

# Malá Duše K o knize Hazard s nebesy Ovlivňování počasí a klimatu

Host: Radovan Dluhy-Smith

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# Americký podnikatel prý ve 1916 zapříčinil v San Diegu obrovské povodně

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About this capture



**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.

History of Palmdale Valley

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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# TEN, KDO ŘÍDÍ POČASÍ, MŮŽE OVLÁDNOUT SVĚT 1962

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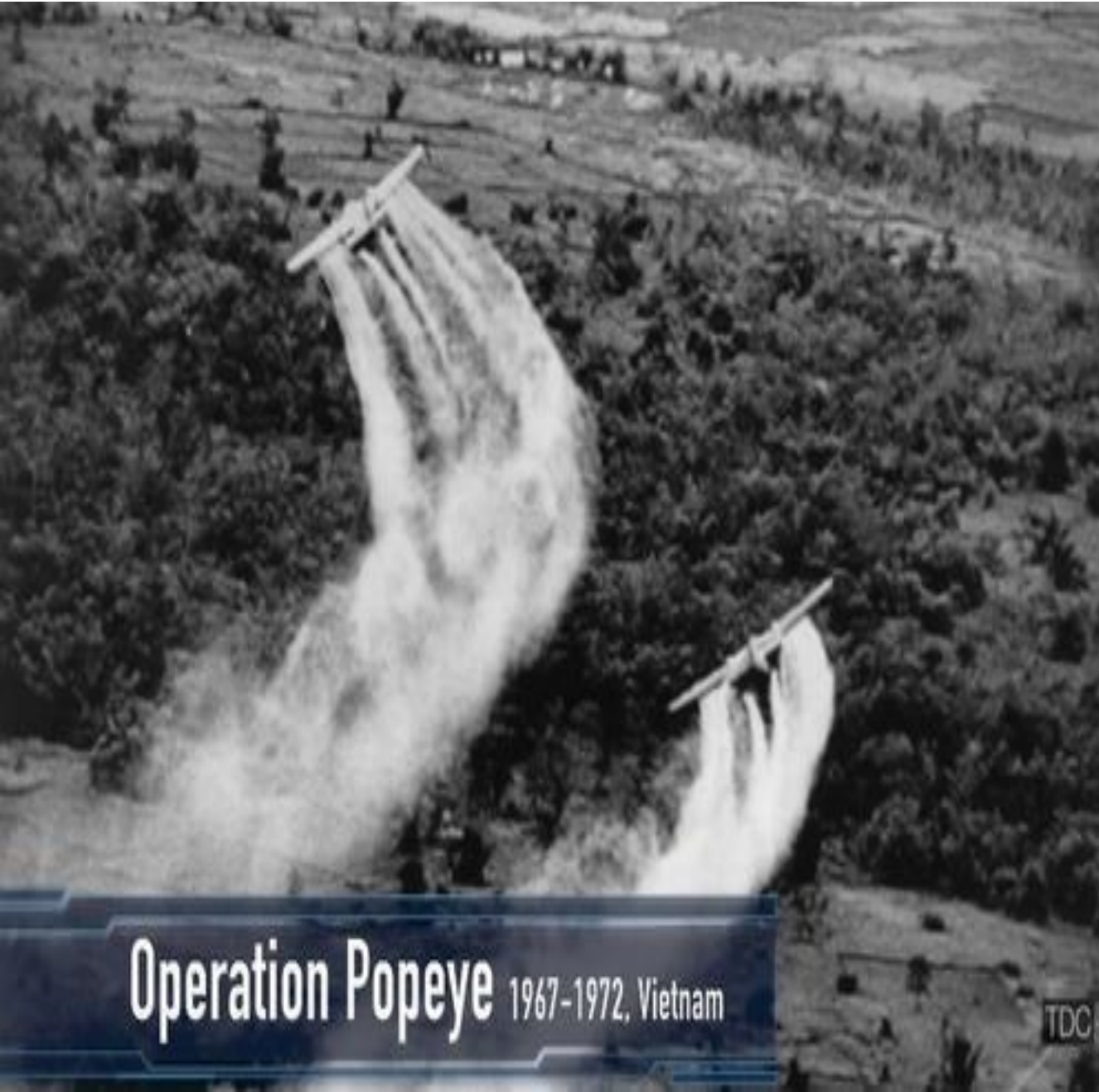
“ It lays the predicate & foundation for the development of a weather satellite, that will permit man to determine the world's cloud layer, and ultimately to control the weather. He who controls the weather will control the world. ”

MAY 27, 1962 | FORMER US PRESIDENT



[WWW.WEATHERMODIFICATIONHISTORY.COM](http://www.weathermodificationhistory.com)

# OVLIVŇOVÁNÍ POČASÍ PRO VÁLEČNÉ ÚČELY



Operation Popeye 1967-1972, Vietnam

TDC





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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 Gault.

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

The Pentagon, they suspect, is secretly engineering 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 codename of "Intermediary-Comptrol."

Acting on behalf of a contingent of 150 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-Comptrol" project for seeding clouds during the monsoon was revealed on March 18 last year by the eminent meteorologist Jack Anderson.

His report, based on a secret document, said the rain-making was started in 1961. Defense Department spokesmen subsequently acknowledged the program.

The Pentagon's chief scientist, Dr. John Finson, told the commission it is a two-paragraph letter last December 8 that the information they sought was "classified."

He added: "I find it necessary in respectability and propriety to 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 North Vietnam, the commission said.

Their suspicions became even more pronounced when the Defense 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 Gault, 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 "Time IV" simulates

He added that with evidence now that the merging of clouds could produce more than 50 times as much rain, it was possible to foresee the coming 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 column, "Nile Blue Comes," published in 1965.

simultaneous 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 Joint Appropriations Committee.

A witness, Stephen Lukasz, director of the Pentagon's Advanced Research Projects Agency, said in a prepared statement: "There is now a strong possibility that major weather powers have the ability to create modifications of climate that might be seriously detrimental to the security of the country. Nile Blue subject 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 Gault said in an interview. "Using weather modification as a military tool opens the door to a vast new category of warfare."

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Senator Claiborne Pell, Weapons race warning.



Mr Melvin Laird, National security involved.

### CLIMATEVIEWER.COM



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.

physical 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".

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 was a real possibility, said Gordon J. F. MacDonald, who first openly discussed the subject in a column, "Nile Blue Comes," published in 1965.

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TORNADO CONTROL UAV DRONE

# WEATHER WARFARE

# The Canberra Times

To serve the National City and through it the Nation

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

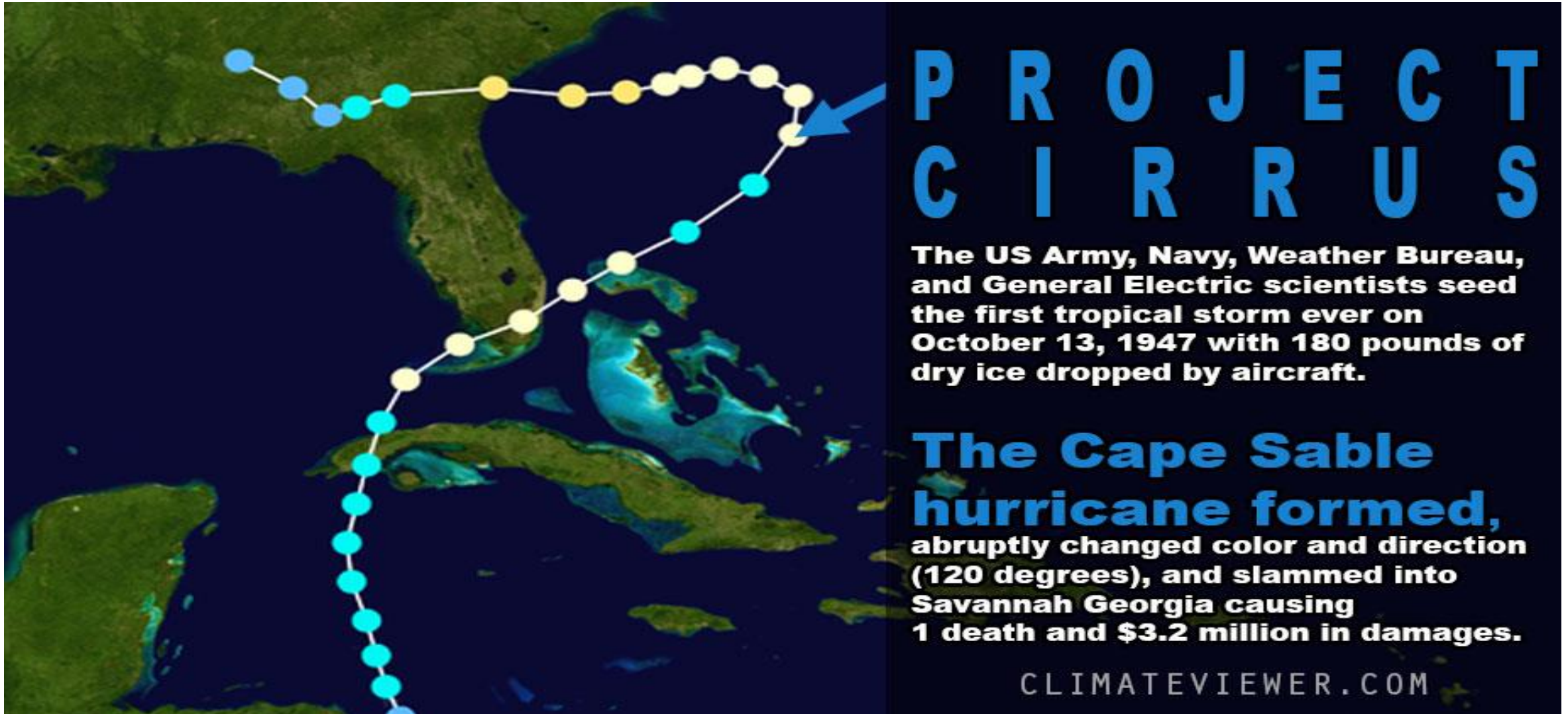
# CLOUD SEEDING OVER VIETNAM

# THE AGE

Wednesday, July 5, 1972 220 Spencer St., Melbourne 60 0421 (Classified 60 0611) 118th Year 48 Pages 6c

# Možné přesměrování hurikánu prý zapříčinilo katastrofu ve státě Georgia

13. října, 1947



# POPÍLEK PLNÝ TĚŽKÝCH KOVŮ

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### 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 lived 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, appar-



—Associated Press Wirephoto  
DR. FLORENCE VAN STRATEN  
Her cloud theory works

ently works with clouds at any temperature.

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.

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WEATHER MODIFICATION HISTORY

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

# Project Storm Fury (běsnění bouře)

1962 - 1983

Modifikovat  
hurikány, cyklony



# Britská armáda a projekt Witch Doctor 1952 – záplavy v rezortu Lynmouth (zdokumentováno i stanicí BBC)

Part 1: Playing God with the Weather

cosmolearning.org/documentaries/the-science-of-superstorms-playing-god-with-the-weather-1697/1/


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## The Science of Superstorms: Playing God with the Weather (2007)

Playing God with the Weather

F ← Video 1 of 1 → L #1

1: Playing God with the Weather



The image shows a black and white photograph of a coastal town, likely Lynmouth, heavily damaged by a storm surge. Debris is piled up in the foreground, and buildings are partially submerged or destroyed. The scene is a stark depiction of the aftermath of a major weather event.

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**Silly season**  
UK news

# RAF rainmakers 'caused 1952 flood'

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**Unearthed documents suggest experiment triggered torrent that killed 35 in Devon disaster**

**Special report: silly season**

On August 15, 1952, one of the worst flash floods ever to have occurred in Britain swept through the Devon village of Lynmouth. Thirty five people died as a torrent of 90m tons of water and thousands of tons of rock poured off saturated Exmoor and into the village destroying homes, bridges, shops and hotels.

The disaster was officially termed "the hand of God" but new evidence from previously classified government files suggests that a team of international scientists working with the RAF was experimenting with artificial rainmaking in southern Britain in the same week and could possibly be implicated.

Squadron Leader Len Otley, who was working on what was known as

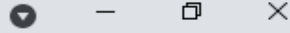
**John Vidal and Helen Weinstein**

Thu 30 Aug 2001 10.56 BST



# Osévání mraků nad Běloruskem po výbuchu v Černobylu

'How we made the Chernobyl rain' x +



telegraph.co.uk/news/worldnews/1549366/How-we-made-the-Chernobyl-rain.html



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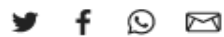
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## 'How we made the Chernobyl rain'

By Richard Gray  
22 April 2007 • 12:01am



Russian military pilots have described how they created rain clouds to protect Moscow from radioactive fallout after the Chernobyl nuclear disaster in 1986.

Major Aleksei Grushin repeatedly took to the skies above Chernobyl and  
y shells filled with silver iodide to make rain clouds

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# Mikhail Gorodskiy 1958 – návrh vytvořit kolem země prstenec těžkých kovů („příznivé“ podnebí na Sibiři, Arktidě)

Part 1: Playing God with the Wea x Metal particle space ring to melt x +

weathermodificationhistory.com/1958-metal-particle-space-ring-melt-polar-ice/

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Metal particle space ring westford needle concept.jpg

Weather as a Force Multiplier: Owning the Weather in 2025 · 1995

The Environmental Modification Convention (ENMOD) Weather Warfare Ban · 1976

CIA Are The Weathermen

CIA Project Nile Blue – Rain Embargo on Cuban Sugar Crops · 1969

Operation Popeye, Motorpool, Intermediary, Compatriot: Weather Warfare Over Vietnam · 1967

President Lyndon Johnson Approves Weather Warfare · 1962

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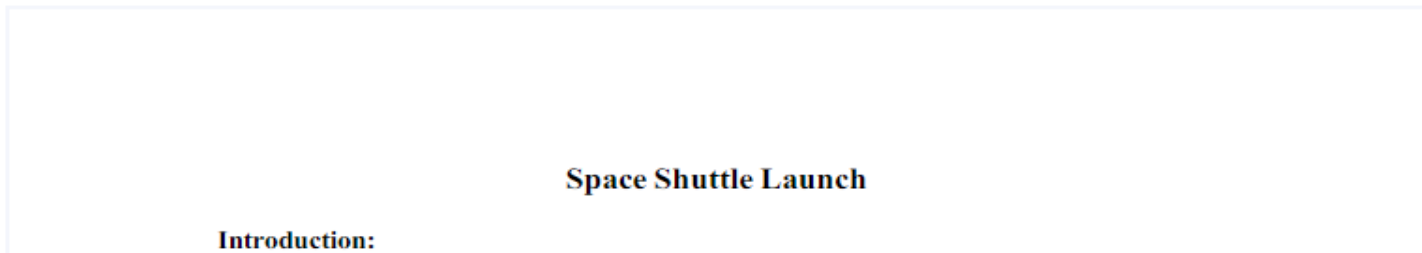
Each time a space shuttle is launched, the solid rocket boosters release 240 tons of HCl gas, 26 tons of chlorine gas, 7 tons of nitrogen dioxide gas, and 304 tons of aluminum oxide into the... [Full description](#)

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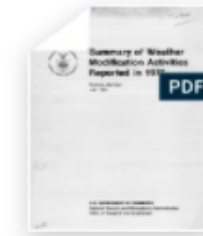
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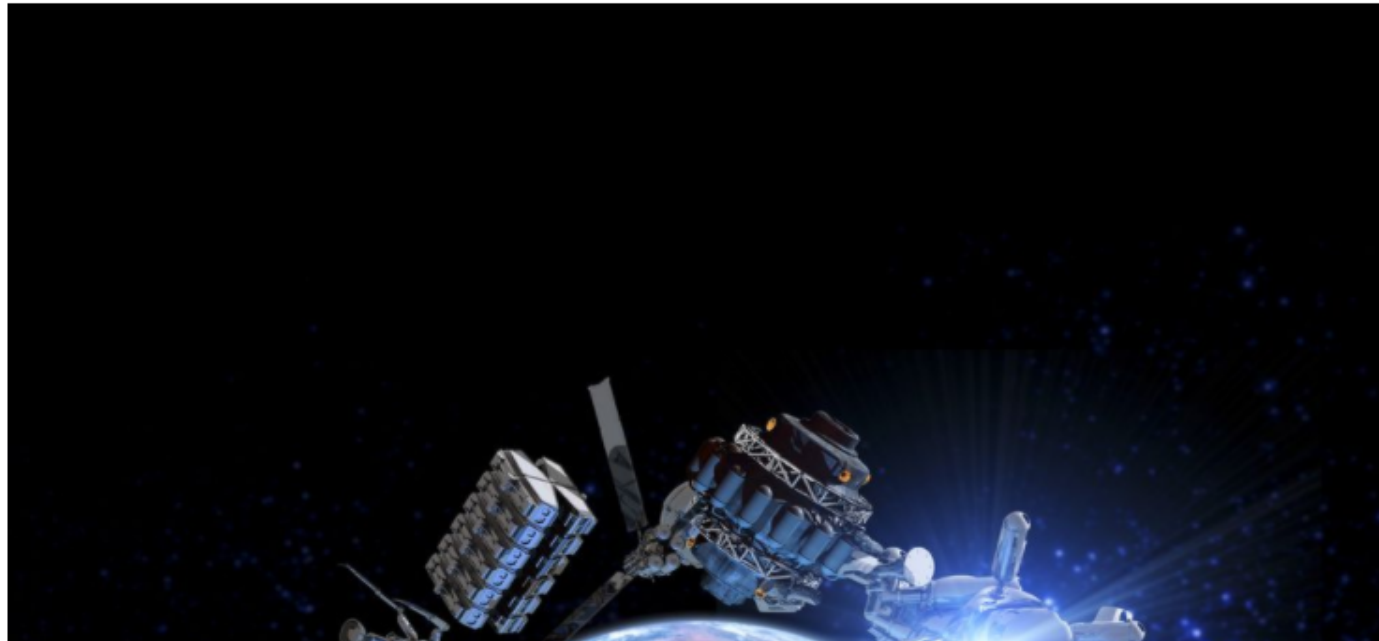
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## All the Satellites in Space Could Crack Open the Ozone Layer

Mega-constellations might end up being a massive problem.



// BY [CAROLINE DELBERT](#) JUN 17, 2021



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# O poškození ozónové vrstvy raketami a satelity

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### NOOKS AND CRANNIES

How much damage to the ozone layer does an average rocket or satellite do? Once in orbit and presumably having some effect on Earth's gravity, tides and winds, what difference does a rocket/satellite make to the Earth's weather patterns in aggregate?

jill bennett, london uk

When solid-fuel rockets launch, they release chlorine gas directly into the stratosphere, where the chlorine reacts with oxygen to form ozone-destroying chlorine oxides. Increased international space launches and the potential commercial space travel boom could mean that rockets will soon emerge as the worst offenders in terms of ozone depletion. Soot and aluminum oxide in rocket oxide depletes upper-atmosphere ozone, which shields the Earth's surface from damaging ultraviolet rays. In 1987, an international agreement limited releases of chlorofluorocarbon chemicals, or CFC's, that led to ozone depletion. Rocket launches by the year 2050 could result in more ozone destruction than was ever realized by CFCs," says study co-author Darin Toohey of the University of Colorado, in a statement.

GOTETI MVS R KRISHNA, TADEPALLIGUDEM INDIA

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# Studie MIT: Identifikace hlavních zdrojů a mechanismů utváření cirrových mraků 2013 (*znečištění letadly*)

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## *Clarifying the Dominant Sources and Mechanisms of Cirrus Cloud Formation*

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<b>Citation</b>	Cziczo, D. J., K. D. Froyd, C. Hoose, E. J. Jensen, M. Diao, M. A. Zondlo, J. B. Smith, C. H. Twohy, and D. M. Murphy. "Clarifying the Dominant Sources and Mechanisms of Cirrus Cloud Formation." Science 340, no. 6138 (June 14, 2013): 1320–1324.
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<b>DOI</b>	

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The predominant particle category on which freezing took place was mineral dust and metallic particles, 61% by number (Fig. 1). This category was also the most enhanced in cloud ice with respect to its near-cloud abundance, 5%. The overwhelming majority, ~90%, exhibit no apparent sulfate or organic coating. Mixtures of sulfate and organic carbon, in all cases the largest near-cloud category at 55%, were the principal IR in only two distinct cloud encounters for which homogeneous freezing is inferred. In all other cirrus sulfate/organic particles were 14% of IR. Sulfate and organic material can act as IN when present as glasses or anhydrous salts (10,11). Therefore, some of these particles may have entered the ice phase heterogeneously, implying the 94% value of heterogeneous freezing may be a lower limit. Sea salt was abundant as IR during flights that took place over open ocean, 25% by number, but only 3% during other flights. Biomass burning was in all cases the second most abundant particle type near-cloud, 36%, but was depleted in the IR, representing <5%. These quantities represent composite averages for each of the four campaigns. Single flights within campaigns were analyzed individually with the only differences from the campaign averages being the homogeneous freezing cases (12). Representative spectra are shown for four IR types in Fig. 2.

The cirrus encounters presented here include both convective outflow and synoptically formed clouds. Because of the updrafts in convection, the aerosols immediately next to these

**61% identifikovaných částic byl minerální prach a částice těžkých kovů**

spectrometry (13,14). This technique is sensitive to all atmospheric aerosol particle components in a range from  $\sim 0.2 - 3 \mu\text{m}$  aerodynamic diameter (13,14). Ice residual particles were also collected and analyzed with electron microscopy coupled to energy dispersive X-ray microanalysis (21). Homogeneous freezing appeared to initiate cloud formation for only two individual cirrus clouds with composition shown in two insets (\*). Mineral dust is the most dominant heterogeneous ice nucleus in all other cirrus encounters despite the geographic separation between the study areas and major global dust sources, colored brown (NASA Land Processes Distributed Active Archive Center, [https://lpdaac.usgs.gov/get\\_data](https://lpdaac.usgs.gov/get_data)).

**Fig. 2.** Single particle mass spectra (MS) and electron microscope images (EM; inset) of ice residual particles analyzed during MACPEX corresponding to the categories presented in Fig. 1. (A) MS: The most common residual, mineral dust with minimal surface coating. EM: An aluminosilicate particle, also without apparent surface coating. (B) MS: Metallic particle with sodium, potassium, nickel, copper, iron and lead. EM: Metallic particle with tin, carbon and silicon. (C) MS: One of six particles of possible biological origin suggested by a composition including carbon, nitrogen, oxygen and phosphorous (12). EM: The only particle of possible biological origin found on the electron microscope grids suggested by a composition including carbon, hydrogen, oxygen and phosphorous. (D) MS: An EC particle. EM: One of two EC particles, identified by both composition and fractal spherule aggregate structure. Note that the spectra and images do not correspond to the same particles.

**Fig. 3.** The distribution of upper tropospheric clear air relative humidity with respect to ice ( $\text{RH}_i$ )

Minerální prach hliníku a křemíku; Částice těžkých kovů sodíku, draslíku, niklu, mědi, železa a olova

# Charakterizace emisí a zplodin z letadel využitím metody hmotnostní spektrometrie – Institut technologie v Zurichu 2016

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**Chemical characterization of freshly emitted particulate matter from aircraft exhaust using single particle mass spectrometry**  CrossMark

Manuel Abegglen <sup>a,\*</sup>, B.T. Brem <sup>b,c</sup>, M. Ellenrieder <sup>d</sup>, L. Durdina <sup>b,c</sup>, T. Rindlisbacher <sup>e</sup>, J. Wang <sup>b,c</sup>, U. Lohmann <sup>a,\*\*</sup>, B. Sierau <sup>a</sup>

<sup>a</sup> Institute for Atmospheric and Climate Science, ETH Zurich, Switzerland  
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**H I G H L I G H T S**

- First PM aircraft exhaust measurements using single particle mass spectrometry.

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**Table 1**

Number fraction in percent of spectra from particles emitted by the Turbofan 1, Mixed-Flow Turbofan and Turbofan 2 engines and from ambient background showing peaks indicating the presence of the corresponding metal compound. For Turbofan 1 the values are pooled into low (3–7%, idle/taxi), medium (20–65%, cruise) and high (85–120%, take-off) thrust range, and the value in parenthesis is the average peak area normalized to the largest value for each metal.

Element	Turbofan 1			Mixed-flow turbofan	Turbofan 2	Background
	Low thrust	Medium thrust	High thrust			
Molybdenum	5.3 (0.52)	5.9 (0.73)	9.6 (1.00)	55.9	36.7	1.9
Calcium	32.4 (0.61)	16.2 (1.00)	1.8 (0.04)	22.3	39.1	23.1
Sodium	29.1 (1.00)	22.6 (0.41)	4.3 (0.06)	50.2	51.1	34.5
Iron	22.5 (1.00)	8.4 (0.49)	0.7 (0.06)	33.0	35.5	11.1
Copper	2.9 (1.00)	0.4 (0.50)	0.0 (–)	2.6	6.7	2.5
Barium	0.5 (0.16)	0.3 (1.00)	0.1 (0.08)	3.7	16.5	2.2
Chromium	2.7 (0.10)	17.2 (1.00)	3.6 (0.18)	72.3	52.0	5.2
Aluminium	3.1 (0.21)	8.4 (1.00)	1.0 (0.03)	8.3	13.5	15.1
Silicon	0.4 (0.36)	2.1 (1.00)	0.1 (0.15)	0.2	0.9	4.3
Magnesium	0.6 (0.46)	1.7 (1.00)	0.3 (0.04)	16.6	20.8	3.1
Cobalt	0.5 (0.83)	1.4 (1.00)	0.4 (0.93)	1.7	2.8	1.5
Manganese	0.3 (0.84)	0.9 (1.00)	0.1 (0.02)	17.5	17.4	8.9
Vanadium	0.4 (0.89)	0.7 (1.00)	0.1 (0.04)	9.4	9.2	3.4
Nickel	0.4 (0.12)	0.6 (1.00)	0.1 (0.04)	10.7	19.3	8.3
Lead	0.1 (0.36)	0.4 (1.00)	0.0 (–)	1.3	0.9	2.5
Titanium	0.0 (–)	0.2 (1.00)	0.0 (–)	0.0	0.9	0.0
Zirconium	0.0 (–)	0.0 (–)	0.0 (–)	0.9	0.6	0.3

calcium- and barium-containing particles are largest. This indicates that the amount of calcium and barium present on each particle is largest at medium thrust despite the smaller number fractions.

The fractions of metal-containing particles were generally higher for Turbofan 2 and the Mixed-Flow Turbofan than for the

The presented fractions of particles that contain metallic compounds are lowest for the ambient background particles except for silicon, lead and aluminium of which the latter shows similar values as Turbofan 1. It is likely that the ambient background measurements were influenced to some extent by the engine test

Molybden, vápník, sodík, železo, měď, baryum, chrom, hliník, křemík, hořčík, kobalt, mangan, vanad, nikl, olovo titan, zirkon

Hastelloy X contribute to debris collected in the HPT. However, the relative large amounts of molybdenum in 'Hastelloy X' and the large fractions of exhaust particles containing molybdenum are not reflected in the small mass fraction of molybdenum found in HPT debris. Thus, the amount of 'Hastelloy X' in HPT debris is probably

**Table 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	(-)
Antimony	>0.1	1.15
Chromium	(-)	1.09
Others	4.91	5.3

detected in the exhaust particles mainly in combination with iron indicating engine wear as a major source. **Chromium** was detected in HPT debris and 'Hastelloy X' contains a weight fraction of 22%. Chromium is widely used in engine parts e.g. aircraft turbine blades and alloys. It was detected in oil but not in kerosene. **Nickel** is the most abundant constituent of 'Hastelloy X' and it shows a substantial weight fraction of 3.4% in HPT debris. Only very low concentrations of nickel were detected in kerosene and in oil. **Molybdenum** is a main constituent of 'Hastelloy X'. However, in aerospace, molybdenum disulfide is widely used in grease for lubrication applications where metal to metal contact exists. It can be converted directly to molybdenum metal when heated (Epshteyn and Risdon, 2010). The highest number fraction of molybdenum-containing particles was measured at maximum thrust when grease consumption and engine wear are likely to be highest. Only small quantities were detected in kerosene and oil. We therefore assume molybdenum to originate mainly from engine wear and grease.

3.4.2.3. *Mainly kerosene.* **Barium** was detected in kerosene and oil. It is not supposed to be present in any engine parts. As a side note, because of its capability to reduce soot emissions it

Koncentrace hliníku ve zplodinách 3mg/kg

# Ročně se ze zplodin komerčních letadel dostane do ovzduší cca 1 000 tun částic hliníku

Hustota leteckého paliva je někde mezi 775 a 840 kg/m<sup>3</sup>. Cca průměr 800 kg/m<sup>3</sup>

Spotřeba paliva 378 mld. l/rok =  $378 \times 10^6 \text{ l} = 378 \times 10^6 \text{ dm}^3 = 378 \times 10^3 \text{ m}^3$

Přepočteno na hmotnost:  $800 \text{ kg/m}^3 \times 378 \times 10^3 \text{ m}^3 = 302,4 \times 10^6 \text{ kg}$

A obsah hliníku:  $302,4 \times 10^6 \times 3,08 \times 10^{-3} = 931,392 \text{ tun}$

# Armády po celém světě se vyhýbají kontrole toho jak moc znečišťují ovzduší

World's militaries avoiding scrutiny

theguardian.com/environment/2021/nov/11/worlds-militaries-avoiding-scrutiny-over-emissions



**Greenhouse gas emissions**

**Tom Ambrose**

Thu 11 Nov 2021 09:29 GMT



## World's militaries avoiding scrutiny over emissions, scientists say

Countries do not have to include armed forces' emissions in their targets despite estimates sector creates 6% of greenhouse gases

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F-16 fighters take off at the US Osan airbase in Pyeongtaek, South Korea Photograph: YONHAP/EPA

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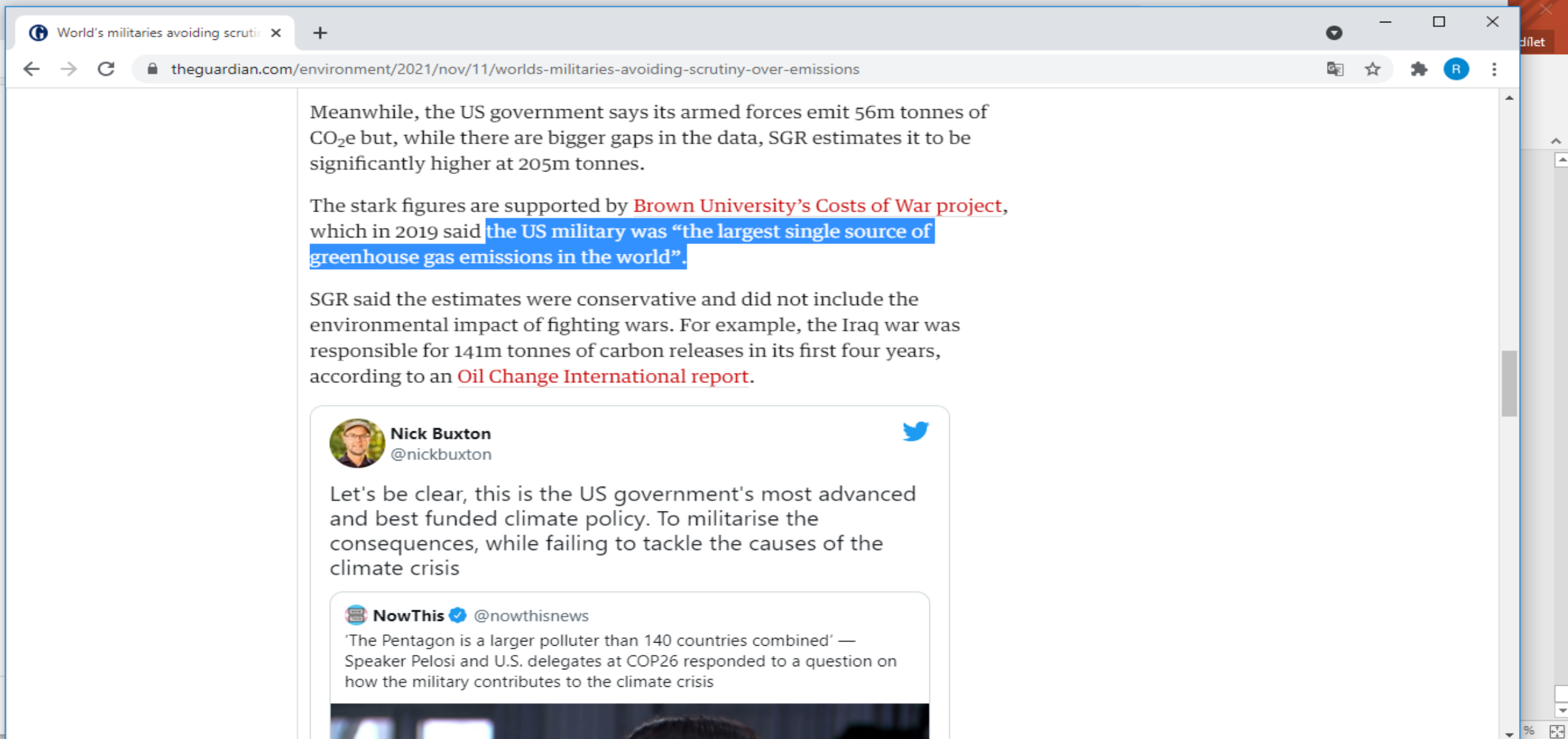
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# CO2 emise Pentagonu jsou větší než 140 zemí dohromady




World's militaries avoiding scrutiny x +

theguardian.com/environment/2021/nov/11/worlds-militaries-avoiding-scrutiny-over-emissions


Meanwhile, the US government says its armed forces emit 56m tonnes of CO<sub>2</sub>e but, while there are bigger gaps in the data, SGR estimates it to be significantly higher at 205m tonnes.

The stark figures are supported by [Brown University's Costs of War project](#), which in 2019 said **the US military was "the largest single source of greenhouse gas emissions in the world"**.

SGR said the estimates were conservative and did not include the environmental impact of fighting wars. For example, the Iraq war was responsible for 141m tonnes of carbon releases in its first four years, according to an [Oil Change International report](#).

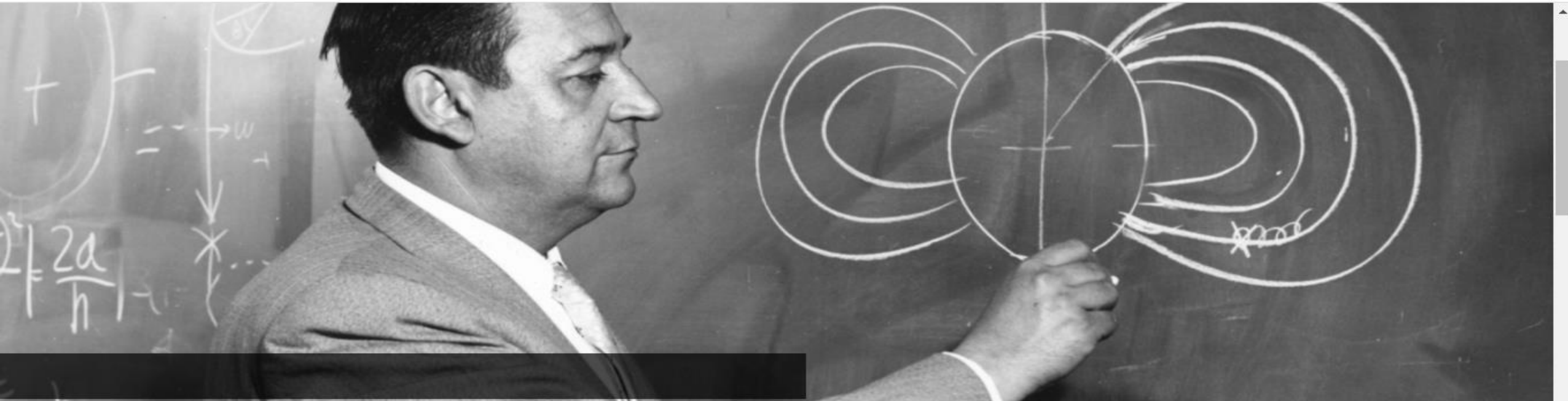
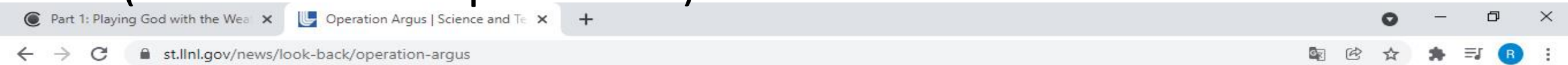
 **Nick Buxton** @nickbuxton

Let's be clear, this is the US government's most advanced and best funded climate policy. To militarise the consequences, while failing to tackle the causes of the climate crisis

 **NowThis** @nowthisnews

'The Pentagon is a larger polluter than 140 countries combined' — Speaker Pelosi and U.S. delegates at COP26 responded to a question on how the military contributes to the climate crisis

# Operace Argus 1958 – exploze tří atomových bomb v termosféře (asi 200 km nad povrchem)



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## Operation Argus

In late summer of 1958, the United States Navy Task Force 88 (TF 88) conducted one of the U.S.'s most expeditiously planned and executed nuclear tests operations, codenamed ARGUS, when it conducted three high-altitude nuclear tests in the south Atlantic Ocean. Operation Argus was unique among U.S. atmospheric nuclear test operations in that its main objective was neither for diagnostic tests of a weapons design nor for effects tests for military systems. Instead Operation Argus was conducted to establish a proof of theory that a very high-altitude nuclear detonation could produce phenomena of potentially significant military



# Operace Westford 1961 – vypuštění 500 mil. měděných jehliček do vesmíru (antény pro zlepšení komunikace)

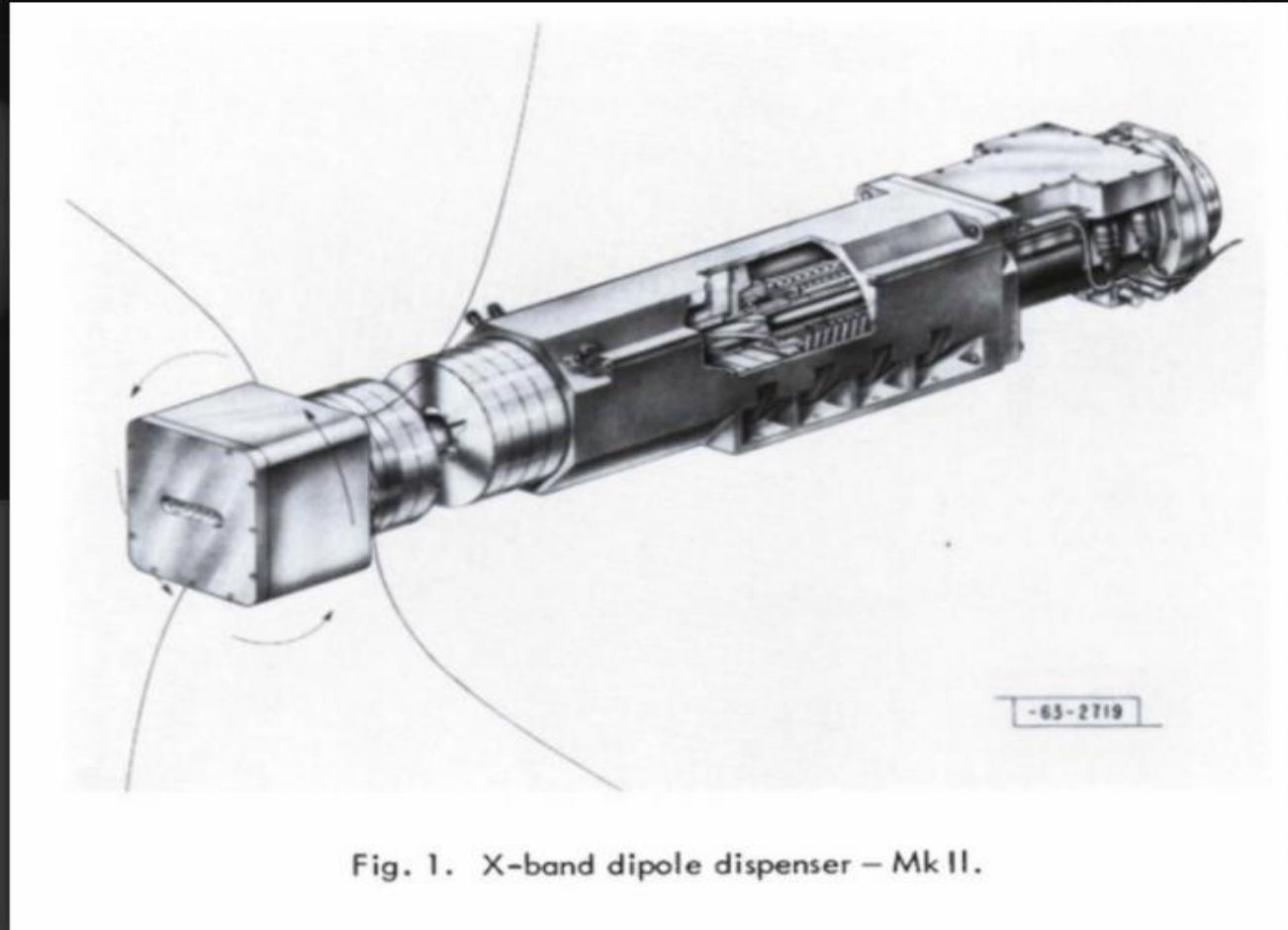
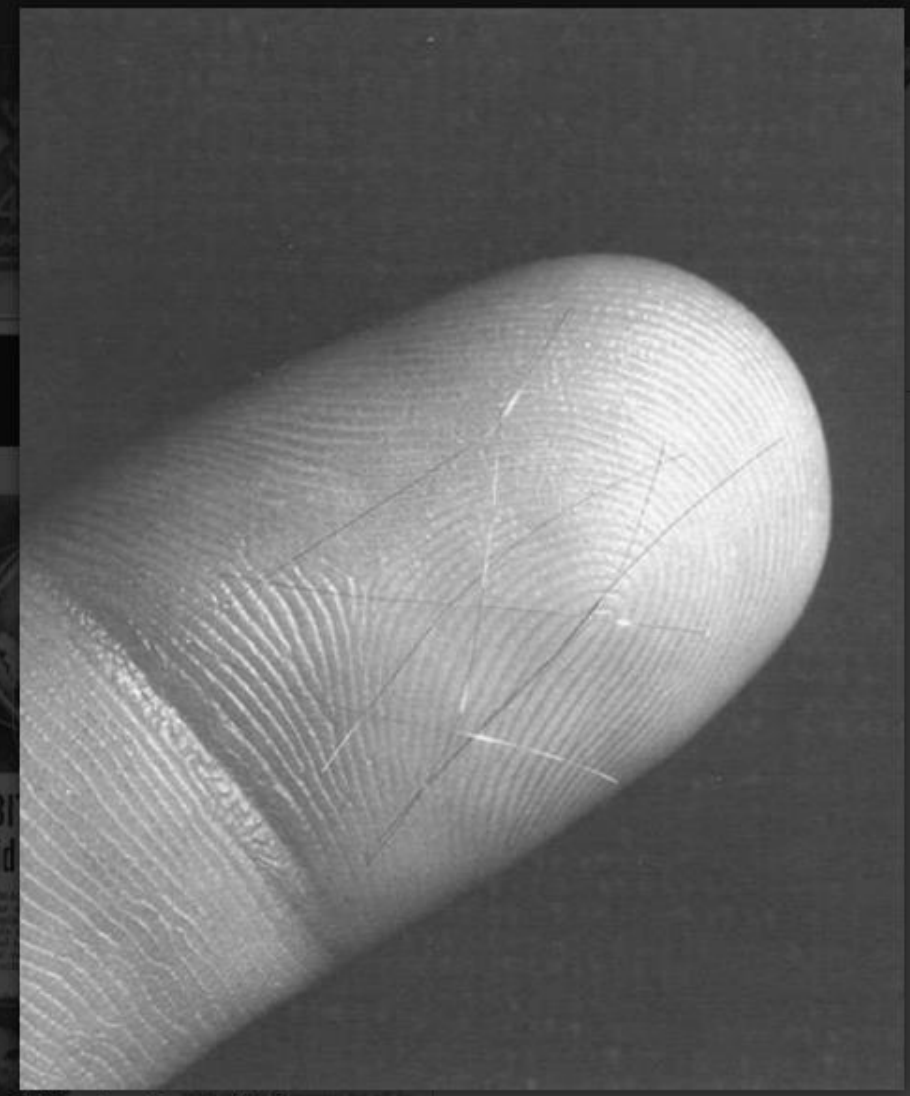


Fig. 1. X-band dipole dispenser – Mk II.

Westford dispenser.jpg



Westford needle.jpg

1 of 4

- ARTIFICIAL CLOUDS
- CARBON BLACK DUST
- CENTRAL INTELLIGENCE AGENCY
- CLOUD IONIZATION
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Globální síť počasí, senzory, počítačové modely, nástroje pro komunikaci, chemikálie, vzdušná vozidla pro doručování, zbraně přímých energií, umělá ionosférická zrcadla, chytré mraky plné nanočástic.

**Uhlíkový popílek.**

*Virtuální počasí.*

# Počasí jako multiplikátor síly: Přivlastnění si počasí v roce 2025 (možnost virtuálního počasí v roce 2025)

## 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>

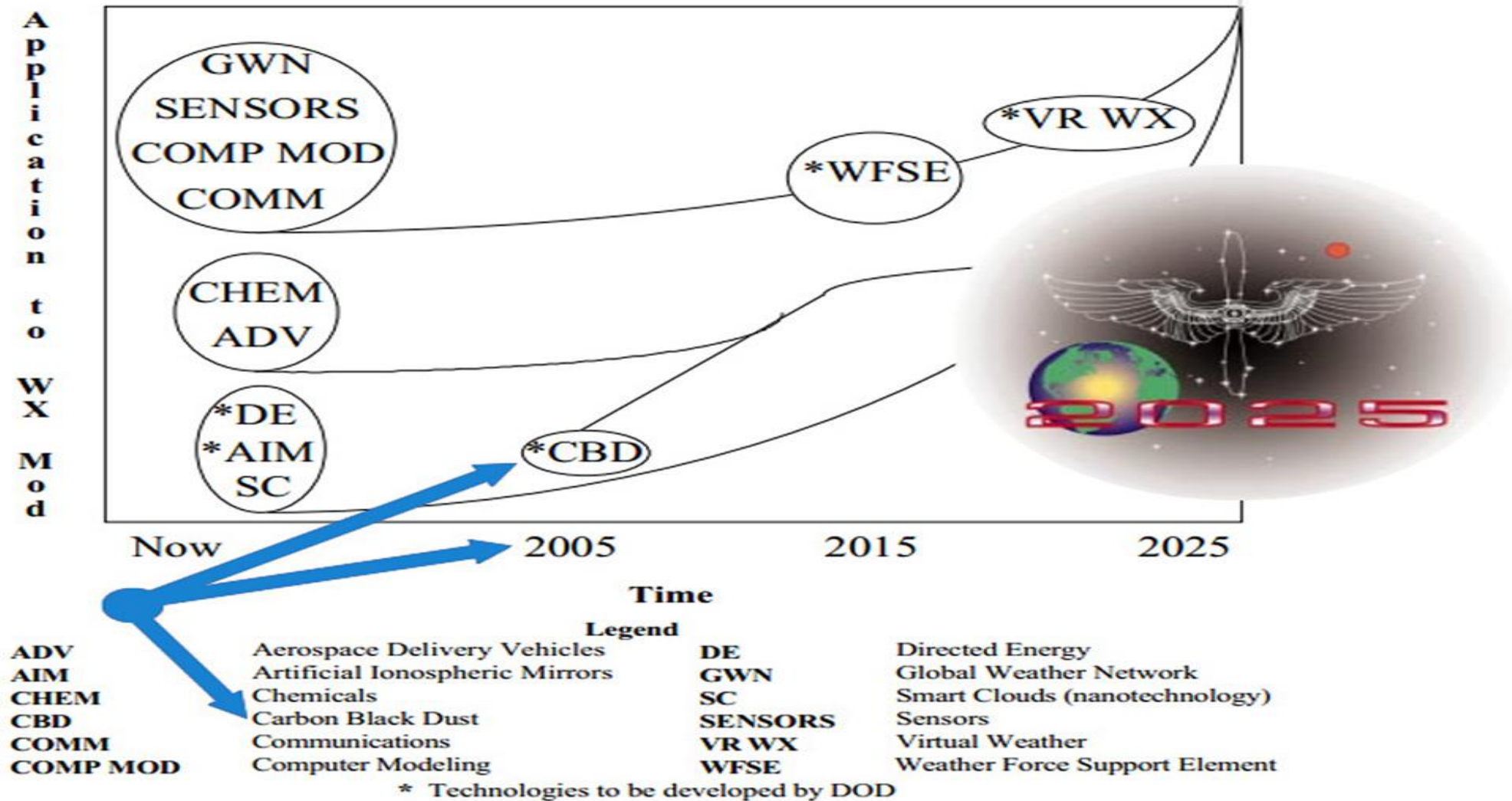
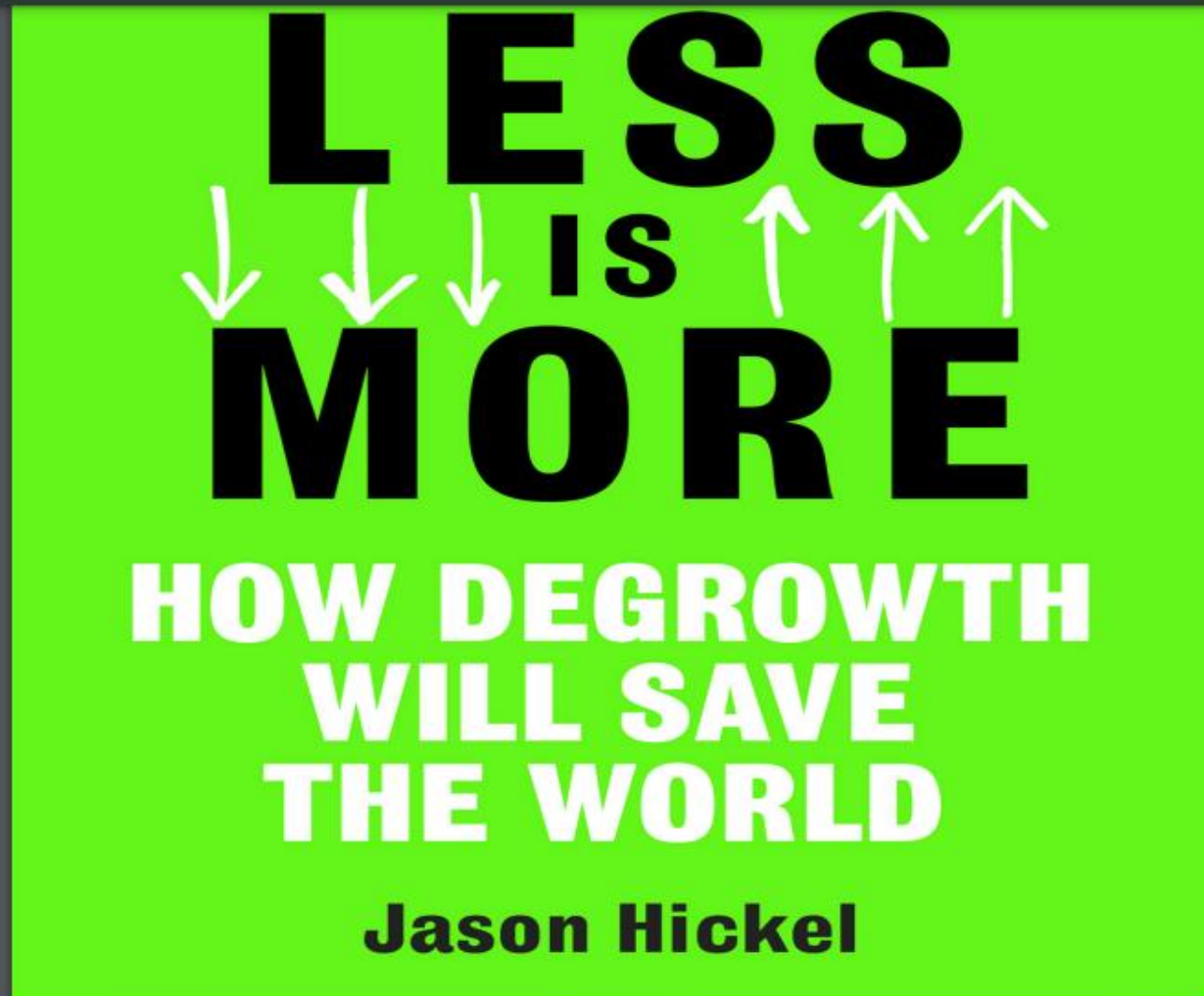
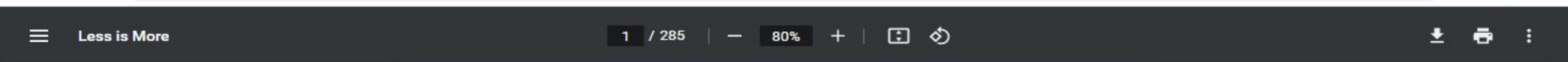


Figure 5-2. A Systems Development Road Map to Weather Modification in 2025.

# Může být ovlivňování počasí nástrojem pro vytváření levných vstupů (pracovní síly, přírodních zdrojů...) v rámci akumulace bohatství globální elity?



# Atmosférický vědec na Carnegie institutu na Univerzitě ve Stanfordu v USA

Ken Caldeira - Emeritus | Carnegie x +

carnegiescience.edu/scientist/ken-caldeira-emeritus

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## KEN CALDEIRA - EMERITUS


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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<sub>2</sub> 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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# Vědec popisuje tajné jednání s vládními agenty o možnosti využití počasí jako válečné zbraně – třeba nechat vypršet patogeny z mraků

(1) Geoengineer Ken Caldeira Reveals His True Past (GeoengineeringWatch.org) | (1) Aluminum as Aerosol Geoengineering | (3) Watch | Facebook

youtube.com/watch?list=PLDVvLI-E9H5aC3vyNgFvCVwKK56DwdluV&v=R4zAHKNCYtk&feature=emb\_logo

Hledat



Geoengineer Ken Caldeira Reveals His True Past ( GeoengineeringWatch.org )

16 264 zhlédnutí 242 9 SDÍLENÍ ULOŽIT

- ### Hearings and Events
- Geoengineering Watch - 16 / 18
- 14 The Push For Legal Action To Expose Climate Engineering / Geoengineering Dane Wigington 1:01:24
  - 15 "Look Up", A Doctor's Plea To Awaken The Masses To Geoengineering Dane Wigington 3:35
  - 16 Geoengineer Ken Caldeira Reveals His True Past ( GeoengineeringWatch.org ) Dane Wigington 1:48
  - 17 Q & A, Engineered Drought Catastrophe, Target California ( Dane... Dane Wigington 1:01:09
  - 18 Confronting a US Congressman About Climate Engineering ( Dane Wigington... Dane Wigington 4:03



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# Čínská armáda využívá počasí k šíření biologických zbraní? Investigace oceňovaná australské novinářky



Sharri Markson

[ABOUT](#)

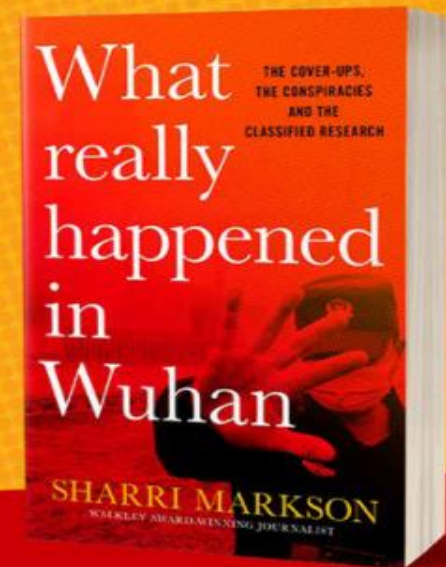
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investigation into the origins  
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Award-winning journalist  
SHARRI MARKSON**



Chinese document discussing weaponising coronaviruses provides 'chilling' information

sky news  
.COM.AU



SHARRI

CHINESE MILITARY DISCUSSED WEAPONISED SARS

sky news



2:06 / 10:12



# Mikroorganismy můžeme nechat zmrazit za sucha a pak vypustit jako aerosoly

Chinese document discussing weaponising coronaviruses provides 'chilling' information

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## WEAPONISING SARS CORONAVIRUSES

For example, the new-found ability to freeze-dry micro-organisms has made it possible to store biological agents and aerosolise them during attacks.

XU DEZHONG

2015

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CHINESE MILITARY DISCUSSED WEAPONISED SARS

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2:30 / 10:12



# Biologické útoky je nejlépe realizovat za svítání, v noci a při zatažené obloze

Chinese document discussing weaponising coronaviruses provides 'chilling' information

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## WEAPONISING SARS CORONAVIRUSES

Bioweapon attacks are best conducted during dawn, dusk, night or cloudy weather because intense sunlight can damage the pathogens.

XU DEZHONG

2015

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2:42 / 10:12



# Biologické agenty by se měly vypouštět během sucha. Déšť, sníh snižují jejich účinnost

Chinese document discussing weaponising coronaviruses provides 'chilling' information

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## WEAPONISING SARS CORONAVIRUSES

Biological agents should be released during dry weather. Rain or snow can cause the aerosol particles to precipitate.

XU DEZHONG

2015

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CHINESE MILITARY DISCUSSED WEAPONISED SARS

sky news



2:52 / 10:12



# Je dobré využít příznivý vítr

Chinese document discussing weaponising coronaviruses provides 'chilling' information

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## WEAPONISING SARS CORONAVIRUSES

A stable wind direction is desirable so that the aerosol can float into the target area.

XU DEZHONG

2015

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2:59 / 10:12



# ZNOVU A ZNOVU ARMÁDA PROVÁDĚLA NEBEZPEČNÉ BIOLOGICKÉ EXPERIMENY NA AMERIČANECH – 239 operací

BI US military released bacteria to t

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## Over and over again, the military has conducted dangerous biowarfare experiments on Americans

Kevin Loria Sep 25, 2016, 10:00 PM

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# Jak britská vláda během studené války na tisících Britech testovala (750 operací) chemické a biologické zbraně

## How the British Government subjected thousands of people to chemical and biological warfare trials during Cold War

Exclusive: Historians had previously thought that such operations were much less extensive

David Keys | @davidmkeys | Thursday 09 July 2015 00:36 | comments



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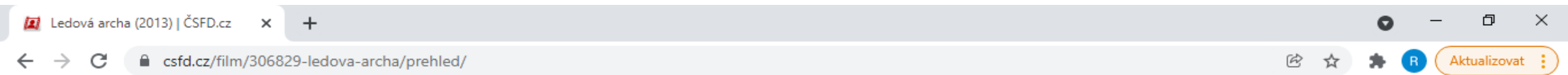
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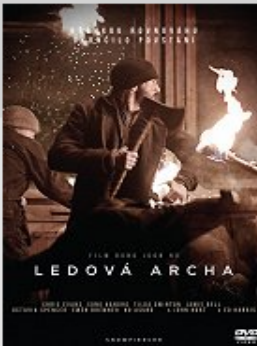
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## Ledová archa

 Snowpiercer (více)

Sci-Fi / Drama / Thriller / Akční  
USA / Jižní Korea / Francie / Česko, 2013, 126 min

Režie: Džun-ho Pong  
Předloha: Benjamin Legrand (kniha), Jacques Lob (kniha), Jean-Marc Rochette (kniha)  
Scénář: Džun-ho Pong, Kelly Masterson  
Kamera: Kyeong-pyo Hong  
Hudba: Marco Beltrami  
Hrají: Chris Evans, Kang-ho Song, Jamie Bell, Tilda Swinton, Octavia Spencer, John Hurt, Ewen Bremner, Alison Pill, Ed Harris, Ah-seong Ko, (více) (další profese)

**67%**

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Obsahy (2) zobrazit všechny obsahy

Příběh je zasazený do chladné postapokalyptické budoucnosti roku 2031. Po neúspěšném pokusu o zvrácení globálního oteplování nastala nová doba ledová. Z planety Země se stala sněhová koule a hrstka přeživších lidí se nachází v přeplněném vlaku jménem Snowpiercer, který poháněn speciálním motorem cestuje po celém s... (více)

Přehled Recenze Zajímavosti Video Galerie Hrají Ocenění OST Diskuze Filmotéka

Videa (5) **VÍCE**

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