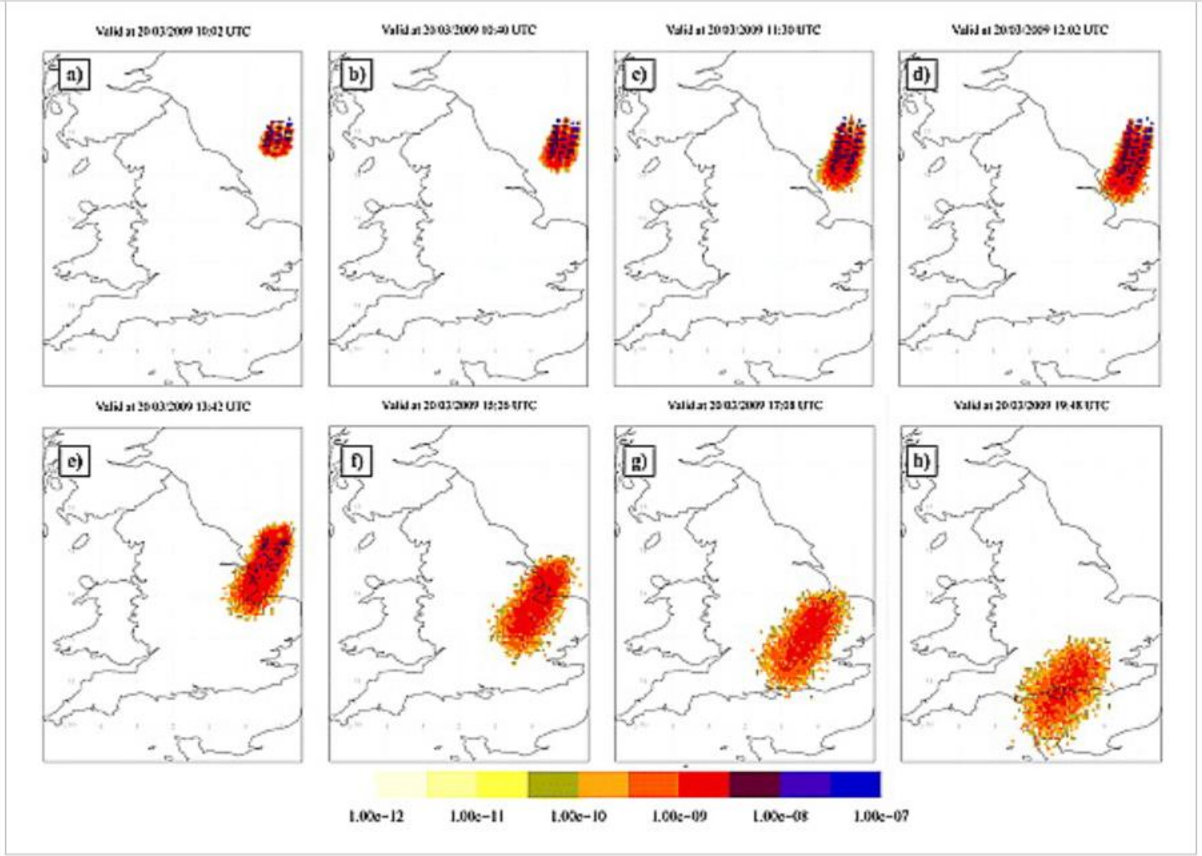


Figure 6

Open in figure viewer | PowerPoint

Results from the NAME model initiating a contrail circle at 30,000 ft during the period 0830 to 1150 UTC on 20 March 2009. The units are nominally g m^{-3} from an initial emission of 1 g s^{-1}.

Metrics

Citations: 45

Am score 12

Details

Keywords

contrails cirrus climate

Publication History

Issue Online:
19 December 2009

Version of Record online:
19 December 2009

Manuscript accepted:
24 September 2009

Abstract

[1] The radiative forcing due to a distinct pattern of persistent contrails that form into contrail-induced cirrus near and over the UK is investigated in detail for a single case study during March 2009. The development of the contrail-induced cirrus is tracked using a number of high-resolution polar orbiting and lower-resolution geostationary satellite instruments and is found to persist for a period of around 18 h, and at its peak, it covers over 50,000 km^2. The shortwave (SW) and longwave (LW) radiative forcing of the contrail-induced cirrus is estimated using a combination of geostationary satellite instruments, numerical weather prediction models, and surface observation sites. As expected, the net radiative effect is a relatively small residual of the much stronger but opposing SW and LW effects, locally totaling around 10 W m^{-2} during daylight hours and 30 W m^{-2} during nighttime. A simple estimate indicates that this single localized event may have generated a global-mean radiative forcing of around 7% of recent estimates of the persistent contrail radiative forcing due to the entire global aircraft fleet on a diurnally averaged basis. A single aircraft operating in conditions favorable for persistent contrail formation appears to exert a contrail-induced radiative forcing some 5000 times greater (in W m^{-2} km^{-1}) than recent estimates of the average persistent contrail radiative forcing from the entire civil aviation fleet. This study emphasizes the need to establish whether similar events are common or highly unusual for a confident assessment of the total climate effect of aviation to be made.

Metrics

Citations: 45

Am score 12

Details

Keywords

contrails cirrus climate

Mraky zůstávají na obloze až 18h a při jejich maximu dosahují rozlohy přes 50,0000 km^2

Kondenzační stopy se transformují na cirrus mraky (výška 6km a více)

Microsoft Word - ASSRJ-Vol 7-Iss

Nezabezpečeno | nuclearplanet.com/jcs.pdf

Aktualizovat

Microsoft Word - ASSRJ-Vol 7-Issue 8-Aug 2020.docx 4 / 16 100%

Figure 1. From [25]. Deliberate jet-emplaced particulate trails, clockwise from top left: San Diego, California, USA; Karnack, Egypt; London, England; Danby, Vermont, USA; Luxembourg; Jaipur, India.

9:20
13.02.2021

Kondenzační stopy se transformují na cirrus mraky (výška 6km a více)

Fig. 1. Geoengineering particulate trails with photographers' permission [4]. clockwise from upper left: Soddy-Daisy, Tennessee, USA (David Tulis), Reiat, Switzerland (Rogerio Camboim SA), Warrington, Cheshire, UK (Catherine Singleton), Alderney, UK looking toward France (Neil Howard), Luxembourg (Paul Berg), New York, New York, USA (Mementosis)

Zhoršují kondenzační stopy (*zplodiny*) za letadly klimatické změny? Ano, problém se bude jenom stupňovat. Efekt globálního oteplování se do roku 2050 až 3x, protože letecká doprava se zvyšuje.

Do airplane contrails add to clim

nbcnews.com/mach/science/do-airplane-contrails-add-climate-change-yes-problem-about-get-ncna1034521

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SPACE SCIENCE TECHNOLOGY ENVIRONMENT INNOVATION POWERING THE FUTURE

ENVIRONMENT

Do airplane contrails add to climate change? Yes, and the problem is about to get worse.

New research suggests the global warming effect will triple by 2050 as air travel increases.

10:52
02.02.2021

Polovina emisí z letadel je zapříčiněná jen 1% lidí

Industry

1% of people cause half of global aviation emissions – study

Exclusive: Researchers say Covid-19 hiatus is moment to tackle elite 'super emitters'

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Damian Carrington
Environment editor
@dpcarrington

Tue 17 Nov 2020
11.50 GMT

6136

Grounded passenger planes at Groningen airport in Eelde, the Netherlands. Photograph: Siese Veenstra/EPA

METODA OSÉVÁNÍ MRAKŮ


Manipulace počasí potvrzena
24
PLANETA VĚDA
připravila Sabina Janovicová
18:31:20
0:41 / 21:02


Manipulace počasí potvrzena
PLANETA VĚDA
Daniela Řezáčová
Ústav fyziky atmosféry AV ČR
1:01 / 21:02
https://www.youtube.com/watch?v=XRscYyQmQZk

Čínské vyvolávání deště. Peking chce uměle upravovat počasí na území větším než Indie

Kateřina Vítková
5. 12. 2020 18:43

Už přes půl století Peking nasazuje do akce letadla i protiletadlové zbraně, aby s pomocí jodidu stříbrného nebo kapalného dusíku kvůli suchu měnily počasí a spustily déšť nebo sněžení. Popřípadě aby naopak rozehnaly mraky před důležitými akcemi, na které se upírá velká pozornost, jako byly loňské oslavy k 70. výročí vzniku Čínské lidové republiky.

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."
- Margaret Mead

"It is natural to man to indulge in the illusions of hope. We are apt to shut our eyes against a painful truth - and listen to the song of that siren, till she transforms us into beasts. Is this the part of wise men, engaged in a great and arduous struggle for liberty? Are we disposed to be of the number of those, who having eyes, see not, and having ears, hear not, the things which so nearly concern their temporal salvation? For my part, whatever anguish of spirit it might cost, I am willing to know the whole truth; to know the worst, and to provide for it."
- Patrick Henry - Speech in the Virginia Convention, March 23, 1775

Attack Ideas, Not People

Medicína a přírodověda

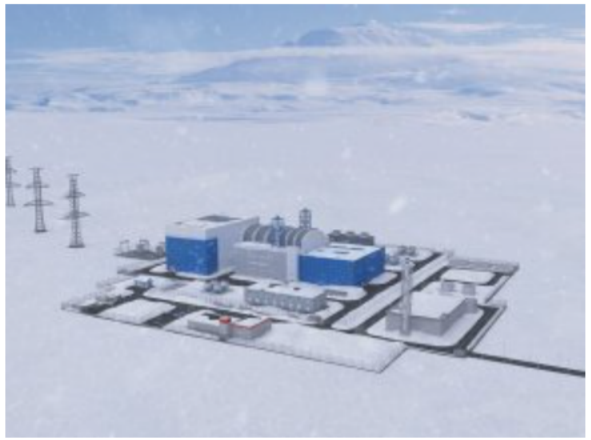
Článků v rubrice: 235

18. srpna 2018

Čína se snaží měnit počasí

Čínští vědci se snaží zvýšit sněhové srážky v oblasti, která je 3 × větší než Španělsko. Cílem je získat další vodu potřebnou v boji proti obdobím sucha a na pomoc zemědělství. Pokud se projekt podaří, bude to mít velké dopady. Je založen na staré známé metodě vystřelování částeček jodidu stříbrného do mraků (cloud seeding), aby mraky uvolnily svou vlhkost ve formě sněhových nebo dešťových srážek. Pro účely „očkování mraků“ se budou používat hořáky umísťované na úpatí hřebenů hor Tibetské náhorní plošiny, aby vytvářely silný tah horkého vzduchu vzhůru, který vynese částice jodidu stříbrného do mraků, kde by měly přispět k tvorbě ledových krystalků a k jejich přeměně ve sněžení. Vědci se domnívají, že to pomůže zvýšit roční průtok vody v řekách na množství až 10 trilionů litrů. Byl by to velký přínos pro výrobu potravin, která je dnes v důsledku sucha nebo záplav o 20 milionů tun za rok nižší než dříve. V současné době je v provozu již na 500 hořáků. Každý z nich stojí 8 000 dolarů. Jejich konečný počet má dosáhnout až desítek tisíc kusů.

Nejnovější články



V roce 2028 bude v Jakutsku postavena malá jaderná elektrárna

Ruská korporace pro atomovou energii Rosatom plánuje postavit jadernou elektrárnu malého výkonu s modulárním reaktorem RITM-200 poblíž obce Usť-Kujga v Jakutsku

Cloud Seeding

Cloud seeding involves the addition of aerosol, such as silver iodide aerosol, that modifies the phase and size distribution of hydrometeors.

From: Mixed-Phase Clouds, 2018

Related terms:

Rainfall, Augmentation, Silver Iodides, Unmanned Aircraft Systems, Ice Nuclei, Aerosol, Hail, Weather Modification

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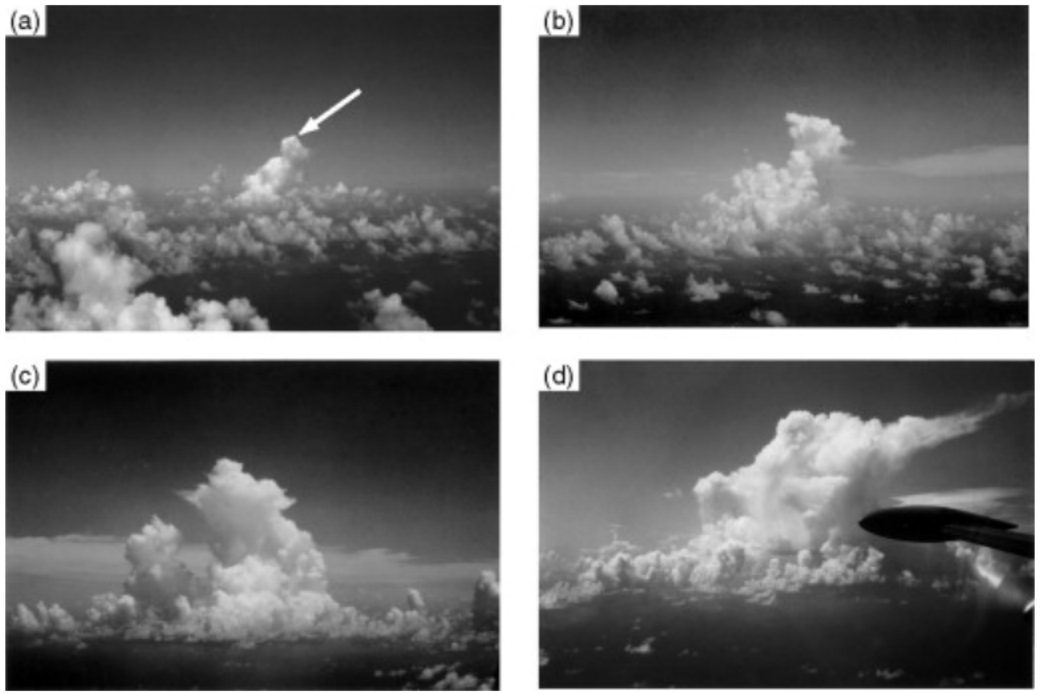
Air and Space Resources and Cross-Border

MESOSCALE METEOROLOGY | Hail and

the height of a cloud were restricted by a stable layer, the release of the latent heat of fusion caused by artificial seeding might provide enough buoyancy to push the cloud through the inversion and up to its level of free convection. The cloud top might then rise to much greater heights than it would have done naturally. Figure 6.48 shows the explosive growth of a cumulus cloud that may have been produced by overseeding.



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The right-hand side terms in this expression can be calculated from available data. It is obvious that Eqs. (7.29)–(7.31) are linear and, therefore, the arithmetic averages for small samples and theoretical expectations of both sides yield $\overline{D}_G = \overline{E} - 1$; $\overline{D}_G = \overline{D}_N + \overline{D}_S$; and $\overline{D}_S = \overline{D}_G - \overline{D}_N$, respectively. In calculating the net effect of cloud seeding according to the above equations the following procedure must be applied:

1. Calculate the frequency diagram of the effectivity coefficient from available past observations. In this case, D_N becomes equal to D_G. Subsequently, calculate the natural deviation $D_N = E - 1$ and its frequency distribution for any desired daily period (5 day, 10 day, 20 day, etc.). Hence, for each period there will be a unique frequency distribution for D_N and, consequently, it is possible to calculate its statistical summary values such as the arithmetic mean, standard deviation, mode value, and so on. This distribution function is referred to as the "frequency DRM," the application of which is furnished in the following section. Let us denote the mean value of this frequency function by $\overline{D}_N$ and so if the frequency diagram is symmet

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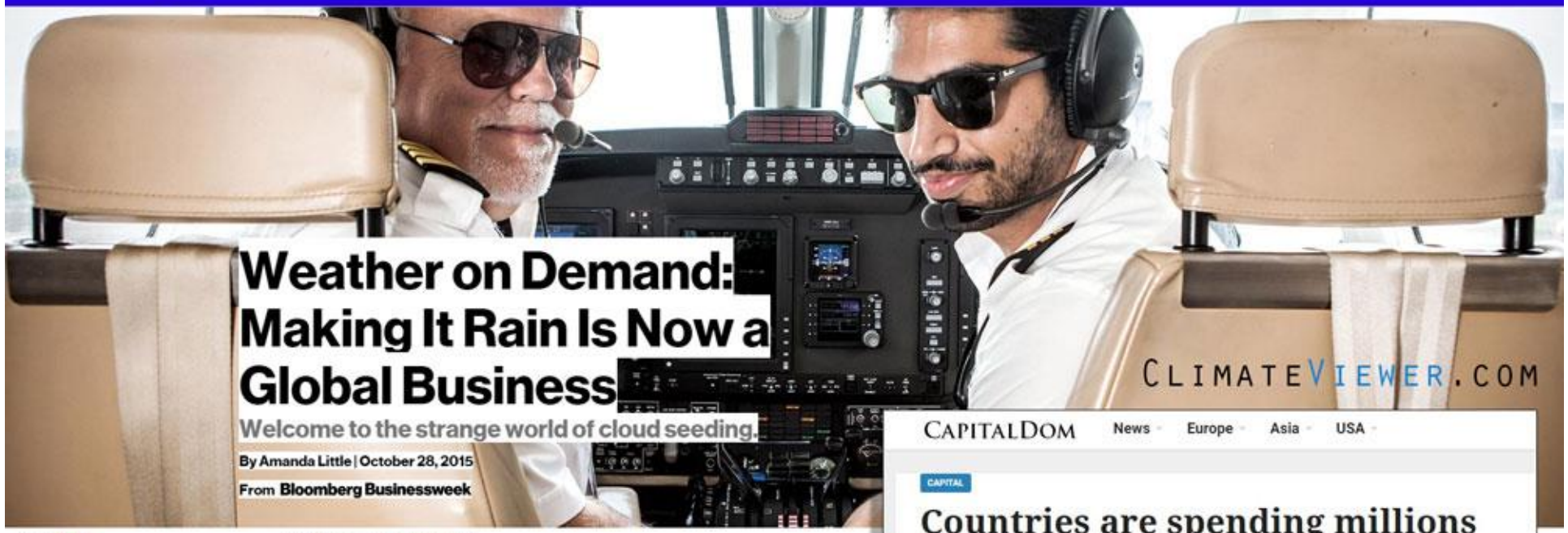

Weather on Demand: Making It Rain Is Now a Global Business

Welcome to the strange world of cloud seeding.

By Amanda Little | October 28, 2015

From Bloomberg Businessweek

Daily Mail .com Travel News

Would YOU pay £100,000 to guarantee a sunny wedding? Travel company offers 'cloud bursting' service to banish rain for couples' big day

- Oliver's Travels say service will guarantee blue skies on the special day
- The technique is also known as cloud seeding and is widely used in China
- Method involves firing rockets filled with silver iodide crystals into clouds
- Particles freeze water droplets causing the clouds to burst and then vanish
- The technique was used ahead of 2008 Beijing Olympics opening ceremony to keep stadium dry
- It was also reportedly used by the Duke and Duchess of Cambridge before their 2012 wedding

CAPITALDOM News Europe Asia USA

CAPITAL

Countries are spending millions to control the weather — here's why

News / Capital 3 months ago

BUSINESS INSIDER SCIENCE

China spent millions on a shady project to control the weather ahead of the Beijing Olympics — and dozens of other countries are doing it too

cloud seeding - YouTube

youtube.com/results?search_query=cloud+seeding

YouTube CZ

cloud seeding

Domů

Trendy

Odběry

Knihovna

How cloud seeding makes it rain artificially

297 tis. zhlédnutí • před 2 lety

Global News

Controlling the weather may still be years away, but scientists and farmers are using a technology called **cloud seeding**, which ...

Cloud seeding: How the UAE gets creative to increase rainfall

846 tis. zhlédnutí • před 3 lety

The National

The UAE gives millions to fundi **cloud-seeding** and rain-enhancement research projects. The country also has an ambitious ...

How Cloud Seeding Is Used to Make It Rain

68 tis. zhlédnutí • před 4 měsíci

neo

15:10
29.01.2021

cloud seeding - YouTube

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cloud seeding

Domů

Trendy

Odběry

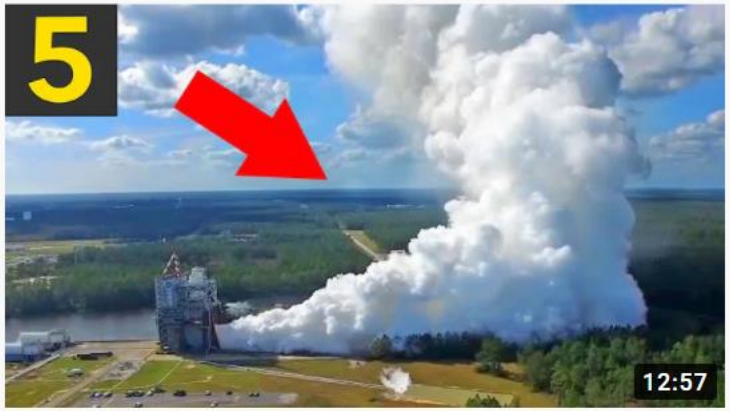
Knihovna

The problem with cloud seeding

136 tis. zhlédnutí • před 7 lety

SPH Razor

Cloud seeding has been mooted as a possible solution to our haze woes. But is it? What does **cloud seeding** actually entail, and ...



Top 5 Cloud Generating Machines

234 tis. zhlédnutí • před 2 lety

Top Fives

You may not have known that **cloud** forming machines even existed!Today's video is on the top five **cloud** generating machines.

Cloud Seeders Make It Rain

198 tis. zhlédnutí • před 8 lety

ABC News

Pilots chase storms to artificially prime **clouds** to deliver extra rain in drought-stricken Texas

15:11
29.01.2021

cloud seeding - YouTube

youtube.com/results?search_query=cloud+seeding

YouTube CZ

cloud seeding

Domů

Trendy

Odběry

Knihovna

Cloud Seeding: Maharashtra Government Plans To Play God With Rains

17 tis. zhlédnutí • před 1 rokem

BloombergQuint

With the rains drying up, the Maharashtra government has a plan to provide relief to drought affected regions like Marathwada and ...

How does cloudseeding work in Colorado?

15 tis. zhlédnutí • před 2 lety

Denver Water

Denver Water partners with 6 other Front Range water providers to support the Central Colorado Mountains **Cloud Seeding** ...

The problem with cloud seeding

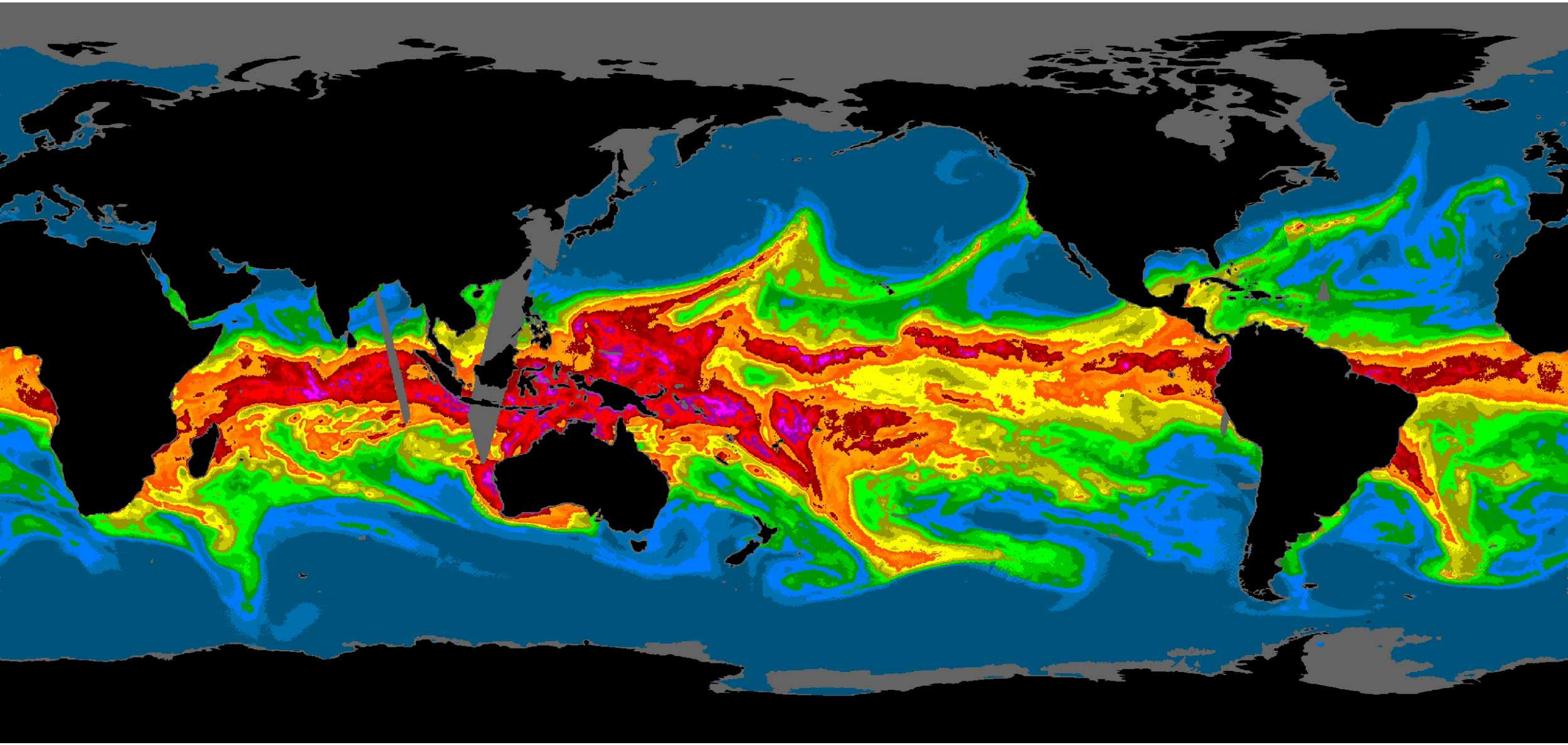
2 tis. zhlédnutí • před 7 lety

SPH Razor

Cloud seeding has been mooted as a possible solution to our haze woes. But is it? What does **cloud seeding** actually entail, and

15:11
29.01.2021

POMOCÍ EMV MŮŽEME SMĚROVAT ATMOSFÉRICKÉ ŘEKY



miles research

Weather Moderation

Powerful forces drive earth's weather. It is an equally powerful 'mechanism of engagement' that is required to tame it. This brief contextual overview provides a backdrop to Weather Moderation, a technology being developed to assist mankind in the ongoing struggle with this natural adversary.

The motion of the earth and the effect of radiation from the sun on the atmosphere, largely via convection from earth's surface land and sea masses, are the driving forces responsible for producing weather patterns. Uneven distribution of heat, due to surface topography and ocean currents, drive differences in air pressure and gives rise to a complex daily surge in evaporation, adding water vapour into the atmosphere.

The atmosphere can be described as a binary mix of two gases, dry air and water vapour. The percentage of water vapour in the air varies from about 0.01% at the top of the stratosphere to as much as 4.24% at low altitudes. As the earth's surface temperature rises and reaches 25 deg C and above and when a moisture source exists, the proportion of water vapour in the air increases and subsequently its buoyancy increases. This gives rise to moisture rich, upward flowing air currents. In summary, heat creates wind and gives rise to water vapour which is transported by this wind. Sometimes wind action will shape "Atmospheric Rivers", which are better described as relatively narrow corridors of concentrated moisture in the atmosphere, typically several thousand kilometres long yet only a few hundred kilometres wide. They are responsible for the majority of the horizontal transports of water vapour outside of the tropics. These corridors, shaped by wind action, are also moved by wind action over long distances.

In the early 1960s, MIT mathematician and meteorologist Edward Lorenz realised that small differences in a dynamic system such as the atmosphere, or a model of the atmosphere - could trigger vast and often unexpected results.

ROZSÁHLÁ A BOHATÁ HISTORIE OVLIVŇOVÁNÍ POČASÍ, PATENTY, MATERIÁLY

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weathermodificationhistory.com/interactive-timeline/

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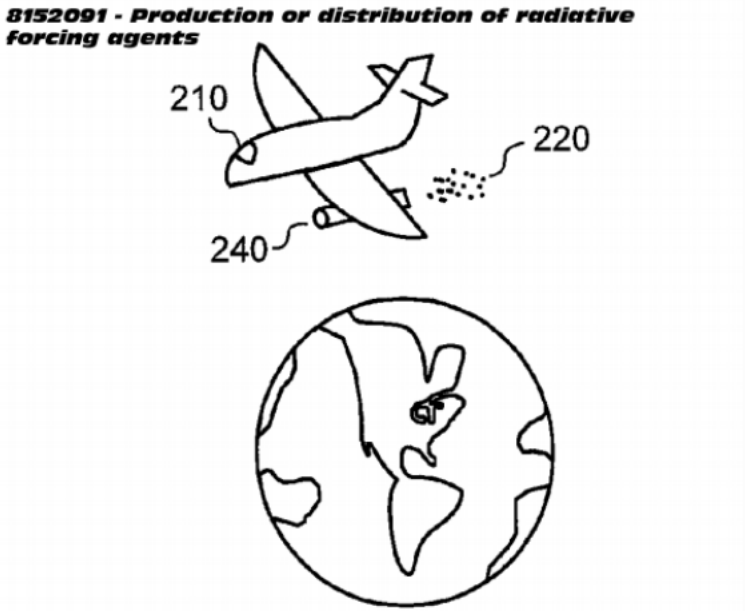
Weather Modification Patents

- 1891 - 0462795 – method of producing rain-fall
- 1914 - 1103490 – rain maker (balloon images)
- 1917 - 1225521 – protection from poisonous gas in warfare
- 1920 - 1338343 – process and apparatus for the production of intense artificial clouds, fogs, or mists
- 1924 - 1512783 – composition for dispelling fogs
- 1927 - 1619183 – process of producing smoke clouds from moving aircraft
- 1928 - 1665267 – process of producting artificial fogs
- 1932 - 1892132 – atomizing attachment for airplane engine exhausts
- 1933 - 1928963 – electrical system and method
- 1934 - 1957075 – airplane spray equipment
- 1936 - 2045865 – skywriting apparatus
- 1936 - 2052626 – method of dispelling fog (mit)
- 1937 - 2068987 – process of dissipating fog
- 1939 - 2160900 – method for vapor clearing
- 1941 - 2232728 – method and composition for dispelling vapors
- 1941 - 2257360 – desensitized pentaerythritol tetranitrate explosive



> "One of the saddest lessons of history is this: **If we've been bamboozled long enough, we tend to reject any evidence of the bamboozle.** We're no longer interested in finding out the truth. The bamboozle has captured us. It's simply too painful to acknowledge, even to ourselves, that we've been taken. Once you give a charlatan power over, you almost never get it back."
> — Carl Sagan
> **Read Fake News, Propaganda, and Acvitism**

Weather Modification History

vapors
- 1941 - 2257360 – desensitized pentaerythritol tetranitrate explosive
- 1946 - 2395827 – airplane spray unit (us. dept. of agriculture)
- 1946 - 2409201 – smoke-producing mixture
- 1949 - 2476171 – smoke screen generator
- 1949 - 2480967 – aerial discharge device
- 1950 - 2527230 – method of crystal formation and precipitation
- 1951 - 2550324 – process for controlling weather
- 1951 - 2570867 – method of crystal formation and precipitation (general electric)
- 1952 - 2582678 – material disseminating apparatus for airplanes
- 1952 - 2591988 – production of tio2 pigments (dupont)
- 1952 - 2614083 – metal chloride screening smoke mixture
- 1953 - 2633455 – smoke generator
- 1954 - 2688069 – steam generator
- 1955 - 2721495 – method and apparatus for detecting minute crystal forming particles suspended in a gaseous atmosphere (general electric)
- 1956 - 2730402 – controllable dispersal device
- 1957 - 2801322 – decomposition chamber for monopropellant fuel
- 1958 - 2835530 – process for the condensation of atmospheric humidity and dissolution of fog
- 1959 - 2881335 – generation of electrical fields (haarp – for re-charging clouds!)
- 1959 - 2903188 – control of tropical cyclone formation
- 1959 - 2908442 – method for dispersing natural atmospheric fogs and clouds
- 1960 - 2962450 – fog dispelling composition (see references)
- 1960 - 2963975 – cloud seeding carbon dioxide bullet
- 1961 - 2986360 – aerial insecticide dusting device
- 1962 - 3044911 – propellant system
- 1962 - 3056556 – method of artificially influencing the weather
- 1964 - 3120459 – composite incendiary powder containing metal coated oxidizing salts

Weather Modification History

- 1964 - 3126155 – silver iodide cloud seeding generator (main commercial ingrediant)
- 1964 - 3127107 – generation of ice-nucleating crystals
- 1964 - 3131131 – electrostatic mixing in microbial conversions
- 1965 - 3174150 – self-focusing antenna system (haarp)
- 1966 - 3257801 – pyrotechnic composition comprising solid oxidizer, boron and aluminum additive and binder
- 1966 - 3234357 – electrically heated smoke producing device
- 1966 - 3274035 – metallic composition for production of hydroscopic smoke
- 1967 - 3300721 – means for communication through a layer of ionized gases (haarp)
- 1967 - 3313487 – cloud seeding apparatus
- 1967 - 3338476 – heating device for use with aerosol containers
- 1968 - 3410489 – automatically adjustable airfoil spray system with pump
- 1969 - 3429507 – rainmaker
- 1969 - 3430533 – aircraft dispensor pod having self-sealing ejection tubes
- 1969 - 3432208 – fluidized particle dispenser (us air force)
- 1969 - 3437502 – titanium dioxide pigment coated with silica and aluminum (dupont)
- 1969 - 3441214 – method and apparatus for seeding clouds
- 1969 - 3445844 – trapped electromagnetic radiation communications system (haarp – raytheon)
- 1969 - 3456880 – method of producing precipitation from the atmosphere
- 1970 - 3517512 – apparatus for suppressing contrails
- 1970 - 3518670 – artificial ion cloud
- 1970 - 3531310 – production of improved metal oxide pigment
- 1970 - 3534906 – control of atmospheric particles (dow chemical co)
- 1970 - 3545677 – method of cloud seeding
- 1971 - 3564253 – system and method for irradiation of planet surface areas (space solar mirrors)
- 1971 - 3587966 – freezing nucleation
- 1971 - 3601312 – methods of increasing the likelihood of precipatation by the artificial introduction of sea water vapor into the atmosphere winward of an air lift region
- 1971 - 3608810 – methods of treating atmospheric conditions
- 1971 - 3608820 – treatment of atmospheric conditions by intermittent dispensing of materials therein

- 1971 - 3608820 – treatment of atmospheric conditions by intermittent dispensing of materials therein
- 1971 - 3613992 – weather modification method
- 1971 - 3630950 – combustible compositions for generating aerosols, particularly suitable for cloud modification and weather control and aerosolization process
- 1972 - 3647710 – method for dispersing fog with phosphate salt compositions
- 1972 - 3653383 – algin sponge and process therefor
- 1972 - 3659785 – weather modification utilizing microencapsulated material (gross)
- 1972 - 3666176 – solar temperature inversion device
- 1972 - 3677840 – pyrotechnics comprising oxide of silver for weather modification use
- 1972 - 3690552 – fog dispersal
- 1973 - 3722183 – device for clearing impurities from the atmosphere
- 1973 - 3769107 – pyrotechnic composition for generating lead based smoke (are you serious?)
- 1974 - 3784099 – air pollution control method
- 1974 - 3785557 – cloud seeding system
- 1974 - 3795626 – weather modification process
- 1974 - 3808595 – chaff dispensing system
- 1974 - 3813875 – rocket having barium release system to create ion clouds in the upper atmopsphere (nasa)
- 1974 - 3835059 – methods of generating ice nuclei smoke particles for weather modification and apparatus therefore
- 1974 - 3835293 – electrical heating aparatus for generating super heated vapors
- 1975 - 3877642 – freezing nucleant
- 1975 - 3882393 – communications system utilizing modulation of the characteristic polarization of the ionosphere (haarp – us navy)
- 1975 - 3896993 – process for local modification of fog and clouds for triggering their precipitation and for hindering the development of hail producing clouds
- 1975 - 3899144 – powder contrail generation
- 1975 - 3902934 – gas generating compositions
- 1976 - 3940059 – method of fog dispersion
- 1976 - 3940060 – vortex ring generator
- 1976 - 3990987 – smoke generator
- countermeasure system for laser radiation

- 1976 - 3990987 – smoke generator
- 1976 - 3992628 – countermeasure system for laser radiation
- 1976 - 3994437 – broadcast dissemination of trace quantities of biologically active chemicals
- 1977 - re29142 – combustible compositions for generating aerosols, particularly suitable for cloud modification and weather control and aerosolization process
- 1977 - 4035726 – method of controlling and/or improving high-latitude and other communications or radio wave surveillance systems by partial control of radio wave et al (haarp – cornell univ.)
- 1977 - 4042196 – method and apparatus for triggering a substantial change in earth characteristics and measuring earth changes
- 1978 - 4096005 – pyrotechnic cloud seeding composition
- 1978 - 4111911 – method of hardening liquid resols
- 1978 - 4129252 – method and apparatus for production of seeding materials
- 1979 - 4141274 – weather modification automatic cartridge dispenser
- 1979 - 4167008 – fluid bed chaff dispenser
- 1981 - 4269637 – high-performance mhd solid gas generator
- 1982 - 4347284 – white cover sheet material capable of reflecting ultraviolet rays
- 1982 - 4362271 – procedure for the artificial modification of atmospheric precipitation as well as compounds with a dimethyl sulfoxide base for use in carrying out said procedure
- 1983 - 4402480 – atmosphere modification satellite (space)
- 1983 - 4412654 – laminar microjet atomizer and method of aerial spraying of liquids
- 1983 - 4415265 – method and apparatus for aerosol particle absorption spectroscopy
- 1983 - 4373391 – relative humidity sensitive material
- 1984 - 4470544 – method of and means for weather modification
- 1984 - 4475927 – bipolar fog abatement system
- 1986 - 4600147 – liquid propane generator for cloud seeding apparatus
- 1987 - 4633714 – aerosol particle charge and size analyzer
- 1987 - 4643355 – method and apparatus for modification of climatic conditions
- 1987 - 4653690 – method of producing cumulus clouds
- 1987 - 4684063 – particulates generation and removal

(haarp – raythen)

- 1987 - 4704942 – charged aerosol (anti-airborne biological warfare agent)
- 1987 - 4712155 – method and apparatus for creating an artificial electron cyclotron heating region of plasma (haarp – raytheon)
- 1988 - 4744919 – method of dispersing particulate aerosol tracer
- 1988 - 4766725 – method of suppressing formation of contrails and solution therefor
- 1989 - 4829838 – method and apparatus for the measurement of the size of particles entrained in a gas
- 1989 - 4836086 – apparatus and method for the mixing and diffusion of warm and cold air for dissolving fog
- 1989 - 4873928 – nuclear-sized explosions without radiation (haarp – raytheon)
- 1990 - 4948257 – laser optical measuring device and method for stabilizing fringe pattern spacing
- 1990 - 4948050 – liquid atomizing apparatus for aerial spraying
- 1990 - 4959559 – (united states) electromagnetic or other directed energy pulse launcher
- 1991 - 4999637 – creation of artificial ionization clouds above the earth (haarp – raytheon)
- 1991 - 5003186 – stratospheric welsbach seeding for reduction of global warming
- 1991 - 5005355 – method of suppressing formation of contrails and solution therefor
- 1991 - 5038664 – method for producing a shell of relativistic particles at an altitude above the earths surface (haarp – raytheon)
- 1991 - 5041760 – method and apparatus for generating and utilizing a compound plasma configuration
- 1991 - 5041834 – artificial ionospheric mirror composed of a plasma layer which can be tilted (haarp – raytheon)
- 1991 - 5056357 – acoustic method for measuring properties of a mobile medium
- 1991 - 5059909 – determination of particle size and electrical charge
- 1992 - 5104069 – apparatus and method for ejecting matter from an aircraft
- 1992 - 5110502 – method of suppressing formation of contrails and solution therefor
- 1992 - 5148173 – millimeter wave screening cloud and method
- 1992 - 5156802 – inspection of fuel particles with acoustics
- 1992 - 5174498 – cloud seeding
- 1993 - 5245290 – device for determining the size and charge of colloidal particles by measuring electroacoustic effect
- 1994 - 5286979 – process for absorbing ultraviolet radiation using dispersed melanin (wow!)
- 1994 - 5296910 – method and apparatus for particle analysis
- 1994 - 5327222 – displacement information detecting apparatus

- 1994 - 5296910 – method and apparatus for particle analysis
- 1994 - 5327222 – displacement information detecting apparatus
- 1994 - 5357865 – method of cloud seeding
- 1994 - 5360162 – method and composition for precipitation of atmospheric water
- 1995 - 5383024 – optical wet steam monitor
- 1995 - 5425413 – method to hinder the formation and to break-up overhead atmospheric inversions, enhance ground level air circulation and improve urban air quality
- 1995 - 5434667 – characterization of particles by modulated dynamic light scattering
- 1995 - 5441200 – tropical cyclone disruption (hurricanes!)
- 1996 - 5486900 – measuring device for amount of charge of toner and image forming apparatus having the measuring device
- 1996 - 5556029 – method of hydrometeor dissipation (clouds)
- 1997 - 5628455 – method and apparatus for modification of supercooled fog
- 1997 - 5631414 – method and device for remote diagnostics of ocean-atmosphere system state
- 1997 - 5639441 – methods for fine particle formation
- 1998 - 5762298 – use of artificial satellites in earth orbits adaptively to modify the effect that solar radiation would otherwise have on earth's weather (space)
- 1999 - 5912396 – system and method for remediation of selected atmospheric conditions (solar powered blimp to ionize clouds)
- 1999 - 5922976 – method of measuring aerosol particles using automated mobility-classified aerosol detector
- 1999 - 5949001 – method for aerodynamic particle size analysis
- 1999 - 5984239 – weather modification by artificial satellites (space)
- 2000 - 6025402 – chemical composition for effectuating a reduction of visibility obscuration, and a detoxifixation of fumes and chemical fogs in spaces of fire origin
- 2000 - 6030506 – preparation of independently generated highly reactive chemical species
- 2000 - 6034073 – solvent detergent emulsions having antiviral activity
- 2000 - 6045089 – solar-powered airplane
- 2000 - 6056203 – method and apparatus for modifying supercooled clouds
- 2000 - 6110590 – synthetically spun silk nanofibers and a process for making the same

- 2000 - 6045089 – solar-powered airplane
- 2000 - 6056203 – method and apparatus for modifying supercooled clouds
- 2000 - 6110590 – synthetically spun silk nanofibers and a process for making the same
- 2001 - 6263744 – automated mobility-classified-aerosol detector
- 2001 - 6281972 – method and apparatus for measuring particle-size distribution
- 2001 - 6315213 – method of modifying the weather
- 2002 - 6382526 – process and apparatus for the production of nanofibers
- 2002 - 6408704 – aerodynamic particle size analysis method and apparatus
- 2002 - 6412416 – propellant-based aerosol generation devices and method (us army)
- 2003 - 6520425 – process and apparatus for the production of nanofibers
- 2003 - 6539812 – system for measuring the flow-rate of a gas by means of ultrasound
- 2003 - 6553849 – electrodynamic particle size analyzer
- 2003 - 6569393 – method and device for cleaning the atmosphere
- 2011 - 7965488 – methods of removing aerosols from the atmosphere (ionizing antennas)

Geoengineering Patents

- 1991 - Stratospheric Welsbach seeding for reduction of global warming
- 1999 - Process for sequestering into the ocean the atmospheric greenhouse gas carbon dioxide by means of supplementing the ocean with ammonia or salts thereof
- 1999 - 6200530 - Water-bouyant particulate materials containing micronutrients for phytoplankton
- 2000 - WO/2000/010691A1 - METHOD AND APPARATUS FOR EXTRACTING AND SEQUESTERING CARBON DIOXIDE
- 2001 - Method of sequestering carbon dioxide with spiral fertilization
- 2001 - US20010022952 - METHOD AND APPARATUS FOR EXTRACTING AND SEQUESTERING CARBON DIOXIDE
- 2009 - US20090177569 - WATER ALTERATION STRUCTURE RISK MANAGEMENT OR ECOLOGICAL ALTERATION MANAGEMENT SYSTEMS AND METHODS

Americký podnikatel prý ve 1916 zapříčinil v San Diegu obrovské povodně

Charles M. Hatfield, whose life was the inspiration for the play and motion picture "The Rainmaker", was a folk hero who claimed that he successfully made it rain more than 500 times in parched towns around the world.

His rainmaking abilities nearly destroyed San Diego County in 1916 during a days-long torrential downpour and flood that claimed 20 lives; washed out homes, farms, roads, bridges, and railroad tracks; and resulted in the collapse of a darn at Otay Lake. In Valley Center, an avalanche of water isolated the entire community, forcing food and supplies to be shipped by barge from Oceanside for two months.

From his home in Valley Center, where he lived with his wife Mabelle, Hatfield the Rainmaker — as he was widely known — would concoct a brew of 23 chemicals which vaporized into the air after being released from a cauldron set atop a 20-foot tower. He employed a similar technique at other sites.

Hatfield grew up east of Oceanside on his father's farm where he first experimented with pluviculture, the craft of rainmaking. His initial success at producing a drizzle prompted him to develop his skills at rainmaking at which he worked for three decades into the 1940's. He died in 1958 at the age of 82. The famed rainmaker took his secret formula to the grave.

Local Native Americans
Valley Center Western Days
Community Plan

External VC Links

VC Newspaper / Local Media
VC Wikipedia Page
VC History Museum Wiki Page
VC Cemetery Gravesites

Media Historical Archive

The Valley Roadrunner (Valley Center's Newspaper) archive is maintained by the Valley Center Historical Society and is available for public reference

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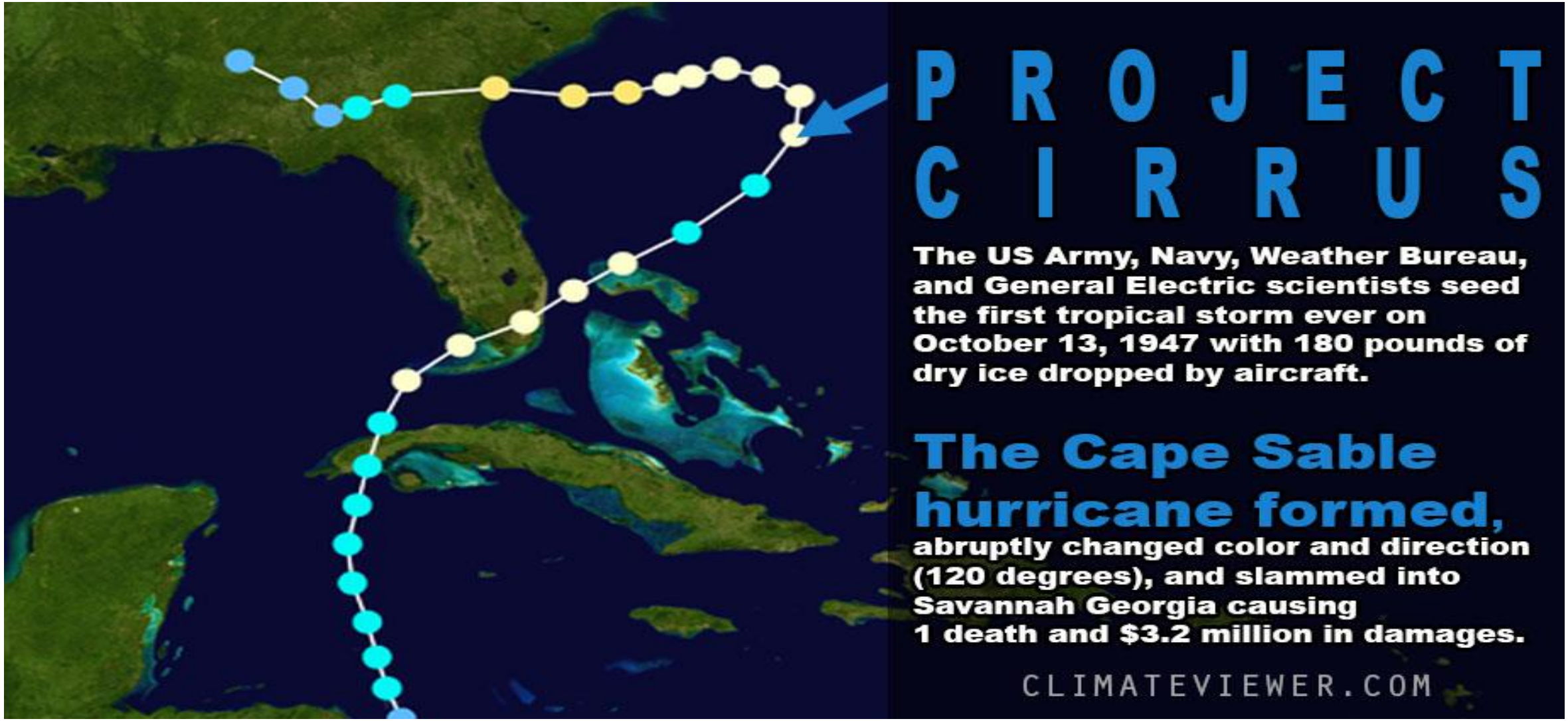
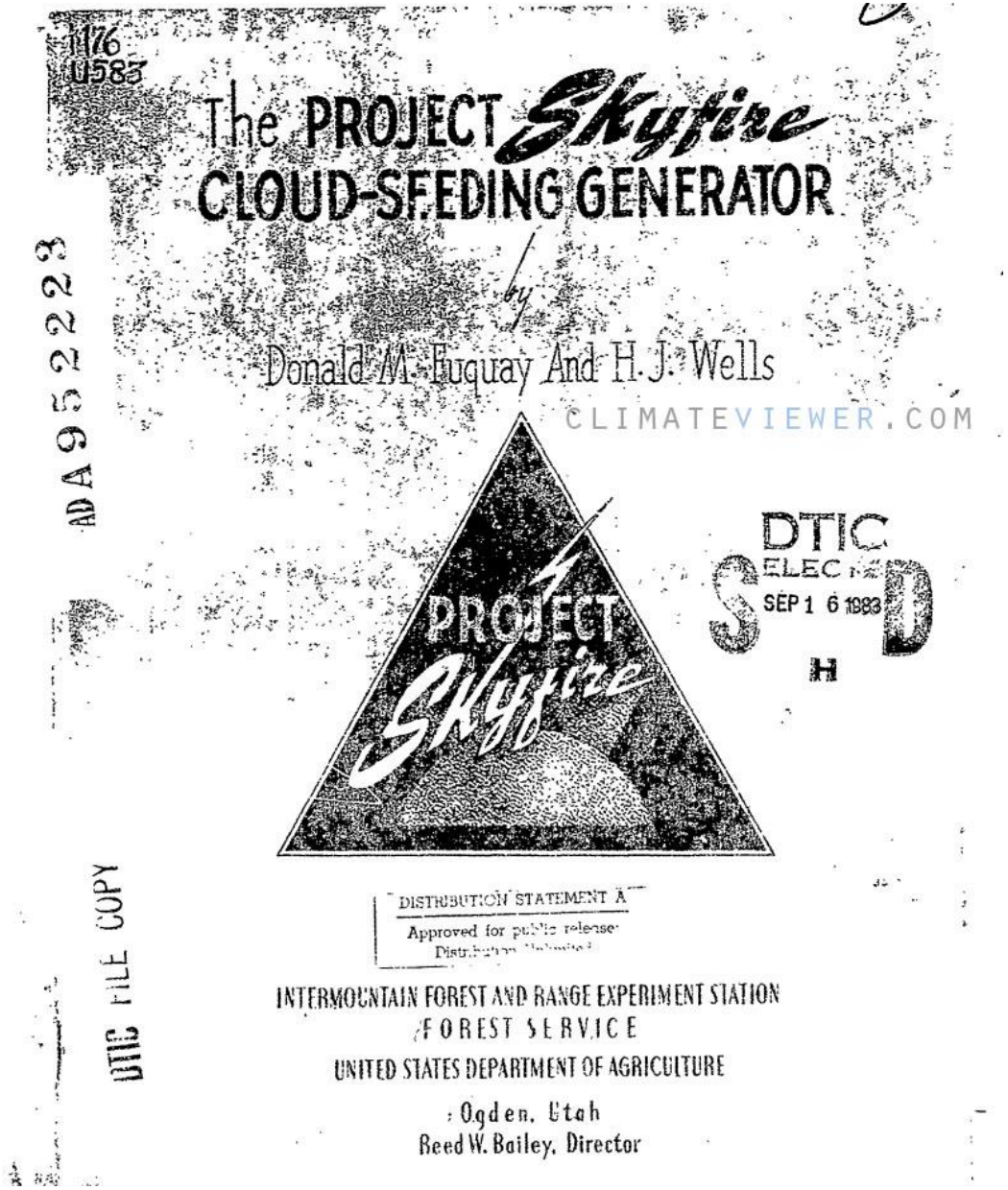
Možné přesměrování hurikánu prý zapříčinilo katastrofu ve státě Georgia

13. října, 1947



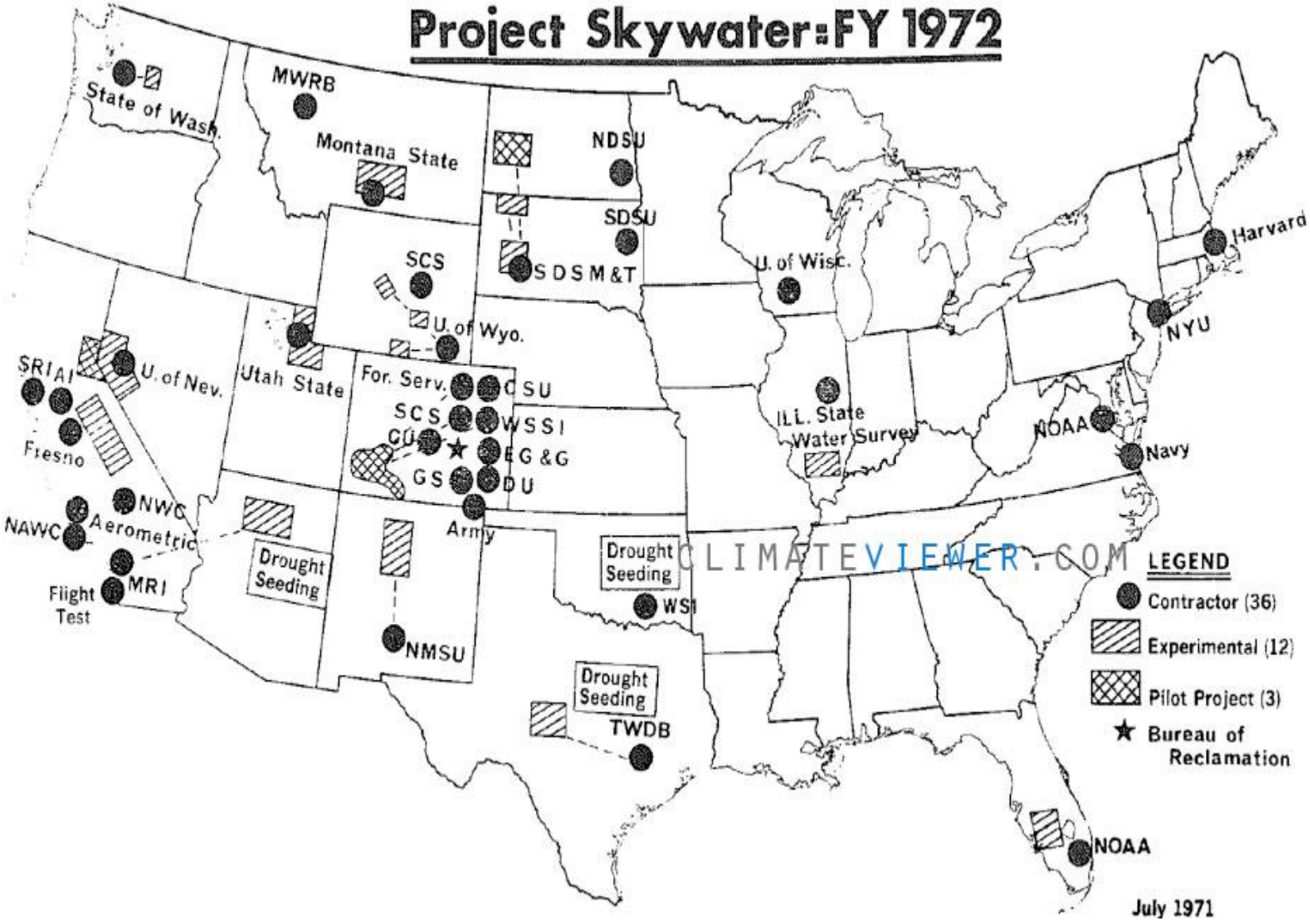
Project Skyfire - 1960-1967

Osévání mraků má zabránit požárům



Project Skywater 1961-1988

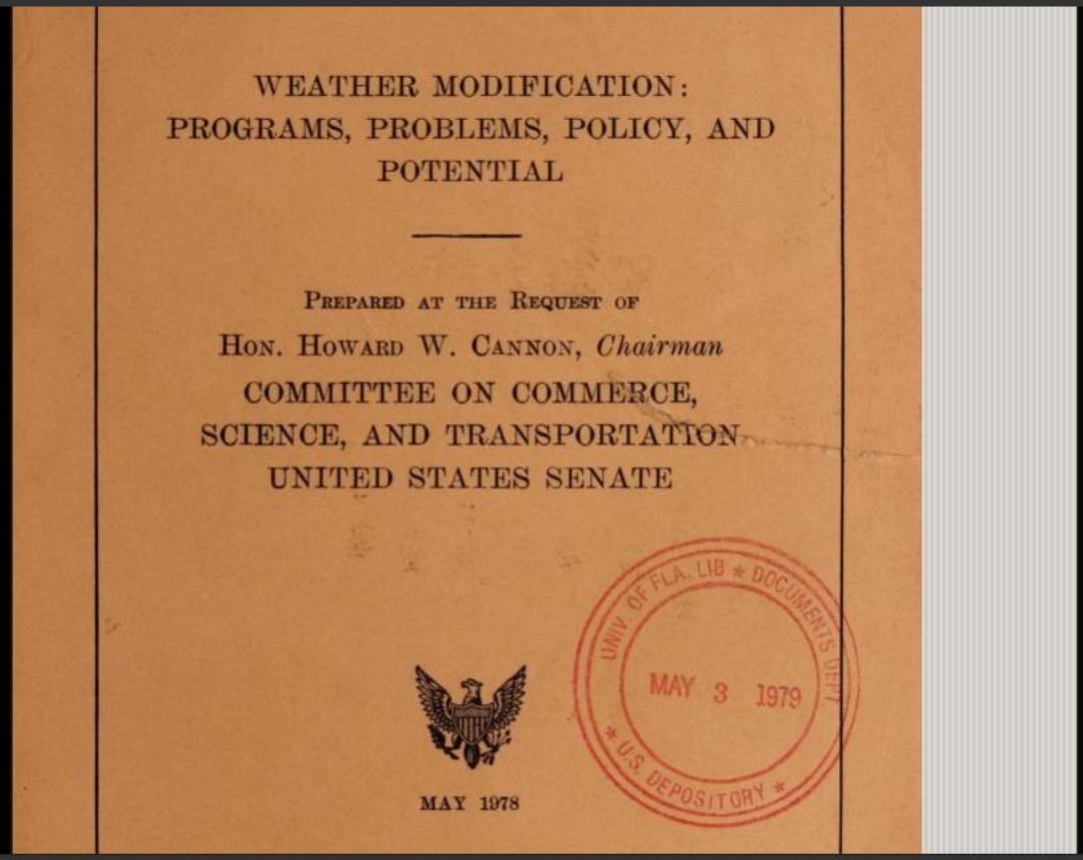
Zvýšit zásoby vody



Project Storm Fury (běsnění bouře)

1962 - 1983

Modifikovat hurikány, cyklony



WEATHER MODIFICATION:
PROGRAMS, PROBLEMS, POLICY, AND
POTENTIAL

PREPARED AT THE REQUEST OF
HON. HOWARD W. CANNON, *Chairman*
COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

MAY 1978

Weather modification: programs, problems, policy,

~~SECRET/NOFORN/AWN/INTEL/NOCONTRACT~~

SPACECAST 2020

Volume II

Prepared by the Students and Faculty of

AIR UNIVERSITY

Air University
Air Education and Training Command
United States Air Force
Maxwell Air Force Base, Alabama 36112-6428

June 1994

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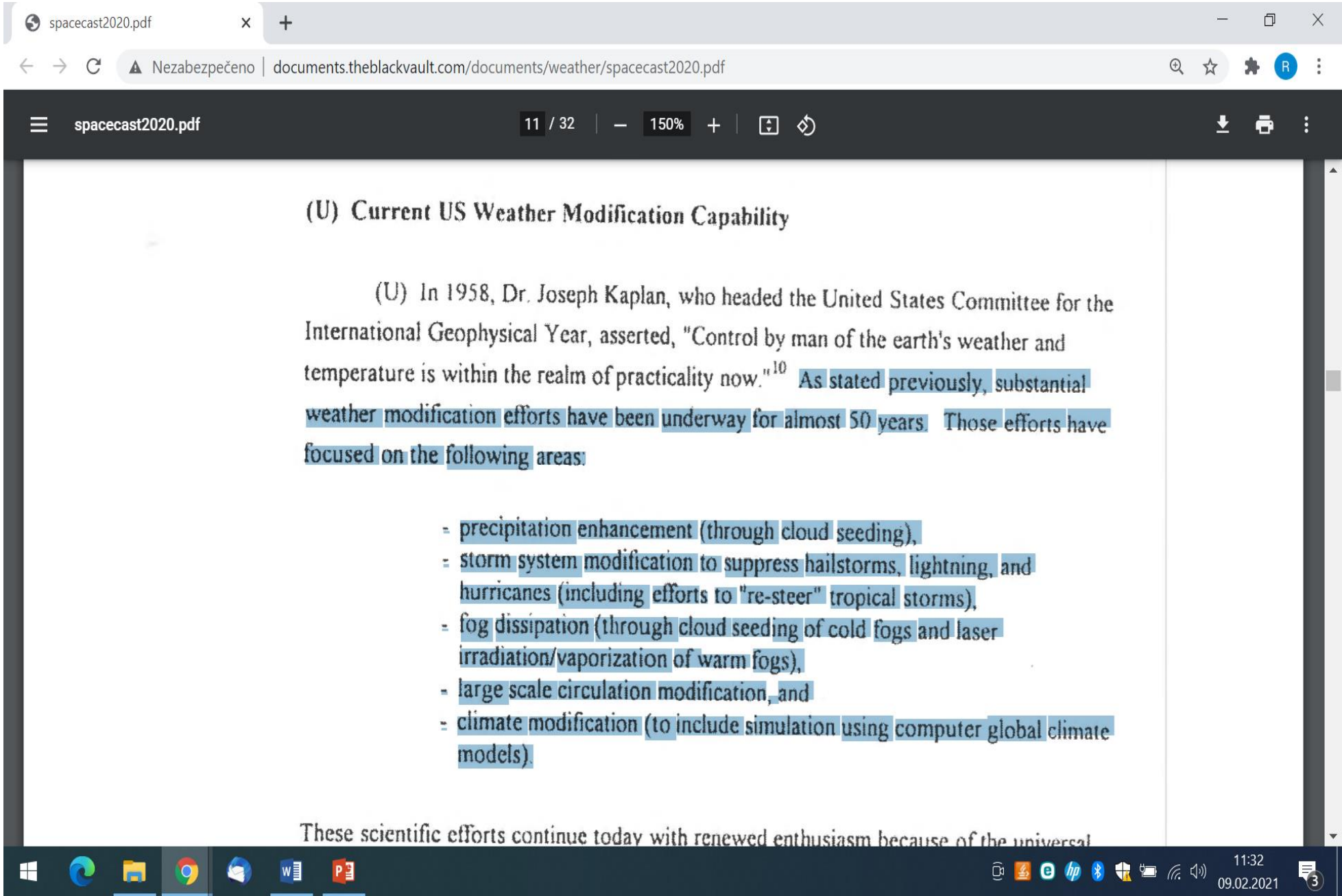
„OVLÁDÁNÍ POČASÍ A TEPLOTY JE DNES PRAKTICKY MOŽNÉ“ - 1958

-zvýšení srážek;
-ovlivňování frontálních systémů (potlačit krupobití, blesky a hurikány, *možnost znova zaměřit tropickou bouři*);
-rozptýlení mlhy (lasery);
-ovlivňování rozsáhlé cirkulace a
-modifikace klimatu (využití počítačových modelů)



spacecast2020.pdf

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spacecast2020.pdf 11 / 32 150%

(U) Current US Weather Modification Capability

(U) In 1958, Dr. Joseph Kaplan, who headed the United States Committee for the International Geophysical Year, asserted, "Control by man of the earth's weather and temperature is within the realm of practicality now."[10] As stated previously, substantial weather modification efforts have been underway for almost 50 years. Those efforts have focused on the following areas:

- precipitation enhancement (through cloud seeding),
- storm system modification to suppress hailstorms, lightning, and hurricanes (including efforts to "re-steer" tropical storms),
- fog dissipation (through cloud seeding of cold fogs and laser irradiation/vaporization of warm fogs),
- large scale circulation modification, and
- climate modification (to include simulation using computer global climate models).

These scientific efforts continue today with renewed enthusiasm because of the universal

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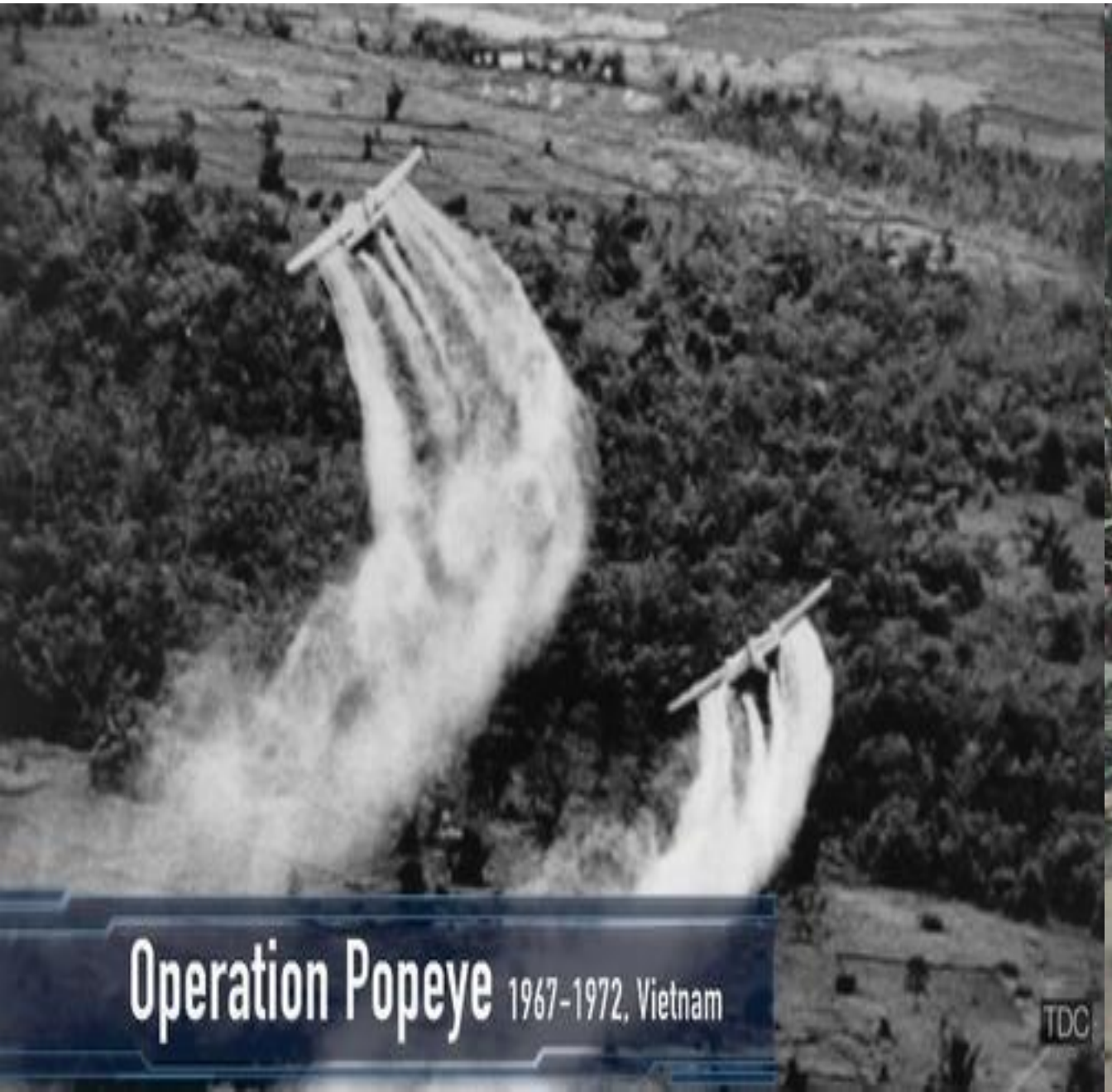
09.02.2021

OVLIVŇOVÁNÍ POČASÍ PRO VÁLEČNÉ ÚČELY

OVLIVŇOVÁNÍ POČASÍ PRO **VÁLEČNÉ ÚČELY**



First published 1831

The Sydney Morning Herald. Friday, April 14, 1972

Weather war outcry

CONGRESSMEN QUERY AMERICAN RAINMAKING PROJECTS

From PETER BERNSTEIN in Washington

IT SOUNDS straight out of Buck Rogers, but at least a score of prominent scientists and congressmen suspect environmental warfare is already under way.

"There's no doubt in my mind that it's going on in Vietnam," says Representative Gilbert Gude.

"Such activities could very well lead to another international weapons race," warns Senator Claiborne Pell.

The Pentagon, they suspect, is secretly augmenting rainfall in South-East Asia for military purposes.

Although Pentagon officials have thrown a security blanket over all aspects of geophysical warfare, meteorologists agree that they are searching for ways to harness such "weapons" as earthquakes, tidal waves and tropical hurricanes.

For the first time in the history of warfare, the Air Force is reportedly seeding clouds over the Ho Chi Minh trail in North Vietnam. Last summer the monsoon fell with unprecedented fury and washed out railways and highways and crippled the electric generating capacity of North Vietnam. Similar floods in 1945 took a million lives.

In an exchange of letters made public last week, a group of congressmen asked for information last June about the Air Force's rain-making project, known by the code-name of "Intermediary-Compatriot."

Acting on behalf of a contingent of 130 senators and representatives called Members of Congress for Peace Through Law, they also asked for details about other instances of weather modification for military purposes.

The "Intermediary-Compatriot" project for seeding clouds during the monsoon was revealed on March 18 last year by the columnist Jack Anderson.

His report, based on a secret document, said the rain-making was started in 1967. Defence Department sources subsequently acknowledged the missions.

The Pentagon's chief scientist, Dr John Foster, has told the congressmen in a two-paragraph letter last December 8 that the information they sought was "classified."

He added: "I find it necessary to respectfully and regretfully decline to make a public disclosure of the details of these activities at this time."

In effect, he seemed to confirm that some form of weather modification activity was under way against the North Vietnamese, the congressmen said.

Their suspicions became even more pronounced when the Defence Secretary, Melvin Laird, informed them in a subsequent letter on March 18 that "some aspects of our work in this area (weather modification) have a definite relationship to national security and are classified accordingly."

He claimed information concerning the classified work had been provided in briefings with chairmen of the House and Senate armed services and appropriations committees.

But since then Congressional concern over military weather modification has grown. Three weeks ago, Senator Pell introduced a resolution setting forth a draft treaty to prohibit geophysical and environmental warfare.

And in a letter this week to President Nixon, Congressman Gude, who heads a special committee within the congressional press group, urged the President to adopt a "no first use" policy regarding offensive employment of environmental weapons.

Congressional concern has even spread to an unclassified Pentagon project known as "Nile Blue."

Under this project, a large and very powerful computer called the Illiac IV simulates atmospheric changes in order to predict the effects of modifications man might make in the environment.

The computer's military value was made clear in testimony last year before the Senate appropriations committee.

A witness, Stephen Lukasik, director of the Pentagon's Advanced Research Projects Agency, said in a prepared statement: "Since it now appears likely that major world powers have the ability to create modifications of climate that might be seriously detrimental to the security of this country, Nile Blue subproject was established in fiscal 1970 to achieve a US capability."

"The idea that this might be used as a military weapon is a very frightening thing," Congressman Gude said in an interview. "Using weather modification as a military tool opens the door to a vast new category of warfare."

He added that with evidence now that the 'merging of clouds could produce more than 30 times as much rain, it was possible to foresee the steering of tropical hurricanes and cyclones and the triggering of earthquakes in certain areas.

At the present rate of technological progress, geophysical warfare was a real possibility, said Gordon J. F. Macdonald, who first openly discussed the subject in a collection, "Unless Peace Comes," published in 1968.

Senator Claiborne Pell. Weapons race warning.

Now a member of President Nixon's Council on Environmental Quality, Macdonald believes steps should be taken to prohibit destructive manipulation of the weather.

"Let's start discussing it now at an early stage," he said, "so we don't repeat the mistakes we made with biological weapons, the production of something that turned out to be a wasted effort."

The National Academy of Sciences has also pressed for a ban against geophysical warfare.

Thomas Malone, dean of the graduate school at the University of Connecticut and chairman of the National Academy's special panel on weather modification, and then of all the fields of science, none had produced greater international co-operation than meteorology.

"What a tragic reversal it would be if we started using our knowledge to hurt one another over the head."

Mr Melvin Laird, National security involved.

The Canberra Times

To serve the National City and through it the Nation

46. No. 13,167 TUESDAY, JULY 4, 1972 18 Pages. 7 cents

CLOUD SEEDING OVER VIETNAM

CLIMATEVIEWER.COM

new scientist

20 April 1972 Volume 54 Number 792

The weather as a weapon of war

Despite the emphasis on arms limitations in the SALT talks and the biological warfare treaty signed last week, the armourers continue to thrive. European newspapers have recently included references to Nile Blue, the code name for what appears to be a US project for research into weather modification for military purposes.

Most of the references stem from an article in Dan Greenberg's Science and Government Report (vol 1, no 22). There Greenberg reported that there was a struggle led by Senator Pell to put a damper on the Defense Department's interest in "geophysical warfare". According to Greenberg, despite attempts to maintain total official silence, meteorologists and geophysicists were aware of military exploration of the possibilities of rain-making, rumoured to be already in use on the Ho Chi Minh Trail. Other applications are believed to include "earthquakes, tidal waves and ecologically disruptive temperature alterations".

Greenberg refers to the contribution of Gordon McDonald, a former member of the President's science advisory committee and now serving on the Council on Environmental Quality, to the book, Unless Peace Comes edited by Nigel Calder (Penguin Press, London, 1968).

As MacDonald says, the key to geophysical warfare is the identification of the environmental instabilities to which the addition of a small amount of energy would release vastly greater amounts of energy. Among the techniques on which he speculates is the creation of a temporary "hole" in ozone layer over a target area, releasing the full force of solar ultra-violet radiation which would be fatal to all life. (This might be achievable by either physical or chemical action). Earthquakes might be triggered if the strain pattern in the crust could be accurately determined, by the timed release of energy through small explosion at a distance. Phased explosions might even be used to create conditions for a "guided tidal wave".

Although the State Department and the Arms Control and Disarmament Agency are less than enthusiastic over such research, the Defense Department is having its way at least to the extent of a budget of $3 million for 1972. The need was defended before the Senate Appropriations Committee by Stephen Lukasik, director of Department of Defense's Advanced Research Projects Agency.

THE AGE

Wednesday, July 5, 1972 250 Spencer St., Melbourne 60 0421 (Classified 60 0611) 118th Year 48 Pages 6c

TORNADO CONTROL UAV DRONE

WEATHER WARFARE

Operation Popeye, Motorpool, In

weathermodificationhistory.com/operation-popeye-motorpool-intermediary-compatriot-weather-warfare-vietnam/

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2 of 21

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OPERACE NILE BLUE NA KUBĚ

CIA Project Nile Blue - Rain Emba

weathermodificationhistory.com/cia-project-nile-blue-rain-embargo-cuban-sugar-crops/

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CIA Are The Weathermen

FOLLOW US ON FACEBOOK
WEATHER MODIFICATION HISTORY

7/2-8/76

-- Betty Segal

Did the CIA order weather modification to ruin the Cuban sugar crop in 1969 and 1970, or didn't it?

Lowell Ponte, former researcher for International Research and Technology Corporation, a Pentagon "think tank," says the CIA and Pentagon ordered cloud-seeding off the shores of Cuba, to "milk" rain clouds, at a time when Castro's fortunes seemingly depended on a successful harvest of sugar cane.

The CIA has categorically denied it practiced cloud seeding anywhere except in Vietnam during that time period.

Ponte says the Cuban experiment was part of "Project Nile Blue," carried on officially starting in 1970 by the Pentagon's Advanced Research Projects Agency (ARPA). Later exposure of the project by scientists opposed to the war revealed that weather experimentation there had begun as early as 1966. A computer model for "Nile Blue" was developed by the main computer installation, known as ILLIAC 4, located at Moffett Field in Mountain View.

Ponte says the Cuban cloud-seeding effort did produce erratic weather which cut down the sugar harvest those years, but that on the whole weather science is too "primitive" and unpredictable to produce certain results. He adds that "Nile Blue" was really aimed at "destabilizing" weather in the Soviet Union, China and Cuba, to ruin harvests and create political unrest.

SFExaminer

Another CIA plot: Cuba crops

United Press International

LOS ANGELES — The United States used cloud seeding to dry up the Cuban sugar crop in 1969 and 1970, Lowell Ponte, a former Pentagon think tank researcher, said yesterday.

It was part of a secret Pentagon project aimed at using nature weapons to destabilize weather in the Soviet Union, China and other Communist countries, and to enhance the power of U.S. food sales, he said.

Ponte, a former specialist for the International Research and Technology Corp., said the CIA and the Pentagon seeded clouds in wind currents that carry rains to Cuba.

"Between 1968 and 1972 the CIA and later the Pentagon were using cloud-seeding to make enemy trails muddy in Southeast Asia," Ponte said in an interview for National Public Radio.

"But the seeding near Cuba was to cause less rain, not more. It was supposed to squeeze rain out of clouds before they reached the island. You might say we tried to embargo rainclouds."

The experimental seeding was stepped up in 1970, Ponte said, after Cuban Premier Fidel Castro staked the honor of his Communist government on the success of that year's sugar crop.

"Castro set a harvest goal of 10 million tons of sugar," Ponte said. "The CIA decided, after Castro's promises, that failure would demoralize his people and make Cuban Communism appear a failure."

The cloud seeding brought erratic weather in Cuba and the sugar harvest fell short of its goal. Castro offered to resign, but remained in office, Ponte said.

"Weather science is too primitive to say that cloud seeding hurt Cuba's harvest," Ponte said. "But it could have. The point is our government secretly attempted to tamper with the weather in another nation, with which we were not at war, in an effort to cause economic and political harm."

Ponte, author of "The Cooling," a book dealing with climatic change and manipulation of weather for political reasons, said the cloud seeding near Cuba was originally to provide information for a Pentagon project called "Nile Blue."

The secret project, he said, has studied ways to melt polar icecaps, direct hurricanes and tornadoes as weapons and to "destabilize weather in the Soviet Union, China and Cuba" to ruin harvests.

The Pentagon and CIA study was aimed at increasing America's "food weapon" — the political use of food sales — in much the same way the Arab nations use oil, he said.

FOLLOW US ON FACEBOOK
WEATHER MODIFICATION HISTORY

The Desert Sun

Saturday, October 30, 1976 | Palm Springs, California | 34 Pages, 3 Sections | 15 Cents

Canadian's Suit Continues

WASHINGTON (UPI) — A federal judge must decide whether the CIA and the Pentagon infringed on a Canadian meteorolgist's rainmaking process during the Vietnam War.

Bernard A. Power, a professional meteorologist and president of Weather Engineer Corp. of Canada, Ltd., sued the U.S. four years ago and the trial began Sept. 22 in the U.S. Court of Claims. Arguments ended Friday.

Judge Joseph V. Colaianni is expected to rule in about 10 days on the first part of the two-section

FOLLOW US ON FACEBOOK
WEATHER MODIFICATION HISTORY

THE new indicator

November 17–30 1976 | UC San Diego | Volume 2 | Number 2

CIA Tampered with Cuba's Weather

Fig. 1. Aerosol generators installed (a) on the helicopter and (b) on the car chassis.

Russian Geoengineering Solar Radiation Management Field Experiment

September 25, 2005

Chinese Weather Modification at the Beijing Olympics

March 25, 2008

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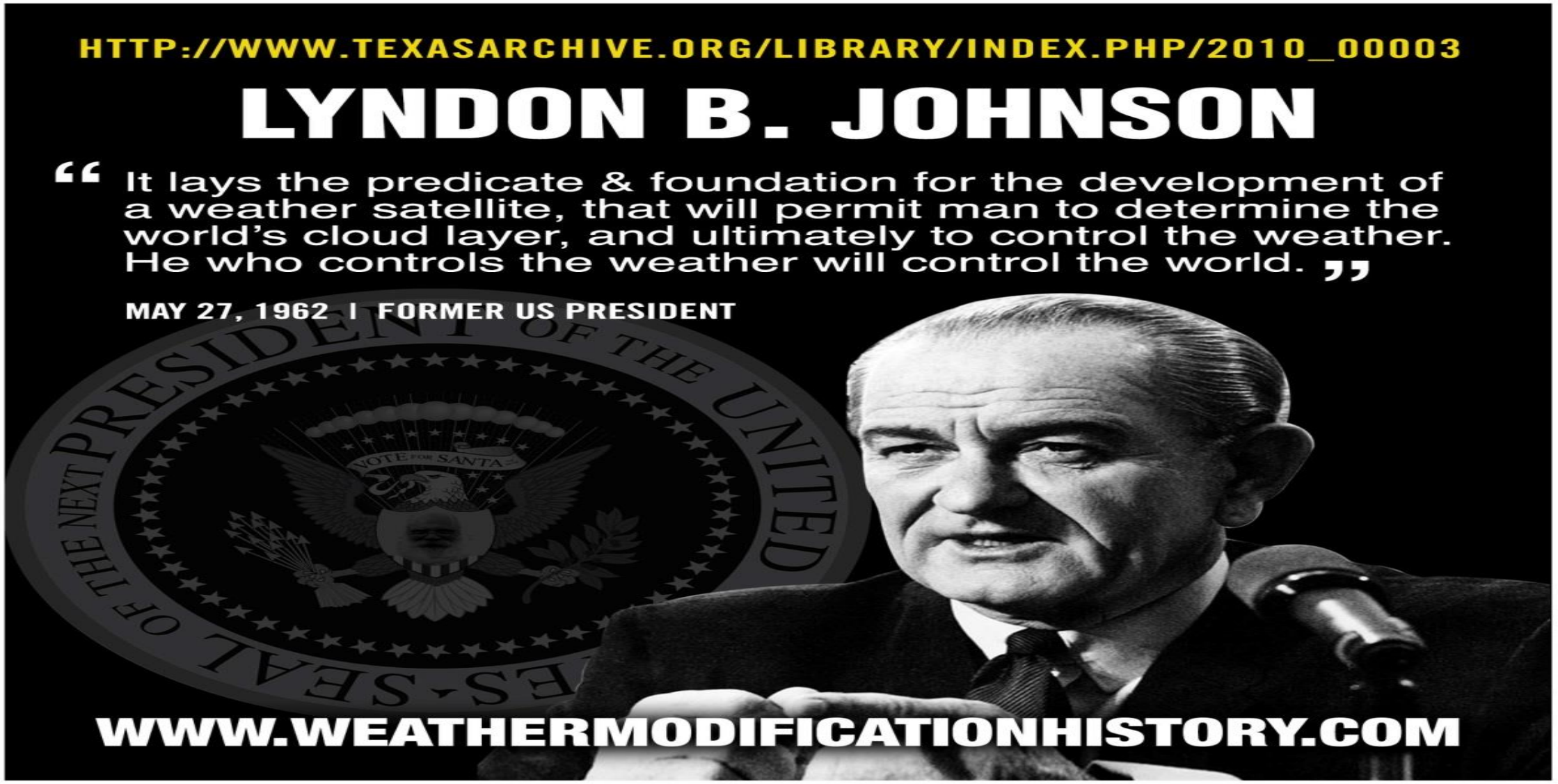
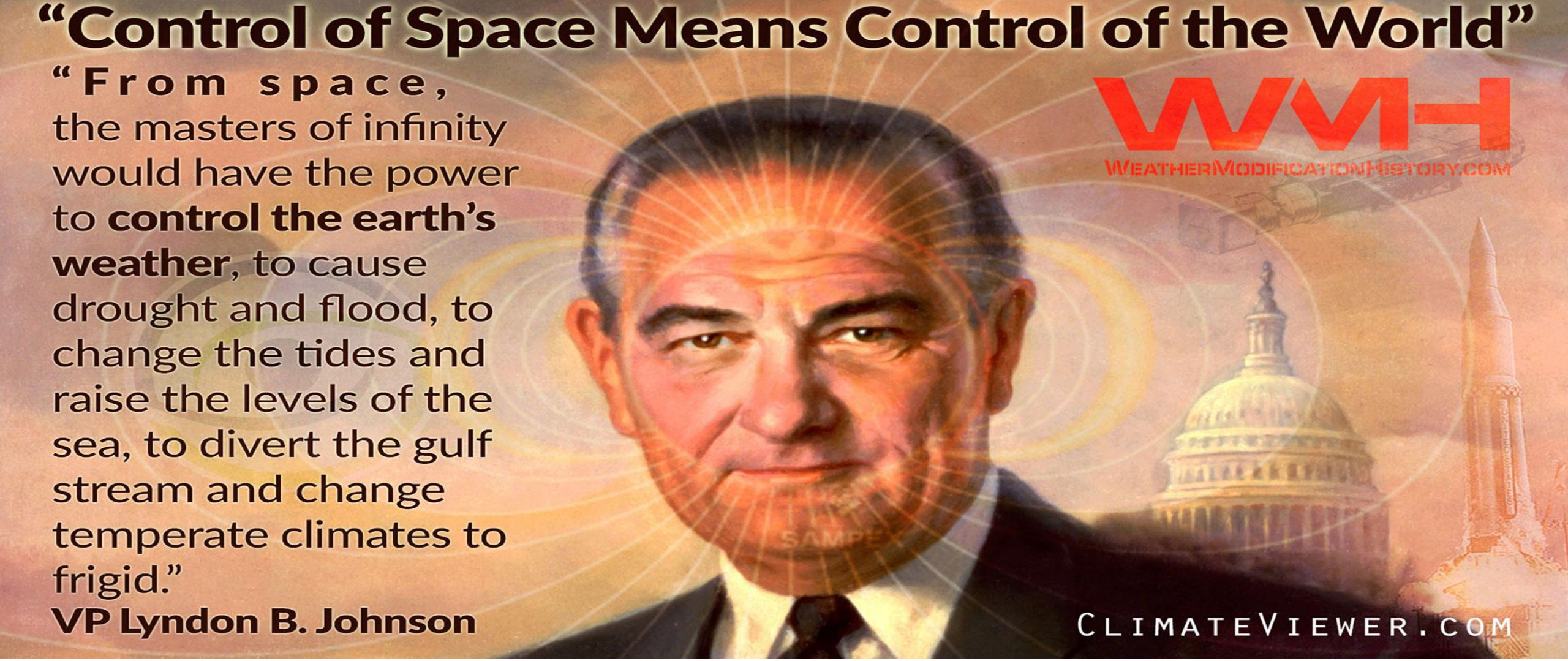
TEN, KDO ŘÍDÍ POČASÍ, MŮŽE OVLÁDNOUT SVĚT

1962





„OVLÁDNUTÍ VZDUŠNÉHO A VESMÍRNÉHO PROSTORU ZNAMENÁ KONTROLU NAD SVĚTEM – vládci nekonečna by měli moc řídit počasí na zemi, způsobit sucha a povodně, změnit přílivy a proudy, zvýšit hladiny moří, odklonit golfské proudy a změnit mírné podnebí na chladné."

EXPERIMENTY S POPÍLKEM A SAZEMI UHLÍKU, DOKUMENTACE O JEHO VYUŽITÍ PŘI OVLIVŇOVÁNÍ POČASÍ

POPÍLEK PLNÝ TĚŽKÝCH KOVŮ

TOLEDO BLADE

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123rd Year TOLEDO, OHIO, TUESDAY, SEPTEMBER 23, 1958 ★ ★ ★ ★

Blue Skies Or Stormy Weather

Navy Scientist Creates Clouds, Breaks Them Up

New Technique May Make Rain

WASHINGTON, Sept. 23 (AP)—The navy said today it has created clouds and destroyed others by seeding them with ordinary carbon black.

A woman scientist who discovered the new method said experiments over southern Georgia produced a series of clouds at a cost of 18 cents a cloud.

Much experimentation must be done before the value of the new technique can be determined. It could open the way to cheap and reliable means of making rain, or of breaking up storm clouds, or of dissipating fog.

The technique was developed by Dr. Florence W. Van Straten, who livened up a desk job with the chief of naval operations by theorizing along new lines as to how rain is formed.

Earlier cloud-seeding methods using more expensive dry ice and silver iodine have been confined to super-cooled clouds. The carbon method, Dr. Van Straten said, apparently works with clouds at any temperature.

—Associated Press Wirephoto

DR. FLORENCE VAN STRATEN
Her cloud theory works

In the Georgia experiments, a navy airplane dropped carbon black in both solid and liquid-suspension form into clouds and into clear skies. Additional studies using radar-tracked balloons currently are under way over Chesapeake Bay.

Results indicate that when the carbon is sprayed or sprinkled into a clear sky it causes clouds to form, and when it is introduced into clouds it clears them up. Whether it actually produces rain in this process has not been determined definitely.

"We dropped carbon black, suspended in liquid, over a track a mile long and produced a solid line of clouds one mile long," Dr. Van Straten told a reporter.

"When we dropped 1½-pound dry packages of carbon black, we produced single clouds with each drop."

The navy team seeded seven clouds with carbon, and dissipated each of them in from 2½ to 20 minutes.

"Each cloud turned gray and then rapidly disappeared," Dr. Van Straten said.

"Aside from the cost of the airplanes, we spent less than $5 on the experiments in Georgia."

Carbon black, used in printer's ink and automobile tires, is nothing more than soot. It is available cheaply, in commercial quantities, as a by-product of the burning of natural gas.

Vědkyně Dr. Florence Van Straten ve spolupráci s americkým námořnictvem sděluje výsledky experimentu. „Vypustili jsme popílek a uhlíkový prach po délce jedné míle a na stejném místě jsme vytvořili mraky stejné délky. Když jsme popílek vypustili do mraků, ty se prakticky okamžitě rozpustily. Jedná se o velmi levnou záležitost, cca 18 centů na mrak. Popílek je totiž v průmyslové výrobě odpadem.“ 1958

Journal of Applied Meteorology
Article: pp. 355–386 | Abstract | PDF (2.52M)

Weather Modification by Carbon Dust Absorption of Solar Energy

William M. Gray, William M. Frank, Myron L. Corrin, and Charles A. Stokes
Atmospheric Science Department, Colorado State University, Ft. Collins 80523

(Manuscript received June 19, 1975, in final form December 22, 1975)
DOI: 10.1175/1520-0450(1976)015<0355:WMBCDA>2.0.CO;2

ABSTRACT

Growing global population pressures and predicted future food and energy shortages dictate that man fully explore his potential use of solar energy. This paper investigates the possibility of beneficial weather modification through artificial solar energy absorption. A variety of physical ideas related to artificial heat sources on different scales of motion are considered. Interest is concentrated on the feasibility of mesoscale (~ 100–300 km) weather modification through solar energy absorption by carbon aerosol particles of size ~0.1 μm or less. Particles of this size maximize solar energy absorption per unit mass.

It is hypothesized that significant beneficial influences can be derived through judicious exploitation of the solar absorption potential of carbon black dust. There is an especially high potential for this in the boundary layer over tropical oceans and in the formation of cirrus clouds and the consequent alteration of the tropospheric IR energy budget. If dispersed in sizes $\leq$0.1 μm, solar energy absorption amounts as high as ~ 2×10^{10} cal lb^{-1} per 10 h or about 4×10^{11} cal per dollar per 10 h can be obtained. This is a tremendously powerful heat source, especially if it stimulates additional radiation energy gains from extra cloud formation and/or enhanced surface evaporation. Preliminary observational and modeling information indicates that this artificial heat source can be employed on the mesoscale (~ 100–300 km) to achieve significant economic gains by means of precipitation enhancement and tropical storm destruction alleviation. It may also be possible to use carbon dust to enhance precipitation over interior land areas, alter extratropical cyclones, inhibit high daytime summer temperatures and severe weather, prevent frosts, and speed up springtime snowmelt in agriculturally marginal regions.

Je možné také použít popílek a uhlíkový prach, abychom zvýšili srážky, změnili směr cyklónů, utlumili vysoké letní teploty a extrémní počasí, zabránili frontám a urychlili tání sněhu v okrajových zemědělských oblastech. 1975

WEATHER MODIFICATION

Test Technology Symposium '97

Session B:

Advanced Weapon/Instrumentation Technologies

John Hopkins University/Applied Physics Laboratory

by

Dr. Arnold A. Barnes, Jr.

Senior Scientist

Optical Effects Division

Phillips Laboratory

19 March 1997

Air Force Research Laboratory

From Wikipedia, the free encyclopedia

Coordinates: 39°49'23"N 084°02'58"W

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The **Air Force Research Laboratory** (**AFRL**) is a scientific research organization operated by the United States Air Force Materiel Command dedicated to leading the discovery, development, and integration of aerospace warfighting technologies, planning and executing the Air Force science and technology program, and providing warfighting capabilities to United States air, space, and cyberspace forces.[1] It controls the entire Air Force science and technology research budget which was $2.4 billion in 2006.[2]

The Laboratory was formed at Wright-Patterson Air Force Base near Dayton, Ohio on 31 October 1997 as a consolidation of four Air Force laboratory facilities (Wright, Phillips, Rome, and Armstrong) and the Air Force Office of Scientific Research. The Laboratory is composed of eight technical directorates, one wing, and the Office of Scientific Research. Each technical directorate emphasizes a particular area of research within the AFRL mission which it specializes in performing experiments in conjunction with universities and contractors.

Since the Laboratory's formation in 1997, it has conducted numerous experiments and technical demonstrations in conjunction with NASA, Department of Energy National Laboratories, DARPA, and other research organizations within the Department of Defense. Notable projects include the X-37, X-40, X-53, HTV-3X, YAL-1A, Advanced Tactical Laser, and the Tactical Satellite Program.

The Laboratory may face problems in the future as 40 percent of its workers are slated to retire over the next two decades while since 1980 the United States has not produced enough science and engineering degrees to keep up with demand.[3]

Air Force Research Laboratory

Air Force Research Laboratory – Emblem

Active	October 1997–present
Country	United States
Branch	Air Force
Type	Research and development
Size	4,200 civilian 1,200 military
Part of	Air Force Materiel Command
Garrison/HQ	Wright-Patterson Air Force Base

CLOUD SEEDING

- WEATHER MODIFICATION USING CARBON BLACK (1)
  - Increase Precipitation
    - » Muddy dirt roads to decrease tractability
    - » Flood fields and small rivers
    - » Decrease troop comfort level
    - » Decrease tractability by snow or freezing rain when the temperature conditions are right
  - Decrease Precipitation #
    - » Dry out roads/fields for improved tractability
    - » Deny fresh water to troops in semi-dry regions

CLOUD SEEDING (cont.)

- WEATHER MODIFICATION USING CARBON BLACK (2)
  - Increase Cirrus Cloud Cover
    - » Deny visual satellite or high altitude reconnaissance
    - » Decrease light level for night time operations
  - Dissipate Fog
    - » Uncover targets for visual raids
    - » Provide visual inspection of damage
    - » Provide visual reconnaissance
    - » Open airfields for landing / recovery

POČASÍ JAKO MULTIPLIKÁTOR SÍLY – OVLÁDNUTÍ POČASÍ V ROCE 2025

Weather as a Force Multiplier: Ov | Air War College

Nezabezpečeno | prekladyodlesa.sk/wp-content/uploads/owning_the_weather_in_2025.pdf

Weather as a Force Multiplier: Owning the Weather in 2025 1 / 143 100%

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Owning the Weather in 2025

A Research Paper
Presented To

Air Force ***2025***

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09.02.2021

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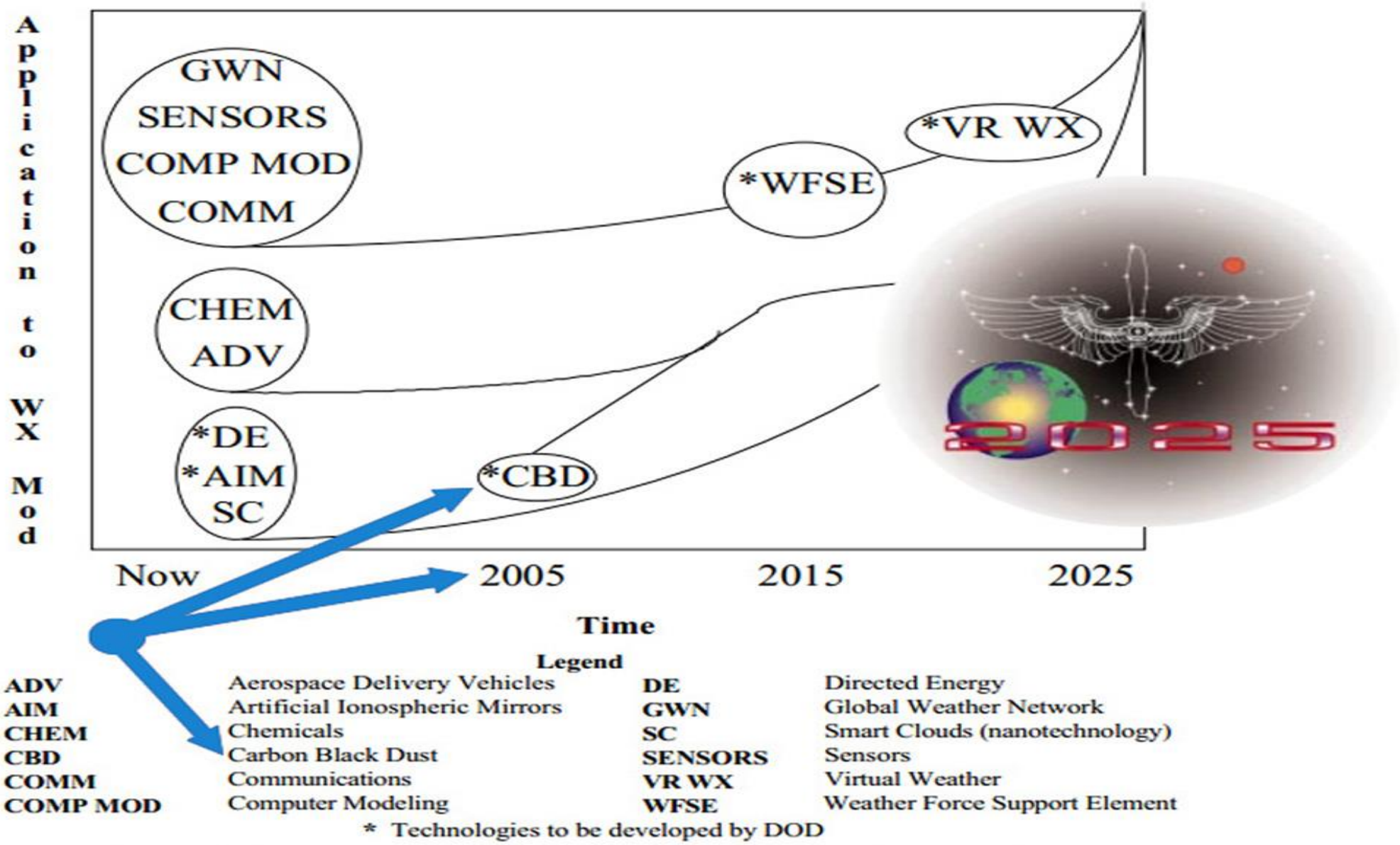
Weather as a Force Multiplier: Owning the Weather in 2025

by Col Tamzy J. House, Lt Col James B. Near, Jr., LTC William B. Shields (USA), Maj Ronald J. Celentano
Maj David M. Husband, Maj Ann E. Mercer, Maj James E. Pugh, August 1996

http://csat.au.af.mil/2025/volume3/vol3ch15.pdf



Legend

ADV	Aerospace Delivery Vehicles	DE	Directed Energy
AIM	Artificial Ionospheric Mirrors	GWN	Global Weather Network
CHEM	Chemicals	SC	Smart Clouds (nanotechnology)
CBD	Carbon Black Dust	SENSORS	Sensors
COMM	Communications	VR WX	Virtual Weather
COMP MOD	Computer Modeling	WFSE	Weather Force Support Element

* Technologies to be developed by DOD

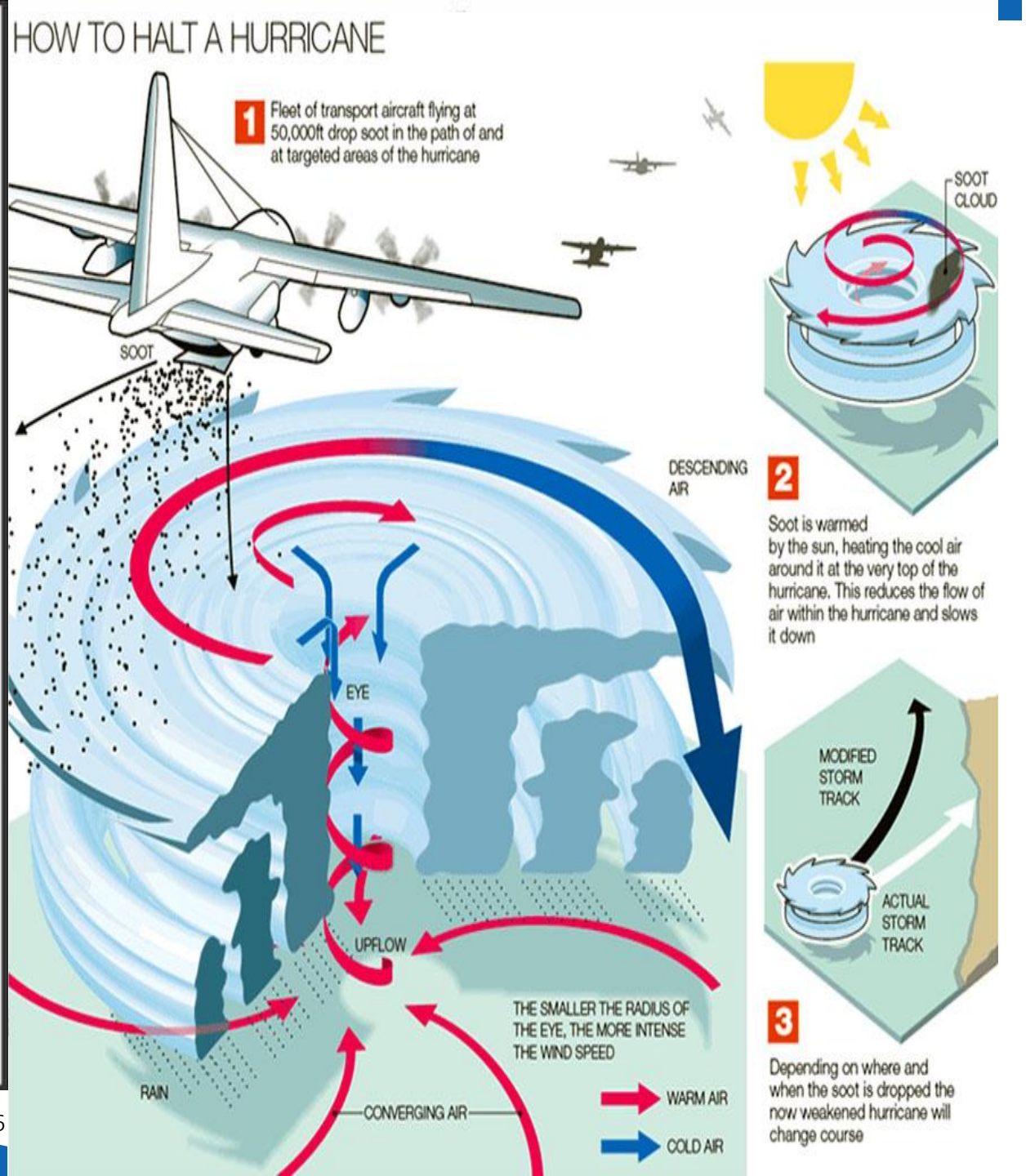
Figure 5-2. A Systems Development Road Map to Weather Modification in 2025.

Hurricane Modification Workshop

NOAA

Boulder

February 6-7, 2008
David Skaggs Research Center
Downstairs/Multipurpose Room
GC402



ZPLODINY Z LETADEL OBSAHUJÍ TĚŽKÉ KOVY

Charakterizace emisí a zplodin z letadel využitím metody hmotnostní spektrometrie – Institut technologie v Zurichu

EHT Zurich_zplodiny v palivu letadel_větší verze.pdf - Adobe Acrobat Reader DC

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Chemical Characterization of Freshly Emitted Particulate Matter from Aircraft Exhaust Using Single Particle Mass Spectrometry

Manuel Abegglen[1], Benjamin Brem[2,3], Martin Ellenrieder[4], Lukas Durdina[2,3], Theo Rindlisbacher[5], Jing Wang[2,3], Ulrike Lohmann[1], Berko Sierau[1]

1 Institute for Atmospheric and Climate Science, ETH Zurich, Switzerland
2 Laboratory for Advanced Analytical Technologies, Empa, Dübendorf, Switzerland
3 Institute of Environmental Engineering, ETH Zurich, Zurich, Switzerland
4 SR Technics, Zurich, Switzerland
5 Swiss Federal Office of Civil Aviation, Bern, Switzerland

11:04
30.01.2021

Physical and chemical characterization of aircraft engine exhaust particles

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Permanent link
https://doi.org/10.3929/ethz-a-010633645

Publication status
published

Table 2.2 Concentrations in milligram per kilogram [mg/kg] of the most abundant metallic elements in the sampled Jet A-1 Fuel and Mobile Jet II Oil detected using ICP-MS.

Element	Jet A-1 Fuel	Mobile Jet II Oil
Calcium	113.15	30.82
Vanadium	3.59	1.82
Aluminium	3.08	4.35
Lead	1.98	>0.1
Iron	1.69	1.77
Magnesium	1.46	2.25
Titanium	1.45	6.01
Sodium	1.05	1.28
Copper	0.96	(—)

Ročně se ze zplodin komerčních letadel dostane do ovzduší cca 1000 tun částic hliníku

Hustota leteckého paliva je někde mezi 775 a 840 kg/m3. Cca průměr 800 kg/m3

Spotřeba paliva 378 mld. l/rok = 378 x 10^6 l = 378 x 10^6 dm3 = 378 x 10^3 m3

Přepočteno na hmotnost: 800 kg/m3 x 378 x 10^3 m3 = 302,4 x 10^6 kg

A obsah hliníku: 302,4 x 10^6 x 3,08 x 10^-3 = 931,392 tun

Technická zpráva: Analýza paliv u letadel

SSC San Diego TR 1845, Decemb

pdfs.semanticscholar.org/0202/ae267403237d4ef135b3f2590c8586c0f49b.pdf

SSC San Diego TR 1845, December 2000 1 / 34 75%

TECHNICAL REPORT 1845
December 2000

Trace Element and Polycyclic Aromatic Hydrocarbon Analyses of Jet Engine Fuels: Jet A, JP5, and JP8

L. A. Shumway

SSC San Diego
San Diego, CA 92152–5001

11:41
30.01.2021

EXECUTIVE SUMMARY

For this study, one sample of commercial Jet A (Jet Aviation) fuel, one sample of JP8 fuel, and two samples of JP5 fuel were analyzed for elements and Polycyclic Aromatic Hydrocarbons (PAHs). Table ES-2 is a summary of elements detected in the fuels. Shaded elements were detected at the highest concentrations. More data are needed to determine a typical composition for each fuel type.

Table ES-1. Elements detected in jet fuel.

Element	Jet A (ppb)	JP5* (ppb)	JP8 (ppb)
Aluminum	ND	2144	9360
Barium	3	9	38
Calcium	555	5256	31120
Chromium	26	9	18
Copper	5	82	6
Iron	210	210	1144
Lead	11	5	10
Magnesium	ND	1056	5840
Manganese	6	10	25
Nickel	ND	6	6
Niobium	ND	ND	2
Potassium	ND	118	207
Scandium	11	12	11
Selenium	ND	ND	21
Strontium	12	70	351
Sulfur	1220	450	1690
Tin	10	48	102
Titanium	100	35	1056
Vanadium	ND	3	18
Zirconium	16	14	39

*JP5 values shown are the higher of two JP5 sample values.
ND = No Detect

POPÍLEK, UHLÍKOVÝ PRACH KOLEM NÁS I VE STRATOSFÉŘE, DOPADY

Černý uhlík z letadel negativně ovlivňuje ozónovou vrstvu

Atmospheric Chemistry and Physics
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Atmos. Chem. Phys., 17, 9623–9644, 2017
https://doi.org/10.5194/acp-17-9623-2017

Volume 17, issue 15

Research article

10 Aug 2017

Possible climatic implications of high-altitude black carbon emissions

Gaurav Govardhan[1], Sreedharan Krishnakumari Satheesh[1,2], Ravi Nanjundiah[1,2], Krishnaswamy Krishna Moorthy[1], and Surendran Suresh Babu[3]

[1]Centre for Atmospheric and Oceanic Sciences, Indian Institute of Science, Bangalore, India
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Received: 01 Feb 2017 – Discussion started: 13 Feb 2017 – Revised: 10 Jul 2017 – Accepted: 11 Jul 2017 – Published: 10 Aug 2017

Abstract. On account of its strong absorption of solar and terrestrial radiation, black carbon (BC) aerosol is known to impact large-scale systems, such as the Asian monsoon and the Himalayan glaciers, in addition to affecting the thermal structure of the lower atmosphere. While most studies focus on the near-surface abundance and impacts of BC, our study examines the implications of sharp and confined layers of high BC concentration (called elevated BC layers) at altitudes more than 4 km over the Indian region using the online regional chemistry transport model (WRF-Chem) simulations. These elevated BC layers were revealed in the recent in situ measurements using high-altitude balloons carried out on 17 March 2010, 8 January 2011 and 25 April 2011. Our study demonstrates that high-flying aircraft (with emissions from the regionally fine-tuned MACCity inventory) are the most likely cause of these elevated BC layers. Furthermore, we show that such aircraft-emitted BC can be transported to upper tropospheric or lower stratospheric heights (~ 17 km) aided by the strong monsoonal convection occurring over the region, which is known to overshoot the tropical tropopause, leading to the injection of air mass (along with its constituent aerosols) into the stratosphere. We show observational evidence for such an intrusion of

Letadla ovlivňují ozónovou vrstvu

ENVIRONMENT

Aeroplanes may be affecting ozone layer

Jacob Koshy

NEW DELHI, AUGUST 15, 2017 22:55 IST
UPDATED: AUGUST 16, 2017 17:51 IST

Black carbon particles exist upto 18 km into the stratosphere

Black carbon heats up atmosphere, say scientists

J. Marvin Herndon

Transdyne Corporation, California · Executive
Ph.D., Post-Doctoral

Contact

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About

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Introduction

Skills and Expertise

Current institution

Transdyne Corporation, California

Executive

Current position
C.E.O. and Chief Scientist

Co-authors

Aerosoly popílku a sazí: Dříve nepoznaný primární faktor v katastrofálním globálním úpadku různých druhů ptáků

Asian Journal of Biology

6(4): 1-21, 2018; Article no.AJOB.44911
ISSN: 2456-7124

Aerosolized Coal Fly Ash: A Previously Unrecognized Primary Factor in the Catastrophic Global Demise of Bird Populations and Species

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[2]Transdyne Corporation, 11044 Red Rock Drive, San Diego, CA 92131, USA.

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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2. METHODS

Absent public disclosure as to the nature of the substance(s) being sprayed, concerned citizens had post-spraying rainwater samples analysed by commercial laboratories [16]. Usually, only aluminium elemental analysis was requested, sometimes barium as well, and occasionally also strontium [16,28]. As laboratories typically report results as metals in units of micrograms per liter or equivalent, concerned citizens have often mistakenly assumed that metals are being sprayed into the atmosphere. But that is not what the laboratory results reveal [29]. Although one cannot rule out instances of metals being aerosolised in this geoengineering activity, the appearance of these three elements as soluble salts dissolved in rainwater suggested a different origin, namely, aqueous extracts from a toxic waste product, coal fly ash [30].

A hypothetical example may help to understand the process involved. Imagine if powdered tea leaves were jet-sprayed into the atmosphere. Upon encountering moisture, tannin and other chemicals would be extracted into the water, in the same manner as in making tea to drink; the subsequent rain would be tea, albeit very weak tea.

Coal fly ash forms in the hot gases above the burner in coal fired furnaces, principally in electricity-producing utilities [31]. In Western nations, because of its toxicity, coal fly ash is trapped and sequestered rather than being allowed to exit smokestacks [32]. The electrostatic trapping employed, however, is not 100% efficient, allowing CFA to be detected

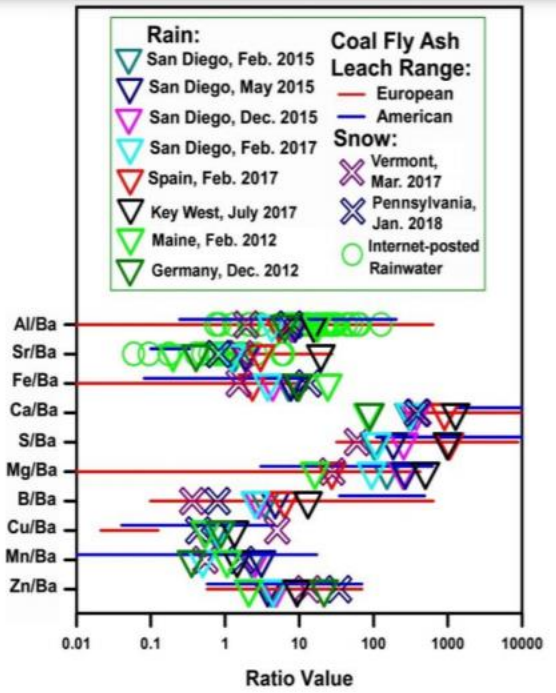
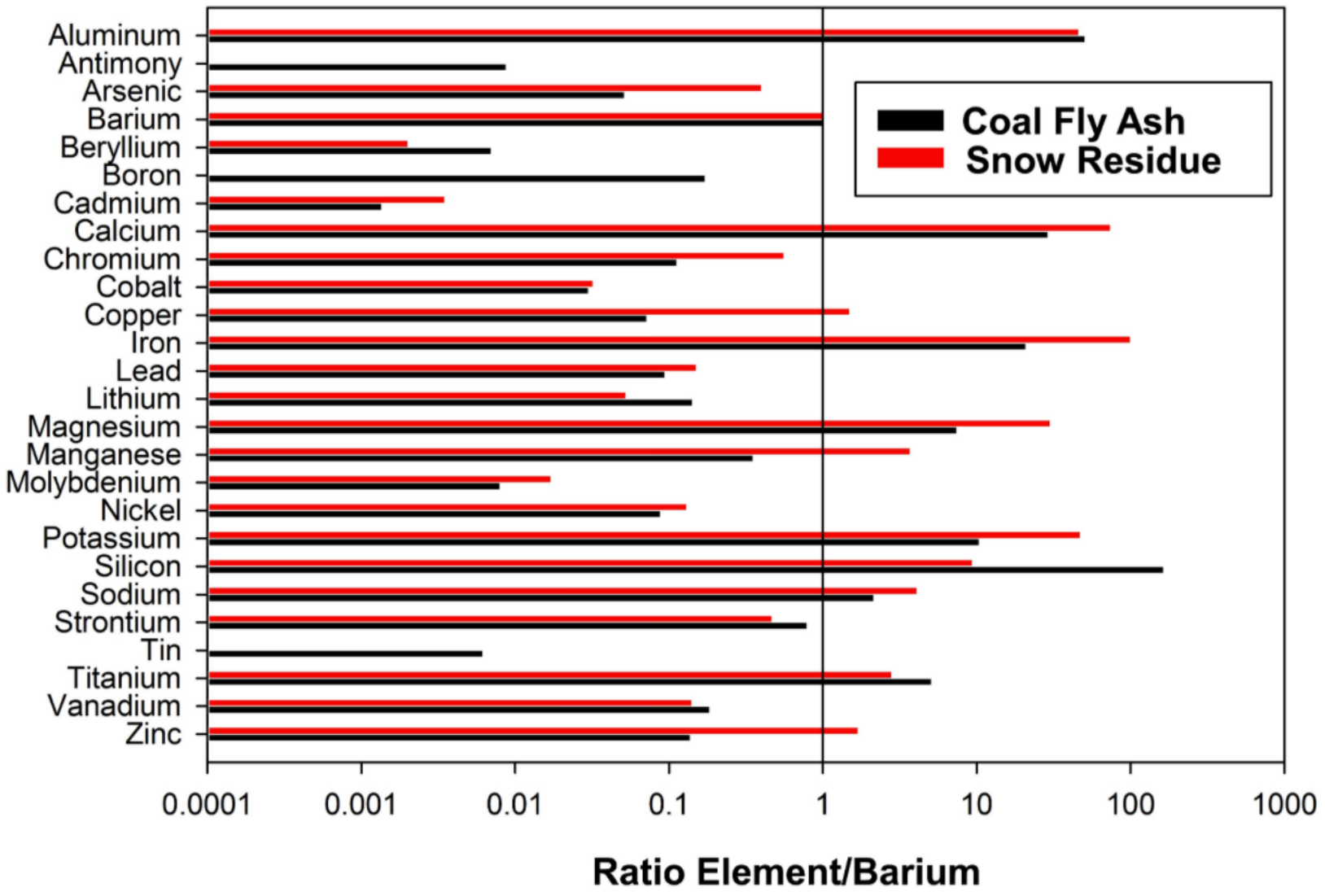


Fig. 2. From [23], showing the similarity of element ratios measured in rainwater and snow with the range of comparable element ratios measured in the laboratory lixiviate of water-leach experiments [29,34]

The soluble aluminum content is particularly disturbing due to its toxic nature to organisms [16,23,35]. Previously, aluminium in a chemically mobile form resulted from acid rain [36], but scrubbers for sulfur dioxide and nitrous oxides were added to trap these acid-producing oxides [37]. Now, the soluble aluminium problem has



Journal of Geography, Environment and Earth Science International

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ISSN: 2454-7352

Chemtrails are Not Contrails: Radiometric Evidence

J. Marvin Herndon[1*], Raymond D. Hoisington[2] and Mark Whiteside[3]

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Authors' contributions

This work was carried out in collaboration among all authors. Author JMH was primary responsible for geophysical considerations. Author RDH was primarily responsible for solar irradiance measurements. Author MW was primarily responsible for medical and public health and environmental considerations. All authors read and approved the final manuscript.

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Radiometrické měření ultrafialového záření ukazuje výskyt nanočástic těžkých kovů

literature [9,10].

During the course of routine solar ultraviolet measurements, which automatically tracks Sol's motion, a jet laid aerosol trail between the radiometer and the solar disc permitted measurements of the relative absorption of UV-B,C. As discussed below, the results are consistent with the aerosol trail consisting of particulate matter, not ice crystals; a chemtrail, not a contrail. The jet-sprayed particulate trails now routinely observed throughout much of the world are consistent with what is more properly called tropospheric aerosol geoengineering.

2. METHODOLOGY

The experimental method pertains to solar spectrometric irradiance measurements at Earth's surface that employs International Light Technologies ILT950UV Spectral Radiometer with fractional-nanometer resolution in the short-wavelength portion of the ultraviolet (UV) spectrum. The radiometer is mated to a Meade LXD55 auto guider telescope tripod and mount assembly, which permits automatic tracking. The instrumentation specifications and the methodology used have been previously described in detail [11].

3. RESULTS

Fig. 2 consists of two iPhone photographs taken from behind the auto guider radiometer mount showing the radiometer sensor's entry and exit through the aerosol particulate trail, aka chemtrail. The entry and exit times, accurately determined from the iPhone time-stamps are,

chemtrail.

Fig. 2. Photographs taken from behind the auto guider radiometer mount showing the radiometer sensor's entry and exit through the aerosol chemtrail

Photographs by author (RDH)

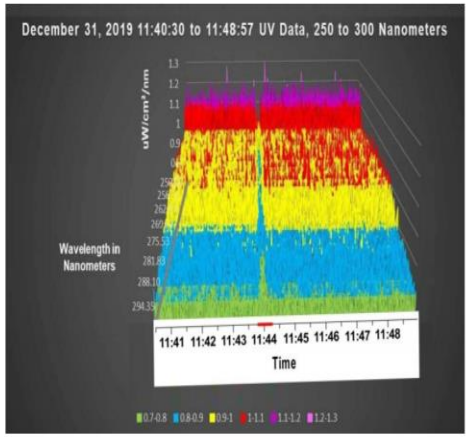


Fig. 3. UV data, plotted through the range 250 to 300 nm.

The red portion of that time axis, taken from the range of time-stamps of the iPhone photographs shown in Fig. 2, shows the time of radiometer-sensor transit through the aerosol chemtrail. The reduction of UV intensity through this aerosol-transit range is clearly evident. Measurements were terminated at 250 nm to avoid uncertainties that increase as the wavelength decreases below 250 nm.

4. DISCUSSION

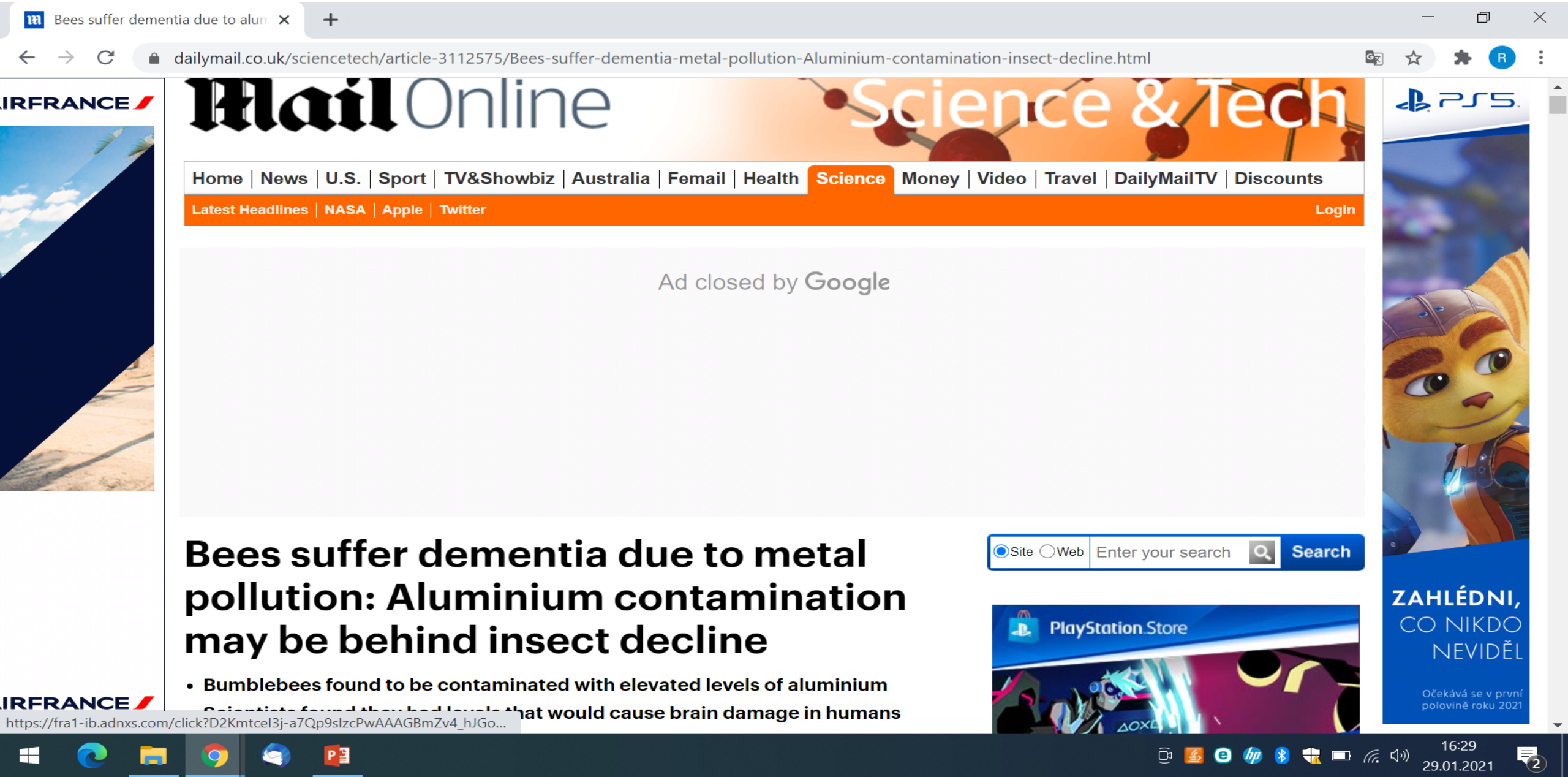
The UV absorption evident in Fig. 3 during the time of radiometer-sensor transit through the aerosol trail is unambiguous radiometric evidence that the chemtrail is not an ice-crystal contrail because UV absorption by ice throughout the wavelength interval measured is negligible.

The absorption coefficient of ice, k_{ice}, at 300 nm is < 0.1 m^{-1} [12,13] and 0.665 m^{-1} at 250 nm [13],

possibly be ice-crystal contrails because, as discussed above, ice has low absorption not only for UV, but for visible light as well [12,13].

Other physical manifestations of aerosol trails are likewise inconsistent with ice-crystal contrails. These include dispersal rather than evaporation, spontaneous start-stop-start particulate trail production, and trail origination sometimes not being associated with engine exhaust [5].

Hliník může být důležitou příčinou úpadku hmyzu



Science News

from research organizations

Aluminum: New factor in the decline of bee populations?

Date: June 8, 2015

Source: Keele University

Summary: Very high amounts of aluminum contamination has been found in bees, raising the question of whether aluminum-induced cognitive dysfunction is playing a role in the decline of bumblebee populations. Aluminum is Earth's most ubiquitous ecotoxicant and is already known to be responsible for the death of fish in acid lakes, forest decline in acidified and nutrient impoverished catchments, and low crop productivity on acid sulphate soils.

RELATED TOPICS

Plants & Animals

- Agriculture and Food
- Animal Learning and Intelligence
- Endangered Animals

FULL STORY

A new scientific study has found very high amounts of aluminium contamination in bees, raising the question of whether aluminium-induced cognitive dysfunction is playing a role in the decline of bumblebee populations.

Miliardy částic z nečištěného ovzduší v srdcích lidí ve městech

Billions of air pollution particles found in hearts of city dwellers

Exclusive: Study shows associated damage to critical pumping muscles, even in children

Damian Carrington
Environment editor
@dpcarrington

Fri 12 Jul 2019 17.00 BST

▲ People wear face masks to combat air pollution in Mexico City, where the subjects of the study had lived. Photograph: Pedro Pardo/AFP/Getty Images

The hearts of young city dwellers contain billions of toxic air pollution

TOPINKA: Nanočástice se od částic větších rozměrů liší především schopností snadno pronikat do lidského organismu, do řady tkání, včetně mozku, ale někdy i přes buněčnou membránu. Těchto unikátních vlastností lze úspěšně využívat v různých vědních oblastech, například v biomedicíně či farmakologii, ale nese to s sebou i jistá rizika spojená s některými toxickými účinky, jako je oxidační poškození biologicky důležitých molekul (DNA, RNA, proteiny, lipidy).

„Nanočástice se od částic větších rozměrů liší především schopností snadno pronikat do lidského organismu“

ČESKÁ POZICE: Jaké nemoci či poruchy může dle dosavadních výzkumů dlouhodobá expozice nanočásticím způsobovat?

TOPINKA: Při studiu nežádoucích účinků nanomateriálů jsou v popředí zájmu zejména kardiovaskulární, neurodegenerativní a karcinogenní účinky. Významný může být i vliv na imunitu.

ČESKÁ POZICE: Před nějakou dobou jste tvrdil, že

Nanočástice těžkých kovů v lidském mozku

RESEARCH ARTICLE

Magnetite pollution nanoparticles in the human brain

Barbara A. Maher, Imad A. M. Ahmed, Vassil Karloukovski, Donald A. MacLaren, Penelope G. Foulds, David Allsop, David M. A. Mann, Ricardo Torres-Jardón, and Lilian Calderon-Garciduenas

PNAS September 27, 2016 113 (39) 10797-10801; first published September 6, 2016;
https://doi.org/10.1073/pnas.1605941113

Edited by Yinon Rudich, Weizmann Institute of Science, Rehovot, Israel, and accepted by Editorial Board Member A. R. Ravishankara July 25, 2016 (received for review April 13, 2016)

See related content:
Magnetite in the human body - Oct 11, 2016

Article | Figures & SI | Info & Metrics | PDF

Significance

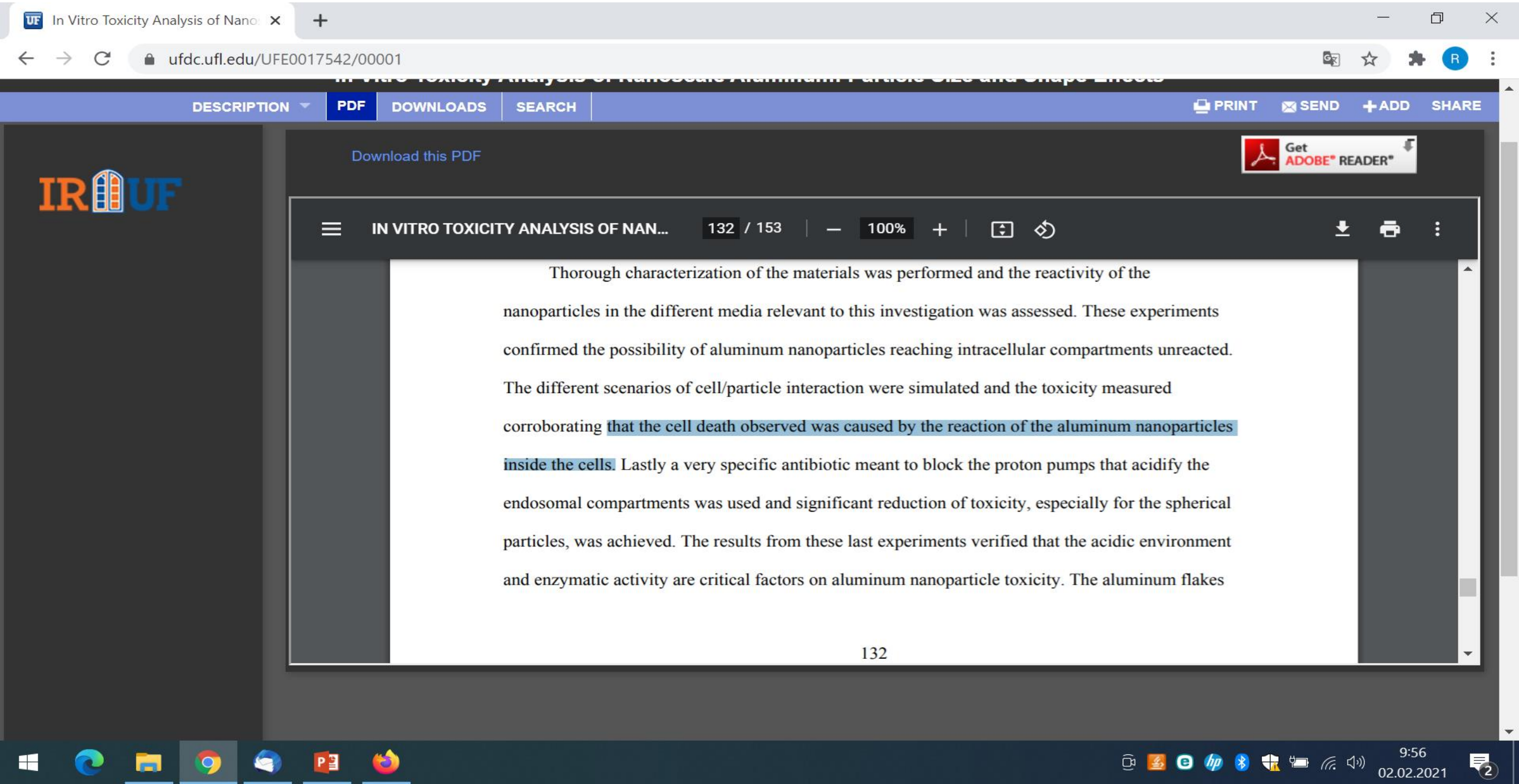
We identify the abundant presence in the human brain of magnetite nanoparticles that match precisely the high-temperature magnetite nanospheres, formed by combustion and/or friction-derived heating, which are prolific in urban, airborne particulate matter (PM). Because many of the airborne magnetite pollution particles are <200 nm in diameter, they can enter the brain directly through the olfactory nerve and by crossing the damaged

IN VITRO TOXICITY ANALYSIS OF NANOSCALE ALUMINUM: PARTICLE SIZE AND SHAPE EFFECTS

By

MARIA PALAZUELOS JORGANES

Nanočástice hliníku mají schopnost zničit lidské buňky



Alumina at 50 and 13 nm nanoparticle sizes have potential genotoxicity

Qinli Zhang [1 2], Haiyang Wang [1], Cuicui Ge [1], Jeremy Duncan [3], Kaihong He [1], Samuel O Adeosun [3], Huaxin Xi [1], Huiting Peng [1], Qiao Niu [1]

Affiliations + expand

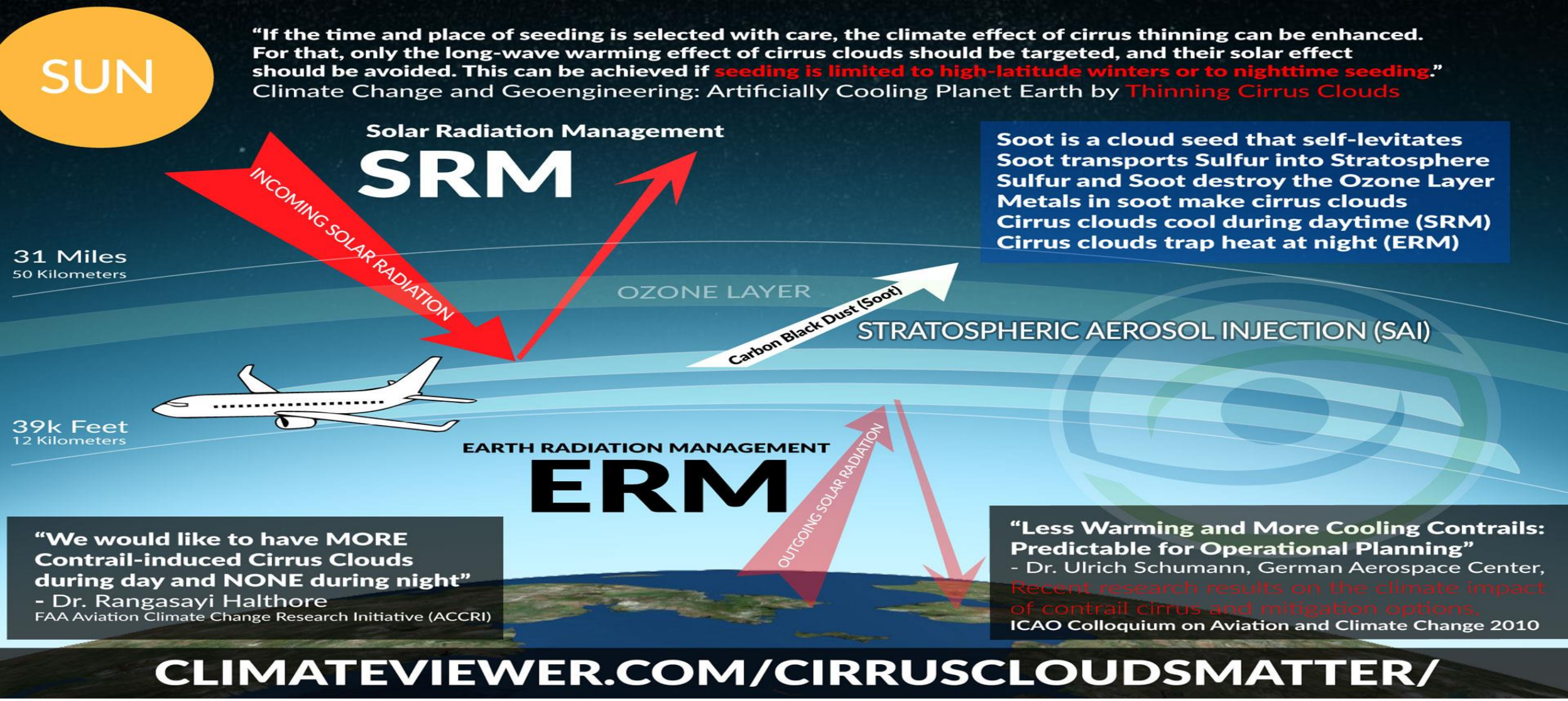
PMID: 28337774 DOI: 10.1002/jat.3456

Abstract

Although nanomaterials have the potential to improve human life, their sideline effects on human health seem to be inevitable and still are unknown. Some studies have investigated the genotoxicity of alumina nanoparticles (AlNPs); however, this effect is still unclear due to insufficient evaluation and conflicting results. Using a battery of standard genotoxic assays, the present study offers evidence of the genotoxicity associated with aluminum oxide (alumina) at NP sizes of 50 and 13 nm, when compared with bulk alumina (10 μm). The genotoxicity induced by alumina at bulk and NP sizes was evaluated with Ames test, comet test, micronucleus assay and sperm deformity test. The mechanism related to the induction of reactive oxygen species was explored as well. Our results showed that AlNPs (13 and 50 nm) were able to enter cells and induced DNA damage, micronucleus in bone marrow, sperm deformation and reactive oxygen species induction in a time-, dose- and size-dependent manner. Therefore, we conclude that AlNPs (13 and 50 nm), rather than bulk alumina, induce markers of genotoxicity in mice, with oxidative stress as a potential mechanism driving these genotoxic effects. Copyright © 2017 John Wiley & Sons, Ltd.

Výsledky ukázaly, že nanočástice prostoupily buňky, přivodily poškození DNA, mikrojádra v kostní dřeni, či deformovaly spermie…

KLIMATICKÉ INŽENÝRSTVÍ – ŘÍZENÍ SOLÁRNÍHO ZÁŘENÍ (angl. SRM), IMITACE VÝBUCHU SOPKY



Popílek uhlíku spoluvytváří cirrus mraky, které zůstávají na obloze, či dokonce stoupají a mohou transportovat síru do stratosféry (ozónová díra). Těžké kovy spoluvytváří vysoké cirrus mraky. Které sice mohou ochladit zemi během dne, ale zachycují teplo v noci. Je možné, že výsledkem může být globální oteplování.

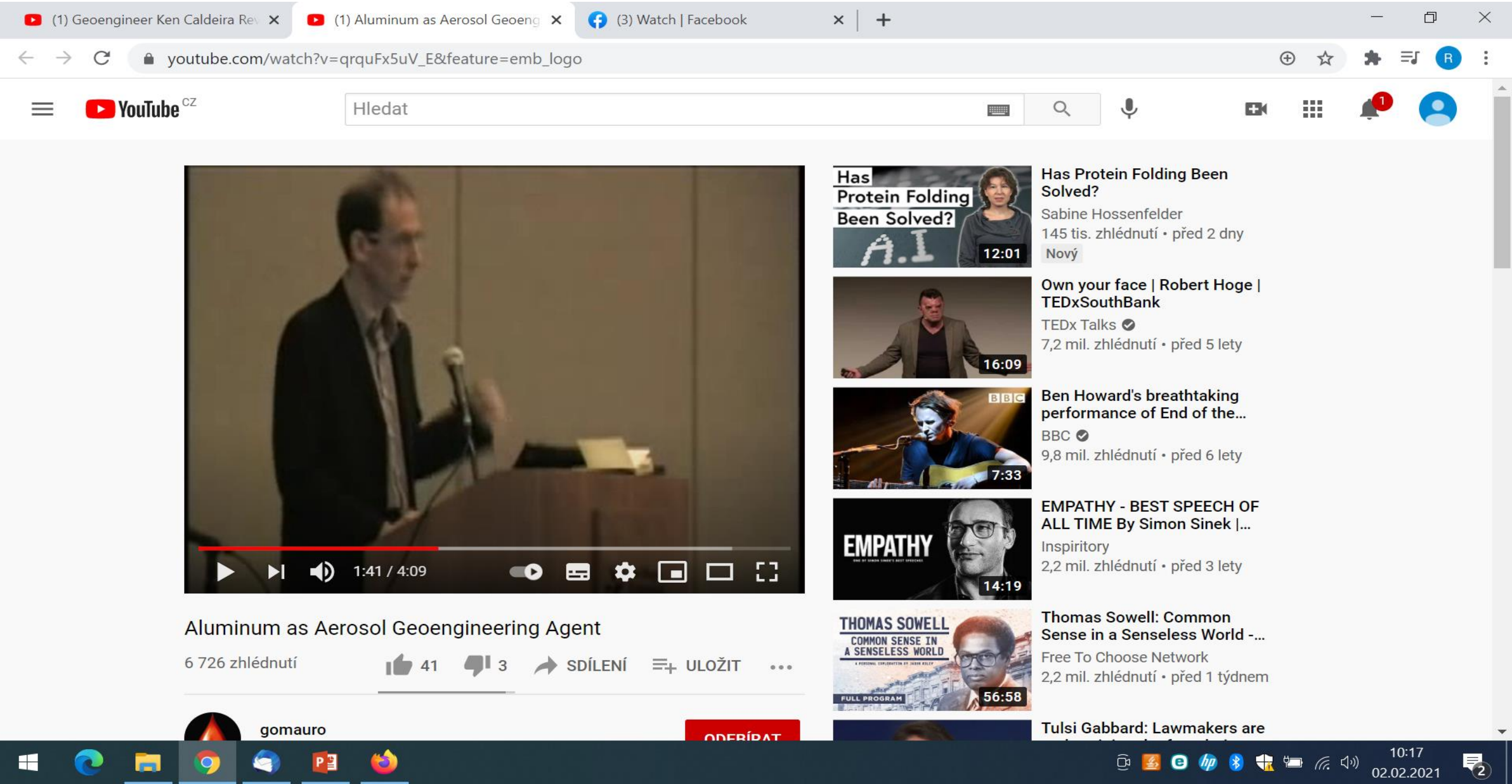
David Keith

Gordon McKay Professor of Applied Physics, Harvard John A. Paulson School of Engineering and Applied Sciences

Professor of Public Policy, Harvard Kennedy School

David Keith has worked near the interface between climate science, energy technology, and public policy for twenty-five years. He took first prize in Canada's national physics prize exam, won MIT's prize for excellence in experimental physics, and was one of TIME magazine's Heroes of the Environment. David is Professor of Applied Physics at the Harvard School of Engineering and Applied Sciences and Professor of Public Policy at the Harvard Kennedy School, and founder of Carbon Engineering, a company developing technology to capture CO2 from

„Bude nutné do ovzduší vypustit milióny tun sloučenin síry či hliníku“



„Je možné, že geoinženýrství zahubí tisíce lidí.“

(1) Geoengineer Ken Caldeira Re | (1) Aluminum as Aerosol Geoeng | (3) Watch | Facebook

facebook.com/watch/?v=868027316739054

Radovan

Watch

Hledejte videa

- Hlavní stránka
- Pořady
- Živě
- Uložená videa

Váš seznam ke zhlédnutí — Spravovat

- Nejnovější videa
- investigace.cz
- Institut Cirkulární Ekonomiky
- OAK'S LAB

Global March Against Geoengineering · Sledovat

5. únor 2018 ·

Harvard`s David Keith Admits #Geoengineering Will Kill Ten`s Of Thousands Of People & Its An Acceptable Loss

Harvard`s David Keith Admits #Geoengineering Will Kill Ten`s Of Thousands Of People &... Zobrazit víc

10:16
02.02.2021

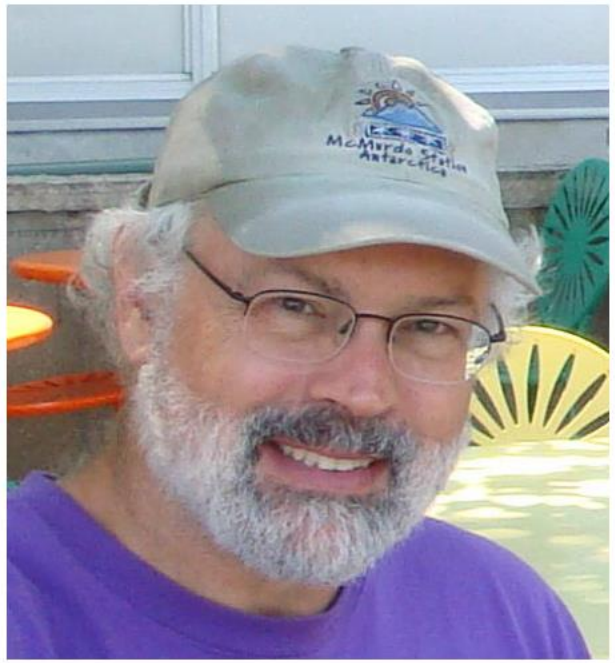
Few in the civil sector fully understand that geoengineering is primarily a military science and has nothing to do with either cooling the planet or lowering carbon emissions (Report, 6 February). While seemingly fantastical, weather has been weaponised. At least four countries - the US, Russia, China and Israel - possess the technology and organisation to regularly alter weather and geologic events for various military and black operations, which are tied to secondary objectives, including demographic, energy and agricultural resource management.

Indeed, warfare now includes the technological ability to induce, enhance or direct cyclonic events, earthquakes, draught and flooding, including the use of polymerised aerosol viral agents and radioactive particulates carried through global weather systems. Various themes in public debate, including global warming, have unfortunately been subsumed into much larger military and commercial objectives that have nothing to do with broad public environmental concerns. These include the gradual warming of polar regions to facilitate naval navigation and resource extraction.

Matt Andersson

Former executive adviser, aerospace & defence, Booz Allen Hamilton, Chicago

„Málo lidí si uvědomuje, že geoinženýrství je primárně záležitostí armády a nemá nic co dočinění s ochlazováním planety nebo snížením uhlíkových emisí. Alespoň čtyři země, USA, Rusko, Čína a Izrael – mají technologie a schopnost pravidelně měnit počasí a geologické události s cílem umožnit různé armádní a tajné operace…“ *Bývalý hlavní poradce věhlasné armádní firmy*



Alan Robock

(click here for Biographical Sketch and other photos)

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Meteorology, Advisor: Norman A. Phillips

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Research Interests:
- Nuclear Winter
- Climate Intervention (Geoengineering) **GeoMIP**
- Volcanic Eruptions and Climate **VolMIP**

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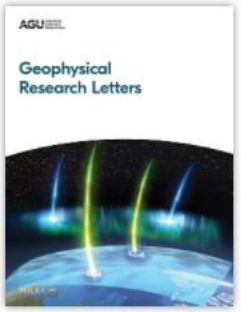
October 2009



Benefits, risks, and costs of stratospheric geoengineering

Alan Robock, Allison Marquardt, Ben Kravitz, Georgiy Stenchikov

First published: 02 October 2009 | https://doi.org/10.1029/2009GL039209 | Citations: 160

Abstract

[1] Injecting sulfate aerosol precursors into the stratosphere has been suggested as a means of geoengineering to cool the planet and reduce global warming. The decision to implement such a scheme would require a comparison of its benefits, dangers, and costs to those of other responses to global warming, including doing nothing. Here we evaluate those factors for stratospheric geoengineering with sulfate aerosols. Using existing U.S. military fighter and tanker planes, the annual costs of injecting aerosol precursors into the lower stratosphere would be several billion dollars. Using artillery or balloons to loft the gas would be much more expensive. We do not have enough information to evaluate more exotic techniques, such as pumping the gas up through a hose attached to a tower or balloon system. Anthropogenic stratospheric aerosol

POZITIVA A NEGATIVA GEOINŽENÝRSTVÍ

Table 1. Benefits and Risks of Stratospheric Geoengineering[a]

Benefits	Risks
1. Cool planet	1. Drought in Africa and Asia
2. Reduce or reverse sea ice melting	2. Continued ocean acidification from CO_2
3. Reduce or reverse land ice sheet melting	3. Ozone depletion
4. Reduce or reverse sea level rise	4. No more blue skies
5. Increase plant productivity	5. Less solar power
6. Increase terrestrial CO_2 sink	6. Environmental impact of implementation
	7. Rapid warming if stopped
	8. Cannot stop effects quickly
	9. Human error
	10. Unexpected consequences
	11. Commercial control
	12. Military use of technology

Stratospheric Geoengineering

Benefits

1. Reduce surface air temperatures, which could reduce or reverse negative impacts of global warming, including floods, droughts, stronger storms, sea ice melting, and sea level rise
2. Increase plant productivity
3. Increase terrestrial CO_2 sink
4. Beautiful red and yellow sunsets
5. Unexpected benefits
6. Prospect of implementation could increase drive for mitigation

Can be addressed by GeoMIP and other climate modeling

Risks or Concerns

Physical and biological climate system

1. Drought in Africa and Asia
2. Perturb ecology with more diffuse radiation
3. Ozone depletion
4. Continued ocean acidification
5. May not stop ice sheets from melting
6. Impacts on tropospheric chemistry
7. Rapid warming if stopped

Human impacts

8. Less solar electricity generation
9. Degrade passive solar heating
10. Effects on airplanes flying in stratosphere
11. Effects on electrical properties of atmosphere
12. Affect satellite remote sensing
13. Degrade terrestrial optical astronomy
14. More sunburn
15. Environmental impact of implementation

Esthetics

16. Whiter skies
17. Affect stargazing

Unknowns

18. Human error during implementation
19. Unexpected consequences

Governance

20. Cannot stop effects quickly
21. Commercial control
22. Whose hand on the thermostat?
23. Societal disruption, conflict between countries
24. Conflicts with current treaties
25. Moral hazard – the prospect of it working could reduce drive for mitigation

Ethics

26. Military use of technology

Robock, Alan, 2008: 20 reasons why geoengineering may be a bad idea. *Bull. Atomic Scientists*, **64**, No. 2, 14-18, 59, doi:10.2968/064002006.

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E&E NEWS

POLICY & ETHICS

U.S. Blocks U.N. Resolution on Geoengineering

The measure called for a report on carbon capture and solar radiation management

By Jean Chemnick, E&E News on March 15, 2019

Co když se geoinženýrství zvrtne?

Reaching for the sunshade: July 2

economist.com/the-world-if/2019/07/06/what-if-geoengineering-goes-rogue

The World If

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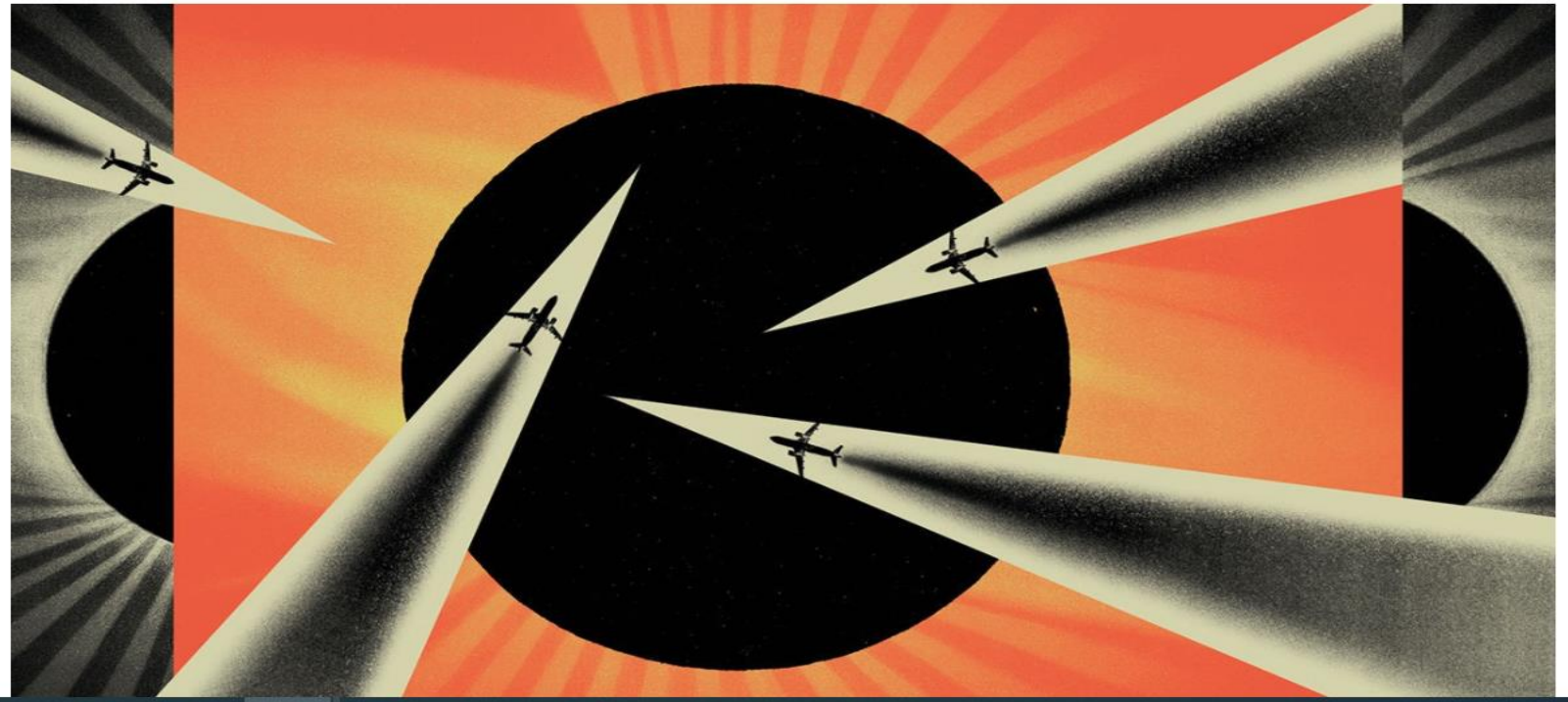

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theguardian.com/us-news/shortcuts/2015/feb/16/can-the-cia-weaponise-the-weather-geoengineering

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Can the CIA weaponise the weather?

A leading climate-change scientist has warned that the US secret service's interest in geoengineering technology may not be benign. But it's not the first time a government has tried to control weather patterns

Patrick Barkham
@patrick_barkham

Mon 16 Feb 2015 17.43 GMT

770 67

▲ This means war: an anticyclonic supercell thunderstorm. But was it CIA-generated? Photograph: Jason Persoff Stormdoctor/Getty Images/Cultura RF

9:22
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KEN CALDEIRA - EMERITUS

Ken Caldeira was a Carnegie investigator from 2005 to 2020 and is world renowned for his modeling and other work on the global carbon cycle; marine biogeochemistry and chemical oceanography, including ocean acidification and the atmosphere/ocean carbon cycle; land-cover and climate change; the long-term evolution of climate and geochemical cycles; climate intervention proposals; and energy technology.

Caldeira was a lead author for the U.N.'s Intergovernmental Panel on Climate Change (IPCC) AR5 report and was coordinating lead author of the oceans chapter for the 2005 IPCC report on carbon capture and storage. He was a co-author of the 2010 US National Academy America's Climate Choices report, and participated in the UK Royal Society geoengineering panel in 2009 and ocean acidification panel in 2005. He was a lead author of the 2007 U.S. "State of the Carbon Cycle Report.

Caldeira was invited by the National Academy of Sciences Ocean Studies Board to deliver the 2007 Roger Revelle Lecture, "What Coral Reefs Are Dying to Tell Us About CO_2 and Ocean Acidification." In 2010, Caldeira was elected Fellow of the American Geophysical Union.

From the early 1990s to 2005, Caldeira was with the Energy and Environment Directorate at the Lawrence Livermore National Laboratory where he was awarded the Edward Teller Fellowship (2004), the highest award given by that laboratory. Caldeira did post-doctoral research at Penn State University and in the Energy and Environment Directorate of Lawrence Livermore National Laboratory. Caldeira received his B.A. from Rutgers College and both his M.S. and Ph.D. in

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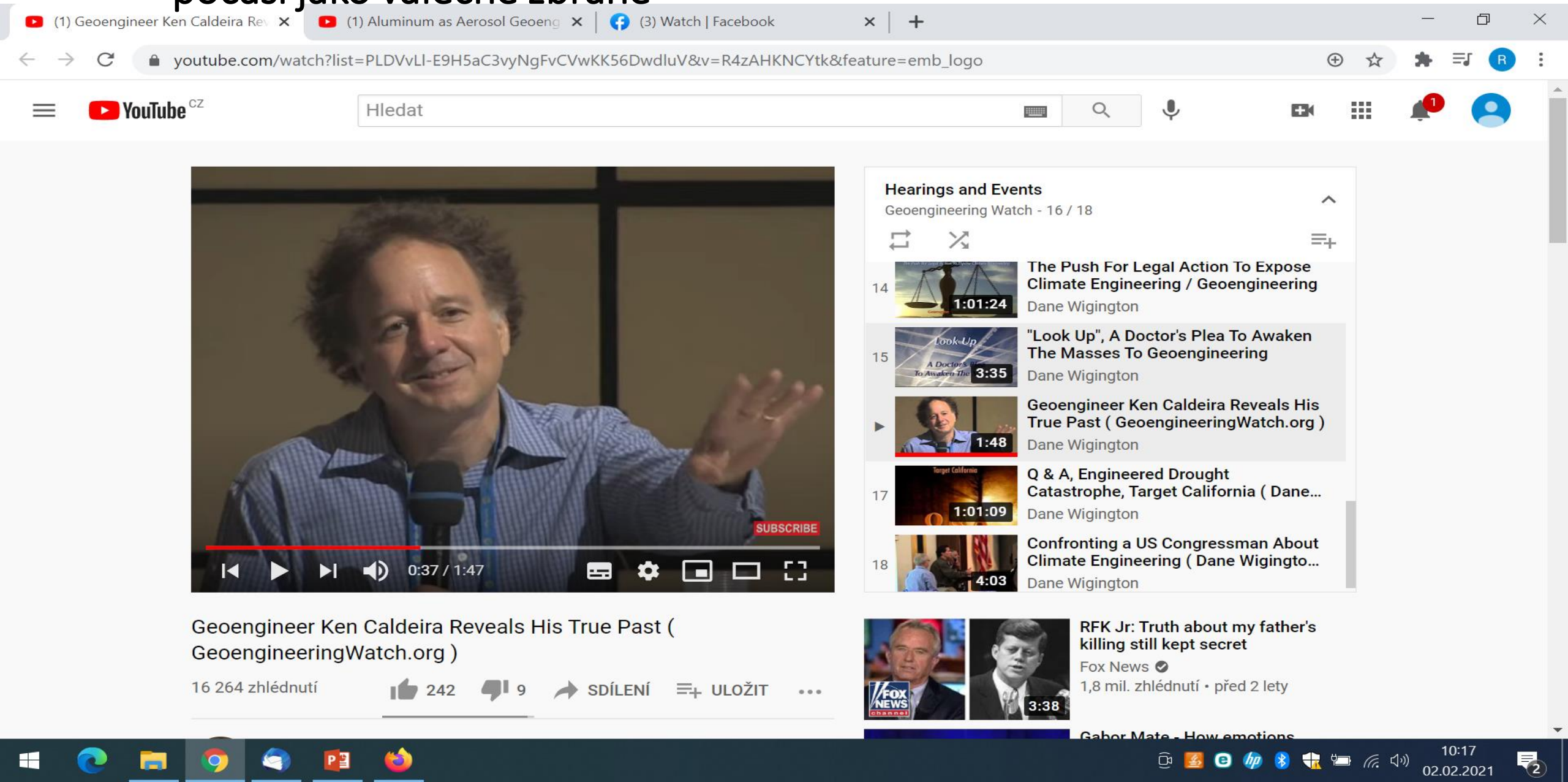

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December 18, 2020 | by Alister Doyle | Thomson Reuters Foundation | Source

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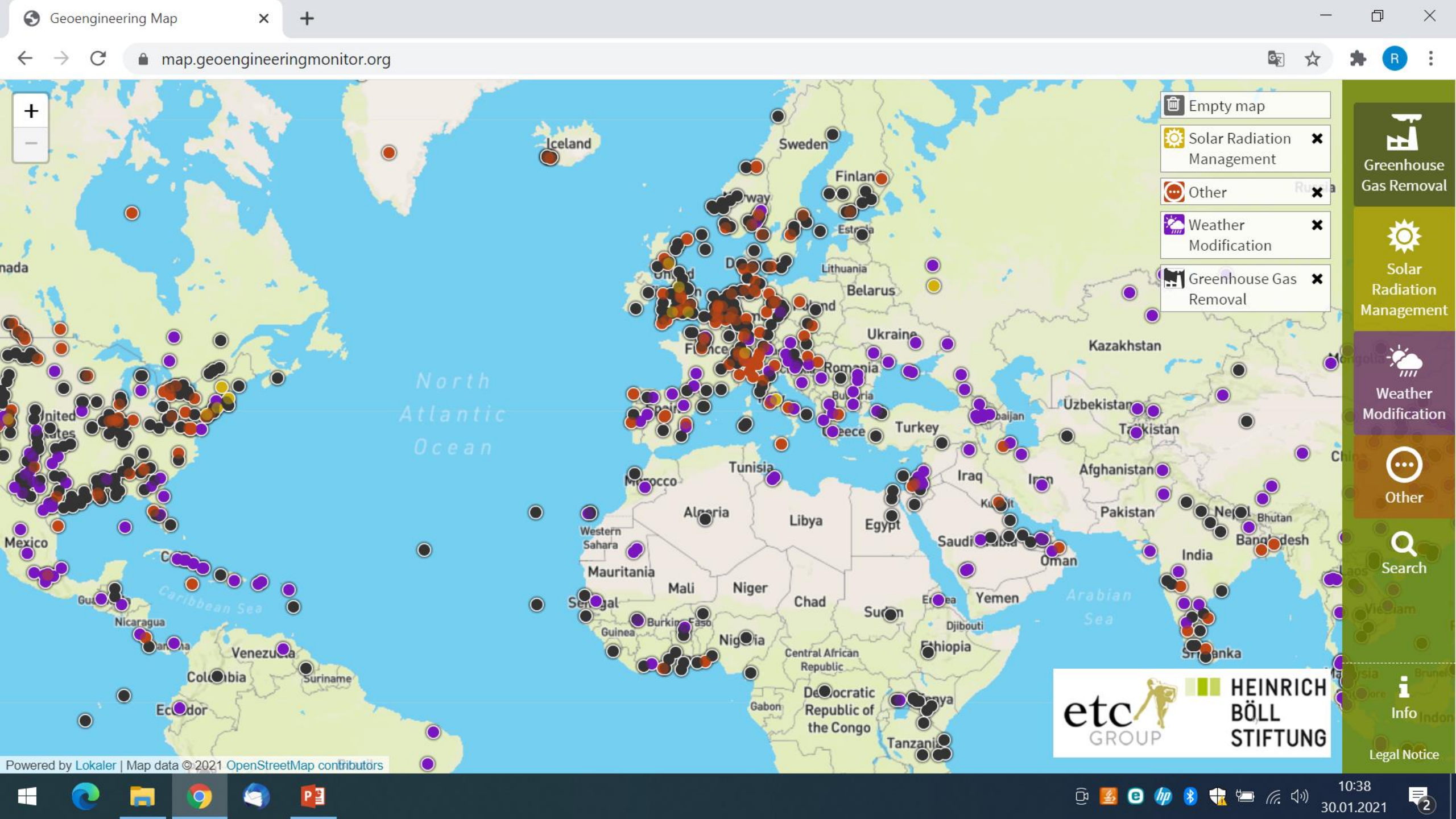
Geoengineering Map
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Solar Radiation Management
Other
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A NA ZÁVĚR… IONOSFÉRICKÉ ZAŘÍZENÍ A MODERNÍ VYSÍLAČE (tzv. NEXRADS)….
aneb zde končí všechna legrace

HAARP A VÝZKUM IONOSFÉRY

Lukáš Visingr

Lukáš Visingr je vojenský a bezpečnostní analytik a publicista

Obrana si odškrtává modernizační projekty. Ty nejdůležitější ještě chybí

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HAARP

Připravil Lukáš Visingr

Zkratka HAARP znamená High-frequency Active Auroral Research Program, tedy vysokofrekvenční aktivní polární výzkumný program. Oficálně se jedná o program výzkumu ionosféry, ale prakticky všechna známá fakta svědčí o tom, že HAARP je zbraň, nebo alespoň vojenské zařízení. Pravdou ovšem je, že ionosféry se docela jistě týká.

Ionosféra, tedy řídká část atmosféry ve výšce zhruba od 80 kilometrů nad povrchem, obsahuje velké množství nabitých částic (iontů) a kromě jiného umožňuje šíření různých rádiových signálů.

Základna HAARP se nachází na Aljašce v oblasti Gakona, což je necelých 150 mil severovýchodně od města Anchorage. Další, poněkud menší zařízení takového typu je v místě jménem Arecibo v Norsku, třetí je v Portoriku. Podle některých zdrojů jsou další na jižní polokouli (snad dokonce poblíž jižního pólu). Kromě toho je po celé Zemi rozmístěno několik desítek dalších atmosférických "hořáků" mnohem menších rozměrů.

Systém pokrývá plochu asi 13 hektarů a je tvořen 180 anténami (12 krát 15 řad), z nichž každá má dva dipólové přenašeče o výkonu 10 000 W. Celá soustava má tedy výkon 3,6 MW (3,6 miliónu wattů). Antény mají dvě kmitočtová nastavení, a to 2,8 až 7 MHz a 7 až 10 MHz. HAARP tedy vysílá elektromagnetické vlnění do ionosféry, přičemž využívá některé její charakteristiky. Ionosféra funguje především jako gigantická "anténa", pomocí níž lze signál zaměřit na kterékoli místo na Zemi. To ovšem není všechno. Za určitých meteorologických podmínek (ty se neustále mění, ale dají se předpovídat) lze ionoféře "ukrást" značné množství elektromagnetické energie, která je tam díky iontům rozmístěna v těžko představitelném množství. Pokud bude celý výkon HAARPu za vhodných podmínek zamířen na jediný bod oblohy, původní signál se zesílí až tisíckrát, což znamená výkon 3,6 GW, tedy 3,6 MILIARDY wattů. Abyste si udělali představu, tak je to zhruba dvojnásobek výkonu všech vodních elektráren v České republice dohromady.

Je třeba podotknout, že prakticky identický systém navrhoval počátkem 20. století geniální Nikola Tesla, ale v tehdejší době nenašel pro své progresivní názory příliš pochopení. Kořeny projektu HAARP sahají do roku 1983, kdy Bernard Eastlund, majitel ropné společnosti ARCO (Atlantic Richfield Oil Company), vzkřísil staré Teslovy teorie o řízené energii, získal patenty na jejich nové využití a přesvědčil americké ministerstvo obrany, aby se jimi zabývalo. Eastlund pak založil divizi APTI (ARCO Power Technologies Inc.), která od roku 1991 pracovala na HAARPu. První ostrý test proběhl v prosinci 1994 a od té doby je systém spouštěn nejméně jednou za měsíc.

Nabízí se samozřejmě otázka, k čemu může sloužit vlna s energií miliard wattů. Oficiální stanovisko mluví pouze o výzkumu atmosféry a vesmíru. Tomu ovšem věří jen málokdo. Objevila se řada teorií o skutečném poslání HAARPu; pominu-li nápady typu zbraně proti mimozemšťanům, pak lze uvažovat zhruba o následujících aplikacích, které jsem seřadil podle jejich pravděpodobnosti.

Zahorizontální radar...
Radiolokátory typu Over-The-Horizon již fungují řadu let, bohužel však stále vykazují tentýž zásadní problém. Jejich přesnost totiž klesá exponenciálně se vzdáleností, takže sice vidíte za obzor, ale skutečná pozice cílového objektu může být klidně o desítky kilometrů odlišná. Z tohoto důvodu je také zcela nemožné podle OTH radaru cokoli zaměřovat. Na druhou stranu, nespornou výhodou je možnost zachycení letounů STEALTH, alespoň tedy první generace. Například letoun F-117 je vytvořen tak, aby se od něj radarové vlny odrážely směrem vzhůru, a nikoli zpět k vysílači. Paprsek zahorizontálního radaru však letoun zasahuje shora, a odraz zpět nahoru je ta nejlepší možná varianta. Uvážíme-li obrovský výkon HAARPu, pak máme zřejmě co do činění s radarem, který může vytvořit klidně i radarovou "mapu" celé planety. Můj osobní názor na HAARP je ten, že se jedná o součást protiraketové obrany, přesněji řečeno detektor balistických střel.

...nebo ještě něco víc?
Někteří odborníci zastávají hypotézu, že obrovský výkon HAARPu by dokázal "protlačit" elektromagnetické vlny nejen vzduchem, ale i skrz vodu a dokonce i pevné látky. Nabízí se tak řada možností: komunikace s ponořenými ponorkami, "rentgenové" snímkování Země (šlo by o jakýsi gigantický tomograf), pátrání po podzemních úkrytech, ložiscích surovin či ponorkách. Často se mluví také o detekci aktivity jaderných zařízení, a to hlavic i reaktorů, případně o monitorování veškeré rádiové komunikace na Zemi.

Štít...
Už Nikola Tesla navrhoval vytvoření "elektromagnetického štítu", který by nepropustil žádné cizí těleso (rozuměj zbraň). Je známo, že vědci v SSSR se zabývali myšlenkou ničení balistických raket pomocí ionizace atmosféry, jejíž fyzikální vlastnosti se tímto pochopitelně okamžitě mění. Pokud by k něčemu takovému došlo v dráze letu rakety, následovaly by turbulence a poruchy aerodynamiky, které by při obrovské rychlosti rakety nevyhnutelně způsobily její zkázu. HAARP by tedy mohl vytvořit jakýsi protiraketový "deštník", jehož účinnost by byla stoprocentní.

...a meč
Výborně, a proč zůstávat u obrany? Co kdybychom nečekali s "deštníkem" na útok, ale namísto toho tím "deštníkem" nepřítele vzali po hlavě, aby k útoku vůbec nedošlo? :-) HAARP by mohl bez problémů fungovat jako emitor elektromagnetického impulsu, který by svým monstrózním výkonem doslova "usmažil" elektroniku jakékoli družice, zbraně či komunikačního prostředku.

Poručíme větru, dešti
Ovlivnění počasí je ve skutečnosti docela jednoduché. Přípravy takových systémů proběhly už v 50. letech; roku 1976 podpsalo přes 60 států dohodu o zákazu geofyzikálních zbraní, která ovšem platila na dobu určitou, a to 20 let. HAARP může ionizací či ohřevem atmosféry výrazně ovlivnit proudění vzduchu, a tak způsobit třeba bouřku, tornádo, extrémní vedra či mrazy. Například je možné kdekoli na světě vyvolat umělý blesk, mnohem silnější než kterýkoli přírodní; vždyť to dokázal zmíněný Nikola Tesla již na přelomu 19. a 20. století. Teoreticky by snad šlo (ale to už je hodně přitažené za vlasy) zasáhnout také podzemní vrstvy magmatu, a tak způsobit zemětřesení.

Kontrola magnetosféry

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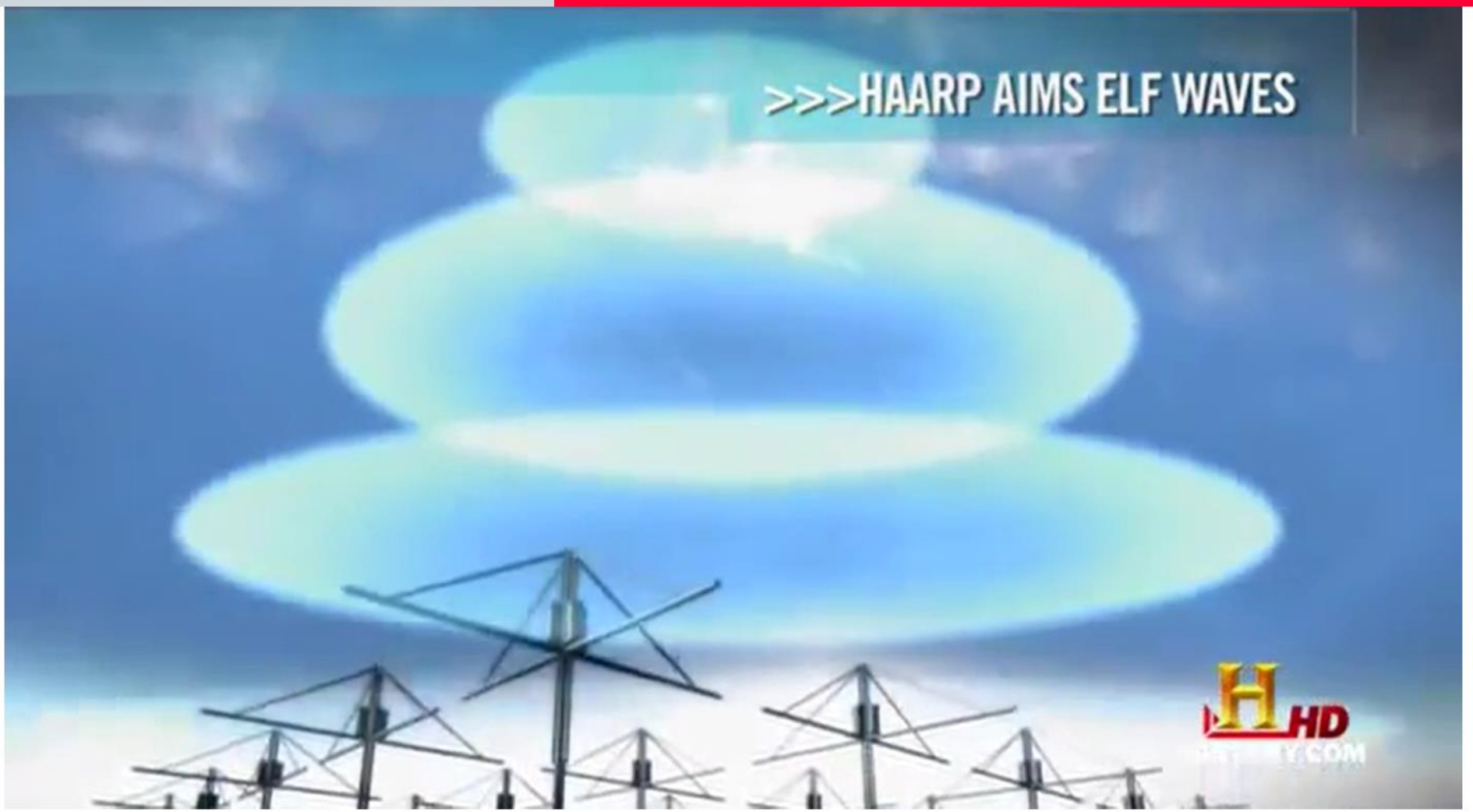

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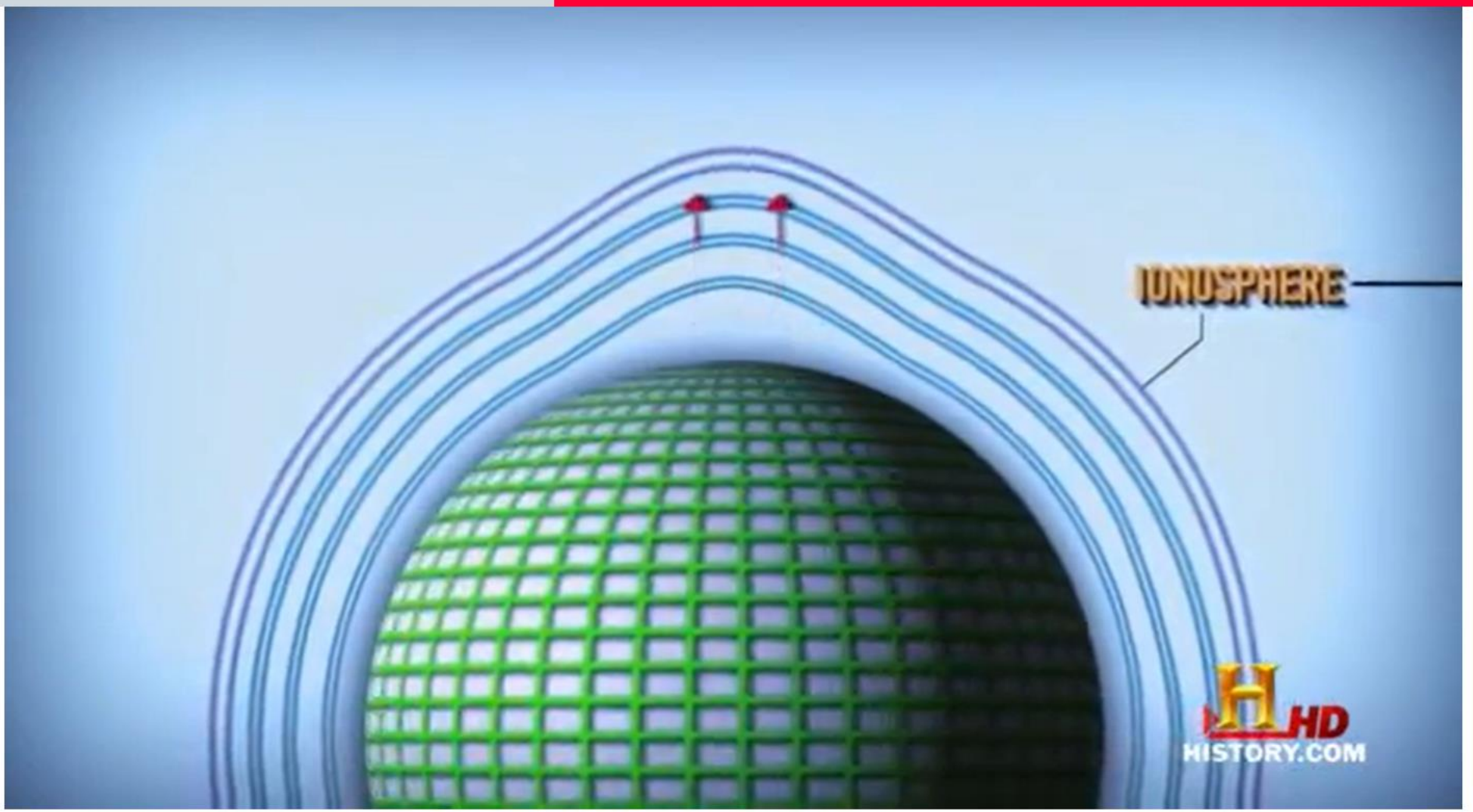

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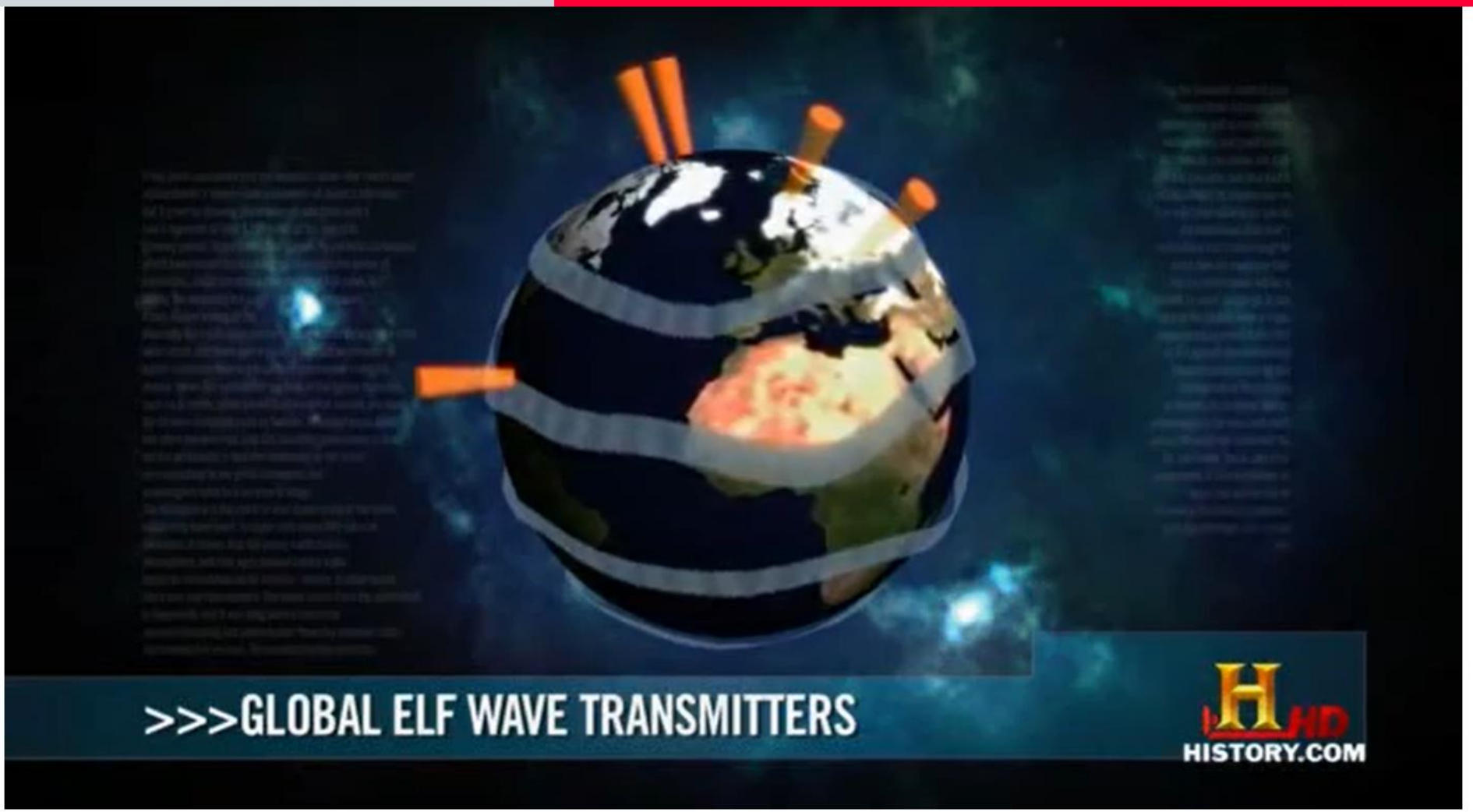

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Interactive Map of HAARP and Io

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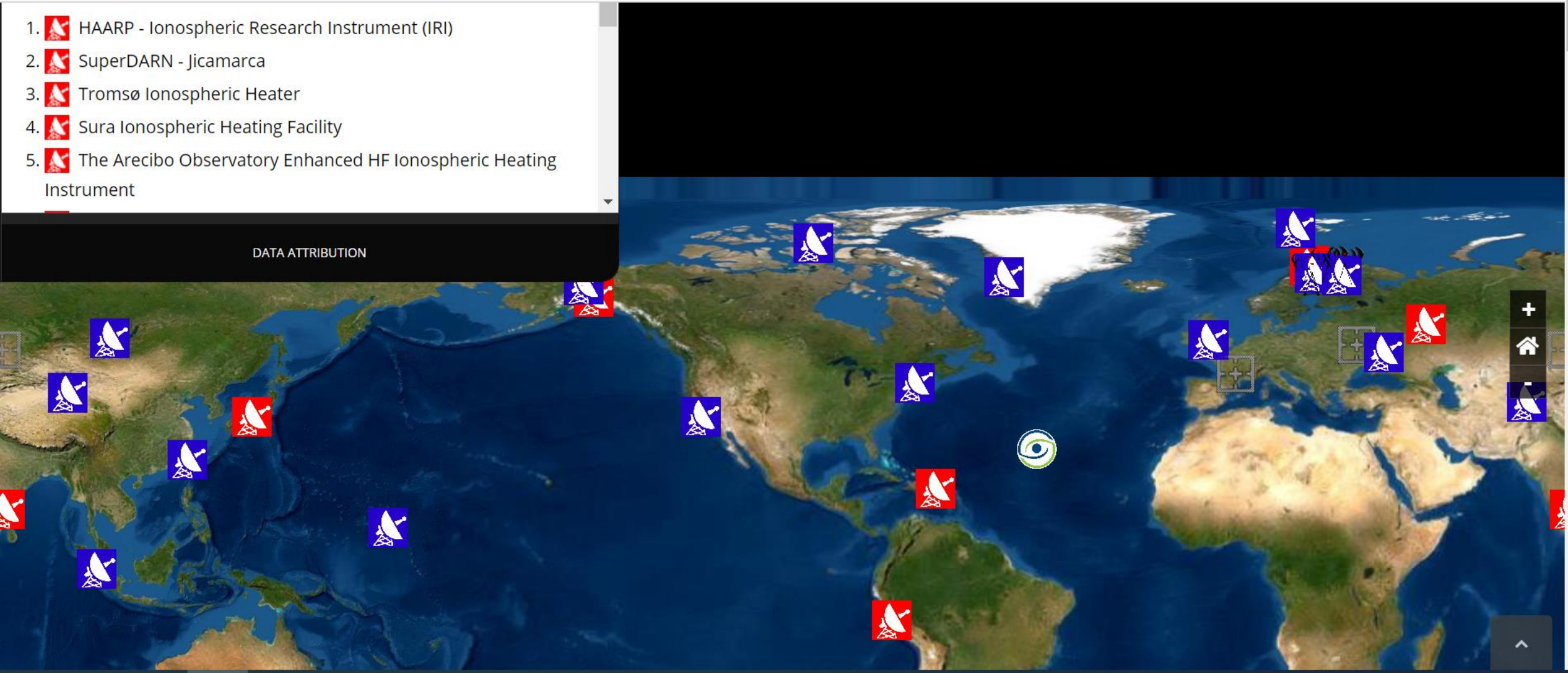

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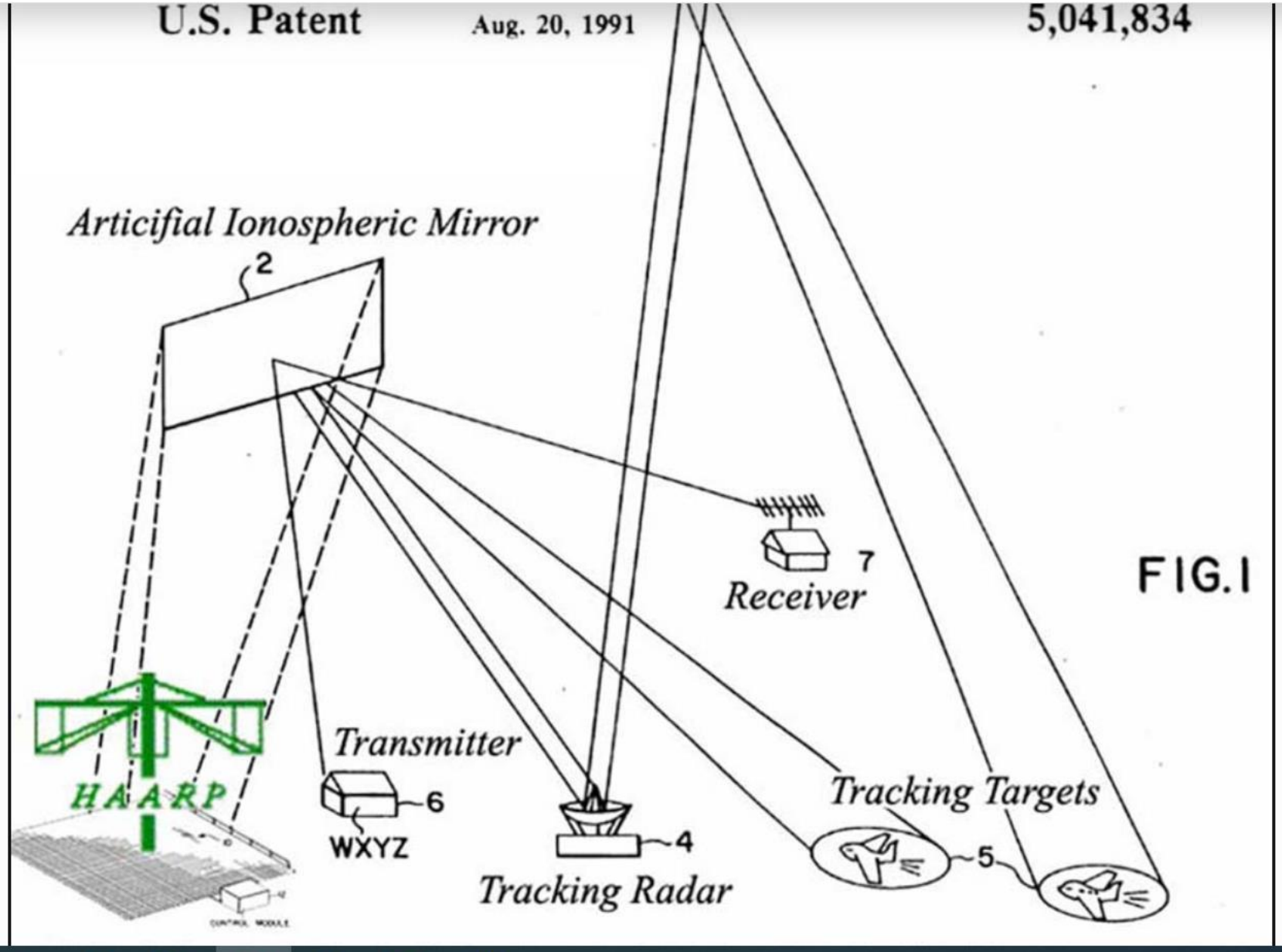

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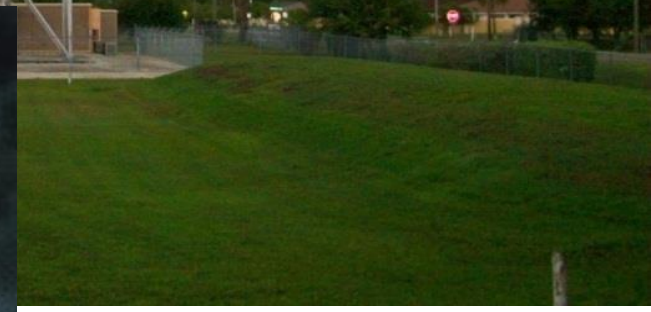


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Stephen Chen
Published: 3:30am, 17 Dec, 2018

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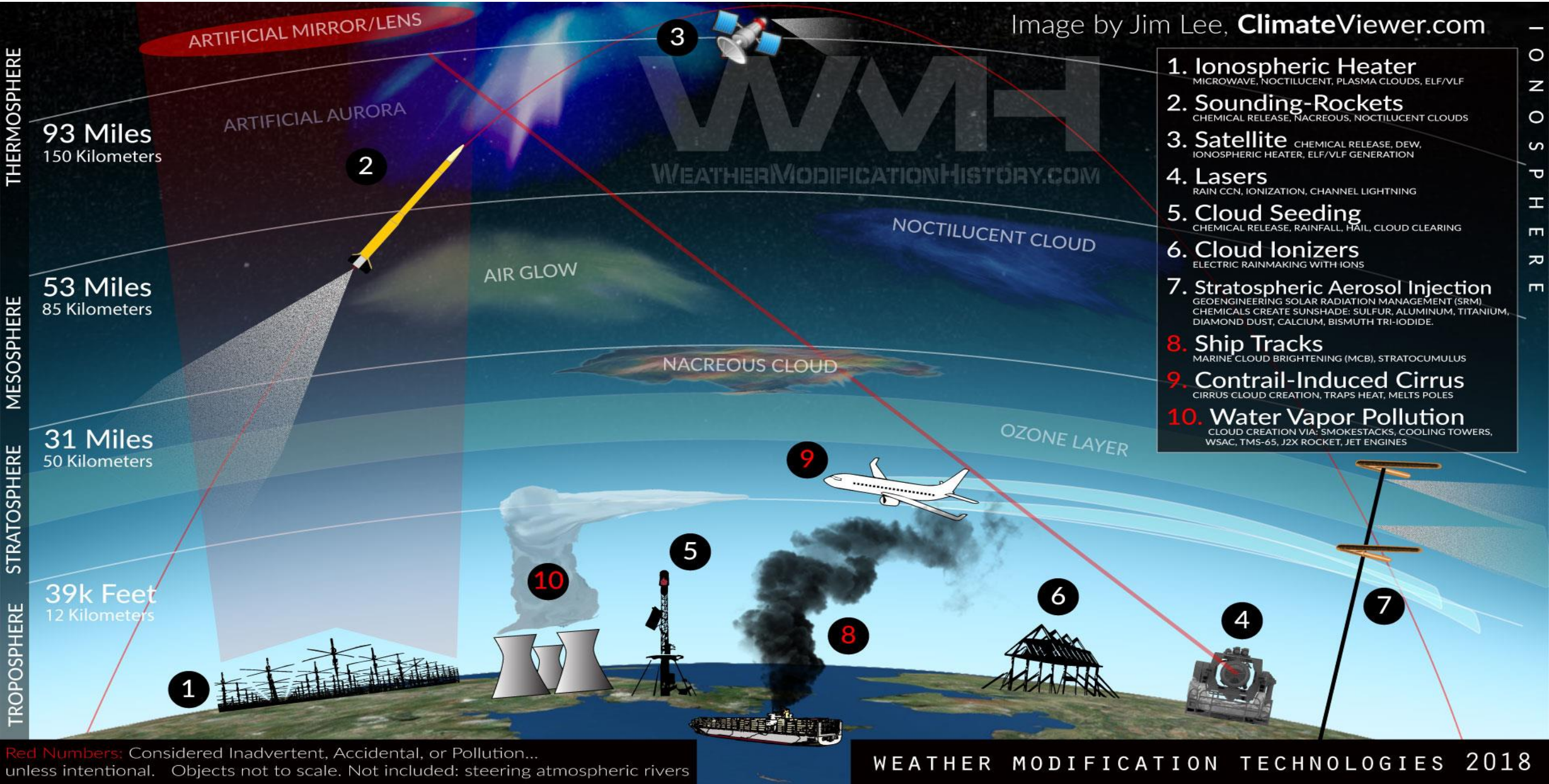

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Arctic circle that acts to reroute pieces of the cold polar vortex southward.

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This type of pattern creates extremes all over the world. For the past couple of weeks, instead of a gradual temperature gradient around the Northern

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