

Weather as a Force Multiplier: Owning the Weather in 2025



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by

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Disclaimer

2025 is a study designed to comply with a directive from the chief of staff of the Air Force to examine the concepts, capabilities, and technologies the United States will require to remain the dominant air and space force in the future. Presented on 17 June 1996, this report was produced in the Department of Defense school environment of academic freedom and in the interest of advancing concepts related to national defense. The views expressed in this report are those of the authors and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the United States government.

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Executive Summary

In 2025, US aerospace forces can “own the weather” by capitalizing on emerging technologies and focusing development of those technologies to war-fighting applications. Such a capability offers the war fighter tools to shape the battlespace in ways never before possible. It provides opportunities to impact operations across the full spectrum of conflict and is pertinent to all possible futures. The purpose of this paper is to outline a strategy for the use of a future weather-modification system to achieve military objectives rather than to provide a detailed technical road map.

A high-risk, high-reward endeavor, weather-modification offers a dilemma not unlike the splitting of the atom. While some segments of society will always be reluctant to examine controversial issues such as weather-modification, the tremendous military capabilities that could result from this field are ignored at our own peril. From enhancing friendly operations or disrupting those of the enemy via small-scale tailoring of natural weather patterns to complete dominance of global communications and counterspace control, weather-modification offers the war fighter a wide-range of possible options to defeat or coerce an adversary. Some of the potential capabilities a weather-modification system could provide to a war-fighting commander in chief (CINC) are listed in table 1.

Technology advancements in five major areas are necessary for an integrated weather-modification capability: (1) advanced nonlinear modeling techniques, (2) computational capability, (3) information gathering and transmission, (4) a global sensor array, and (5) weather intervention techniques. Some intervention tools exist today and others may be developed and refined in the future.

Table 1

Operational Capabilities Matrix

DEGRADE ENEMY FORCES	ENHANCE FRIENDLY FORCES
Precipitation Enhancement - Flood Lines of Communication - Reduce PGM/Recce Effectiveness - Decrease Comfort Level/Morale	Precipitation Avoidance - Maintain/Improve LOC - Maintain Visibility - Maintain Comfort Level/Morale
Storm Enhancement - Deny Operations	Storm Modification - Choose Battlespace Environment
Precipitation Denial - Deny Fresh Water - Induce Drought	Space Weather - Improve Communication Reliability - Intercept Enemy Transmissions - Revitalize Space Assets
Space Weather - Disrupt Communications/Radar - Disable/Destroy Space Assets	Fog and Cloud Generation - Increase Concealment
Fog and Cloud Removal - Deny Concealment - Increase Vulnerability to PGM/Recce	Fog and Cloud Removal - Maintain Airfield Operations - Enhance PGM Effectiveness
Detect Hostile Weather Activities	Defend against Enemy Capabilities

Current technologies that will mature over the next 30 years will offer anyone who has the necessary resources the ability to modify weather patterns and their corresponding effects, at least on the local scale. Current demographic, economic, and environmental trends will create global stresses that provide the impetus necessary for many countries or groups to turn this weather-modification ability into a capability.

In the United States, weather-modification will likely become a part of national security policy with both domestic and international applications. Our government will pursue such a policy, depending on its interests, at various levels. These levels could include unilateral actions, participation in a security framework such as NATO, membership in an international organization such as the UN, or participation in a coalition. Assuming that in 2025 our national security strategy includes weather-modification, its use in our national military strategy will naturally follow. Besides the significant benefits an operational capability would provide, another motivation to pursue weather-modification is to deter and counter potential adversaries.

In this paper we show that appropriate application of weather-modification can provide battlespace dominance to a degree never before imagined. In the future, such operations will enhance air and space superiority and provide new options for battlespace shaping and battlespace awareness.¹ “The technology is there, waiting for us to pull it all together;”² in 2025 we can “Own the Weather.”

Notes

¹ The weather-modification capabilities described in this paper are consistent with the operating environments and missions relevant for aerospace forces in 2025 as defined by AF/LR, a long-range planning office reporting to the CSAF [based on AF/LR PowerPoint briefing “Air and Space Power Framework for Strategy Development (jda-2lr.ppt)].”

² General Gordon R. Sullivan, “Moving into the 21st Century: America’s Army and Modernization,” *Military Review* (July 1993) quoted in Mary Ann Seagraves and Richard Szymer, “Weather a Force Multiplier,” *Military Review*, November/December 1995, 75.

Chapter 1

Introduction

Scenario: Imagine that in 2025 the US is fighting a rich, but now consolidated, politically powerful drug cartel in South America. The cartel has purchased hundreds of Russian-and Chinese-built fighters that have successfully thwarted our attempts to attack their production facilities. With their local numerical superiority and interior lines, the cartel is launching more than 10 aircraft for every one of ours. In addition, the cartel is using the French *system probatoire d' observation de la terre* (SPOT) positioning and tracking imagery systems, which in 2025 are capable of transmitting near-real-time, multispectral imagery with 1 meter resolution. The US wishes to engage the enemy on an uneven playing field in order to exploit the full potential of our aircraft and munitions.

Meteorological analysis reveals that equatorial South America typically has afternoon thunderstorms on a daily basis throughout the year. Our intelligence has confirmed that cartel pilots are reluctant to fly in or near thunderstorms. Therefore, our weather force support element (WFSE), which is a part of the commander in chief's (CINC) air operations center (AOC), is tasked to forecast storm paths and trigger or intensify thunderstorm cells over critical target areas that the enemy must defend with their aircraft. Since our aircraft in 2025 have all-weather capability, the thunderstorm threat is minimal to our forces, and we can effectively and decisively control the sky over the target.

The WFSE has the necessary sensor and communication capabilities to observe, detect, and act on weather-modification requirements to support US military objectives. These capabilities are part of an advanced battle area system that supports the war-fighting CINC. In our scenario, the CINC tasks the WFSE to conduct storm intensification and concealment operations. The WFSE models the atmospheric conditions

to forecast, with 90 percent confidence, the likelihood of successful modification using airborne cloud generation and seeding.

In 2025, uninhabited aerospace vehicles (UAV) are routinely used for weather-modification operations. By cross-referencing desired attack times with wind and thunderstorm forecasts and the SPOT satellite's projected orbit, the WFSE generates mission profiles for each UAV. The WFSE guides each UAV using near-real-time information from a networked sensor array.

Prior to the attack, which is coordinated with forecasted weather conditions, the UAVs begin cloud generation and seeding operations. UAVs disperse a cirrus shield to deny enemy visual and infrared (IR) surveillance. Simultaneously, microwave heaters create localized scintillation to disrupt active sensing via synthetic aperture radar (SAR) systems such as the commercially available Canadian search and rescue satellite-aided tracking (SARSAT) that will be widely available in 2025. Other cloud seeding operations cause a developing thunderstorm to intensify over the target, severely limiting the enemy's capability to defend. The WFSE monitors the entire operation in real-time and notes the successful completion of another very important but routine weather-modification mission.

This scenario may seem far-fetched, but by 2025 it is within the realm of possibility. The next chapter explores the reasons for weather-modification, defines the scope, and examines trends that will make it possible in the next 30 years.

Chapter 2

Required Capability

Why Would We Want to Mess with the Weather?

According to Gen Gordon Sullivan, former Army chief of staff, “As we leap technology into the 21st century, we will be able to see the enemy day or night, in any weather— and go after him relentlessly.”¹ A global, precise, real-time, robust, systematic weather-modification capability would provide war-fighting CINCs with a powerful force multiplier to achieve military objectives. Since weather will be common to all possible futures, a weather-modification capability would be universally applicable and have utility across the entire spectrum of conflict. The capability of influencing the weather even on a small scale could change it from a force degrader to a force multiplier.

People have always wanted to be able to do something about the weather. In the US, as early as 1839, newspaper archives tell of people with serious and creative ideas on how to make rain.² In 1957, the president’s advisory committee on weather control explicitly recognized the military potential of weather-modification, warning in their report that it could become a more important weapon than the atom bomb.³

However, controversy since 1947 concerning the possible legal consequences arising from the deliberate alteration of large storm systems meant that little future experimentation could be conducted on storms which had the potential to reach land.⁴ In 1977, the UN General Assembly adopted a resolution prohibiting the hostile use of environmental modification techniques. The resulting “Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Technique (ENMOD)”

committed the signatories to refrain from any military or other hostile use of weather-modification which could result in widespread, long-lasting, or severe effects.⁵ While these two events have not halted the pursuit of weather-modification research, they have significantly inhibited its pace and the development of associated technologies, while producing a primary focus on suppressive versus intensification activities.

The influence of the weather on military operations has long been recognized. During World War II, Eisenhower said,

[i]n Europe bad weather is the worst enemy of the air [operations]. Some soldier once said, "The weather is always neutral." Nothing could be more untrue. Bad weather is obviously the enemy of the side that seeks to launch projects requiring good weather, or of the side possessing great assets, such as strong air forces, which depend upon good weather for effective operations. If really bad weather should endure permanently, the Nazi would need nothing else to defend the Normandy coast!⁶

The impact of weather has also been important in more recent military operations. A significant number of the air sorties into Tuzla during the initial deployment supporting the Bosnian peace operation aborted due to weather. During Operation Desert Storm, Gen Buster C. Glosson asked his weather officer to tell him which targets would be clear in 48 hours for inclusion in the air tasking order (ATO).⁷ But current forecasting capability is only 85 percent accurate for no more than 24 hours, which doesn't adequately meet the needs of the ATO planning cycle. Over 50 percent of the F-117 sorties weather aborted over their targets and A-10s only flew 75 of 200 scheduled close air support (CAS) missions due to low cloud cover during the first two days of the campaign.⁸ The application of weather-modification technology to clear a hole over the targets long enough for F-117s to attack and place bombs on target or clear the fog from the runway at Tuzla would have been a very effective force multiplier. Weather-modification clearly has potential for military use at the operational level to reduce the elements of fog and friction for friendly operations and to significantly increase them for the enemy.

What Do We Mean by "Weather-modification"?

Today, weather-modification is the alteration of weather phenomena over a limited area for a limited period of time.⁹ Within the next three decades, the concept of weather-modification could expand to include the ability to shape weather patterns by influencing their determining factors.¹⁰ Achieving such a highly

accurate and reasonably precise weather-modification capability in the next 30 years will require overcoming some challenging but not insurmountable technological and legal hurdles.

Technologically, we must have a solid understanding of the variables that affect weather. We must be able to model the dynamics of their relationships, map the possible results of their interactions, measure their actual real-time values, and influence their values to achieve a desired outcome. Society will have to provide the resources and legal basis for a mature capability to develop. How could all of this happen? The following notional scenario postulates how weather-modification might become both technically feasible and socially desirable by 2025.

Between now and 2005, technological advances in meteorology and the demand for more precise weather information by global businesses will lead to the successful identification and parameterization of the major variables that affect weather. By 2015, advances in computational capability, modeling techniques, and atmospheric information tracking will produce a highly accurate and reliable weather prediction capability, validated against real-world weather. In the following decade, population densities put pressure on the worldwide availability and cost of food and usable water. Massive life and property losses associated with natural weather disasters become increasingly unacceptable. These pressures prompt governments and/or other organizations who are able to capitalize on the technological advances of the previous 20 years to pursue a highly accurate and reasonably precise weather-modification capability. The increasing urgency to realize the benefits of this capability stimulates laws and treaties, and some unilateral actions, making the risks required to validate and refine it acceptable. By 2025, the world, or parts of it, are able to shape local weather patterns by influencing the factors that affect climate, precipitation, storms and their effects, fog, and near space. These highly accurate and reasonably precise civil applications of weather-modification technology have obvious military implications. This is particularly true for aerospace forces, for while weather may affect all mediums of operation, it operates in ours.

The term weather-modification may have negative connotations for many people, civilians and military members alike. It is thus important to define the scope to be considered in this paper so that potential critics or proponents of further research have a common basis for discussion.

In the broadest sense, weather-modification can be divided into two major categories: suppression and intensification of weather patterns. In extreme cases, it might involve the creation of completely new weather

patterns, attenuation or control of severe storms, or even alteration of global climate on a far-reaching and/or long-lasting scale. In the mildest and least controversial cases it may consist of inducing or suppressing precipitation, clouds, or fog for short times over a small-scale region. Other low-intensity applications might include the alteration and/or use of near space as a medium to enhance communications, disrupt active or passive sensing, or other purposes. In conducting the research for this study, the broadest possible interpretation of weather-modification was initially embraced, so that the widest range of opportunities available for our military in 2025 were thoughtfully considered. However, for several reasons described below, this paper focuses primarily on localized and short-term forms of weather-modification and how these could be incorporated into war-fighting capability. The primary areas discussed include generation and dissipation of precipitation, clouds, and fog; modification of localized storm systems; and the use of the ionosphere and near space for space control and communications dominance. These applications are consistent with CJCSI 3810.01, *"Meteorological and Oceanographic Operations."*¹¹

Extreme and controversial examples of weather modification—creation of made-to-order weather, large-scale climate modification, creation and/or control (or "steering") of severe storms, etc.—were researched as part of this study but receive only brief mention here because, in the authors' judgment, the technical obstacles preventing their application appear insurmountable within 30 years.¹² If this were not the case, such applications would have been included in this report as potential military options, despite their controversial and potentially malevolent nature and their inconsistency with standing UN agreements to which the US is a signatory.

On the other hand, the weather-modification applications proposed in this report range from technically proven to potentially feasible. They are similar, however, in that none are currently employed or envisioned for employment by our operational forces. They are also similar in their potential value for the war fighter of the future, as we hope to convey in the following chapters. A notional integrated system that incorporates weather-modification tools will be described in the next chapter; how those tools might be applied are then discussed within the framework of the Concept of Operations in chapter 4.

¹ Gen Gordon R. Sullivan, "Moving into the 21st Century: America's Army and Modernization," *Military Review* (July 1993) quoted in Mary Ann Seagraves and Richard Szymber, "Weather a Force Multiplier," *Military Review*, November/December 1995, 75.

² Horace R. Byers, "History of Weather-modification," in Wilmot N. Hess, ed. *Weather and Climate Modification*, (New York: John Wiley & Sons, 1974), 4.

³ William B. Meyer, "The Life and Times of US Weather: What Can We Do About It?" *American Heritage* 37, no. 4 (June/July 1986), 48.

⁴ Byers, 13.

⁵ US Department of State, *The Department of State Bulletin*. 74, no. 1981 (13 June 1977): 10.

⁶ Dwight D Eisenhower. "Crusade in Europe," quoted in John F. Fuller, *Thor's Legions* (Boston: American Meteorology Society, 1990), 67.

⁷ Interview of Lt Col Gerald F. Riley, Staff Weather Officer to CENTCOM OIC of CENTAF Weather Support Force and Commander of 3rd Weather Squadron, in "Desert Shield/Desert Storm Interview Series," by Dr William E. Narwyn, AWS Historian, 29 May 1991.

⁸ Thomas A. Keaney and Eliot A. Cohen. *Gulf War Air Power Survey Summary Report* (Washington D.C.: Government Printing Office, 1993), 172.

⁹ Herbert S. Appleman, *An Introduction to Weather-modification* (Scott AFB, Ill.: Air Weather Service/MAC, September 1969), 1.

¹⁰ William Bown, "Mathematicians Learn How to Tame Chaos," *New Scientist*, 30 May 1992, 16.

¹¹ CJCSI 3810.01, *Meteorological and Oceanographic Operations*, 10 January 95. This CJCS Instruction establishes policy and assigns responsibilities for conducting meteorological and oceanographic operations. It also defines the terms widespread, long-lasting, and severe, in order to identify those activities that US forces are prohibited from conducting under the terms of the UN Environmental Modification Convention. Widespread is defined as encompassing an area on the scale of several hundred km; long-lasting means lasting for a period of months, or approximately a season; and severe involves serious or significant disruption or harm to human life, natural and economic resources, or other assets.

¹² Concern about the unintended consequences of attempting to "control" the weather is well justified. Weather is a classic example of a chaotic system (i.e., a system that never exactly repeats itself). A chaotic system is also extremely sensitive: minuscule differences in conditions greatly affect outcomes. According to Dr. Glenn James, a widely published chaos expert, technical advances may provide a means to predict *when* weather transitions will occur and the magnitude of the inputs required to cause those transitions; however, it will never be possible to precisely predict changes that occur as a result of our inputs. The chaotic nature of weather also limits our ability to make accurate long-range forecasts. The renowned physicist Edward Teller recently presented calculations he performed to determine the long-range weather forecasting improvement that would result from a satellite constellation providing continuous atmospheric measurements over a 1 km² grid worldwide. Such a system, which is currently cost-prohibitive, would only improve long-range forecasts from the current five days to approximately 14 days. Clearly, there are definite physical limits to mankind's ability to control nature, but the extent of those physical limits remains an open question. Sources: G. E. James, "Chaos Theory: The Essentials for Military Applications," in *ACSC Theater Air Campaign Studies Coursebook*, AY96, 8 (Maxwell AFB, Ala: Air University Press, 1995), 1-64. The Teller calculations are cited in Reference 49 of this source.

Chapter 3

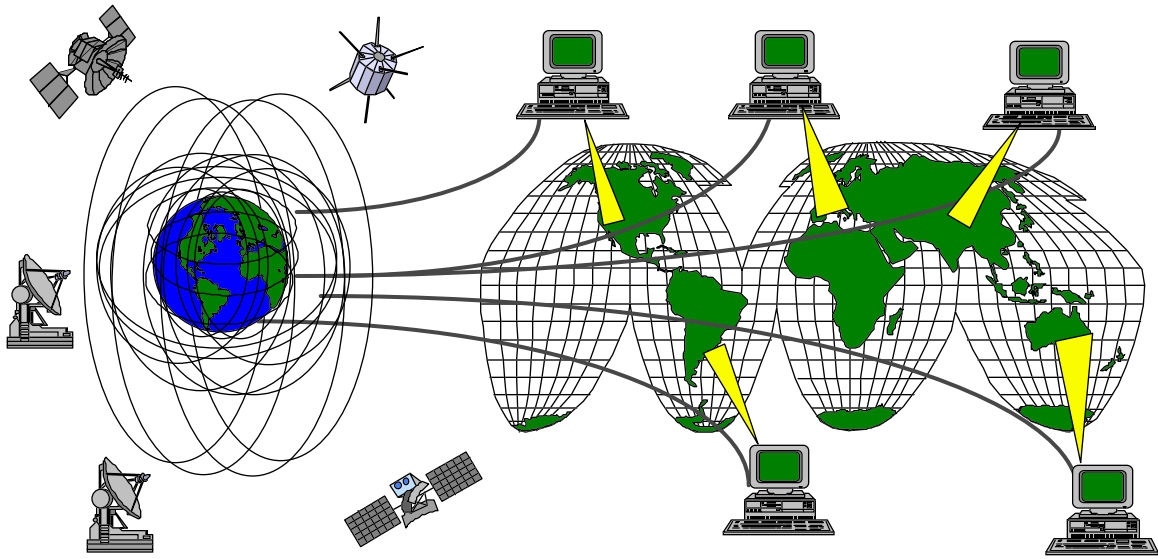
System Description

Our vision is that by 2025 the military could influence the weather on a mesoscale ($<200 \text{ km}^2$) or microscale (immediate local area) to achieve operational capabilities such as those listed in Table 1. The capability would be the synergistic result of a system consisting of (1) highly trained weather force specialists (WFS) who are members of the CINC's weather force support element (WFSE); (2) access ports to the global weather network (GWN), where worldwide weather observations and forecasts are obtained near-real-time from civilian and military sources; (3) a dense, highly accurate local area weather sensing and communication system; (4) an advanced computer local area weather-modification modeling and prediction capability within the area of responsibility (AOR); (5) proven weather-modification intervention technologies; and (6) a feedback capability.

The Global Weather Network

The GWN is envisioned to be an evolutionary expansion of the current military and civilian worldwide weather data network. By 2025, it will be a super high-speed, expanded bandwidth, communication network filled with near-real-time weather observations taken from a denser and more accurate worldwide observation network resulting from highly improved ground, air, maritime, and space sensors. The network will also provide access to forecast centers around the world where sophisticated, tailored forecast and data products, generated from weather prediction models (global, regional, local, specialized, etc.) based on the latest nonlinear mathematical techniques are made available to GWN customers for near-real-time use.

By 2025, we envision that weather prediction models, in general, and mesoscale weather-modification models, in particular, will be able to emulate all-weather producing variables, along with their interrelated dynamics, and prove to be highly accurate in stringent measurement trials against empirical data. The brains of these models will be advanced software and hardware capabilities which can rapidly ingest trillions of environmental data points, merge them into usable data bases, process the data through the weather prediction models, and disseminate the weather information over the GWN in near-real-time.¹ This network is depicted schematically in figure 3-1.



Source: Microsoft Clipart Gallery © 1995 with courtesy from Microsoft.

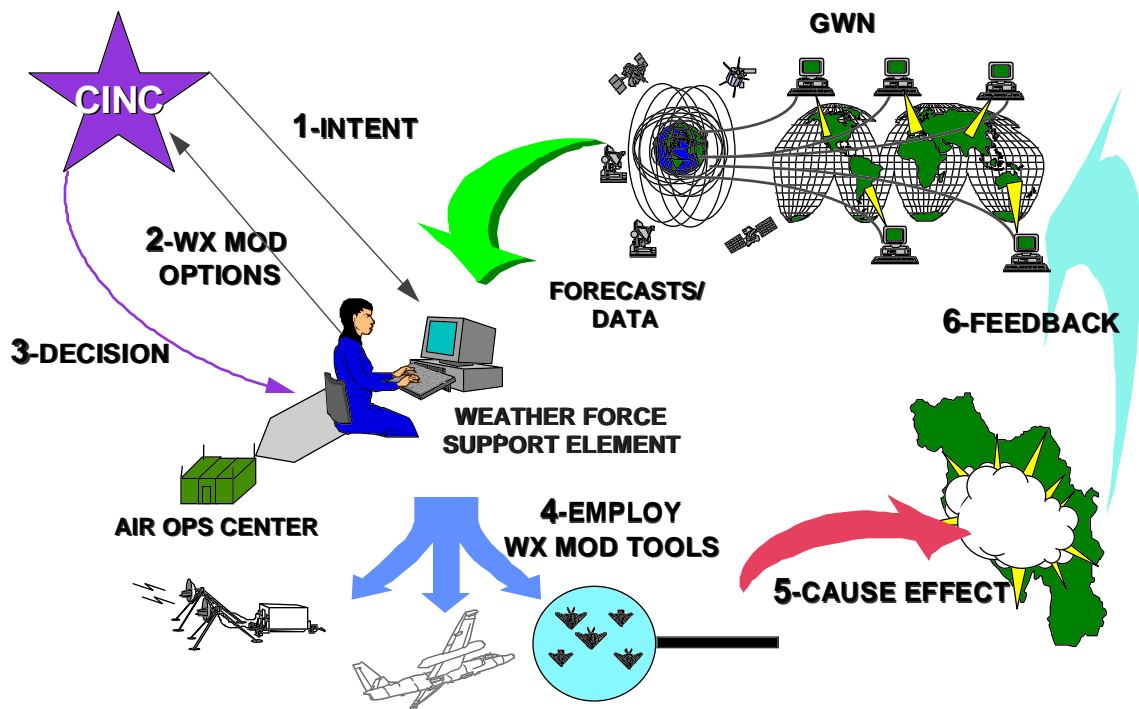
Figure 3-1. Global Weather Network

Evidence of the evolving future weather modeling and prediction capability as well as the GWN can be seen in the national oceanic and atmospheric administration's (NOAA) 1995–2005 strategic plan. It includes program elements to "advance short-term warning and forecast services, implement seasonal to inter-annual climate forecasts, and predict and assess decadal to centennial change;"² it does not, however, include plans for weather-modification modeling or modification technology development. NOAA's plans include extensive data gathering programs such as Next Generation Radar (NEXRAD) and Doppler weather surveillance systems deployed throughout the US. Data from these sensing systems feed into over 100 forecast centers for processing by the Advanced Weather Interactive Processing System (AWIPS), which will provide data communication, processing, and display capabilities for extensive forecasting. In addition,

NOAA has leased a Cray C90 supercomputer capable of performing over 1.5×10^{10} operations per second that has already been used to run a Hurricane Prediction System.³

Applying Weather-modification to Military Operations

How will the military, in general, and the USAF, in particular, manage and employ a weather-modification capability? We envision this will be done by the weather force support element (WFSE), whose primary mission would be to support the war-fighting CINCs with weather-modification options, in addition to current forecasting support. Although the WFSE could operate anywhere as long as it has access to the GWN and the system components already discussed, it will more than likely be a component within the AOC or its 2025-equivalent. With the CINC's intent as guidance, the WFSE formulates weather-modification options using information provided by the GWN, local weather data network, and weather-modification forecast model. The options include range of effect, probability of success, resources to be expended, the enemy's vulnerability, and risks involved. The CINC chooses an effect based on these inputs, and the WFSE then implements the chosen course, selecting the right modification tools and employing them to achieve the desired effect. Sensors detect the change and feed data on the new weather pattern to the modeling system which updates its forecast accordingly. The WFSE checks the effectiveness of its efforts by pulling down the updated current conditions and new forecast(s) from the GWN and local weather data network, and plans follow-on missions as needed. This concept is illustrated in figure 3-2.



Source: Microsoft Clipart Gallery © 1995 with courtesy from Microsoft.

Figure 3-2. The Military System for Weather-Modification Operations.

WFSE personnel will need to be experts in information systems and well schooled in the arts of both offensive and defensive information warfare. They would also have an in-depth understanding of the GWN and an appreciation for how weather-modification could be employed to meet a CINC's needs.

Because of the nodal web nature of the GWN, this concept would be very flexible. For instance, a WFSE could be assigned to each theater to provide direct support to the CINC. The system would also be survivable, with multiple nodes connected to the GWN.

A product of the information age, this system would be most vulnerable to information warfare. Each WFSE would need the most current defensive and offensive information capabilities available. Defensive abilities would be necessary for survival. Offensive abilities could provide spoofing options to create virtual weather in the enemy's sensory and information systems, making it more likely for them to make decisions producing results of our choosing rather than theirs. It would also allow for the capability to mask or disguise our weather-modification activities.

Two key technologies are necessary to meld an integrated, comprehensive, responsive, precise, and effective weather-modification system. Advances in the science of chaos are critical to this endeavor. Also key to the feasibility of such a system is the ability to model the extremely complex nonlinear system of global weather in ways that can accurately predict the outcome of changes in the influencing variables. Researchers have already successfully controlled single variable nonlinear systems in the lab and hypothesize that current mathematical techniques and computer capacity could handle systems with up to five variables. Advances in these two areas would make it feasible to affect regional weather patterns by making small, continuous nudges to one or more influencing factors. Conceivably, with enough lead time and the right conditions, you could get “made-to-order” weather.⁴

Developing a true weather-modification capability will require various intervention tools to adjust the appropriate meteorological parameters in predictable ways. It is this area that must be developed by the military based on specific required capabilities such as those listed in table 1, table 1 is located in the Executive Summary. Such a system would contain a sensor array and localized battle area data net to provide the fine level of resolution required to detect intervention effects and provide feedback. This net would include ground, air, maritime, and space sensors as well as human observations in order to ensure the reliability and responsiveness of the system, even in the event of enemy countermeasures. It would also include specific intervention tools and technologies, some of which already exist and others which must be developed. Some of these proposed tools are described in the following chapter titled Concept of Operations. The total weather-modification process would be a real-time loop of continuous, appropriate, measured interventions, and feedback capable of producing desired weather behavior.

Notes

¹ SPACECAST 2020, *Space Weather Support for Communications*, white paper G (Maxwell AFB, Ala.: Air War College/2020, 1994).

² Rear Adm Sigmund Petersen, “NOAA Moves Toward The 21st Century,” *The Military Engineer* 20, no. 571 (June-July 1995): 44.

³ Ibid.

⁴ William Brown, “Mathematicians Learn How to Tame Chaos,” *New Scientist* (30 May 1992): 16.

Chapter 4

Concept of Operations

The essential ingredient of the weather-modification system is the set of intervention techniques used to modify the weather. The number of specific intervention methodologies is limited only by the imagination, but with few exceptions they involve infusing either energy or chemicals into the meteorological process in the right way, at the right place and time. The intervention could be designed to modify the weather in a number of ways, such as influencing clouds and precipitation, storm intensity, climate, space, or fog.

Precipitation

For centuries man has desired the ability to influence precipitation at the time and place of his choosing. Until recently, success in achieving this goal has been minimal; however, a new window of opportunity may exist resulting from development of new technologies and an increasing world interest in relieving water shortages through precipitation enhancement. Consequently, we advocate that the DOD explore the many opportunities (and also the ramifications) resulting from development of a capability to influence precipitation or conducting “selective precipitation modification.” Although the capability to influence precipitation over the long term (i.e., for more than several days) is still not fully understood. By 2025 we will certainly be capable of increasing or decreasing precipitation over the short term in a localized area.

Before discussing research in this area, it is important to describe the benefits of such a capability. While many military operations may be influenced by precipitation, ground mobility is most affected. Influencing precipitation could prove useful in two ways. First, enhancing precipitation could decrease the

enemy's trafficability by muddying terrain, while also affecting their morale. Second, suppressing precipitation could increase friendly trafficability by drying out an otherwise muddied area.

What is the possibility of developing this capability and applying it to tactical operations by 2025? Closer than one might think. Research has been conducted in precipitation modification for many years, and an aspect of the resulting technology was applied to operations during the Vietnam War.¹ These initial attempts provide a foundation for further development of a true capability for selective precipitation modification.

Interestingly enough, the US government made a conscious decision to stop building upon this foundation. As mentioned earlier, international agreements have prevented the US from investigating weather-modification operations that could have widespread, long-lasting, or severe effects. However, possibilities do exist (within the boundaries of established treaties) for using localized precipitation modification over the short term, with limited and potentially positive results.

These possibilities date back to our own previous experimentation with precipitation modification. As stated in an article appearing in the *Journal of Applied Meteorology*,

[n]early all the weather-modification efforts over the last quarter century have been aimed at producing changes on the cloud scale through exploitation of the saturated vapor pressure difference between ice and water. This is not to be criticized but it is time we also consider the feasibility of weather-modification on other time-space scales and with other physical hypotheses.²

This study by William M. Gray, et al., investigated the hypothesis that “significant beneficial influences can be derived through judicious exploitation of the solar absorption potential of carbon black dust.”³ The study ultimately found that this technology could be used to enhance rainfall on the mesoscale, generate cirrus clouds, and enhance cumulonimbus (thunderstorm) clouds in otherwise dry areas.

The technology can be described as follows. Just as a black tar roof easily absorbs solar energy and subsequently radiates heat during a sunny day, carbon black also readily absorbs solar energy. When dispersed in microscopic or “dust” form in the air over a large body of water, the carbon becomes hot and heats the surrounding air, thereby increasing the amount of evaporation from the body of water below. As the surrounding air heats up, parcels of air will rise and the water vapor contained in the rising air parcel will eventually condense to form clouds. Over time the cloud droplets increase in size as more and more water vapor condenses, and eventually they become too large and heavy to stay suspended and will fall as rain or

other forms of precipitation.⁴ The study points out that this precipitation enhancement technology would work best “upwind from coastlines with onshore flow.” Lake-effect snow along the southern edge of the Great Lakes is a naturally occurring phenomenon based on similar dynamics.

Can this type of precipitation enhancement technology have military applications? Yes, if the right conditions exist. For example, if we are fortunate enough to have a fairly large body of water available upwind from the targeted battlefield, carbon dust could be placed in the atmosphere over that water. Assuming the dynamics are supportive in the atmosphere, the rising saturated air will eventually form clouds and rainshowers downwind over the land.⁵ While the likelihood of having a body of water located upwind of the battlefield is unpredictable, the technology could prove enormously useful under the right conditions. Only further experimentation will determine to what degree precipitation enhancement can be controlled.

If precipitation enhancement techniques are successfully developed and the right natural conditions also exist, we must also be able to disperse carbon dust into the desired location. Transporting it in a completely controlled, safe, cost-effective, and reliable manner requires innovation. Numerous dispersal techniques have already been studied, but the most convenient, safe, and cost-effective method discussed is the use of afterburner-type jet engines to generate carbon particles while flying through the targeted air. This method is based on injection of liquid hydrocarbon fuel into the afterburner’s combustion gases. This direct generation method was found to be more desirable than another plausible method (i.e., the transport of large quantities of previously produced and properly sized carbon dust to the desired altitude).

The carbon dust study demonstrated that small-scale precipitation enhancement is possible and has been successfully verified under certain atmospheric conditions. Since the study was conducted, no known military applications of this technology have been realized. However, we can postulate how this technology might be used in the future by examining some of the delivery platforms conceivably available for effective dispersal of carbon dust or other effective modification agents in the year 2025.

One method we propose would further maximize the technology’s safety and reliability, by virtually eliminating the human element. To date, much work has been done on UAVs which can closely (if not completely) match the capabilities of piloted aircraft. If this UAV technology were combined with stealth and carbon dust technologies, the result could be a UAV aircraft invisible to radar while en route to the targeted area, which could spontaneously create carbon dust in any location. However, minimizing the number of

UAVs required to complete the mission would depend upon the development of a new and more efficient system to produce carbon dust by a follow-on technology to the afterburner-type jet engines previously mentioned. In order to effectively use stealth technology, this system must also have the ability to disperse carbon dust while minimizing (or eliminating) the UAV's infrared heat source.

In addition to using stealth UAV and carbon dust absorption technology for precipitation enhancement, this delivery method could also be used for precipitation suppression. Although the previously mentioned study did not significantly explore the possibility of cloud seeding for precipitation suppression, this possibility does exist. If clouds were seeded (using chemical nuclei similar to those used today or perhaps a more effective agent discovered through continued research) before their downwind arrival to a desired location, the result could be a suppression of precipitation. In other words, precipitation could be "forced" to fall before its arrival in the desired territory, thereby making the desired territory "dry." The strategic and operational benefits of doing this have previously been discussed.

Fog

In general, successful fog dissipation requires some type of heating or seeding process. Which technique works best depends on the type of fog encountered. In simplest terms, there are two basic types of fog—cold and warm. Cold fog occurs at temperatures below 32°F. The best-known dissipation technique for cold fog is to seed it from the air with agents that promote the growth of ice crystals.⁶

Warm fog occurs at temperatures above 32°F and accounts for 90 percent of the fog-related problems encountered by flight operations.⁷ The best-known dissipation technique is heating because a small temperature increase is usually sufficient to evaporate the fog. Since heating usually isn't practical, the next most effective technique is hygroscopic seeding.⁸ Hygroscopic seeding uses agents that absorb water vapor. This technique is most effective when accomplished from the air but can also be accomplished from the ground.⁹ Optimal results require advance information on fog depth, liquid water content, and wind.¹⁰

Decades of research show that fog dissipation is an effective application of weather-modification technology with demonstrated savings of huge proportions for both military and civil aviation.¹¹ Local

municipalities have also shown an interest in applying these techniques to improve the safety of high-speed highways transiting areas of frequently occurring dense fog.¹²

There are some emerging technologies which may have important applications for fog dispersal. As discussed earlier, heating is the most effective dispersal method for the most commonly occurring type of fog. Unfortunately, it has proved impractical for most situations and would be difficult at best for contingency operations. However, the development of directed radiant energy technologies, such as microwaves and lasers, could provide new possibilities.

Lab experiments have shown microwaves to be effective for the heat dissipation of fog. However, results also indicate that the energy levels required exceed the US large power density exposure limit of 100 watt/m² and would be very expensive.¹³ Field experiments with lasers have demonstrated the capability to dissipate warm fog at an airfield with zero visibility. Generating 1 watt/cm², which is approximately the US large power density exposure limit, the system raised visibility to one quarter of a mile in 20 seconds.¹⁴ Laser systems described in the Space Operations portion of this AF 2025 study could certainly provide this capability as one of their many possible uses.

With regard to seeding techniques, improvements in the materials and delivery methods are not only plausible but likely. Smart materials based on nanotechnology are currently being developed with gigapops computer capability at their core. They could adjust their size to optimal dimensions for a given fog seeding situation and even make adjustments throughout the process. They might also enhance their dispersal qualities by adjusting their buoyancy, by communicating with each other, and by steering themselves within the fog. They will be able to provide immediate and continuous effectiveness feedback by integrating with a larger sensor network and can also change their temperature and polarity to improve their seeding effects.¹⁵ As mentioned above, UAVs could be used to deliver and distribute these smart materials.

Recent army research lab experiments have demonstrated the feasibility of generating fog. They used commercial equipment to generate thick fog in an area 100 meters long. Further study has shown fogs to be effective at blocking much of the UV/IR/visible spectrum, effectively masking emitters of such radiation from IR weapons.¹⁶ This technology would enable a small military unit to avoid detection in the IR spectrum. Fog could be generated to quickly, conceal the movement of tanks or infantry, or it could conceal military

operations, facilities, or equipment. Such systems may also be useful in inhibiting observations of sensitive rear-area operations by electro-optical reconnaissance platforms.¹⁷

Storms

The desirability to modify storms to support military objectives is the most aggressive and controversial type of weather-modification. The damage caused by storms is indeed horrendous. For instance, a tropical storm has an energy equal to 10,000 one-megaton hydrogen bombs,¹⁸ and in 1992 Hurricane Andrew totally destroyed Homestead AFB, Florida, caused the evacuation of most military aircraft in the southeastern US, and resulted in \$15.5 billion of damage.¹⁹ However, as one would expect based on a storm's energy level, current scientific literature indicates that there are definite physical limits on mankind's ability to modify storm systems. By taking this into account along with political, environmental, economic, legal, and moral considerations, we will confine our analysis of storms to localized thunderstorms and thus do not consider major storm systems such as hurricanes or intense low-pressure systems.

At any instant there are approximately 2,000 thunderstorms taking place. In fact 45,000 thunderstorms, which contain heavy rain, hail, microbursts, wind shear, and lightning form daily.²⁰ Anyone who has flown frequently on commercial aircraft has probably noticed the extremes that pilots will go to avoid thunderstorms. The danger of thunderstorms was clearly shown in August 1985 when a jumbo jet crashed killing 137 people after encountering microburst wind shears during a rain squall.²¹ These forces of nature impact all aircraft and even the most advanced fighters of 1996 make every attempt to avoid a thunderstorm.

Will bad weather remain an aviation hazard in 2025? The answer, unfortunately, is "yes," but projected advances in technology over the next 30 years will diminish the hazard potential. Computer-controlled flight systems will be able to "autopilot" aircraft through rapidly changing winds. Aircraft will also have highly accurate, onboard sensing systems that can instantaneously "map" and automatically guide the aircraft through the safest portion of a storm cell. Aircraft are envisioned to have hardened electronics that can withstand the effects of lightning strikes and may also have the capability to generate a surrounding electropotential field that will neutralize or repel lightning strikes.

Assuming that the US achieves some or all of the above outlined aircraft technical advances and maintains the technological “weather edge” over its potential adversaries, we can next look at how we could modify the battlespace weather to make the best use of our technical advantage.

Weather-modification technologies might involve techniques that would increase latent heat release in the atmosphere, provide additional water vapor for cloud cell development, and provide additional surface and lower atmospheric heating to increase atmospheric instability. Critical to the success of any attempt to trigger a storm cell is the pre-existing atmospheric conditions locally and regionally. The atmosphere must already be conditionally unstable and the large-scale dynamics must be supportive of vertical cloud development. The focus of the weather-modification effort would be to provide additional “conditions” that would make the atmosphere unstable enough to generate cloud and eventually storm cell development. The path of storm cells once developed or enhanced is dependent not only on the mesoscale dynamics of the storm but the regional and synoptic (global) scale atmospheric wind flow patterns in the area which are currently not subject to human control.

As indicated, the technical hurdles for storm development in support of military operations are obviously greater than enhancing precipitation or dispersing fog as described earlier. One area of storm research that would significantly benefit military operations is lightning modification. Most research efforts are being conducted to develop techniques to lessen the occurrence or hazards associated with lightning. This is important research for military operations and resource protection, but some offensive military benefit could be obtained by doing research on increasing the potential and intensity of lightning. Concepts to explore include increasing the basic efficiency of the thunderstorm, stimulating the triggering mechanism that initiates the bolt, and triggering lightning such as that which struck Apollo 12 in 1968.²² Possible mechanisms to investigate would be ways to modify the electropotential characteristics over certain targets to induce lightning strikes on the desired targets as the storm passes over their location.

In summary, the ability to modify battlespace weather through storm cell triggering or enhancement would allow us to exploit the technological “weather” advances of our 2025 aircraft; this area has tremendous potential and should be addressed by future research and concept development programs.

Exploitation of “NearSpace” for Space Control

This section discusses opportunities for control and modification of the ionosphere and near-space environment for force enhancement; specifically to enhance our own communications, sensing, and navigation capabilities and/or impair those of our enemy. A brief technical description of the ionosphere and its importance in current communications systems is provided in appendix A.

By 2025, it may be possible to modify the ionosphere and near space, creating a variety of potential applications, as discussed below. However, before ionospheric modification becomes possible, a number of evolutionary advances in space weather forecasting and observation are needed. Many of these needs were described in a Spacecast 2020 study, Space Weather Support for Communications.²³ Some of the suggestions from this study are included in appendix B; it is important to note that our ability to exploit near space via active modification is dependent on successfully achieving reliable observation and prediction capabilities.

Opportunities Afforded by Space Weather-modification

Modification of the near-space environment is crucial to battlespace dominance. General Charles Horner, former commander in chief, United States space command, described his worst nightmare as “seeing an entire Marine battalion wiped out on some foreign landing zone because he was unable to deny the enemy intelligence and imagery generated from space.”²⁴ Active modification could provide a “technological fix” to jam the enemy’s active and passive surveillance and reconnaissance systems. In short, *an operational capability to modify the near-space environment would ensure space superiority in 2025; this capability would allow us to shape and control the battlespace via enhanced communication, sensing, navigation, and precision engagement systems.*

While we recognize that technological advances may negate the importance of certain electromagnetic frequencies for US aerospace forces in 2025 (such as radio frequency (RF), high-frequency (HF) and very high-frequency (VHF) bands), the capabilities described below are nevertheless relevant. Our nonpeer

adversaries will most likely still depend on such frequencies for communications, sensing, and navigation and would thus be extremely vulnerable to disruption via space weather-modification.

Communications Dominance via Ionospheric Modification

Modification of the ionosphere to enhance or disrupt communications has recently become the subject of active research. According to Lewis M. Duncan, and Robert L. Showen, the Former Soviet Union (FSU) conducted theoretical and experimental research in this area at a level considerably greater than comparable programs in the West.²⁵ There is a strong motivation for this research, because

induced ionospheric modifications may influence, or even disrupt, the operation of radio systems relying on propagation through the modified region. The controlled generation or accelerated dissipation of ionospheric disturbances may be used to produce new propagation paths, otherwise unavailable, appropriate for selected RF missions.²⁶

A number of methods have been explored or proposed to modify the ionosphere, including injection of chemical vapors and heating or charging via electromagnetic radiation or particle beams (such as ions, neutral particles, x-rays, MeV particles, and energetic electrons).²⁷ It is important to note that many techniques to modify the upper atmosphere have been successfully demonstrated experimentally. Ground-based modification techniques employed by the FSU include vertical HF heating, oblique HF heating, microwave heating, and magnetospheric modification.²⁸ Significant military applications of such operations include low frequency (LF) communication production, HF ducted communications, and creation of an artificial ionosphere (discussed in detail below). Moreover, developing countries also recognize the benefit of ionospheric modification: “in the early 1980’s, Brazil conducted an experiment to modify the ionosphere by chemical injection.”²⁹

Several high-payoff capabilities that could result from the modification of the ionosphere or near space are described briefly below. It should be emphasized that this list is not comprehensive; modification of the ionosphere is an area rich with potential applications and there are also likely spin-off applications that have yet to be envisioned.

Ionospheric mirrors for pinpoint communication or over-the-horizon (OTH) radar transmission.

The properties and limitations of the ionosphere as a reflecting medium for high-frequency radiation are

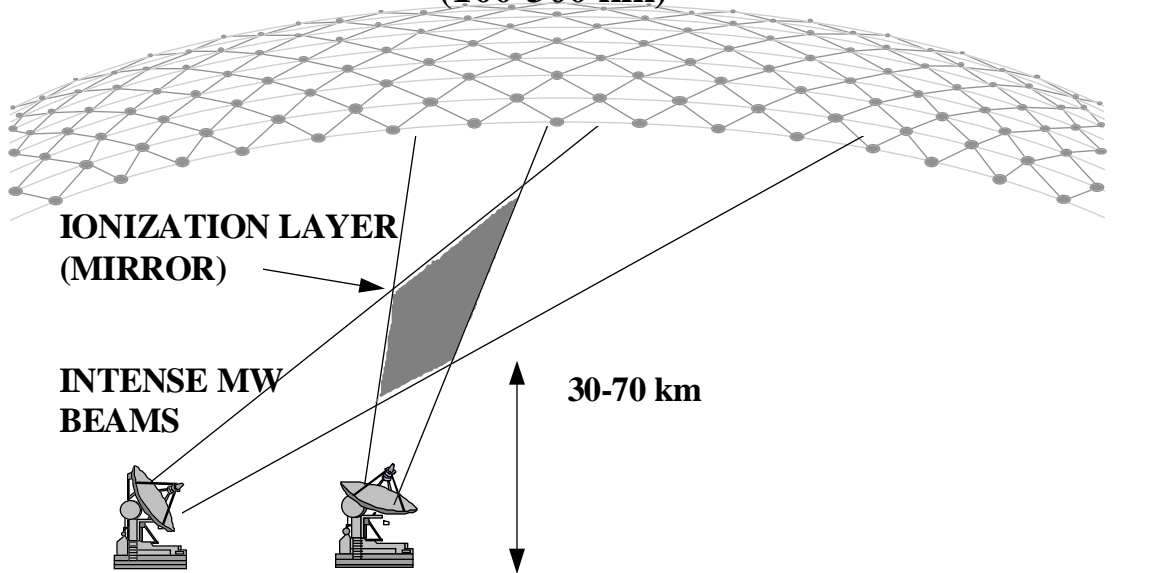
described in appendix A. The major disadvantage in depending on the ionosphere to reflect radio waves is its variability, which is due to normal space weather and events such as solar flares and geomagnetic storms. The ionosphere has been described as a crinkled sheet of wax paper whose relative position rises and sinks depending on weather conditions. The surface topography of the crinkled paper also constantly changes, leading to variability in its reflective, refractive, and transmissive properties.

Creation of an artificial uniform ionosphere was first proposed by Soviet researcher A. V. Gurevich in the mid-1970s. An artificial ionospheric mirror (AIM) would serve as a precise mirror for electromagnetic radiation of a selected frequency or a range of frequencies. It would thereby be useful for both pinpoint control of friendly communications and interception of enemy transmissions.

This concept has been described in detail by Paul A. Kossey, et al. in a paper entitled “Artificial Ionospheric Mirrors (AIM).”³⁰ The authors describe how one could precisely control the location and height of the region of artificially produced ionization using crossed microwave (MW) beams, which produce atmospheric breakdown (ionization) of neutral species. The implications of such control are enormous: one would no longer be subject to the vagaries of the natural ionosphere but would instead have direct control of the propagation environment. Ideally, the AIM could be rapidly created and then would be maintained only for a brief operational period. A schematic depicting the crossed-beam approach for generation of an AIM is shown in figure 4-1.³¹

An AIM could theoretically reflect radio waves with frequencies up to 2 GHz, which is nearly two orders of magnitude higher than those waves reflected by the natural ionosphere. The MW radiator power requirements for such a system are roughly an order of magnitude greater than 1992 state-of-the-art systems; however, by 2025 such a power capability is expected to be easily achievable.

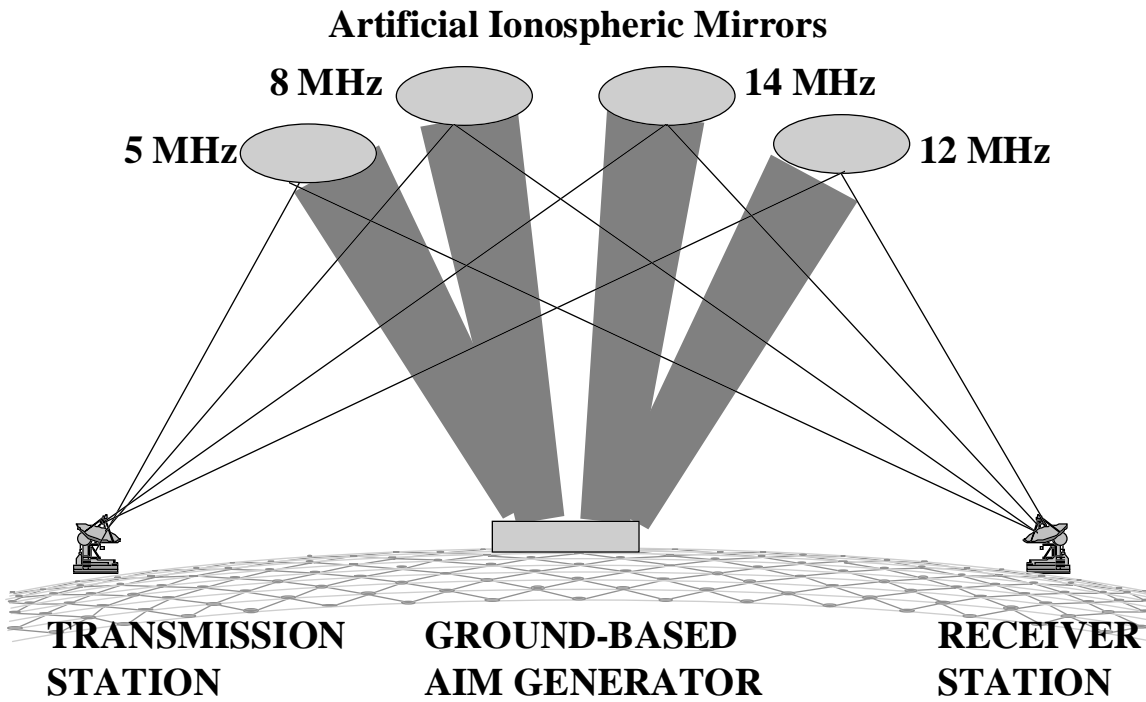
NORMAL IONOSPHERIC REFLECTING LAYERS (100-300 km)



Source: Microsoft Clipart Gallery © 1995 with courtesy from Microsoft.

Figure 4-1. Crossed-Beam Approach for Generating an Artificial Ionospheric Mirror

Besides providing pinpoint communication control and potential interception capability, this technology would also provide communication capability at specified frequencies, as desired. Figure 4-2 shows how a ground-based radiator might generate a series of AIMs, each of which would be tailored to reflect a selected transmission frequency. Such an arrangement would greatly expand the available bandwidth for communications and also eliminate the problem of interference and crosstalk (by allowing one to use the requisite power level).



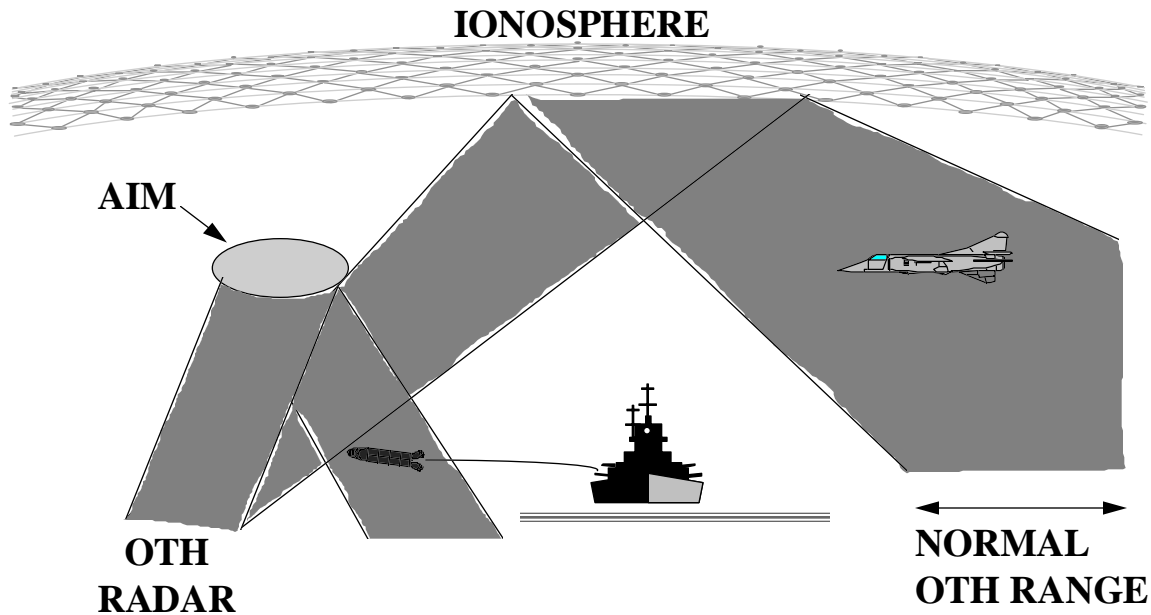
Source: Microsoft Clipart Gallery © 1995 with courtesy from Microsoft.

Figure 4-2. Artificial Ionospheric Mirrors Point-to-Point Communications

Kossey et al. also describe how AIMs could be used to improve the capability of OTH radar:

AIM based radar could be operated at a frequency chosen to optimize target detection, rather than be limited by prevailing ionospheric conditions. This, combined with the possibility of controlling the radar's wave polarization to mitigate clutter effects, could result in reliable detection of cruise missiles and other low observable targets.³²

A schematic depicting this concept is shown in figure 4-3. Potential advantages over conventional OTH radars include frequency control, mitigation of auroral effects, short range operation, and detection of a smaller cross-section target.



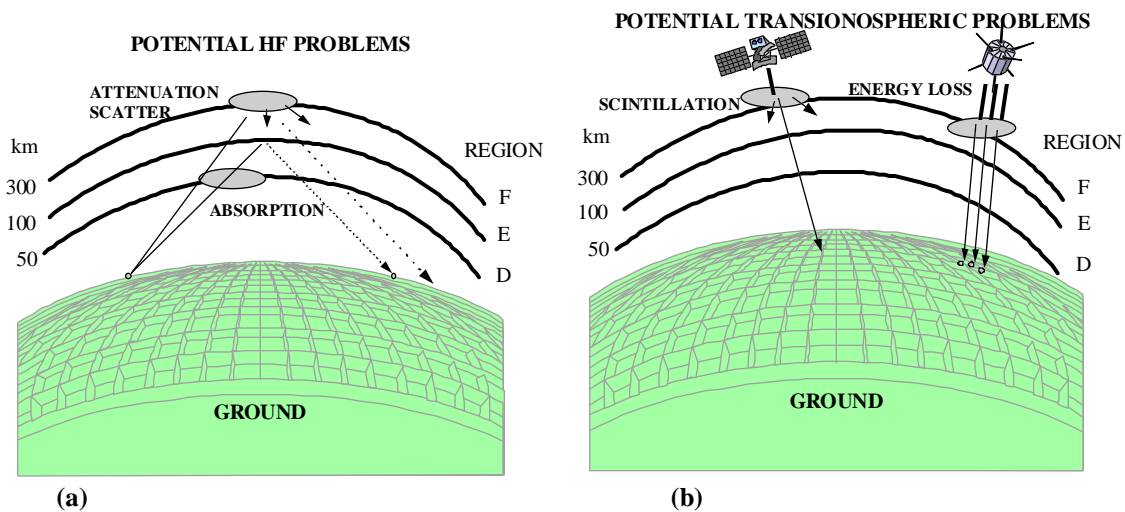
Source: Microsoft Clipart Gallery © 1995 with courtesy from Microsoft.

Figure 4-3. Artificial Ionospheric Mirror Over-the-Horizon Surveillance Concept.

Disruption of communications and radar via ionospheric control. A variation of the capability proposed above is ionospheric modification to disrupt an enemy's communication or radar transmissions. Because HF communications are controlled directly by the ionosphere's properties, an artificially created ionization region could conceivably disrupt an enemy's electromagnetic transmissions. Even in the absence of an artificial ionization patch, high-frequency modification produces large-scale ionospheric variations which alter HF propagation characteristics. The payoff of research aimed at understanding how to control these variations could be high as both HF communication enhancement and degradation are possible. Offensive interference of this kind would likely be indistinguishable from naturally occurring space weather. This capability could also be employed to precisely locate the source of enemy electromagnetic transmissions.

VHF, UHF, and super-high frequency (SHF) satellite communications could be disrupted by creating artificial ionospheric scintillation. This phenomenon causes fluctuations in the phase and amplitude of radio waves over a very wide band (30 MHz to 30 GHz). HF modification produces electron density irregularities that cause scintillation over a wide-range of frequencies. The size of the irregularities determines which frequency band will be affected. Understanding how to control the spectrum of the artificial irregularities

generated in the HF modification process should be a primary goal of research in this area. Additionally, it may be possible to suppress the growth of natural irregularities resulting in reduced levels of natural scintillation. Creating artificial scintillation would allow us to disrupt satellite transmissions over selected regions. Like the HF disruption described above, such actions would likely be indistinguishable from naturally occurring environmental events. Figure 4-4 shows how artificially ionized regions might be used to disrupt HF communications via attenuation, scatter, or absorption (fig. 4.4a) or degrade satellite communications via scintillation or energy loss (fig. 4-4b) (from Ref. 25).



Source: Microsoft Clipart Gallery © 1995 with courtesy from Microsoft.

Figure 4-4. Scenarios for Telecommunications Degradation

Exploding/disabling space assets traversing near-space. The ionosphere could potentially be artificially charged or injected with radiation at a certain point so that it becomes inhospitable to satellites or other space structures. The result could range from temporarily disabling the target to its complete destruction via an induced explosion. Of course, effectively employing such a capability depends on the ability to apply it selectively to chosen regions in space.

Charging space assets by near-space energy transfer. In contrast to the injurious capability described above, regions of the ionosphere could potentially be modified or used as-is to revitalize space assets, for instance by charging their power systems. The natural charge of the ionosphere may serve to provide most or all of the energy input to the satellite. There have been a number of papers in the last decade on electrical

charging of space vehicles; however, according to one author, “in spite of the significant effort made in the field both theoretically and experimentally, the vehicle charging problem is far from being completely understood.”³³ While the technical challenge is considerable, the potential to harness electrostatic energy to fuel the satellite’s power cells would have a high payoff, enabling service life extension of space assets at a relatively low cost. Additionally, exploiting the capability of powerful HF radio waves to accelerate electrons to relatively high energies may also facilitate the degradation of enemy space assets through directed bombardment with the HF-induced electron beams. As with artificial HF communication disruptions and induced scintillation, the degradation of enemy spacecraft with such techniques would be effectively indistinguishable from natural environment effects. The investigation and optimization of HF acceleration mechanisms for both friendly and hostile purposes is an important area for future research efforts.

Artificial Weather

While most weather-modification efforts rely on the existence of certain preexisting conditions, it may be possible to produce some weather effects artificially, regardless of preexisting conditions. For instance, virtual weather could be created by influencing the weather information received by an end user. Their perception of parameter values or images from global or local meteorological information systems would differ from reality. This difference in perception would lead the end user to make degraded operational decisions.

Nanotechnology also offers possibilities for creating simulated weather. A cloud, or several clouds, of microscopic computer particles, all communicating with each other and with a larger control system could provide tremendous capability. Interconnected, atmospherically buoyant, and having navigation capability in three dimensions, such clouds could be designed to have a wide-range of properties. They might exclusively block optical sensors or could adjust to become impermeable to other surveillance methods. They could also provide an atmospheric electrical potential difference, which otherwise might not exist, to achieve precisely aimed and timed lightning strikes. Even if power levels achieved were insufficient to be an effective strike weapon, the potential for psychological operations in many situations could be fantastic.

One major advantage of using simulated weather to achieve a desired effect is that unlike other approaches, it makes what are otherwise the results of deliberate actions appear to be the consequences of natural weather phenomena. In addition, it is potentially relatively inexpensive to do. According to J. Storrs Hall, a scientist at Rutgers University conducting research on nanotechnology, production costs of these nanoparticles could be about the same price per pound as potatoes.³⁴ This of course discounts research and development costs, which will be primarily borne by the private sector and be considered a sunk cost by 2025 and probably earlier.

Concept of Operations Summary

Weather affects everything we do, and weather-modification can enhance our ability to dominate the aerospace environment. It gives the commander tools to shape the battlespace. It gives the logistician tools to optimize the process. It gives the warriors in the cockpit an operating environment literally crafted to their needs. Some of the potential capabilities a weather-modification system could provide to a war-fighting CINC are summarized in table 1, of the executive summary).

Notes

¹ A pilot program known as Project Popeye conducted in 1966 attempted to extend the monsoon season in order to increase the amount of mud on the Ho Chi Minh trail thereby reducing enemy movements. A silver iodide nuclei agent was dispersed from WC-130, F4 and A-1E aircraft into the clouds over portions of the trail winding from North Vietnam through Laos and Cambodia into South Vietnam. Positive results during this initial program led to continued operations from 1967 to 1972. While the effects of this program remain disputed, some scientists believe it resulted in a significant reduction in the enemy's ability to bring supplies into South Vietnam along the trail. E. M. Frisby, "Weather-modification in Southeast Asia, 1966–1972," *The Journal of Weather-modification* 14, no. 1 (April 1982): 1—3.

² William M. Gray et al., "Weather-modification by Carbon Dust Absorption of Solar Energy," *Journal of Applied Meteorology* 15 (April 1976): 355.

³ Ibid.

⁴ Ibid.

⁵ Ibid., 367.

⁶ AWS PLAN 813 Appendix I Annex Alfa (Scott AFB, Ill.: Air Weather Service/(MAC) 14 January 1972), 11. Hereafter cited as Annex Alfa.

⁷ Capt Frank G. Coons, "Warm Fog Dispersal—A Different Story," *Aerospace Safety* 25, no. 10 (October 1969): 16.

⁸ Annex Alfa, 14.

⁹ Warren C. Kocmond, "Dissipation of Natural Fog in the Atmosphere," *Progress of NASA Research on Warm Fog Properties and Modification Concepts*, NASA SP-212 (Washington, D.C.: Scientific and Technical Information Division of the Office of Technology Utilization of the National Aeronautics and Space Administration, 1969), 74.

¹⁰ James E. Jiusto, "Some Principles of Fog Modification with Hygroscopic Nuclei," *Progress of NASA Research on Warm Fog Properties and Modification Concepts*, NASA SP-212 (Washington, D.C.: Scientific and Technical Information Division of the Office of Technology Utilization of the National Aeronautics and Space Administration, 1969), 37.

¹¹ Maj Roy Dwyer, *Category III or Fog Dispersal*, M-U 35582-7 D993a c.1 (Maxwell AFB, Ala.: Air University Press, May 1972), 51.

¹² James McLare, *Pulp & Paper* 68, no. 8 (August 1994): 79.

¹³ Milton M. Klein, *A Feasibility Study of the Use of Radiant Energy for Fog Dispersal*, Abstract (Hanscom AFB, Mass.: Air Force Material Command, October 1978).

¹⁴ Edward M. Tomlinson, Kenneth C. Young, and Duane D. Smith, *Laser Technology Applications for Dissipation of Warm Fog at Airfields*, PL-TR-92-2087 (Hanscom AFB, Mass.: Air Force Material Command, 1992).

¹⁵ J. Storrs Hall, "Overview of Nanotechnology," adapted from papers by Ralph C. Merkle and K. Eric Drexler, Internet address: <http://nanotech.rutgers.edu/nanotech/intro.html>, Rutgers University, November 1995.

¹⁶ Robert A. Sutherland, "Results of Man-Made Fog Experiment," *Proceedings of the 1991 Battlefield Atmospheric Conference* (Fort Bliss, Tex.: Hinman Hall, 3–6 December 1991).

¹⁷ Christopher Centner et al., "Environmental Warfare: Implications for Policymakers and War Planners" (Maxwell AFB, Ala.: Air Command and Staff College, May 1995), 39.

¹⁸ Louis J. Battan, *Harvesting the Clouds* (Garden City, N.Y.: Doubleday & Co., 1960), 120.

¹⁹ Facts on File 55, no. 2866 (2 November 95).

²⁰ Gene S. Stuart, "Whirlwinds and Thunderbolts," *Nature on the Rampage* (Washington, D.C.: National Geographic Society, 1986), 130.

²¹ Ibid., 140.

²² Heinz W. Kasemir, "Lightning Suppression by Chaff Seeding and Triggered Lightning," in Wilmot N. Hess, ed., *Weather and Climate Modification* (New York: John Wiley & Sons, 1974), 623–628.

²³ SPACECAST 2020, *Space Weather Support for Communications*, white paper G, (Maxwell AFB, Ala.: Air War College/2020, 1994).

²⁴ Gen Charles Horner, "Space Seen as Challenge, Military's Final Frontier," *Defense Issues*, (Prepared Statement to the Senate Armed Services Committee), 22 April 1993, 7.

²⁵ Lewis M. Duncan and Robert L. Showen, "Review of Soviet Ionospheric Modification Research," in *Ionospheric Modification and Its Potential to Enhance or Degrade the Performance of Military Systems*, (AGARD Conference Proceedings 485, October, 1990), 2-1.

²⁶ Ibid.

²⁷ Peter M. Banks, "Overview of Ionospheric Modification from Space Platforms," in *Ionospheric Modification and Its Potential to Enhance or Degrade the Performance of Military Systems* (AGARD Conference Proceedings 485, October 1990) 19-1.

²⁸ Capt Mike Johnson, *Upper Atmospheric Research and Modification—Former Soviet Union (U)*, DST-18205-475-92 (Foreign Aerospace Science and Technology Center, AF Intelligence Command, 24 September 1992), 3. (Secret) Information extracted is unclassified.

²⁹ Capt Edward E. Hume, Jr., *Atmospheric and Space Environmental Research Programs in Brazil (U)* (Foreign Aerospace Science and Technology Center, AF Intelligence Command, March 1993), 12. (Secret) Information extracted is unclassified.

³⁰ Paul A. Kossey et al. “Artificial Ionospheric Mirrors (AIM),” in *Ionospheric Modification and Its Potential to Enhance or Degrade the Performance of Military Systems* (AGARD Conference Proceedings 485, October 1990), 17A-1.

³¹ Ibid., 17A-7.

³² Ibid., 17A-10.

³³ B. N. Maehlum and J. Troim, “Vehicle Charging in Low Density Plasmas,” in *Ionospheric Modification and Its Potential to Enhance or Degrade the Performance of Military Systems* (AGARD Conference Proceedings 485, October 1990), 24-1.

³⁴ Hall.

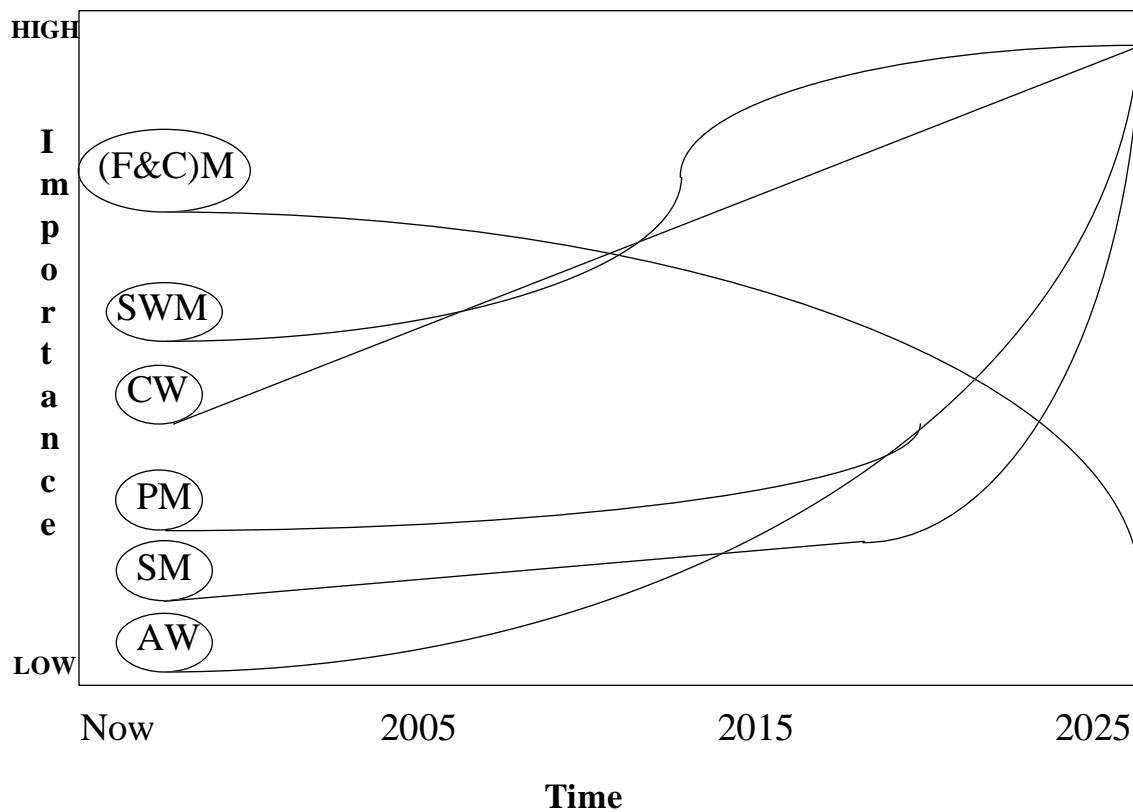
Chapter 5

Investigation Recommendations

How Do We Get There From Here?

To fully appreciate the development of the specific operational capabilities weather-modification could deliver to the war fighter, we must examine and understand their relationship to associated core competencies and the development of their requisite technologies. Figure 5-1 combines the specific operational capabilities of Table 1 into six core capabilities and depicts their relative importance over time. For example, fog and cloud modification are currently important and will remain so for some time to come to conceal our assets from surveillance or improve landing visibility at airfields. However, as surveillance assets become less optically dependent and aircraft achieve a truly global all-weather landing capability, fog and cloud modification applications become less important.

In contrast, artificial weather technologies do not currently exist. But as they are developed, the importance of their potential applications rises rapidly. For example, the anticipated proliferation of surveillance technologies in the future will make the ability to deny surveillance increasingly valuable. In such an environment, clouds made of smart particles such as described in chapter 4 could provide a premium capability.



Legend			
PM	Precipitation Modification	(F&C)M	Fog and Cloud Modification
SM	Storm Modification	CW	Counter Weather
SWM	Space Weather-modification	AW	Artificial Weather

Figure 5-1. A Core Competency Road Map to Weather Modification in 2025.

Even today's most technologically advanced militaries would usually prefer to fight in clear weather and blue skies. But as war-fighting technologies proliferate, the side with the technological advantage will prefer to fight in weather that gives them an edge. The US Army has already alluded to this approach in their concept of "owning the weather."¹ Accordingly, storm modification will become more valuable over time. The importance of precipitation modification is also likely to increase as usable water sources become more scarce in volatile parts of the world.

As more countries pursue, develop, and exploit increasing types and degrees of weather-modification technologies, we must be able to detect their efforts and counter their activities when necessary. As depicted, the technologies and capabilities associated with such a counter weather role will become increasingly important.

The importance of space weather-modification will grow with time. Its rise will be more rapid at first as the technologies it can best support or negate proliferate at their fastest rates. Later, as those technologies mature or become obsolete, the importance of space weather-modification will continue to rise but not as rapidly.

To achieve the core capabilities depicted in figure 5-1, the necessary technologies and systems might be developed according to the process depicted in figure 5-2. This figure illustrates the systems development timing and sequence necessary to realize a weather-modification capability for the battlespace by 2025. The horizontal axis represents time. The vertical axis indicates the degree to which a given technology will be applied toward weather-modification. As the primary users, the military will be the main developer for the technologies designated with an asterisk. The civil sector will be the main source for the remaining technologies.

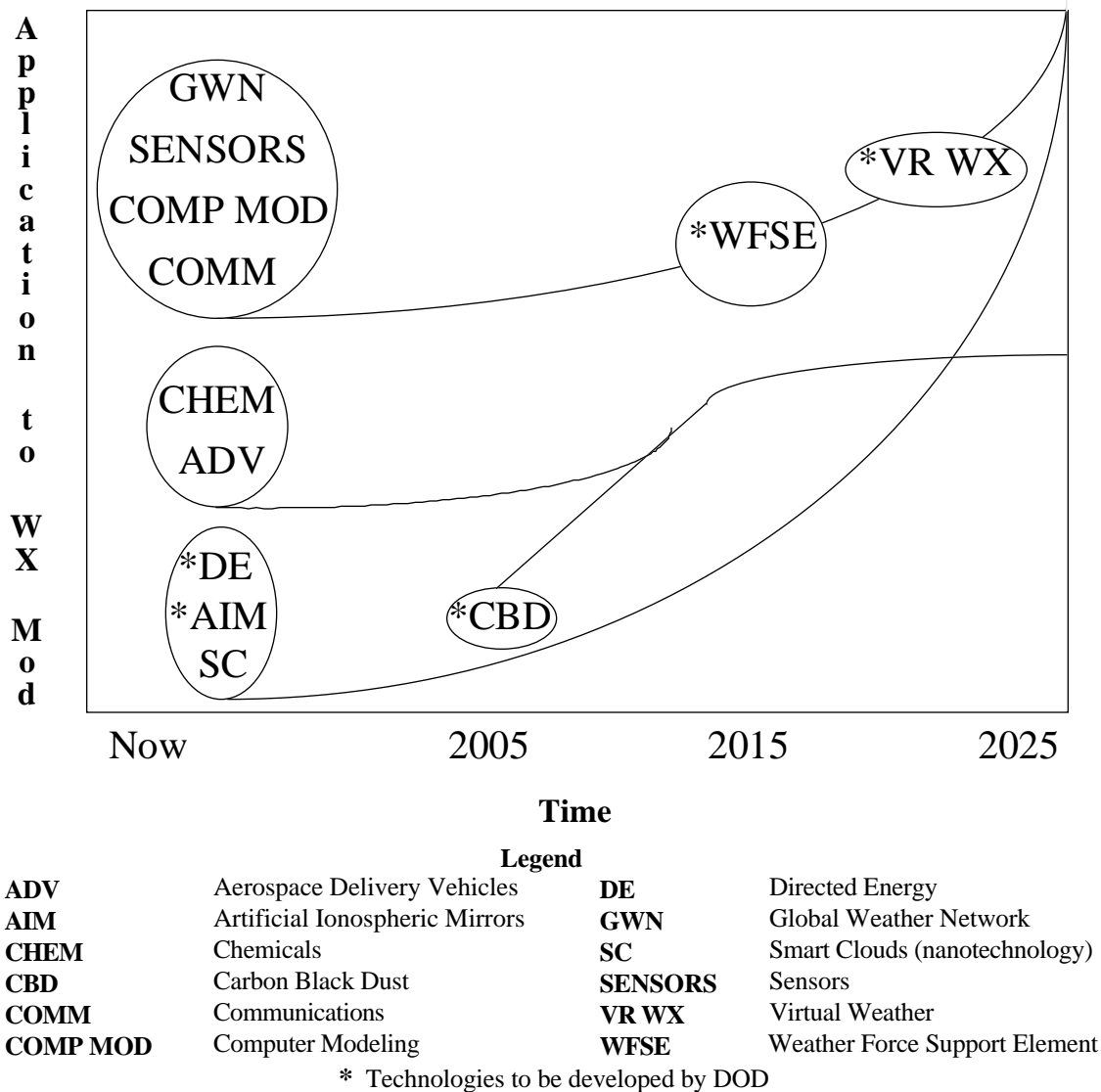


Figure 5-2. A Systems Development Road Map to Weather Modification in 2025.

Conclusions

The world's finite resources and continued needs will drive the desire to protect people and property and more efficiently use our crop lands, forests, and range lands. The ability to modify the weather may be desirable both for economic and defense reasons. The global weather system has been described as a series of spheres or bubbles. Pushing down on one causes another to pop up.² We need to know when another power "pushes" on a sphere in their region, and how that will affect either our own territory or areas of economic and political interest to the US.

Efforts are already under way to create more comprehensive weather models primarily to improve forecasts, but researchers are also trying to influence the results of these models by adding small amounts of energy at just the right time and space. These programs are extremely limited at the moment and are not yet validated, but there is great potential to improve them in the next 30 years.³

The lessons of history indicate a real weather-modification capability will eventually exist despite the risk. The drive exists. People have always wanted to control the weather and their desire will compel them to collectively and continuously pursue their goal. The motivation exists. The potential benefits and power are extremely lucrative and alluring for those who have the resources to develop it. This combination of drive, motivation, and resources will eventually produce the technology. History also teaches that we cannot afford to be without a weather-modification capability once the technology is developed and used by others. Even if we have no intention of using it, others will. To call upon the atomic weapon analogy again, we need to be able to deter or counter their capability with our own. Therefore, the weather and intelligence communities must keep abreast of the actions of others.

As the preceding chapters have shown, weather-modification is a force multiplier with tremendous power that could be exploited across the full spectrum of war-fighting environments. From enhancing friendly operations or disrupting those of the enemy via small-scale tailoring of natural weather patterns to complete dominance of global communications and counter-space control, weather-modification offers the war fighter a wide-range of possible options to defeat or coerce an adversary. But, while offensive weather-modification efforts would certainly be undertaken by US forces with great caution and trepidation, it is clear that we cannot afford to allow an adversary to obtain an exclusive weather-modification capability.

Notes

¹ Mary Ann Seagraves and Richard Szymer, "Weather a Force Multiplier," *Military Review*, November/December 1995, 69.

² Daniel S. Halacy, *The Weather Changers* (New York: Harper & Row, 1968), 202.

³ William Brown, "Mathematicians Learn How to Tame Chaos," *New Scientist*, 30 May 1992, 16.

Appendix A

Why Is the Ionosphere Important?

The ionosphere is the part of the earth's atmosphere beginning at an altitude of about 30 miles and extending outward 1,200 miles or more. This region consists of layers of free electrically charged particles that transmit, refract, and reflect radio waves, allowing those waves to be transmitted great distances around the earth. The interaction of the ionosphere on impinging electromagnetic radiation depends on the properties of the ionospheric layer, the geometry of transmission, and the frequency of the radiation. For any given signal path through the atmosphere, a range of workable frequency bands exists. This range, between the maximum usable frequency (MUF) and the lowest usable frequency (LUF), is where radio waves are reflected and refracted by the ionosphere much as a partial mirror may reflect or refract visible light.¹ The reflective and refractive properties of the ionosphere provide a means to transmit radio signals beyond direct "line-of-sight" transmission between a transmitter and receiver. Ionospheric reflection and refraction has therefore been used almost exclusively for long-range HF (from 3 to 30 MHz) communications. Radio waves with frequencies ranging from above 30 MHz to 300 GHz are usually used for communications requiring line-of-sight transmissions, such as satellite communications. At these higher frequencies, radio waves propagate through the ionosphere with only a small fraction of the wave scattering back in a pattern analogous to a sky wave. Communicators receive significant benefit from using these frequencies since they provide considerably greater bandwidths and thus have greater data-carrying capacity; they are also less prone to natural interference (noise).

Although the ionosphere acts as a natural "mirror" for HF radio waves, it is in a constant state of flux, and thus, its "mirror property" can be limited at times. Like terrestrial weather, ionospheric properties

change from year to year, from day to day, and even from hour to hour. This ionospheric variability, called space weather, can cause unreliability in ground- and space-based communications that depend on ionospheric reflection or transmission. Space weather variability affects how the ionosphere attenuates, absorbs, reflects, refracts, and changes the propagation, phase, and amplitude characteristics of radio waves. These weather dependent changes may arise from certain space weather conditions such as: (1) variability of solar radiation entering the upper atmosphere; (2) the solar plasma entering the earth's magnetic field; (3) the gravitational atmospheric tides produced by the sun and moon; and (4) the vertical swelling of the atmosphere due to daytime heating of the sun.² Space weather is also significantly affected by solar flare activity, the tilt of the earth's geomagnetic field, and abrupt ionospheric changes resulting from events such as geomagnetic storms.

In summary, the ionosphere's inherent reflectivity is a natural gift that humans have used to create long-range communications connecting distant points on the globe. However, natural variability in the ionosphere reduces the reliability of our communication systems that depend on ionospheric reflection and refraction (primarily HF). For the most part, higher frequency communications such as UHF, SHF, and EHF bands are transmitted through the ionosphere without distortion. However, these bands are also subject to degradation caused by ionospheric scintillation, a phenomenon induced by abrupt variations in electron density along the signal path, resulting in signal fade caused by rapid signal path variations and defocusing of the signal's amplitude and/or phase.

Understanding and predicting ionospheric variability and its influence on the transmission and reflection of electromagnetic radiation has been a much studied field of scientific inquiry. Improving our ability to observe, model, and forecast space weather will substantially improve our communication systems, both ground and space-based. Considerable work is being conducted, both within the DOD and the commercial sector, on improving observation, modeling, and forecasting of space weather. While considerable technical challenges remain, we assume for the purposes of this study that dramatic improvements will occur in these areas over the next several decades.

¹ AU-18, *Space Handbook, An Analyst's Guide Vol. II.* (Maxwell AFB, Ala.: Air University Press, December 1993), 196.

² Thomas F. Tascione, *Introduction to the Space Environment* (Colorado Springs: USAF Academy Department of Physics, 1984), 175.

Appendix B

Research to Better Understand and Predict Ionospheric Effects

According to a SPACECAST 2020 study titled, “Space Weather Support for Communications,” the major factors limiting our ability to observe and accurately forecast space weather are (1) current ionospheric sensing capability; (2) density and frequency of ionospheric observations; (3) sophistication and accuracy of ionospheric models; and (4) current scientific understanding of the physics of ionosphere-thermosphere-magnetosphere coupling mechanisms.¹ The report recommends that improvements be realized in our ability to measure the ionosphere vertically and spatially; to this end an architecture for ionospheric mapping was proposed. Such a system would consist of ionospheric sounders and other sensing devices installed on DoD and commercial satellite constellations (taking advantage in particular of the proposed IRIDIUM system and replenishment of the GPS) and an expanded ground-based network of ionospheric vertical sounders in the US and other nations. Understanding and predicting ionospheric scintillation would also require launching of an equatorial remote sensing satellite in addition to the currently planned or deployed DOD and commercial constellations.

The payoff of such a system is an improvement in ionospheric forecasting accuracy from the current range of 40-60 percent to an anticipated 80-100 percent accuracy. Daily worldwide ionospheric mapping would provide the data required to accurately forecast diurnal, worldwide terrestrial propagation characteristics of electromagnetic energy from 3-300 MHz. This improved forecasting would assist satellite operators and users, resulting in enhanced operational efficiency of space systems. It would also provide an order of magnitude improvement in locating the sources of tactical radio communications, allowing for location and tracking of enemy and friendly platforms.² Improved capability to forecast ionospheric

scintillation would provide a means to improve communications reliability by the use of alternate ray paths or relay to undisturbed regions. It would also enable operational users to ascertain whether outages were due to naturally occurring ionospheric variability as opposed to enemy action or hardware problems.

These advances in ionospheric observation, modeling, and prediction would enhance the reliability and robustness of our military communications network. In addition to their significant benefits for our existing communications network, such advances are also requisite to further exploitation of the ionosphere via active modification.

Notes

¹ SPACECAST 2020, *Space Weather Support for Communications*, white paper G, (Maxwell AFB, Ala.: Air War College/2020, 1994).

² Referenced in *ibid*.

Appendix C

Acronyms and Definitions

AOC	air operations center
AOR	area of responsibility
ATO	air tasking order
EHF	extra high frequency
GWN	global weather network
HF	high frequency
IR	infrared
LF	low frequency
LUF	lowest usable frequency
Mesoscale	less than 200 km ²
Microscale	immediate local area
MUF	maximum usable frequency
MW	microwave
OTH	over-the-horizon
PGM	precision-guided munitions
RF	radio frequency
SAR	synthetic aperture radar
SARSAT	search and rescue satellite-aided tracking
SHF	super high frequency
SPOT	satellite positioning and tracking
UAV	uninhabited aerospace vehicle
UV	ultraviolet
VHF	very high frequency
WFS	weather force specialist
WFSE	weather force support element
WX	weather

Bibliography

- Appleman, Herbert S. *An Introduction to Weather-modification*. Scott AFB, Ill.: Air Weather Service (MAC), September 1969.
- AU-18, *Space Handbook, An Analyst's Guide Vol. II*. Maxwell AFB, Ala.: Air University Press, December 1993.
- AWS PLAN 813, Appendix I, Annex Alfa. Scott AFB, Ill.: Air Weather Service (MAC), 14 January 1972.
- Banks, Peter M. "Overview of Ionospheric Modification from Space Platforms." In *Ionospheric Modification and Its Potential to Enhance or Degrade the Performance of Military Systems*, AGARD Conference Proceedings 485, October 1990.
- Batton, Louis J. *Harvesting the Clouds*. Garden City, N.Y.: Doubleday & Co., 1969.
- Brown, William. "Mathematicians Learn How to Tame Chaos." *New Scientist*, 30 May 1992.
- Byers, Horace R. "History of Weather-modification." In Wilmot N. Hess, ed., *Weather and Climate Modification*. New York: John Wiley & Sons, 1974.
- Centner, Christopher, et al., "Environmental Warfare: Implications for Policymakers and War Planners." Maxwell AFB, Ala.: Air Command and Staff College, May 1995.
- Coons, Capt Frank G. "Warm Fog Dispersal—A Different Story." *Aerospace Safety* 25, no. 10 (October 1969).
- CJCSI 3810.01, Meteorological and Oceanographic Operations, 10 January 1995.
- Dawson, George. "An Introduction to Atmospheric Energy." In Wilmot N. Hess, ed., *Weather and Climate Modification*. New York: John Wiley & Sons, 1974.
- Duncan, Lewis M., and Robert L. Showen "Review of Soviet Ionospheric Modification Research." In *Ionospheric Modification and Its Potential to Enhance or Degrade the Performance of Military Systems* AGARD Conference Proceedings 485, October 1990.
- Dwyer, Maj Roy. *Category III or Fog Dispersal*, M-U 35582-7 D993a. Maxwell AFB, Ala.: Air University Press, May 1972.
- Eisenhower, Dwight E. "Crusade in Europe" quoted in John F. Fuller, ed., *Thor's Legions*. Boston: American Meteorology Society, 1990.
- Facts on File 55, No. 2866 (2 November 1995).
- Frisby, E. M. "Weather-modification in Southeast Asia, 1966–1972." *The Journal Of Weather-modification* 14, no. 1 (April 1982).
- Frisby, E. M. "Weather-modification in Southeast Asia, 1966–1972." *Journal of Applied Meteorology* 15 (April 1976).
- Gray, William M., et al. "Weather-modification by Carbon Dust Absorption of Solar Energy." *Journal of Applied Meteorology* 15, (April 1976).
- Halacy, Daniel S. *The Weather Changers*. New York: Harper & Row, 1968.

- Hall, J. Storrs. "Overview of Nanotechnology" Adapted from papers by Ralph C. Merkle and K. Eric Drexler. Internet address: <http://nanotech.rutgers.edu/nanotech/-intro.html> (Rutgers University, November 1995).
- Horner, Gen Charles. "Space Seen as Challenge, Military's Final Frontier" (Prepared Statement to the Senate Armed Services Committee) *Defense Issues*, 22 April 1993.
- Hume, Capt Edward E., Jr. Atmospheric and Space Environmental Research Programs in Brazil (U), March 1993. Foreign Aerospace Science and Technology Center, AF Intelligence Command, 24 September 1992. (Secret) Information extracted is unclassified.
- James, G. E. "Chaos Theory: The Essentials for Military Applications" *ACSC Theater Air Campaign Studies Coursebook*, AY96, Vol. 8. Maxwell AFB, Ala.: Air University Press, 1995.
- Justo, James E. "Some Principles of Fog Modification with Hygroscopic Nuclei" *Progress of NASA Research on Warm Fog Properties and Modification Concepts*, NASA SP-212. Washington, D.C.: Scientific and Technical Information Division of the Office of Technology Utilization of the National Aeronautics and Space Administration, 1969.
- Johnson, Capt Mike. *Upper Atmospheric Research and Modification—Former Soviet Union* (U) supporting document DST-18205-475-92, Foreign Aerospace Science and Technology Center, AF Intelligence Command, 24 September 1992. (Secret) Information extracted is unclassified.
- Kasemir, Heinz W. "Lightning Suppression by Chaff Seeding and Triggered Lightning." In Wilmot N. Hess, ed., *Weather and Climate Modification*. New York: John Wiley & Sons, 1974.
- Keaney, Thomas A., and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report*. Washington D.C.: GPO, 1993.
- Klein, Milton M. *A Feasibility Study of the Use of Radiant Energy for Fog Dispersal* Abstract. Hanscom AFB, Mass.: Air Force Material Command, October 1978.
- Kocmond, Warren C. "Dissipation of Natural Fog in the Atmosphere," *Progress of NASA Research on Warm Fog Properties and Modification Concepts*, NASA SP-212. Washington, D.C.: Scientific and Technical Information Division of the Office of Technology Utilization of the National Aeronautics and Space Administration, 1969.
- Kossey, Paul A., et al. "Artificial Ionospheric Mirrors (AIM) A. Concept and Issues," In *Ionospheric Modification and its Potential to Enhance or Degrade the Performance of Military Systems*, AGARD Conference Proceedings 485, October 1990.
- Maehlum, B. N., and J. Troim, "Vehicle Charging in Low Density Plasmas" In *Ionospheric Modification and Its Potential to Enhance or Degrade the Performance of Military Systems* AGARD Conference Proceedings 485, October 1990.
- McLare, James. *Pulp & Paper* 68, no. 8, August 1994.
- Meyer, William B. "The Life and Times of US Weather: What Can We Do About It?" *American Heritage* 37, no. 4 (June/July 1986).
- Petersen, Rear Adm Sigmund. "NOAA Moves Toward The 21st Century." *The Military Engineer* 20, no. 571 (June-July 1995).
- Riley, Lt Col Gerald F. Staff Weather Officer to CENTCOM OIC of CENTAF Weather Support Force and Commander of 3d Weather Squadron. In "Desert Shield/Desert Storm Interview Series," interviewed by Dr William E. Narwyn, AWS Historian, 29 May 1991.
- Seagraves, Mary Ann, and Richard Szymer "Weather a Force Multiplier." *Military Review*, November/December 1995.
- SPACECAST 2020. *Space Weather Support for Communications* White paper G. Maxwell AFB, Ala.: Air War College/2020, 1994.

- Stuart, Gene S. "Whirlwinds and Thunderbolts," In *Nature on the Rampage*. Washington D.C.: National Geographic Society, 1986.
- Sullivan, Gen Gordon R. "Moving into the 21st Century: America's Army and Modernization" *Military Review*. July 1993. Quoted in Mary Ann Seagraves and Richard Szymer "Weather a Force Multiplier" *Military Review*, November/December 1995.
- Sutherland, Robert A. "Results of Man-Made Fog Experiment," In *Proceedings of the 1991 Battlefield Atmospherics Conference*. Fort Bliss, Tex.: Hinman Hall, 3–6 December 1991.
- Tascione, Thomas F. *Introduction to the Space Environment*. Colorado Springs: USAF Academy Department of Physics, 1984. Tomlinson, Edward M., Kenneth C. Young, and Duane D. Smith *Laser Technology Applications for Dissipation of Warm Fog at Airfields*, PL-TR-92-2087. Hanscom AFB, Mass.: Air Force Materiel Command, 1992.
- USAF Scientific Advisory Board. *New World Vistas: Air and Space Power for the 21st Century*, Summary Volume. Washington, D.C.: USAF Scientific Advisory Board, 15 December 1995.
- US Department of State. *The Department of State Bulletin* 76, no. 1981 (13 June 1977).

The Ultimate Weapon of Mass Destruction "Owning the Weather" for Military Use

by Michel Chossudovsky

27 September 2004

[Spanish version](#)

from [GlobalResearch](#) Website

This article is follow-up on an earlier study by the author entitled [Washington's New World Order Weapons Have the Ability to Trigger Climate Change](#), Third World Resurgence, January 2001

"Environmental warfare is defined as the intentional modification or manipulation of the natural ecology, such as climate and weather, earth systems such as the ionosphere, magnetosphere, tectonic plate system, and/or the triggering of seismic events (earthquakes) to cause intentional physical, economic, and psycho-social, and physical destruction to an intended target geophysical or population location, as part of strategic or tactical war."
(Eco News)

What are the underlying causes of extreme weather instability, which has ravaged every major region of the World in the course of the last few years?

Hurricanes and tropical storms have ravaged the Caribbean. Central Asia and the Middle East are afflicted by drought. West Africa is facing the biggest swarm of locusts in more than a decade. Four destructive hurricanes and a tropical rain storm Alex, Ivan, Frances, Charley and Jeanne have occurred in a sequence, within a short period of time.

Unprecedented in hurricane history in the Caribbean, the island of Grenada was completely devastated: 37 people died and roughly two-thirds of the island's 100,000 inhabitants have been left homeless; in Haiti, more than two thousand people have died and tens of thousands are homeless.

The Dominican Republic, Jamaica, Cuba, the Bahamas and Florida have also been devastated. In the US, the damage in several Southern states including Florida, Alabama, Georgia, Mississippi and the Carolinas is the highest in US history.

A study released in July 2003, by the *World Meteorological Organization (WMO)* places the blame, without further examination, at the feet of global warming:

"These record extreme events [high temperatures, low temperatures and high rainfall amounts and droughts] all go into calculating the monthly and annual averages which, for temperatures, have been gradually increasing over the past 100 years," the WMO said in its statement.
(CNN, July 3, 2003, <http://www.cnn.com/2003/WEATHER/07/03/wmo.extremes/>)

While global warming is undoubtedly an important factor, it does not fully account for these extreme and unusual weather patterns.

Weather Warfare

The significant expansion in America's weather warfare arsenal, which is a priority of the Department of Defense is not a matter for debate or discussion. While, environmentalists blame the Bush administration for not having signed the Kyoto protocol, the issue of "weather warfare", namely the manipulation of weather patterns for military use is never mentioned.

The US Air Force has the capability of manipulating climate either for testing purposes or for outright military-intelligence use. These capabilities extend to the triggering of floods, hurricanes, droughts and earthquakes. In recent years, large amounts of money have been allocated by the US Department of Defense to further developing and perfecting these capabilities.

Weather modification will become a part of domestic and international security and could be done unilaterally... It could have offensive and defensive applications and even be used for deterrence purposes. The ability to generate precipitation, fog, and

storms on earth or to modify space weather, ... and the production of artificial weather all are a part of an integrated set of technologies which can provide substantial increase in US, or degraded capability in an adversary, to achieve global awareness, reach, and power. (US Air Force. Air University of the US Air Force, AF 2025 Final Report, <http://www.au.af.mil/au/2025/>)

While there is no firm evidence that the *US Air Force weather warfare facilities* have been deliberately applied to modify weather patterns, one would expect that if these capabilities are being developed for military use, they would at least be the object of routine testing, much in the same way as the testing of new conventional and strategic weapons systems.

Needless to say, the subject matter is a scientific taboo. The possibility of climatic or environmental manipulations as part of a military and intelligence agenda, while tacitly acknowledged, is never considered as relevant. Military analysts are mute on the subject. Meteorologists are not investigating the matter, and environmentalists are strung on *global warming* and the *Kyoto protocol*.

Ironically, the Pentagon, while recognizing its ability to modify the World's climate for military use, has joined the global warming consensus. In [a major study \(pdf\)](#), the Pentagon has analyzed in detail the implications of various global warming scenarios.

The Pentagon document constitutes a convenient cover-up. Not a word is mentioned about its main weather warfare program: *The High-Frequency Active Auroral Research Program (HAARP)* based in Gokona, Alaska - jointly managed by the US Air Force and the US Navy.

TABLE 1:
Unusual Weather Patterns (2003-2004)

- Alex, Ivan, Frances, Charley and Jeanne (August-September 2004): Four destructive hurricanes and a tropical rain storm occur in a sequence, within a short period of time. Unprecedented in hurricane history in the Caribbean, the island of Grenada is completely devastated: 37 people died and roughly two-thirds of the island's 100,000 inhabitants have been left homeless, in Haiti, more than two thousand people have died and tens of thousands have been made homeless. The Dominican Republic, Jamaica, Cuba and the Bahamas have also been devastated.

In the US, the damage hitting several Southern states including Florida, Alabama, Georgia, Mississippi and the Carolinas is the highest in US history.

- Brazil March 2004: The first-ever hurricane formed in the South Atlantic, striking Brazil with 90 mph winds and causing up to a dozen deaths. "Meteorologists were left scratching their heads in bewilderment as the familiar swirl of clouds, complete with a well-defined eye, appeared in an oceanic basin where none had been spotted before."
(WP, 19 September 2004, See also http://www.climate.org/topics/climate/brazil_hurricane.shtml)
- Japan, China and the Korean Peninsula: "Japan has suffered its highest number of typhoon strikes on record, and the storms - which hit at the rate of one a week for much of the summer - wreaked havoc in Taiwan, China and the Korean Peninsula." (ibid)
- China (August 2004): Typhoon Ranim, the worst in 48 years, has killed at least 164 people and injured more than 1800 in China's Zhejiang province. Ranim is confirmed by China's meteorological authorities to be the strongest to hit the Chinese mainland since 1956. It is estimated to have disrupted the life of some 13 million people.
<http://www.cma.gov.cn/ywyz/englishread.php?recid=39616>
- United States May 2003 : 562 tornadoes hit the United States, the highest in recorded history, far exceeding the previous monthly peak of 399 in June 1992.
(CNN, July 3, 2003, <http://www.cnn.com/2003/WEATHER/07/03/wmo.extremes/>)
- India, early 2003: a pre-monsoon heat wave caused peak temperatures of between 45 and 49 degrees Celsius (113 to 120 degrees Fahrenheit), killing more than 1400 people. (Ibid)
- Sri Lanka, "heavy rainfalls from Tropical Cyclone 01B exacerbated already wet conditions, causing flooding and landslides and more than 300 fatalities." (Ibid)
- Western Europe Summer 2003: experienced extremely high Summer temperatures. "Switzerland experienced its hottest June [2003] in at least 250 years while in the south of France average temperatures were between 5 and 7 degrees Celsius (9 to 13 degrees Fahrenheit) warmer than the long term average. England and Wales also experienced their hottest month since 1976." (Ibid)

There are several mainstream explanations on weather and climate change, none of which fully explains, within their respective terms of reference, the highly unusual and erratic weather occurrences, not to mention the human toll and devastation, which have led to the destabilization of entire agricultural and eco-systems.

Needless to say these explanations never address the issue of climate manipulation for military use.

Climatic Manipulation by the US Military - The HAARP Program

The *High-Frequency Active Auroral Research Program* ([HAARP](#)) based in Gakona, Alaska, has been in existence since 1992. It is part of a new generation of sophisticated weaponry under the US Strategic Defense Initiative (SDI).

Operated by the *Air Force Research Laboratory's Space Vehicles Directorate*, HAARP constitutes a system of powerful antennas capable of creating "controlled local modifications of the ionosphere" [upper layer of the atmosphere]:

"[HAARP will be used] to induce a small, localized change in ionospheric temperature so that resulting physical reactions can be studied by other instruments located either at or close to the HAARP site".

Nicholas Begich - actively involved in the public campaign against HAARP - describes HAARP as:

"A super-powerful radiowave-beaming technology that lifts areas of the ionosphere by focusing a beam and heating those areas. Electromagnetic waves then bounce back onto earth and penetrate everything - living and dead."

(for further details see Michel Chossudovsky ["Washington's New World Order Weapons Have The Ability To Trigger Climate Change"](#))

World renowned scientist Dr. **Rosalie Bertell** depicts HAARP as,

"a gigantic heater that can cause major disruptions in the ionosphere, creating not just holes, but long incisions in the protective layer that keeps deadly radiation from bombarding the planet."

(quoted in Chossudovsky, op cit.)

According to **Richard Williams**, a physicist and consultant to the *David Sarnoff laboratory* in Princeton HAARP constitutes "an irresponsible act of global vandalism."

He and others fear a secret second stage where HAARP would,

"beam much more energy into the ionosphere. That could produce a severe disruption of the upper atmosphere at one location that may produce effects that spread rapidly around the Earth for years."

(Quoted in Scott Gilbert, [Environmental Warfare and US Foreign Policy: The Ultimate Weapon of Mass Destruction](#))

HAARP has been presented to public opinion as a program of scientific and academic research. US military documents seem to suggest, however, that HAARP's main objective is to "exploit the ionosphere for Department of Defense purposes." (quoted in Chossudovsky, op cit).

Without explicitly referring to the HAARP program, a US Air Force study points to the use of "induced ionospheric modifications" as a means of altering weather patterns as well as disrupting enemy communications and radar. (Ibid)

HAARP also has the ability of triggering blackouts and disrupting the electricity power system of entire regions.

An analysis of statements emanating from the US Air Force points to the unthinkable: the covert manipulation of weather patterns, communications systems and electric power as a weapon of global warfare, enabling the US to disrupt and dominate entire regions of the World.

Weather Warfare - A Corporate Bonanza

HAARP has been operational since the early 1990s. Its system of antennas at Gakona, Alaska, was initially based on a technology patented by *Advanced Power Technologies Inc. (APTI)*, a subsidiary of *Atlantic Ritchfield Corporation (ARCO)*.

The first phase of the HAARP *Ionospheric Research Instrument (IRI)* was completed by APTI. The IRI system of antennas was first installed in 1992 by a subsidiary of *British Aerospace Systems (BAES)* using the APTI patent. The antennas beam into the outer-atmosphere using a set of wireless high frequency transmitters.

In 1994, ARCO sold its APTI subsidiary, including the patents and the second phase construction contract to *E-Systems*, a secretive high tech military outfit with links to the CIA.

E-Systems specializes in the production of electronic warfare equipment, navigation and reconnaissance machinery, including "highly sophisticated spying devices":

"[E-Systems] is one of the biggest intelligence contractors in the world, doing work for the CIA, defense

intelligence organizations, and others. US\$1.8 billion of their annual sales are to these organizations, with \$800 million for black projects-projects so secret that even the United States Congress isn't told how the money is being spent.

([HAARP - High Frequency Vandalism in the Sky?](#))

"The company has outfitted such military projects as the Domsday Plan (the system that allows the President to manage a nuclear war) and Operation Desert Storm."

(Princeton Review, <http://www.princetonreview.com/cte/profiles/internshipGenInfo.asp?internshipID=998>)

With the purchase of APTI, E-Systems acquired the strategic weather warfare technology and patent rights, including **Bernard J. Eastlund's** [US Patent No: 4,686,605](#) entitled "*Method and Apparatus for Altering a Region in the Earth's Atmosphere, Ionosphere and/or Magnetosphere*".

It is worth mentioning that the Eastlund /APTI patents were based on the research of Yugoslav scientist [Nicola Tesla](#) (many of whose ideas were stolen by US corporations). (See Scott Gilbert, [Environmental Warfare and US Foreign Policy: The Ultimate Weapon of Mass Destruction](#))

Eastlund described this deadly technology as capable of:

"causing... total disruption of communications over a very large portion of the Earth... missile or aircraft destruction, deflection or confusion... weather modification..."

Not surprisingly, the patent had previously been sealed under a government secrecy order.

Barely a year following the E-Systems purchase of APTI's weather warfare technology, E-Systems was bought out by Raytheon, the fourth largest US military contractor. Through this money-spinning acquisition, Raytheon became the largest "defense electronics" firm in the World.

Meanwhile, ARCO which had sold APTI to E-Systems, had itself been acquired by the BP-AMOCO oil consortium, thereby integrating the largest oil company in the World (**BP**).

Raytheon through its E-Systems subsidiary now owns the patents used to develop the HAARP weather warfare facility at Gakona Alaska. Raytheon is also involved in other areas of weather research for military use, including the activities of its subsidiary in Antarctica, Raytheon Polar Services.

"Owning the Weather" - Towards the Expanded Final Stage

The HAARP antenna array and transmitters were slated to be built in several distinct phases (<http://www.haarp.alaska.edu/haarp/phases.html>)

- Developmental Prototype (DP)
- Filled DP (FDP)
- Limited IRI (LIRI)
- Full size or final IRI (FIRI)

During the Clinton administration, the "Filled Developmental Prototype" (**FDP**), namely a system composed of an array of 48 active antenna elements with connected wireless transmitters, was installed and completed at the HAARP facility in 1994. (See Figure 1 below) *Under the initial Developmental Prototype* ([DP](#)), only 18 of the 48 transmitters were connected.

Bernard Eastlund in a 1997 interview described this antenna array in its Filled DP stage as the "the largest ionospheric heater ever built".

This system of 48 antennas, however, while fully operational, was not according to Eastlund, powerful enough (in 1997) "to bring the ideas in his patents to fruition":

"But they're getting up there", he said. "This is a very powerful device. Especially if they go to the expanded stage."

(quoted in Scott Gilbert, op cit, see also [Discordant HAARP - High-frequency Active Auroral Research Program](#))

This 'final expanded stage' envisioned by Eastlund, which will provide maximum capability to manipulate the World's weather patterns, has now been reached.

Under the Bush administration, the main partner of Raytheon (which owns the patents) in the construction and development stage of the HAARP antenna array, is *British Aerospace Systems (BAES)*, which had been involved in the initial installation of the antenna array in the early 1990s.

The multimillion dollar contract was granted by The Office of Naval Research to BAES in 2003, through its US subsidiary BAE Systems Advanced Technologies Inc. The contract was signed barely two months before the Anglo-American invasion of Iraq.

Using Raytheon's technology, BAES was to develop the HAARP *Ionospheric Research Instrument (IRI)* to its maximum capabilities of "Full size or *final IRI (FIRI)*".

In April 2003, *BAE Systems Advanced Technologies* outsourced the production and installation of the antennas to [Phazar Corp.](#), a company specializing in advanced wireless antennas for military use. (Phazar owns [Antenna Products Corporation of Mineral Wells, Texas](#)).

Phazar was entrusted with producing and installing 132 crossed dipole antennas items for the HAARP facility. (http://www.antennaproducts.com/News_Release_04-18-03.pdf)

A year later, in April 2004, the final phase in the expansion of the HAARP facility was launched. (Dept of Defense, 19 April 2004). This phase consisted in equipping all the 180 antennas with high frequency transmitters. BAE Systems was awarded another lucrative contract, this time for \$35 million.

In July 2004, Phazar had delivered and installed the 132 crossed dipole antennas including the antenna support structures and ground screen items at the HAARP facility, bringing the number of antennas from 48 under the FDP stage to 180. (see Table 2).

Meanwhile, BAE Systems had contracted with Jersey based defense electronics firm DRS Technologies, Inc in an \$11.5 million outsourcing arrangement, the production and installation of the high-frequency (HF) radio transmitters for the HAARP antenna array. (See http://www.drs.com/press/archivelist.cfm?PRESS_RELEASE_ID=1529&preview=1 and *Business Wire*, 15 June 2004).

DRS specializes in a variety of [leading edge products for the U.S. military and intelligence agencies](#).

Under its contract with *BAE Systems Information and Electronic Warfare Systems* in Washington, D.C., DRS is to manufacture and install "more than 60 Model D616G 10-Kilowatt Dual Transmitters" to be used with the HAARP system of antennas. (It is unclear from the company statements whether all the 180 antennas will be equipped with a transmitter, bringing the system up to full IRI capabilities).

Deliveries and installation are to be completed by July 2006. While HAARP is described as a "research project", the production of the transmitters was entrusted to DRS' C41 "Command, Control, Communications, Computers and Intelligence (C4I) Group"

The diagram and images below describe the [HAARP Alaska Facility in 1997](#).

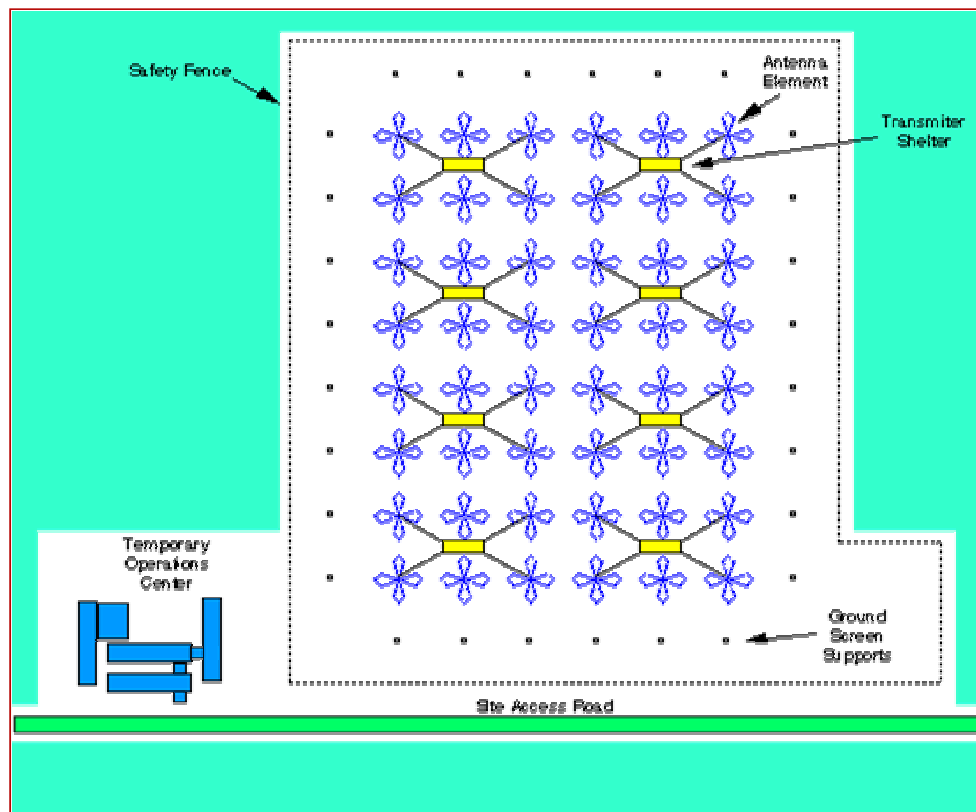


Figure 1: The Array of 48 Antenna Elements with the Transmitter Shelters (FDP stage)

The 48 antenna array is supported by transmitter shelters, each of which contains 6 transmitter cabinets. (See image of shelter below). Each cabinet contains two transmitters (image of cabinet below).

The newly installed 132 dipole antennas supplied by Phazar vastly increase the size of the HAARP Alaska facility; the new transmitters are supplied and installed by DRS.



Image 1: Aerial Photo of the HAARP Alaska Site



Image 2: HAARP Antenna Array



Image 3 Transmitter Shelter
Transmitter Shelter containing Six Transmitter Cabinets. Each Cabinet contains two transmitters

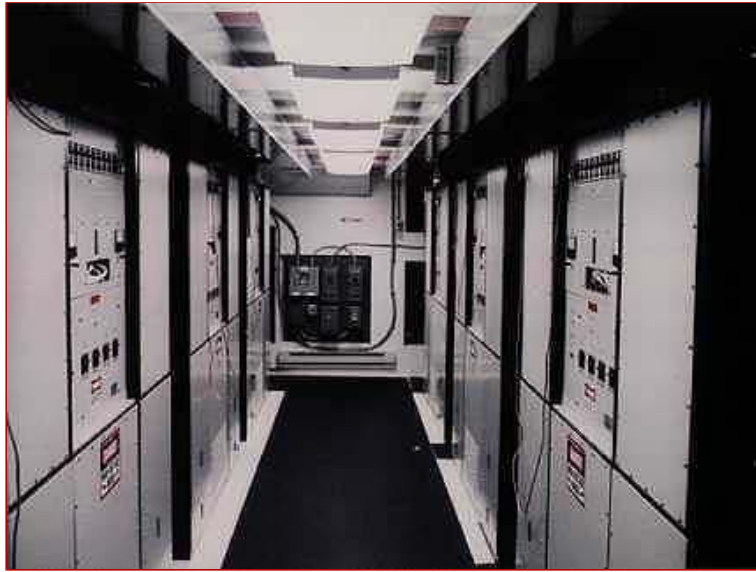


Image 4: Inside the Transmitter Shelter

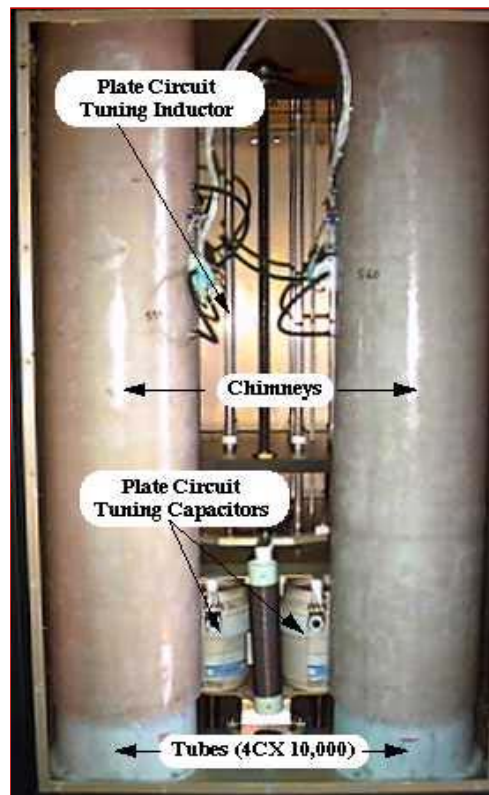


Image 5. Two Transmitters making up a Transmitter Cabinet

Testing of HAARP Equipment (2003- 2004)

It is worth noting that the expansion of the antenna array (e.g. during 2003-2004) required, as part of the contracts reached with BAE Systems and its various subcontractors, the routine testing of the installed weather warfare equipment. An intermediate stage *Limited IRI (LIRI)*, could be in operation by 2004, following the completion of the 180 antenna array under the Phazar contract and pending the final delivery of the remaining HF radio transmitters.

In this regard, a report published by the *Russian parliament* (Duma) in 2002, suggests that the US Military had plans to test its

weather modification techniques at its Alaska facility, as well as at two other sites:

"The committees reported that the USA is planning to test three facilities of this kind. One of them is located on the military testing ground in Alaska and its full-scale tests are to begin in early 2003. The second one is in Greenland and the third one in Norway.

"When these facilities are launched into space from Norway, Alaska and Greenland, a closed contour will be created with a truly fantastic integral potential for influencing the near-Earth medium," the State Duma said.

The USA plans to carry out large-scale scientific experiments under [the HAARP program](#), and not controlled by the global community, will create weapons capable of breaking radio communication lines and equipment installed on spaceships and rockets, provoke serious accidents in electricity networks and in oil and gas pipelines and have a negative impact on the mental health of people populating entire regions, the deputies said.

(Interfax News Agency, original Russian, BBC Monitoring, 8 August 2002, emphasis added)

Whether this report by the *Russian Duma* on testing "starting in early 2003" is correct or not, the US administration must be confronted nationally and internationally, at the political and diplomatic levels, at the UN and the US Congress, by the international scientific community, by environmentalists and the antiwar movement. The future of humanity is threatened by the use of weather modification techniques.

Moreover, to wage an effective campaign, it is essential that corroborating scientific investigation of the unusual weather occurrences observed in recent years (and particularly since early 2003) be undertaken. This investigation should be far-reaching, collecting relevant data, correlating specific weather occurrences to recorded antenna activity at the Alaska site as well as at the two other sites, etc.

The *Full Size Ionospheric Research Instrument* FIRI stage, described as "a maximum size of 180 antenna elements, arranged in 15 columns by 12 rows" is scheduled to be completed by mid-2006 (assuming the installation of the remaining dual transmitters), at which time the HAARP program will have reached its maximum FIRI capacity, meaning the ability to selectively modify, for military use, weather patterns anywhere in the World.

"The IRI is currently [June 2004] composed of 48 antenna elements and has a power capacity of 960,000 watts. When installed, the additional 132 transmitters will give HAARP a 3.6 mega-watt capacity [see Table 2 below].

The HAARP build-out is jointly funded by the U.S. Air Force, the U.S. Navy and the *Defense Advanced Research Projects Agency (DARPA)*."
(Business Wire, 10 June 2004)

Table 2: Comparison of IRI Phases

	DP	FDP	LIRI	FIRI
Number of Active Antenna Elements	18	48	108	180
Total Transmitter Power (kW)	360	960	2160	3600
Maximum Antenna Gain (dB)	19	24	29	31
Max Effective Radiated Pwr (dBW)	74	84	92	96
Min Antenna Pattern Width (degrees)		9	8	5
Frequency Range	2.8 to 10 MHz			
Modulation Types	CW/AM/FM/PM			

Source <http://www.haarp.alaska.edu/haarp/phases.html>

This advanced stage of full capacity (**FIRI**) corresponds to what the US Air Force has called "*Owning the Weather*":

US aerospace forces [will] 'own the weather' by capitalizing on emerging technologies and focusing development of those technologies to war-fighting applications... From enhancing friendly operations or disrupting those of the enemy via small-scale tailoring of natural weather patterns to complete dominance of global communications and counterspace control, weather-modification offers the war fighter a wide-range of possible options to defeat or coerce an adversary...

In the United States, weather-modification will likely become a part of national security policy with both domestic and international applications. Our government will pursue such a policy, depending on its interests, at various levels.

(US Air Force, emphasis added. Air University of the US Air Force, AF 2025 Final Report, <http://www.au.af.mil/au/2025/>)

Weather Warfare against "Rogue States"

The unusual climatic occurrences in the US and Western Europe have been extensively documented.

However, what the news media has failed to underscore is that a number of unusual and dramatic climatic changes have occurred in recent years in countries which are identified as possible targets under the US Administration's pre-emptive war doctrine.

Weather patterns in North Korea, for instance, have been marked since the mid-1990s by a succession of droughts, followed by floods. The result has been the destruction of an entire agricultural system. In Cuba, the pattern is very similar to that observed in North Korea. (see Table 3 below)

In Iraq, Iran and Syria, a devastating drought occurred in 1999. In Afghanistan, four years of drought in the years preceding the US led invasion in 2001, have led to the destruction of the peasant economy, leading to widespread famine.

While there is no proof that these weather occurrences are the result of climatic warfare, *Phillips Geophysics Lab*, which is a partner in the HAARP project provides a course for military personnel at the *Hanscom Air Force Base in Maryland*, on "Weather Modification Techniques". The course outline explicitly contemplates the triggering of storms, hurricanes, etc. for military use. (See PDF File ["Weather Modification - Advanced Weapon/Instrumentation Technologies"](#))

Weather manipulation is the pre-emptive weapon par excellence.

It can be directed against enemy countries or even "friendly nations", *without their knowledge*. Weather warfare constitutes a covert form of pre-emptive war. The manipulation of climate can be used to destabilize an enemy's economy, ecosystem and agriculture (e.g. North Korea or Cuba).

Needless to say it can trigger havoc in financial and commodity markets and can potentially be used as an instrument of "insider trade" for financial gain. It has the ability of destabilizing a country's institutions. Concurrently, the disruption in agriculture creates a greater dependency on food aid and imported grain staples from the US and other Western countries.

The **Bush** administration has stated that it reserves the right to attack these countries preemptively, with a view to ensuring the security of the American homeland.

Washington - as part of its nuclear posture review - has threatened several countries including China and Russia with pre-emptive nuclear strikes. One would assume that the same targeting of rogue states exists with regard to the use of weather modification techniques".

While there is no evidence of the use of weather warfare against rogue states, the policy guidelines on "weather intervention techniques" have already been established and the technology is fully operational.

Table 3:
Unusual Weather Occurrences:
North Korea, Cuba, Afghanistan and Iraq

North Korea

Recurrent flooding and drought often in the same year has hit North Korea since 1995, 220,000 people died in the ensuing famine, according to Pyongyang's own figures. U.S. figures place the number of deaths resulting from famine at 2 million.

The first major flooding occurred in 1995.

There were floods and drought in 1999. The serious water shortage resulting from the 1999 drought was conducive to the destruction of crops.

"The temperature of water in rice fields goes beyond 40 degrees and the tall rice plants fresh from the rice seedling beds are withering. In particular, nearly all after-crop maize seedlings and seeds are perishing," it added.

In 2001, in June there was an extensive drought with rainfall just 10% of normal levels, which served to undermine agricultural crops. And then a few months later, in October, there were extensive floodings leading to the further destruction of rice harvests and a crisis situation in food distribution.

"Officials in Kangwon province - an area which already suffers food shortages - say the impact of the torrential rain and flooding has been devastating. The normal recorded rainfall for October should be around 20mm. But in the worst-affected areas 400mm (18 inches) of rain fell in just 12 hours. "It was the worst flooding we've had since records began in 1910," said Kim Song Hwan, head of the government's Flood Damage Rehabilitation Committee for the region."

(BBC, 23 Oct 2001, <http://news.bbc.co.uk/1/hi/world/asia-pacific/1614981.stm>.)

Cuba

For several years Cuba has been affected by recurrent droughts. In 1998, rainfall in Eastern Cuba was at its lowest level since 1941.

A United Nations team estimated 539,000 people, 280,000 of them farmers, were directly affected by reduced availability of food or reduced income through production losses. Some reported effects are: hunger in areas; a loss of up to 14% of the sugar cane crop planted last year and a reduction in this spring's planted crops, since rains were not sufficient for some seeds to germinate (which will reduce next year's crop); as much as 42% losses in food staples such as root vegetables, beans, bananas, and rice in the five eastern provinces; and livestock, poultry, and egg production losses.
(UN Relief, <http://www.reliefweb.int/w/rwb.nsf/0/2975570e60ff2a7685256680005a8e2d?OpenDocument>)

In 2003, a devastating drought hit the Western part of Cuba. In 2004 May-June, the country is hit by the worst drought in its history:

"A severe drought enveloping eastern Cuba has eroded 40 percent of the farmland, starved thousands of heads of cattle and has close to 4 million people counting every drop of water they consume."

The drought is described as the worst in 40 years.

"The drought has robbed underground water levels of some 10 feet over the past 10 years, leaving over 5,000 wells across the province dry," said Leandro Bermudez, a geologist and the second man at Cuba's National Institute of Hydraulic Resources.
(MSNBC, 21 June 2004 <http://msnbc.msn.com/id/5262324>)

The cities are running out of water. According to the Independent, "Drought is bringing Cuba to its knees

Unnoticed by the world, the longest dry period for decades has brought much of Cuba to its knees. Could this be the crisis that finally destroys Fidel's revolution?

"All across central and eastern Cuba, farmers, ranchers, city dwellers and government officials are scrambling to deal with a punishing drought that began a decade ago and intensified in the last two years.

Although traditionally arid, the provinces of Holguin, Camaguey and Las Tunas hold some of Cuba's finest pasture and farmland and have long been crucial to this communist nation's dairy, beef and agricultural industries.

More than 12,500 cattle have died in Holguin alone in 2004 and milk production has fallen 20 percent. The price of beans, plantains, sweet potatoes and other staples has soared in private markets.

The drought has caused millions of dollars in losses and officials are spending millions more digging wells, building a water pipeline and taking other measures to try to ease the crisis - huge sums in an impoverished nation struggling through tough economic times and a battle with the United States.

Officials also have moved thousands of cattle to more fertile areas and are working furiously to finish a 32-mile pipeline that will draw water to Holguin city from Cuba's largest river, the Cauto. The \$5 million pipeline could be completed next month."
(Chicago Tribune, July 29, 2004 <http://www.thestate.com/mld/thestate/news/world/9271316.htm>)

The above report date to September 2004, it was published before, the hurricanes hit the Cuban coastline followed by torrential rains.

Afghanistan and The former Soviet Republics of Central Asia

The worst drought in Afghanistan history occurred in the three consecutive years prior to the onslaught of the US led invasion, from 1999 to 2001. The agricultural recovery of the 1990s, in the wake of the Soviet-Afghan war was brought to a standstill.

In the wake of the US led 2001 invasion, the United States supplied Afghanistan with genetically modified wheat and appropriate types of fertilizer to be used with the GM wheat, which was said to be high yield drought resistant. The donation of GM wheat, however, also led to destabilizing the small peasant economy because the GM wheat varieties could not reproduced locally. In 2002, famines which were barely reported by the media, swept the country.

Similar although less severe conditions prevailed in the former Soviet republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

Like Afghanistan, Tajikistan has had its infrastructure ruined by prolonged civil war with Muslim fundamentalists. Since then, the worst regional drought in 74 years has destroyed food crops over a large part of the nation, rendering almost half of the 6.2 million people in the country vulnerable to the threat of famine and disease, up from 3 million last year. About the only portion of the economy that has been unaffected is the drug trade.

Tajikistan is the transit route for 65 to 85 percent of heroin smuggled out of Afghanistan, the world's largest producer.
(http://www.americanfreepress.net/Mideast/Drought_Desperation_Breed_Vio/drought_desperation_breed_vio.html)

Triggered by the lowest rainfall (2001) in living memory, vast tracts of Iran, Uzbekistan, Pakistan and Tajikistan are being reduced to desert as the water table sinks, long-established wells dry up and herds of livestock perish.

The crisis appears to fulfill alarming climate change predictions suggesting that states along the old Silk Road will experience steeper rises in temperature than any other region on earth. By the end of the century it will be 5C hotter in an area which regularly sees the thermometer

soar above 40C.

The study, published last year by the Tyndall Centre for Climate Change Research at the University of East Anglia, predicted that Asian countries from Kazakhstan to Saudi Arabia will warm up more than twice as much as others. "Several states," the report added, "including Uzbekistan, Tajikistan, Afghanistan and Iran, [are facing] famine."

In Tajikistan, the United Nations appealed for aid to avert disaster. "Substantial foreign aid is needed or else there will be a large-scale famine," said Matthew Kahane, the UN's humanitarian aid coordinator, speaking from the capital, Dushanbe.

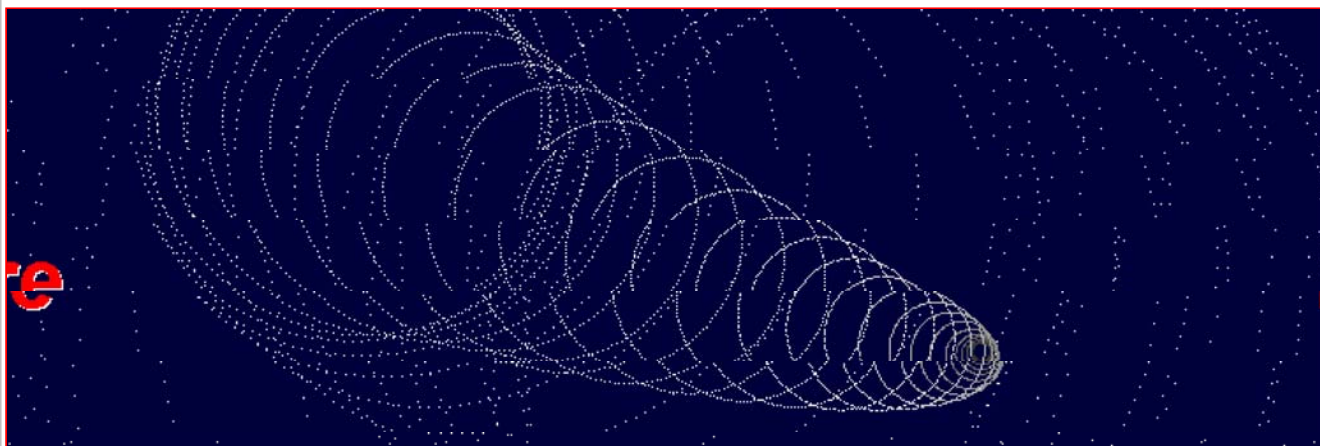
"The country has had its lowest rainfall for 75 years. Families who survived last year by selling their cows and chickens now have no other means of coping. Some households have sold the glass out of their windows and the wooden beams from their roofs to raise money for food."
(The Guardian, Oct 30, 2001, <http://www.guardian.co.uk/famine/story/0,12128,736902,00.html>)

Iraq

In 1999, Iraq suffered its worst drought of the century, with the effect of triggering an even greater dependence on imported grain under the oil for food program. There was a drop of up to 70 percent in domestic yields of wheat, barley and other cereals, which served to further weaken the country's economy, crippled by economic sanctions and the routine bombing by allied aircraft in the no-fly zones.

A similar (although less serious) situation prevailed in Syria and Iran, marked by significant declines in agricultural output.

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
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Global 2000 Program

- [Global 2000 - Depopulation Program](#)
 - [Global 2000 Revisited](#)
 - [National Security Memo 200](#) - Implications of Worldwide Population Growth For U.S. Security...
 - [National Security Study Memorandum 200](#) - [\(alternative version\)](#)
 - [The Plan 2000](#) (ARMAGEDDON)
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Books-Treaties

-  - [Brave New World](#) - by Aldous Huxley
 -  - [Brave New World Revisited](#) - by Aldous Huxley
 -  - [Chemtrails - Rastros Mortales en El Cielo](#) - La Verdadera Causa de Las Epidemias - por Amitié Nenki
 -  - [Death by Medicine](#) - by Gary Null, Carolyn Dean, Martin Feldman, Debora Rasio, Dorothy Smith
 -  - [Emerging Viruses - AIDS and Evola](#) - Nature Accident or Intentional? - by Leonard G. Horowitz
 -  - [Murder by Injection](#) - The Story of the Medical Conspiracy Against America - by Eustace Mullins
 - [Suppressed Inventions and Other Discoveries](#) - True Stories of Suppression, Scientific Cover-ups... - by Jonathan Eisen
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-

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The Methodic Demise of Natural Earth

An Environmental Impact Overview

Dr. R. Michael Castle

September 28, 2003

(References & Links updated November 2007)

In this century, we believe we are witnessing the gradual, purposeful demise of the Earth's Natural System. There are those who will debunk/dis-info all that is written regarding the subject of this paper: ChemTrails. What's this? ChemTrails are only a vague description, in lay-terms, of a greater theater of toxic materials being released into the atmosphere/stratosphere, for a myriad of crude and toxic agendas.

The author, R. Mike Castle, will attempt to put this Global debacle into a profile of events. Technical specificity of all the identified components would require at least a book in length, to recite them all. A short Bibliography follows, and links to various pertinent documents of unquestionable validity.

First Rule of Understanding: There are very large, winner-take-all games orchestrated by the Global Interests of the World. We have investigated, researched and found substantial evidence of a multiplicity of Global operations designed to mitigate various and theoretical Global catastrophes, as defined by a late 1980's and 1990's International Panel of Conferees. (The value of who are they, what's the politics smell like and all that is not of the utmost importance in our attempt, herein, to describe what serious destruction they have caused and are causing to Humans and our Finite Environment.

([Intergovernmental Panel on Climate Change](#))(1)

Many of the operations we have collectively found in our investigations of this debacle have remained a secret, classified and not for general populace information or knowledge. You must answer the question, Dear Reader as to why someone would possibly deploy these Geo-weapons. Just follow the money trails. We will yield all of our voluminous data, information and all references we have used in our validation of facts surrounding this Global atrocity. The recipients of this information must be interested enough in what we are trying to expose, the Human-health risks, the Environmental risks and the plain, simple "wrongness" that prevails. We must determine first if you are provoked to really care, because the research and development of this information for a Major Media whistle-blowing expose will require passion and dedication. Our research work has spanned almost five years of....watching and discovering, with disgust, the scenarios which follow.

This is not a small task.....but the Mission is simple. Expose and Stop the Methodic Demolition of our Natural Earth and its inhabitants.

Executive Summary

Dr. Edward Teller wrote a white paper in the late 1990's describing a remedial operation, strategy, epic-in-proportion, to change the predicted course of what was believed by an International group of Scientists, including Dr. Edward Teller, Livermore National Laboratories, *et al*, to be the cataclysmic certainty from the results of global-warming, crisis level Ultra-Violet/Cosmic radiation, crisis Ozone-layer depletion and other theoretical doom. ([Edward Teller's "Sun Screen" Document – pdf](#)) (2) Demonstrating here, that the same mind, Dr. Edward Teller, Father H-Bomb, was responsible for many ill-conceived strategies and not one gave considerations to the consequences in the Human realm. Safety, toxicity, lethality, exposure, Environmental Impact, morality, were not words with which Dr. Teller had a high-degree of familiarity.([WHO IS EDWARD TELLER?](#)) (3)

These Global-Warming Mitigation Strategies, UV Mitigation and the cessation of the effects of Atmospheric Greenhouse-gases were given a commonality by Teller,

et al, and this was the use of a sub-micron particulate. Barium, Aluminum, Thorium, Selenium were to be processed into a sub-micron particle dispensed from high-altitude aircraft, ionized with a specific electrical charge. ([BARIUM MATERIAL SAFETY DATA SHEET](#)) (4) (Chemtrails and Barium – absorption & inhalation .. see links below (5) We must surmise that ionization keeps the specific heavy metal particulate aloft for longer periods of time. This electronically charged particulate matrix might also be the perfect RF control field. Theoretically, the heavy metals would block and reflect the sunlight from entering the Earth's atmosphere and reflect 1-2% back into space. UV radiation levels would decline. Teller also recommended the use of Commercial Aircraft as-well-as-Military Aircraft to carry out the enormous and epic task of coverage to the Earth's Stratosphere. We believe that the weaponization use of these technologies has been well demonstrated for a US DOD program entitled "RF Dominance". The US Air Force VTRP and the Navy's RFMP are other military programs utilizing aerosolized heavy metal particulates, including aluminized fiberglass or chaffe are characteristic of current military operations.

([RADIO FREQUENCY MISSION PLANNER](#)) (6)

CIA-led Project Cloverleaf was one of the initial "aerosolized heavy-metal particulate" operations. Massive spraying of the upper-atmosphere/Stratosphere commenced. The U.S. DOD operations soon followed, as the US Air Force became embedded in the overall operations, strategically. The U.S. Air Force would also play significantly into the expansion of a significant Global-Warming Mitigation strategies in the form of Weather Modification and Geo-Engineering practices.

[\[2025\] Weather as a Force Multiplier: Owning the Weather in 2025](#) USAF (7)

(See also: Intro, Welcome & QUICK LOOK)

Federally Approved Contractors became involved in this massive, Global effort to save Earth from certain doom. Federal Approved Contractors, FAC's, were part of the research, Development and deployment aspects of these projects, and many of them have visited the premiere website [Carnicom – Aerosol Operations](#) (8). (See – Visitors) FAC Academia, multi-National Corporations, U.S. Military/Industrial Complex/Corporations, became eager partners in this effort.

One in particular, Hughes Aircraft Corporation of California turned research efforts towards this endeavor.

Thorium and oxides, Aluminum and Silicon carbide have been identified in a special mixture referred to generally as Welsbach Refractory Seeding Agents US Patent 5, 003,186. - March 26, 1991. ([Stratospheric Welsbach seeding for the reduction of Global Warming](#)) (9) This patent was assigned and awarded in 1990 to Hughes Aircraft Corporation. The Welsbach Refractory Seeding under unrestricted deployment operations began in the early 1990's over a vast area of Stratosphere above the North American Continent.([Aerosol Programs Patently Obvious](#))(10) Expanding over the entire western hemisphere, many operations were believed to have been enjoined in Ozone Depletion Mitigation Aerial operations of the US Air Force, connected to the HAARPs (High Frequency Active Aural Research Project) for Ionospheric Heating, located in Alaska) Ozone Remediation was 1 of 3 active mission parameters for HAARPs, as defined by Dr. Bernard Eastlund, Inventor and Director of HAARPs. The Ionospheric Heating Research Facility was manned and operated by the US Air Force (Reserve) and the US Navy. HAARPs had been weaponized; therefore, all operations were and remain classified. ([HAARP HOME PAGE](#)) (11); [Space Based Weather Control: The Thunderstorm Solar Power Satellite](#) - Correspondence with Dr. Eastlund) (12)

Weather Modification/Climate Change

HAARPs is utilized for many clandestine missions, of which Weather Modification is a fundamental objective. Microwave, ELF (Extreme Low Frequency), VLF (Very Low Frequency) and other EMR/EMF-based systems are transmitted into the atmosphere and reflected by the ionosphere, back through the Earth's Stratosphere/Atmosphere where various airborne chemical particulates, polymer filaments and other electromagnetic frequency absorbers and reflectors are used to push or pull the prevailing Jet-Streams, changing Weather patterns. (*Note: Vast files of our research are available on the particulate, polymers, Microwave, ELF, VLF & EMG, etc*) In many instances, Drought Inducement Technologies have been found in patented systems. Drought Inducement occurs, according to reviewed technologies by heating the Stratosphere with Microwaves, placing airborne chemical particulates in the airspace and thereby changing the base-line moisture gradients via microwaves from HAARPs and desiccating chemically with Barium Titanates, Methyl Aluminum and Potassium mixtures. ([Induced Climate Change -Geoengineering the Earth's Radiation Balance](#)) (13)

HAARPs punches massive holes in the open-air column Ozone, electronically. This is the basis for the Ozone Remediation/Mitigation Strategies found associated with HAARPs. However, "patching" the holes in the Ozone layer has become a standard practice for US Air Force and FAC flight operations. The US Air Force has recently, 2001-2002, resorted to the utilization of Unmanned Aerial Vehicles (UAV's) technology. High-flying Stratospheric Robotic Platforms negate the manned operation factors. Robots don't complain and never talk and remain, forever, non-union.

Welsbach Seeding and Ozone Hole Remediation sciences utilize chemistries that are toxic to Humans and the Environment.

Welsbach Refractory Agents use Aluminum, Thorium, Zirconium and other emissitivity-refractive metals and metals oxides. Thorium is elementally, 98% purity. The remaining 2% are identified radioactive materials. Ground-fall includes Thorium. Mid and Eastern Canada are suffering from what has been clinically identified as Thorium poisoning. There are no other base-line resources for Thorium, all from residuals of aerosolized heavy metal particulate spraying into the Stratosphere.

Alaska Flight 261

One other observation has been made regarding Welsbach refractory agents - the extreme abrasion characteristics of some of the other patented components, namely, Aluminum Oxide and Silicon Carbide. These materials are extremely high MOH's Hardness and only second in abrasativity to Diamond. These 1 micron and sub-micron dusts, upon falling through the Atmosphere, could conceivably find deposition onto a somewhat, adhesive surface, inside the working flight components of all aircraft traveling through the "grit-plume". The greases used on the Horizontal and Vertical Stabilizers, Ailerons, Flaps and Landing Gear trucks may be seriously damaged with abrasion of metals on the aircraft. A horizontal-stabilizer Jack-Screw continuously coated with these highly abrasive dusts from the Welsbach Refractory materials will cause a gradual milling of the jack-screw metals and cause complete failure, jamming the flight controls into an uncontrollable down or up attitude configuration. We believe that Alaska Airlines Flight 261 was a victim of this unforeseen circumstance. Alaska Flight 261 made daily passage through heavy grit plumes from ChemTrails operations associated with Welsbach Refractory Seeding operations, principally along the West Coast of the US, down throughout Dallas, Texas.

Other aircraft, Commercial and Military, Civilian have also suffered these flight-component failures and attributed them to sub-standard Aviation Machinist's quality. As did the NTSB (National Transportation Safety Board) in the Alaska Flight 261 aviation fatalities. These conclusions could not have been farther from the Truth in these matters. Collateral damage or just another consequence of ChemTrails?

Ozone-Hole Remediation - The composition most notably utilized in Ozone-hole patching is elemental Selenium and an Aromatic Hydrocarbon such as Toluene (Benzene component of Gasoline) and mixed isomers of Xylene. Sprayed from Stratospheric flying Aircraft, films of this toxic mixture fall into the area just above the Troupopause, the Ozone Layer. Ozone or triatomic Oxygen forms rapidly upon the irradiation of the Selenium and the Hydrocarbon with Ultra-Violet/Actinic sunlight. This is the identical photon/chemical reaction that causes Ozone Alert Days and is problematic. The solid-state reaction of Selenium and Ultra-violet radiation is the same as the reaction that occurs during Xerography. Copy machines generate minute amounts of Ozone when the Selenium Toners are irradiated with UV light sources.

The US/NASA TOMS (Total Ozone Mapping) Satellites have verified these Ozone Patching operations that occur principally over the northern sectors of the North American Continent. We have been studying these phenomena since the early 2000 time line. ([TOMS -- Total Ozone Mapping Spectrometer](#)) (14)

Ground-fall Impacts of Selenium/Aromatic Hydrocarbons - The aromatic Hydrocarbon, when ground fall occurs, (there is substantial evidence that this has repeatedly occurred in the United States and Canada) is causative of Benzene over-exposure. Carcinogenicity of Benzene is known, not suspect. Surface water pollution with Benzene is a continuous threat.

Selenium poisoning is characteristic of most heavy metals including Lead (Pb).

Weather Modification - An integral part of the US Department of Energy's (US DOE) Global-Warming/UV Mitigation/Climate Change, Strategies. Led by the US Air Force, as a distinct Geo-Weapons method, Weather Modification is occurring on a Global basis.

([Air Force 2025 Home Page - FINAL REPORT](#)) (15) This Executive Summary will be confined to ChemTrails deployment in the United States and Canada due to the

expansive nature of a global theatre.

Professional independent investigators have retrieved numerous samples of soils and waters; these were analyzed and documented. Extensive testing has demonstrated the highly suspicious toxic levels of Barium and Methyl Aluminum in many areas of the United States and Canada that have no extraneous sources of these heavy-metals. The sample retrieval areas have been documented for extreme ChemTrails observation. Accompanied by verbal and written complaints to many Public Health Care Agencies, causes for the elevated levels of Barium and Aluminum found in the bloodstream were not forthcoming; just another clinical conundrum. (*See Attachment - Chemtrails Pertinent Links*)

Conclusions - Although this summary is only a fraction of the overall ChemTrails debacle, we encourage impartial investigators and/or credible news journalists to assess this core information and either validate or refute our findings, thus far. The entirety of the Human Health suffering and the Environmental Impacts are staggering and too voluminous to write at this time. Other aerosol-related programs will be discussed at a follow-up session. Moreover, biological materials and genetically mutated fungi used as biocontrols may even be more damaging and egregious to Humans or the Environment than chemical-based aerosolized chemical materials sprayed into the atmosphere.

All of the chemical spraying operations have been conducted and deployed without public knowledge and not one Human Health Risk Assessment nor Environmental Impact Study has been submitted for Public and Civil scrutiny or for comments. This alone is an egregious violation of Civil, Environmental and International Laws, with respect to Treaties.

The Natural Earth's biological systems are slowly beginning to fail. Rhizobacteria-endomycorrhizae, a critical microbial organism, is slowly becoming extinct in soils due to Barium and Aluminum heavy-metal toxicities. This microbe is responsible for the transfer of nutrients from soils-matrix to the plants/trees feeder-root system. The Barium/Aluminum heavy-metal salts are alkaline, i.e. Barium Hydroxide, and are shifting the base-line pH of surface soils and waters to new highs - elevated enough that certain plant species cannot survive. According to our experts in this field, without this microbe, natural plant growth is impossible. The ChemTrails are spoiling our Infinite Natural Eco-System and no one is watching, albeit the evidence for microbial extinction events abound.

The events of the 1990's were characterized with phrases such as; "re-inventing" Commerce, Government, etc., are uniquely defined by the clandestine operations carried forth by the embedded personnel of US Agencies, in collaboration with International Alliances with subjects such as Weather Control, Food and Water Control and expansion of pharmaceuticals treating new diseases, all having direct linkage to what we have compressed into something that is called ChemTrails. Does this story interest you in the least?

We, a group of concerned individuals from around the World, numbering in the millions, are now extremely convinced that we are witnessing the methodic demise of the Natural Earth in the name of Commerce and Control, big Corporate and a hideous form of Socialism via the Military Industrial Complex. The technologies identified in ChemTrails are crude, poisonous and lethal. The bankrupt independent Farmer of the United States and Canada never knew that the Drought that had-no-end and destroyed their businesses was actually contrived. Seems though, all their properties were purchased for pennies-on-the-dollar by either International Farming interests or International Grain-Farming interests and all that is grown and harvested on these farms are genetically mutated grains and foodstuff, most likely with a Monsanto Patented Product. These farms do not take USDA Subsidies either. Well, that's good for the US Taxpayer, right? This is the emergence of the Food Weapon.

Our ultimate mission is to develop Legislation for the United States Congress to pass that will halt, prohibit and forever abate the practices of deploying, dispensing or otherwise releasing any chemical into the Atmosphere/Stratosphere of the airspace above the entire North American Continent. Such a Draft Law has been written by the Author, R. M. Castle, entitled: The Unified Atmospheric Preservation Act of 2003 (UAPA3), has been reviewed by other ChemTrails Investigators and seems to be the only method of intervention to halt these insidious methodologies. However, the US Congressman we hoped would carry our cause, tends to back off when it becomes clear that the US Government is strategically involved in many aspects of the debacle. We are not asking for this legislation to be considered, we will demand its passage. Once in force, who will then become bankrupt? We will shut down the HAARPs Electromagnetic radiation machine with UAPA3. I would be very honored if anyone would like to receive a copy of the draft legislation UAPA3, for review and/or endorsement.

Author – R. Michael Castle is an Environmental Professional whom holds a National Certification for Environmental Risk Assessment with 19 years of field practice in Environmental Risk Assessment, Investigation, Analyses and Remediation. A Polymer Chemist for 22 years prior to establishment of the Environmental Consulting and Engineering Firm, Castle Concepts Consultants, Inc.

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REFERENCES:

- (1) Intergovernmental Panel On Climate Change

<http://www.ipcc.ch/>

- (2) Edward Teller's "Sun Screen" Document - .pdf

<http://www.rense.com/general18/scatteringEdTellerwithnotes.pdf>

Excerpt: "1 million tons of scattering materials ~ 1%
-refresh about 20% per year"

"discusses lifting masses into air or space"

Edward Teller's "sun screen" document: Global Warming and Ice Ages: I. Prospects for Physics-Based Modulation of Global Change, E. Teller et al., August 15, 1997, Lawrence Livermore National Laboratory, Presented at: 22nd Intl. Seminar on Planetary Emergencies, Erice (Sicily), Italy

(3) WHO IS EDWARD TELLER?

<http://www.atomicarchive.com/Bios/Teller.shtml>

This is the same Dr. Edward Teller known as Father-H-Bomb. (The same person that once recommended “nuking” a prominent East Coast U.S. harbor in order to make it deeper for ships of International flags’ commerce. In the Super-Port that would result, International Commerce and Trade would be exceptional; especially one that would not be a Union controlled port. None-the-less, someone nixed that idea after they reviewed the potential lethality of the residual radiation for at least 1,000 years.

(4) BARIUM MATERIAL SAFETY DATA SHEET

<http://www.jtbaker.com/msds/b0444.htm>

(5) Chemtrails And Barium

8.3.1 – Inhalation Route – There are no quantitative data on the deposition and absorption of barium compounds through inhalation in humans.

<http://www.inchem.org/documents/ehc/ehc/ehc107.htm>

Methods have been developed over the last several months which appear to confirm the existence of extraordinary levels of barium within our atmosphere.

<http://www.carnicom.com/precip1.htm>

The following is a list of conditions, observations and analyses which focus direct attention on barium and barium compounds within the investigation of the aerosol operations

<http://www.carnicom.com/deduct1.htm>

The identification of barium in the atmosphere as a result of aircraft aerosol

activities continues to be confirmed.

<http://www.carnicom.com/spectra2.htm>

The unusual presence of the element barium in the atmosphere now appears to have been affirmed through the methods of spectroscopy.

<http://www.carnicom.com/spectra1.htm>

(6) Radio Frequency Mission Planner

<http://net127.com/2001/06/18/chemtrails-and-the-radio-frequency-mission-planner/>

(7) USAF: Weather As A Force Multiplier – Owning The Weather 2025 – QUICK LOOK

<http://csat.au.af.mil/2025/qwiklook.pdf>

USAF: Weather as a Force Multiplier – Owning the Weather 2025 - INTRO

<http://csat.au.af.mil/2025/INTRO.PDF>

USAF: Weather as a Force Multiplier – Owning the Weather 2025 – Welcome

<http://csat.au.af.mil/2025/welcome.pdf>

USAF: Weather as a Force Multiplier – Owning the Weather 2025 -

1996 Planning Report <http://csat.au.af.mil/2025/volume3/vol3ch15.pdf>

(8) Carnicom – Aerosol Operations

<http://www.carnicom.com/conright.htm>

(9) Stratospheric Welsbach Seeding For Reduction Of Global Warming

US Patent: 5,003,186

<http://www.freepatentsonline.com/5003186.html?highlight=5003186&stemming=on>

(10) Aerosol Programs Patently Obvious

<http://www.seektress.com/PATLIST.HTM>

*** AEROSOL RELATED LINKS**

http://www.aaar.org/index2.cfm?section=Related_Links

(11) HAARP HOME PAGE

<http://www.haarp.alaska.edu/haarp/>

(12) Correspondence with Dr. Bernard Eastlund:

Space Based Weather Control: The Thunderstorm Solar Power Satellite

<http://www.borderlands.com/spacewea.htm>

(13) Induced Climate Change –Geoengineering the Earth’s Radiation Balance

<http://adsabs.harvard.edu/abs/2000GeoRL..27.2141G>

(14) TOMS – Total Ozone Mapping Spectrometer

http://toms.gsfc.nasa.gov/reflect/today_refl_v8.html

(15) Air Force 2025 Home Page – Owning The Weather – Final Report

<http://csat.au.af.mil/2025/index.htm>

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Climategate spreads like an ozone hole

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Published 04 February, 2010, 07:47
Edited 16 February, 2010, 09:53

Scientists at the heart of the Climategate controversy face new allegations which cast further doubt about global warming. Analysis shows researchers had tried to suppress key details of their findings for twenty years.

New allegations swirl in Climategate, which began last November with an email leak at the University of East Anglia, suggesting that one of the world's foremost centres for climate research had been manipulating data to prove the existence of man-made global warming.

Now, it turns out data manipulation has been going on since at least 1990.

The head of the university's climate research unit, Professor Phil Jones, has come under fresh suspicion due to a paper he released 20 years ago, claiming urban warming wasn't a factor in higher temperature readings he'd recorded. But he doesn't seem to be able to show where his information came from.

"That research was paid for with public money so everyone should have access to it, and if we're spending that kind of money to stop climate change then the fundamental data should be open to anyone who wants to check it," International Climate Science Coalition executive director Tom Harris says.

That same paper was used as evidence in the latest report from the UN Intergovernmental Panel on Climate Change. The panel has also recently come under fire for falsely claiming in one of its own reports that all Himalayan glaciers could completely melt down by 2035.

The head of the panel has refused to apologise, calling the error "an isolated mistake". However, global warming skeptics say such occurrences mean we essentially know nothing about the climate.

"It means that we do not have a measure of how temperatures have changed over the last 50-100 years, that we can say, well, one year is warmer than the other but the relative amounts, like 2002 compared with the 1930's, was that it warmer or colder, but we do not actually know," Piers Corbyn from Weatheraction says.

More worrying, another case suggests the whole system of scientists reviewing their colleagues' work has been corrupted. Some of the leaked emails from the University of East Anglia's Climate Research

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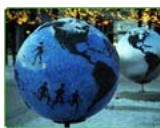
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The US has reached a "meaningful" consensus with China, India, Brazil and South...



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They are ready for a catastrophe of a global scale every minute of their lives...

Unit refer to a paper that Professor Jones reviewed and deliberately suppressed.

What emerged was an analysis of data from weather stations around Russia's Lake Baikal. It showed much less warming than Professor Jones' own analysis using much the same data.

"The other things which they have been doing which are grossly unacceptable – is trying to prevent the publication of valid scientific opinion and research which goes against what they believe, and that is absolutely monstrous! So they not only suppress the scientific opinion they don't like, but they actively avoid commissioning work which I'm certain would have appeared in print, but to the fact that they have a total grip and bias against anything they don't agree with," Corbyn adds.

The University of East Anglia continues to call its data "rock solid".

These latest Climategate revelations show this scandal is far from over. And all through it, the voices of the skeptics are getting louder. They're asking, if man-made climate change is such an unassailable fact, why does it have to be proven using manipulated data?

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Controversy**Was the earthquake in Haiti caused by the United States?**

According to *Russia Today*, Venezuelan President Hugo Chávez Frías evoked the possibility that the United States are behind the series of earthquakes that struck the Caribbean region last week, including the one that devastated Haiti. However, according to *Vive Tv*, the allegation originated with the Russian armed forces. Be that as it may, Venezuela, Bolivia and Nicaragua have requested the UN Security Council to convene an emergency session. This forum will be expected to examine these charges and look into the "humanitarian" invasion of Haiti by US troops.

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President Obama pledging to send humanitarian relief to Haiti.

Editor's Note: The following article was written and published by VIVE TV, a Venezuelan public channel. The video was broadcasted by Russia Today, a Russian public channel. Oddly enough, the Venezuelan channel designates the Russian Army as the source of these claims whereas the Russian channel attributes them to President Chávez.

VIVE TV: A report from the Russian Northern Fleet [transmitted to the Government of Venezuela] would seem to indicate that the earthquake that devastated Haiti was the "clear result of a seismic weapons test recently conducted by the US Navy".

The Northern Fleet has been monitoring the movements and U.S. naval activities in the Caribbean since 2008 when the Americans announced their intention to re-establish the Fourth Fleet which had been dissolved in 1950, to which Russia responded a year later with a Russian fleet headed by the nuclear cruiser *Peter the Great*, thus kicking off its first exercise in this region since the end of the Cold War.

Since the late 1970s, the U.S. have made tremendous progress in their seismic weapons research and, according to these Russian sources, currently employ devices based on Pulse, Plasma, Electromagnetic and Sonic technology combined with

shock wave bombs.

The report also compares two analogous tests carried out by the U.S. Navy last week: a 6.5 magnitude earthquake that hit the area around the town of Eureka, California, without causing any casualties, and the one in the Caribbean that caused the death of at least 140 thousand innocent people.

As indicated in the report, it is "more than likely" that the U.S. Navy had "full knowledge" of the catastrophic damage that this test would potentially inflict on Haiti, which would explain why Lieutenant General P. Keen, Military Deputy Commander of U.S. Southern Command (USSOUTHCOM) had been pre-positioned on the island to oversee the anticipated relief efforts. [1]

The report further indicates that the ultimate goal of these tests is related to plans which foresee the destruction of Iran through a series of earthquakes designed to neutralize the current Islamic regime.

According to the report, the system being tested by the United States (HAARP, for High Frequency Active Auroral Research Program) is also capable of creating weather anomalies which cause floods, droughts and hurricanes [2].

According to a previous report, the available data coincides with the one associated with the 7.8 magnitude earthquake that struck Sichuan (China) on 12 May 2008, and which was also caused by electromagnetic waves emitted by HAARP.

One can observe a correlation between seismic activities and the ionosphere, which is a HAARP feature:

1. Earthquakes identical in depth and linearly on the same fault are caused by induced frequency linear projection.
2. A coordinated satellite configuration can generate concentrated frequency projections targeting specific points (hippocampus).
3. A diagram shows that earthquakes considered to be artificial propagate linearly at the same depth.

Location	Date	Depth
Venezuela	8 January 2010	10 km
Honduras	11 January 2010	10 km
Haiti	12 January 2010	10 km

A depth of 10 kms was also observed in the case of other replicas.

Following the earthquake, the Pentagon announced that the hospital ship *USNS Comfort*, which was anchored in Baltimore, summoned its crew and sailed to Haiti, despite the fact that several days would elapse before its arrival. Nevertheless, Admiral Mike Mullen, Chairman of the Joint Chiefs of Staff, announced that the U.S. armed forces were preparing an urgent response to the catastrophe.

General Douglas Fraser, Commander-in-Chief of USSOUTHCOM, indicated that Coast Guard and Navy vessels had been dispatched

to Haiti, despite their limited cargo of helicopters and material. The super carrier *USS Carl Vinson* was sent from Virginia with a complete consignment of planes and helicopters. It arrived in Haiti on January 14 in the afternoon, as specified by Fraser who also remarked that additional helicopter groups would be joining the *Carl Vinson*.

USAID was already on the spot before the earthquake.

President Obama was informed about the earthquake on January 12 at 17h52 and ordered emergency services to be provided to the staff of his Embassy and humanitarian assistance to the population.

According to the Russian report, the State Department, USAID and the U.S. Southern Command launched their humanitarian invasion by deploying 10000 soldiers and contractors, in lieu of the United Nations, to take control of Haitian territory following the "devastating experimental earthquake."

RUSSIA TODAY



Source **ViveTv (Venezuela)**
This author's articles

Footnotes added by *Voltaire Network*.

[1] Officially, the US forces were pre-positioned around Haiti within the framework of a military exercise simulating ... a humanitarian intervention in Haiti. Cf. *Defense launches online system to coordinate Haiti relief efforts*, by Bob Brewin, Govexec.com, January 15, 2010.

[2] *Le Programme HAARP : science ou désastre ?*, by Luc Mampaey, Groupe de recherches et d'information sur la paix et la sécurité


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Chavez says US 'weapon' caused Haiti quake

Thu, 21 Jan 2010 09:55:24 GMT

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US soldiers land by helicopter at the garden of the damaged Presidential Palace in Port-au-Prince on January 19. Thousands more troops have been tasked with providing security for aid distribution.



Venezuelan leader Hugo Chavez Wednesday accused the United States of causing the destruction in Haiti by testing a 'tectonic weapon' to induce the catastrophic earthquake that hit the country last week.

President Chavez said the US was "playing God" by testing devices capable of creating eco-type catastrophes, the Spanish newspaper ABC quoted him as saying.

A 7.0-magnitude quake rattled the desperately poor country on January 12, killing an estimated 100,000 to 200,000 people. As Haiti looks to the world for basic sustenance, the authorities say the biggest dangers facing survivors are untreated wounds and rising disease.

Following the quake, appeals for humanitarian aid were responded to globally. However, the nation is struggling with violence and looting as aid is still not enough for the tens of thousands left homeless and

injured.

Chavez said the killer earthquake followed a test of "weapon of earthquakes" just offshore from Haiti. He did not elaborate on the source of his claim.

The outspoken leader had earlier accused the US of occupying Haiti "under the guise of the natural disaster."

At least 11,000 US troops have been dispatched to the country to provide security for aid distribution efforts.

Venezuelan media have reported that the earthquake "may be associated with the project called HAARP, a system that can generate violent and unexpected changes in climate."

HAARP, the High-Frequency Active Auroral Research Program, is a study run in Alaska directed at the occasional reconfiguration of the properties of the Earth's ionosphere to improve satellite communications.

Former US Secretary of Defense William Cohen in 1997 expressed concerns over countries engaging "in eco-type of terrorism whereby they can alter the climate, set off earthquakes, volcanoes remotely through the use of electromagnetic waves."

GHN/MTM/MD

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tee

Mon, 22 Mar 2010 14:06:17 GMT

Its really sad that so many people are so fooled and have just not taken the time to seek the real facts out. HAARP is very real people, pull ur heads out your asses & wake up!

lougarou

Thu, 25 Feb 2010 02:18:10 GMT

650 billion dollars to stimulate eyropes economy and 2 million to haiti for relief and you say the earth quakes are natural? american and allie governments have been illuminati for many years..look up (iron mountain) soon this will all end.

130IQMan

Fri, 12 Feb 2010 19:24:31 GMT

all you people that say some weapon caused this are all out of your freaking minds. Haiti sits on for of a fault line. The fault has not released its energy (aka produced an earthquake) for 200 years prior to this one, so it was only a matter of time. Experts say that there may still be energy locked away because

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the amount of force they suspected had built up did not show through the top layer of soil.

spawny

Tue, 09 Feb 2010 13:58:25 GMT

wow, i cant believe there are so many gullible people out there, fear mongerers and the like. Grow up you meat heads and think maybe it was just an earthquake, guess what? they actually happen all over the planet!!! You clowns make me sick

tony

Sat, 06 Feb 2010 02:02:30 GMT

you guys need to grow up

READ A BOOK!

Wed, 03 Feb 2010 04:10:00 GMT

The ones that believe that HAARP isnt real are a bunch of idiot fools. WAKE UP PEOPLE!! do the research and find out the facts for yourselves. Its okay to come outside of your little boxes that you call a brain. Feel sorry for you when all hell breaks loose. Just read the Bible. Its all in there.

Jail Bush

Sat, 30 Jan 2010 21:13:55 GMT

HAITI HAS OIL AND MINERALS AND UNLIMITED CHEAP LABOR AND DOES NOT HAVE A MEANS OF DEFENDING ITSELF AGAINST AMERICAN OCCUPATION. WE HAVE THE 4TH LARGEST EMBASSY COMPOUND IN THE WORLD IN HAITI. IF ANY DOUBTS STILL EXIST THAT THIS WAS A MILITARY TAKEOVER AND EARTHQUAKE KEEP THINKING ABOUT THIS.

Sat, 30 Jan 2010 00:00:41 GMT

I believe that the american people always try to destroy other country they rather test anything on other ppl then they own.longtime ago Haiti used to b the richest country caribbean and have alot of gold until they let those visitor who pretend to be they friend to coming they stole them and bring them to they country now they look down on ppl of haiti. i believe they do it to find an excuse to occupie haiti.

Tracy

Fri, 29 Jan 2010 16:36:53 GMT

Most natural disasters today are caused by HAARP, just look who benefits and you see who did it, HAARP is real and it has MANY functions.

STOP JUDGING

Thu, 28 Jan 2010 08:30:26 GMT

ONLY GOD KNOWS WHAT CAUSES THAT EARTHQUAKE.

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Chavez: US weapon test caused Haiti earthquake

<http://www.youtube.com/watch?v=Q9QtZkT8OBQ>

<http://rt.com/>

**Hugo Chavez Mouthpiece Says U.S. Hit Haiti With
'Earthquake Weapon'**

Thursday, January 21, 2010

[http://www.foxnews.com/story/0,2933,583588,00.h
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nid=351020704](http://www.presstv.ir/detail.aspx?id=116688§ionid=351020704)

**Was the earthquake in Haiti caused by the United
States?**

<http://www.voltairenet.org/article163626.html>

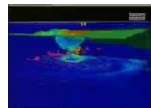
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Owning the Weather

45:39 - 3 years ago

If you thought those strange clouds were real, you might want to take a closer look. Plus, if you thought Hurricane Katrina, as well as other Hurricanes such as Ivan and Wilma were strange, you definitely NEED to watch this 30 min documentary. We have had the technology to weaken or steer hurricanes for decades.

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Campaign for Cooperation in Space

peaceinspace.org

HAARP & the Space Preservation Treaty: Planet Earth As Weapon & Target by Leuren Moret

Planet Earth As Weapon and Target

LEUREN MORET

World Affairs, The Journal of International Issues v.9, n.4, Winter 2005

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Beginning with the use of nuclear energy for military purposes, mankind has entered a seemingly endless race to harness the natural forces within the planet, in the atmosphere and in space for waging war. The earth is already gravely affected by many of those secret research and testing programmes leading to unpredictable environmental and epidemiological consequences.

The term 'exotic weapons systems' includes weapons designed to damage space or natural ecosystems (such as the ionosphere and upper atmosphere) or climate, weather, and tectonic systems with the purpose of inducing damage or destruction upon a target population or region on earth or in space.

(US Congress H.R. 2977: Space Preservation Act of 2001)

THE HISTORICAL ROOTS OF THE NEW WORLD ORDER AND ITS PERMANENT WAR ECONOMY

The 'permanent US war economy' of the USA traces its roots in organisations and "a culture of death" back to the China opium wars, and through the current Iraq war. Samuel Russell, the primary American opium smuggler, acquired a vast fortune by launching the first clipper ship in 1823. Leading British and American families made vast fortunes with clippers smuggling opium from Turkey and India to China.

The illicit proceeds of expanded drug-trafficking today are proliferating wars and influencing the foreign policy of modern nation-States. Many researchers tie former President George H W Bush to the CIA as far back as the 1950s, and indicate that one of his jobs was to consolidate and coordinate the world's biggest industry—the global narcotics trade. The Vietnam 'war' may have been a cover for US consolidation of the 'Golden Triangle', formerly under the control of the French. This seems to have been confirmed by Ross Perot when he was appointed by President Reagan to be a special presidential investigator looking for POWs and MIAs from the Vietnam 'war', and found himself on the wrong side of Vice President George H. W. Bush. In the revealing book about the abandonment of POWs/MIAs, *Kiss the Boys' Goodbye: How the United States Betrayed Its Own POWs in Vietnam*, Monika Jensen-Stevenson writes:

Relations between Bush and Perot had gone downhill ever since the Vice President had asked Ross Perot how his POW/MIA investigations were going.

"Well, George, I go in looking for prisoners", said Perot, "but I spend all my time discovering the government has been moving drugs around the world and is involved in illegal arms deals ... I can't get at the prisoners because of the corruption among our own people."

This ended Perot's official access to the highly classified files as a one-man presidential investigator. "I have been instructed to cease and desist", he had informed the families of missing men early in 1987.

(*Kiss the Boys' Goodbye: How the United States Betrayed Its Own POWs in Vietnam*, Monika Jensen-Stevenson and William Stevenson, NY Dutton, Penguin Books, 1990).

William Huntington Russell, a cousin of opium smuggler Samuel Russell, arrived at Yale in 1832 after studying in Germany for two years from 1831–32, when it was a hotbed of new ideas. He returned steeped in Hegelian philosophy which provided the philosophical roots of fascism and communism. Granted authority to start a chapter by the mother society in Germany, he founded the first US secret society at Yale known today as "Skull and Bones". Espionage, drug smuggling, and historically foreign-based secret societies intertwined and evolved throughout American history. Skull and Bones became the country's secret establishment; it institutionalised the sociological excess of "elite deviancy", with "vertical and horizontal chains of influence" providing continuity over two centuries to carry out conspiratorial schemes and permanent wars. Many Secretaries of War were 'Bonesmen' as well as some US Presidents. Early American Universities were often founded by opium fortunes. Even the Manhattan Project in World War II had close ties to Skull and Bones, and the nuclear weapons labs have been managed since by the University of California, which was founded by a 'Bonesman'.

The unique relationship between Yale and the Intelligence Community had been established during the Revolutionary War through the 'Culper Ring', America's first intelligence operation started by George Washington. Following World War II, the CIA was established as the top foreign espionage and counter-espionage agency. With strong ties to Yale, and Skull and Bones, it has played a powerful covert role in countries around the world. 'Bonesmen' share an affinity for the Hegelian ideas of the historical dialectic, which dictates the use of controlled conflict (thesis versus anti-thesis) to create a pre-determined synthesis. The synthesis is of their making and in this New World Order, the state is absolute and the citizen can only become free by worship and obedience to the state. In the new book, *Fleshing Out Skull and Bones: Investigations into America's Most Powerful Secret Society* by Kris Millegan, 2003 there is evidence that these secret societies "create and play both sides in controlled conflicts to produce (desired) outcomes":

From 1785, the origin of the New World Order can be traced to Adam Weishaupt, founder of the Illuminati and his manuscript which was accidentally discovered when a courier died en route from Frankfurt-am-Main to Paris. Original Shift in Days of Illumination, contained the long-range plans for the secret society which was "The New World Order through world revolution". Adam Weishaupt wrote:

By this plan, we shall direct all mankind in this manner. And, by the simplest means, we shall set all in motion and in flames. The occupation must be so allotted and contrived that we may, in secret, influence all political transactions.

In 1798, Professor John Robinson who had been invited to join the Illuminati but had declined, published a book called *Proofs of a Conspiracy*:

An association has been formed for the express purpose of rooting out all the religious establishments and overturning all the existing governments... the leaders would rule the World with uncontrollable power, while all the rest would be employed as tools of the ambition of their unknown superiors. (Ibid)

The same year George Washington acknowledged Illuminati activity in America and believed their purpose was to separate the People from their government.

It is not my intention to doubt that the doctrine of the Illuminati and the principles of Jacobinism had not spread in the United States. On the contrary, no one is more satisfied with this fact than I am.

The Illuminati allied themselves with the Masons, and Skull and Bones show similarities in their practices and beliefs. The New World Order is based on a political philosophy that blends Zionism and Fascism—an ideology known generally as neo-conservatism.

The interests behind the Bush Administration, such as the CFR, The Trilateral Commission—founded by Zbigniew Brzezinski for David Rockefeller—and the Bilderberg Group, have prepared for and are now moving to implement open world dictatorship within the next five years. They are not fighting against terrorists. They are fighting against citizens.

(Dr. Johannes B. Koepl, Ph.D. former German Defense Ministry Official and Advisor to former NATO Secretary General Manfred Woerner. November 6, 2001, quoted in *The High Priests of War: The Secret History of How America's 'Neo-Conservatives' Trotskyites Came to Power*, Michael Collins Piper, 2004).

Today, the shadow of the architects of earlier wars, continues as a permanent war economy with proliferation of ever more horrific weapons for future wars. In the interim period between wars, the technologies developed for the last war are used to develop new weapon systems, one could call exotic weapons, for the next war. The atomic and other technologies introduced in World War II, have been secretly developed during the Cold War, into new directed energy weapons which seem beyond the realm of possibility.

It is the function of the CIA to keep the world unstable, and to propagandise and teach the American people to hate, so we will let the Establishment spend any amount of money on arms.

(John Stockwell, former CIA official and author)

The legacy of the weapons proliferators, drug traffickers, sex traffickers, and gambling promoters of yesterday.... continues to enrich the same families. It is a culture of death and destruction which is turning Planet Earth into a death star.

OUTER SPACE, EXOTIC WEAPONRY AND THE NEW WORLD ORDER

Military interest in space became intense with the introduction of rocket science and nuclear technology to the US military arsenal during World War II. Between 1945 and 1963 rocket technology and nuclear technology developed simultaneously. Nuclear weapons testing in the atmosphere, underground and underwater provided new information about the composition of the Earth's atmospheric layers and how they function, such as the protective characteristic. The ionosphere is the most important protective blanketing layer on earth, shielding it from the solar wind and cosmic energetic particles. The existence of the Van Allen belts was discovered in 1958. The electrojet was also discovered in the ionosphere, two very large rivers of direct current electricity—a source of

electrical power greater than anything on earth. Other contributions were made to scientific knowledge from nuclear bomb tests, about the lithosphere, magnetosphere, and the gravitational field, but it did not come without a price.

The atomicity equivalent (equal number of radioactive atoms) of radiation released during atmospheric testing was 40,000 Hiroshima bombs which led to a global cancer epidemic—just the tip of the iceberg, and at the bottom of the list of free radical diseases caused by internal low level radiation exposure. Dr. Rosalie Bertell has estimated that 1.3 billion people have been killed, maimed, and diseased by the nuclear weapons and nuclear power programmes. The average yearly scholastic aptitude test scores for all children in the United States declined from pre-bomb test scores of 475 to 425 for children born in 1963 at the peak of bomb testing, and never fully recovered. The WHO reported in 2004, of the countries surveyed, that the United States has the highest rate of mental illness in the world at over 26 per cent. The hidden benefit from a nation's health devastated for decades by radiation, is huge profits to pharmaceutical corporations and to those who own them and also promote the wars—the Bush family, the Carlyle Group, Dick Cheney, Donald Rumsfeld and many others.

And what was the environmental impact, known as “the Cold War Mortgage”? The US has 10,500 contaminated sites, and five “National Sacrifice Zones” which will never be cleaned up. The fishing catch in the North Atlantic declined 50 per cent by 1963 and correlated with Strontium 90 levels measured downwind in Norwegian milk. The fishing catch recovered quickly after the Partial Test Ban Treaty was signed in 1963. In the Pacific, the fishing catch declined by 65 per cent and never returned to normal levels because other countries continued atmospheric testing. China was the last to stop in 1993.

Terrell E Arnold, who has been responsible for training our most senior and most promising military officers as chairman of the Department of International Studies at the US National War College in Washington, reports that Coalition dead and wounded may actually be twice what the US government admits and that, including the effects of our use of depleted uranium and other toxic weapons, “a long-term casualty rate for American forces of 40–50 per cent appears realistic.”

(Jung Sung-Ki, “USFK Lost Depleted Uranium: Activist”, The Korea Times, December 23, 2005).

The Korea Times reported on December 23, 2005, that the US military has 2.7 million depleted uranium bombs in South Korea. It is understandable why North Korea wants nuclear weapons.

US Department of Homeland Security Dirty Bomb Cleanup Guidance published January 3, 2006 would allow radiation levels that will cause cancer in 1 in every 3 to 4 people exposed for 30 years, using National Academy of Sciences BEIR VII or EPA risk estimates.

(Nuclear Information Resource Service (NIRS), Press Release, January 4, 2006).

Since 1945, in just 60 years, Dr. Strangelove (Edward Teller) and the “Nuclear Cowboys” have poisoned the world, altering the genome of the entire planet which developed over 4.5 billion years. The new exotic weapons systems of the New World Order promise to be far more destructive to the environment and will be used to reduce global population levels and upwardly concentrate wealth.

Two recent bills in the US Congress hint at secret technologies that have been developed from research on the atmosphere since World War II. Exotic weapons systems are a reality and are intended for the militarisation of space. H.R. 2977: the Space Preservation Act of 2001, introduced in the House by Congressman Dennis Kucinich, defines weapons systems such as directed energy, plasma, mood control, mind control, psychotronics, and chemicals which can target objects, individuals, and populations from space.

The technotronic era involves the gradual appearance of a more controlled society. Such a society would be dominated by an elite, unrestrained by traditional values. Soon it will be possible to assert almost continuous

surveillance over every citizen and maintain up-to-date complete files containing even the most personal information about the citizen. These files will be subject to instantaneous retrieval by the authorities.

(Zbigniew Brzezinski, *Between Two Ages*, 1971).

Senate Bill S. 517: the Weather Modification and Research Operations Board of 2005, introduced in the US Senate by Senator Kay Bailey Hutchison, describes development of research and technologies to alter atmospheric cloud formations in the troposphere, something that has been happening for over 40 years. But there is clearly a hidden military purpose

The military destruction of the environment and global public health during the Cold War will pale next to the devastation and destruction caused by these exotic weapons and space technologies. All of Planet Earth including outer space is now the battlefield, and its natural processes are the new weapons of war that will be used against the citizens of the world.

The threat of environmental crisis will be the 'international disaster key' that will unlock the New World Order. (Mikhail Gorbachev Quoted in 'A Special Report: The Wildlands Project Unleashes Its War On Mankind', by Marilyn Brannan, Associate Editor, *Monetary & Economic Review*, 1996, p.5).

US Representative Kucinich had been strongly opposed to the militarisation of space, and his bill on Space Preservation was intended as a reaffirmation of:

... the policy expressed in section 102(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2451(a)), stating that it 'is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind'. (H.R. 2977: Space Preservation Act of 2001).

Kucinich said, "If we don't invest, we can't be assured that Americans are going to be involved with the commercial space ventures of the future". He added, "We have to be very careful about any efforts which militarise space, because the militarisation of space will destroy the commercial potential of space. We spend \$300 billion a year on the military, and we should be spending money on peacetime development of technology, that's what it comes down to. I think NASA is the key to America's future and leadership in every area of technology. You can never spend too much on R&D, because we will grow our economy through R&D", he said.

But that is not what happened. Instead, the US went to war in Afghanistan, put \$300 billion into the war in Iraq (dumping old weapons and testing new exotic weapons), starved the NASA budget, and lost a space shuttle in a tragic accident. On November 28, 2005, it was announced that NASA received US government clearance to purchase Russian Soyuz spacecraft. Due to a 'spacecraft gap' in NASA's aging fleet, the programme does not have the ability until 2012 to maintain the presence of US Astronauts on the International Space Station without the Russian spacecraft.

If the technology exists, we will use it ... officially or not. (David MacMichaels, former CIA agent, at Congresswoman C. McKinney's 9/11 Congressional Briefing, July 22, 2005).

In an interview in Berkeley, California, on September 14, 2002, Kucinich passionately warned me "If we don't stop them now... they have those space weapons and they are going to put them up there in space ... and they absolutely are going to use them...". Onstage an hour later, he was presented with Berkeley Resolution #61744, the Berkeley Space Preservation Resolution. Earlier that year, this author had read the 'definitions' of weapons in space in Kucinich's bill (HR 2977: The Space Preservation Act of 2002):

III. Directing a source of energy (including molecular or atomic energy, subatomic particle beams, electromagnetic radiation, plasma, or extremely low frequency (ELF) or ultra low frequency (ULF) energy radiation) against that object; or

IV. any other unacknowledged or as yet undeveloped means.

(ii) Inflicting death or injury on, or damaging or destroying, a person (or the biological life, bodily health, mental health, or physical and economic well-being of a person)—

(I) through the use of any of the means described in clause (i) or subparagraph (B);

(II) through the use of land-based, sea-based, or space-based systems using radiation, electromagnetic, psychotronic, sonic, laser, or other energies directed at individual persons or targeted populations for the purpose of information, war, mood management, or mind control of such persons or populations; or

(III) by expelling chemical or biological agents in the vicinity of a person.

(B) Such terms include exotic weapons systems such as—

(i) electronic, psychotronic, or information weapons;

(ii) chemtrails;

(iii) high altitude ultra low frequency weapons systems;

(iv) plasma, electromagnetic, sonic, or ultrasonic weapons;

(v) laser weapons systems;

(vi) strategic, theater, tactical, or extraterrestrial weapons; and

(vii) chemical, biological, environmental, climate, or tectonic weapons.

I was alarmed at the applications and implications of targeting individuals and populations from space, thereby guaranteeing further destruction of the environment. I wanted to do a resolution at the municipal level that other cities could pass which would build support in Congress for his bill. International lawyer, Alfred Labremont Webre, who had already contributed to an International Space Preservation Treaty through the Institute for Cooperation in Space, helped craft the resolution for me which the Berkeley City Council passed unanimously on September 10, 2002.

Predictably, Kucinich's bill never passed in Congress. But after Mayor Lisa Barrett introduced the Berkeley Resolution to the Bowen Island City Council in British Columbia, it swept through Canada. In the spring of 2005, it was used to gather thousands of signatures from Canadians opposed to Canada joining National Missile Defence (NMD). Angry Canadians had discovered Prime Minister Paul Martin, under intense pressure by the US, had made a secret agreement with President Bush to join NMD. Canadian citizens marched into Parliament with thousands of signatures and forced Martin to withdraw his secret NMD agreement.

It was a wise decision by Canadian citizens but a fatal outcome for Martin. It was certain that there would be an

attempt to replace him with a more conservative government which would adopt NMD. Not a single NMD test had really worked, and whistleblowers such as MIT Professor Theodor Postol, had documented extensive science fraud throughout the history of the project. Ted Postol challenged the Pentagon and won. Now missile defense again has pitted him against the government—and his employer and colleagues, Charles P. Pierce (Boston Globe, October 23, 2005). The only test that was ‘successful’ worked because a homing device was put on one missile so the other missile could locate it.

Since Reagan initiated the programme, \$92.5 billion has been spent on Star Wars/Strategic Missile Defence. Star Wars was science fraud nearly from the start. Marion Fulk, a Manhattan project scientist who worked in the nuclear weapons programme at the Livermore Lab, described the ‘Cottage shot’ which was part of a directed energy project he was working on when Edward Teller and Lowell Wood hijacked it and ran off with it to Washington DC. (Personal communication November 30, 2005). Seeing the intentional misapplication of it, Fulk almost immediately retired. Teller called it ‘Star Wars’ and sold it to President Reagan in one hour. In 1983, Reagan got up and talked about a world made safe from the fire in the sky, but his vision was closer to magical thinking than to reality. Many exotic technologies were proposed: 100-ton space-based lasers, neutral particle beams, electromagnetic rail guns, brilliant pebbles, and brilliant eyes.

The problem is that it cost a lot, never worked, will never work, and the Russians who were militarily outspent by the US during the Cold War, proved later to be smarter by strategically developing the most lethal missile in the world.

The Russian 3M-82 Moskit anti-ship cruise missile called the SS-N-22 Sunburn by NATO is a weapon that the US Navy currently has no defence against and it has now been upgraded to a newer version. Russia has sold them to China and Iran.

The Sunburn can deliver a 200–300 kiloton equivalent of TNT nuclear payload, or a 750 pound conventional warhead, at Mach 3 or three times the speed of sound, as low as 9 feet off the ground, making it invisible to radar. And it can elude enemy defences with violent-end manoeuvres. It was designed to defeat the US Aegis radar defence system.

China demonstrated this missile in full view of the multinational naval forces during ‘Summer Pulse’ exercises off Taiwan. These were ‘masterminded’ by the US military in the Pacific in the summer of 2004 to show US superior military power to China. Instead, it became a statement of Chinese military advantage when China shot a Sunburn through the bull’s eye of a target on a ship anchored in front of the multinational fleet off Taiwan. It also reinforced the reality that the US is ten years behind Russia in missile development.

Clinton-Gore declassified documents from 1995 reveal that a US-Russia secret agreement allowed Russia to continue arms sales to Iran, and that America actually helped Russia improve its weapons. The US also secretly agreed to buy ‘Sunburn’ missiles from Russia. US Admiral Bowes wrote to Russian Admiral Gromov in a September 1995 letter:

“I appreciate the opportunity to convey to you the United States Navy’s interest in acquiring all variants of the SS-N-22 ‘Sunburn’ Anti-Ship Supersonic Ship-to-ship missile for test and evaluation.”

Amazingly, the US turned down the Russian Sunburn offer. According to one Pentagon source, the administration balked at the Sunburn price of nearly ‘a million dollars’ a missile. (“How US Helped Russia Improve Deadly Missiles” by C. Smith, Newsmax.com January 23, 2001).

The two NMD missiles tested in the Pacific in December 2004 and February 2005, failed to even leave their silos and cost \$85 million each. The Sunburn missile now at \$2 million and a proven lethal weapons system seems like a very good bargain. The US Navy has a missile gap with no old ones left and no new ones to replace them. The

Russians continue to make the best weapons in the world—secretly with US government help. But this is nothing new.

Reported in December 2005, Russian tests have been successful with a new class of land or submarine based ballistic missiles which can manoeuvre during flight, are called “quasi or semi” ballistic missiles and are unstoppable with present ABM interceptors. These dramatically upgraded Bulava (SRBM) and Topol (SS-27) missiles have turned the tables on US missile defence since the only feasible defence against them implies having pre-positioned space-based anti-ballistic missile interceptors in orbit. That appears impossible for the already over budget US Missile Defence Agency which failed in two out of three tests to even get the ground-based interceptor engines to ignite.

CHINAGATE

Cinton’s Nuclear Potlatch (A potlatch is a ceremony among Native American Peoples in the Pacific Northwest. Hierarchical relations between groups were observed and reinforced through the exchange of gifts and other ceremonies. The potlatch is an example of a gift economy; the host demonstrates his wealth and prominence through giving away his possessions and thus prompts participants to reciprocate when they hold their own potlatch).

Newly declassified ‘Chinagate’ documents reveal that in 1996 under pressure from Hughes Aerospace CEO C. Michael Armstrong, US President Bill Clinton gave a waiver and personally approved the export to China, of radiation-hardened specialised chip sets for a Chinese meteorological satellite. The special chips are necessary for advanced space technology and are critical for nuclear warfare in advanced nuclear warheads.

“In all likelihood we will be glowing in the dark before we discover the true extent of the Clinton decade of betrayal”, stated Rick Fisher, Asian Security Fellow at the Center for Security Policy.

“If it was indeed intended for a new PRC weather satellite, then it is possible that it was used for their new polar orbit weather satellites. This is significant because the Chinese themselves acknowledge that their polar orbit weather satellites directly contribute to their long-range missile targeting capability. This becomes even more important for their new smaller but more accurate warheads, used on their new DF-31, DF-31A, DF-5 Mod2 and JL-2 missiles. If they encounter significant weather, warhead accuracy degrades, reducing their utility”, stated Fisher. (“ Clinton Gave China Chips for Nuclear War” Charles R. Smith, Newsmax.com October 1, 2003)

This shows the extent to which the Clinton White House placed trade, specifically with China, above National Security. Even more telling, the transfer took place during an investigation of Chinese espionage into missing US radiation-hardened satellite chips. When a damaged American Loral satellite from a failed Chinese launch was returned to Loral electronics, the radiation hardened encrypted telemetry chips, stored in a secure flight control box similar to those found on airliners were missing. The NSA changed all US satellite codes as a result of the theft of the Loral chips, which cost American taxpayers millions of dollars.

The Chinese army also made contributions to the 1996 Clinton-Gore campaign, sometimes in cash. Allegations of espionage, illegal campaign donations, and possibly bribery were never fully investigated.

Hughes CEO Armstrong was not so lucky. Hughes was charged by the US State Department with 123 counts of violating national security for satellite exports to China, which Hughes admitted were military items. The company pleaded no contest, which disgraced the company, and it was fined half a billion dollars. After trashing Hughes, Armstrong moved on to AT&T and then Comcast.

Because of the greed of Hughes/Armstrong, the Commerce Department allowed the Chinese army to obtain a vast array of advanced missile, satellite, and space technology. Several years ago, while the US space shuttle was grounded, the US space technology illegally sold to the Chinese Army was used on China’s first manned

spacecraft.

In 1997 as chair of the President's Export Council, Armstrong stated in a report that the US nuclear industry had to sell 100 nuclear reactors to China or the US nuclear industry and the US Navy's nuclear programme would be threatened. That the survival of the US nuclear industry depends on China was an outrageous argument. He was unsuccessful in lobbying for the sales despite efforts by Clinton to export nuclear technology to China. A reluctant Republican-controlled Congress resisted the sales because of national security concerns.

From the 1970s through the Clinton era, China apparently got the entire classified portfolio on design and manufacturing of all US major "nukes". Nuclear weapons lab scientist, Dr. Wen Ho Lee, falsely accused of transferring classified information to China, was made the scapegoat, humiliated, put in prison in solitary confinement for 278 days in leg irons, while Wang Jun, the head of the Chinese Secret Police and a major arms dealer was able to have coffee with President Clinton in the White House. Secretary of Defence William Cohen, commented on the transfer of nuclear weapons technology from Lawrence Livermore National Laboratory to China:

"They weren't exactly spying in my view. We gave it to them."

While the Mossad (assisted by Mossad agent and international publisher Robert Maxwell) and Chinese spies were stealing nuclear secrets from the Los Alamos and Livermore nuclear weapons labs, Richard Berta, the Western Regional Inspector from the Inspector General's Office at the Department of Energy (DOE) was too busy doing business with the lab administrators to notice.

According to US Congressional Testimony of Danielle Brian on September 24, 2002, when the World Trade Center disaster happened in 2001, Navy Seals were secretly sent into nuclear facilities as 'terrorists' and were able to enter the classified areas and steal enough weapons grade plutonium from the Los Alamos nuclear weapons lab to make a nuclear bomb. They used wire cutters to get through the perimeter fence and a wheelbarrow to get the plutonium out of the lab. This exercise was repeated with similar concerns about security this year at the Livermore nuclear weapons lab.

The 'Nuclear Potlatch' legacy that President Clinton left for the twenty-first century is a modern Chinese army equipped for global nuclear war. Not so much an accident, but a pattern seen over and over again that in reality is a setup. The US lays a weapon on the table, says to a country "Go ahead... pick it up..." and when the country reaches for that new 'toy'—they are whacked with a big stick and eventually "bombed into radioactive rubble".

The Wars on Terror, Drugs, and Weapons of Mass Destruction are dreamed up in that Death Star in Arlington, Virginia—the Pentagon. Three branches of the US government are part of the staged production that give Americans a false notion that they live in a democracy and have a truthful media reporting to them about the success of 'exporting democracy' through wars. Nothing could be further from the truth. The United States has become a fascist state where there is no clear distinction between legitimate and clandestine illegal organisations.

While the George H. Bush administration was hyping the War on Terror, Defense Information Agency (DIA) officials believed that nuclear technology had been transferred to Pakistan and began investigating. Similarities between Pakistani and US weapons designs were of particular concern. A regular exchange of information was discovered, between China and the Army Computer Lab at the Aberdeen Proving Ground in Maryland, that took place during the 1980s and early 1990's (under Presidents Reagan/Bush and Bush/Quayle). At the same time the CIA and US policy-makers used A.Q. Khan as a cover, claiming he was secretly running a black-market network for distributing nuclear materials to countries like Iran, North Korea, Libya, and Malaysia, when he was simply acting as their frontman. Many of the companies he did business with are government controlled. Efforts to trade nuclear technologies with North Korea in exchange for missile technologies were approved by the top echelon of

both the Pakistan and Saudi governments. Countries that detained Khan were ordered to “look but don’t touch” by the US, and he was released. Pakistani Nazir Ahmed Vaid was arrested in Houston in 1984 attempting to smuggle out 50 krytrons, electronic switches for nuclear weapons. He received a very special deal and was let off on probation and deported. He continued to enter the country illegally and conduct business until 2004 when his son was warned by a Customs’ Agent that there was a detention order on his father.

In the 1980s, Congressman Charlie Wilson working with the CIA, told Pakistan’s President Zia ul-Haq:

“Mr. President, as far as I am concerned you can make all the bombs you want.”

(Joseph J. Trento, Prelude to Terror: The Rogue CIA and the Legacy of America’s Private Intelligence Network).

It is hard to believe that the US intelligence community was unaware of a massive secret atom bomb project funded by the Kingdom of Saudi Arabia through the failed BCCI bank. According to a Senate report George H.W. Bush’s favorite bank was also used to covertly fund the anti-Soviet Afghanistan resistance, and the CIA has been aware since the 1970s of Pakistan’s nuclear program when Bush was Director. Among George W. Bush’s “Axis of Evil” supposed enemies, many of his father’s ‘friendenemies’ are listed.

The pan-Islamic bomb project may be one of the biggest nuclear conspiracies in modern history. Recent disclosures involve CIA covert agent Valerie Plame’s investigation of WMD, her attendance at American-Turkish Council events, and several trips to Turkey. The Turkish newspaper Huriyet described her visit as a search for WMDs and more likely their components. Transactional emails made between Asher Karni [Israeli businessman in S. Africa], Zeki Bilmen [Turkish businessman] of Ginza Technologies in New Jersey, and Humayun Khan [operative for the Pakistani military] concerned procurement of oscilloscopes and oscillators (used to build missiles and nuclear weapons), and triggered spark gaps (used to spark nuclear explosions). Referring to the spark gaps, Bilmen said in another email “... No Export Licence Required to South Africa. I thought you might want to know.” Asher Karni, a Hungarian-born Israeli citizen and resident of South Africa, was caught at the Denver airport in 2003 exporting 200 nuclear weapons triggers to Pakistan, and was sentenced to 3½ years in prison on August 4, 2005. By illegally providing nuclear components arranged by the White House and Pentagon through middleman Asher Karni, the Bush administration and pro-Israeli neocons hoped to accelerate Iran’s nuclear programme by ten years. Turkey’s role in illicit nuclear transactions and selling off classified US military data involves the Russian-Ukrainian-Israeli Mafia and their ‘friends’ involved in related activities.

SECRET DEVELOPMENT OF EXOTIC SPACE WEAPONS EXPLORATION OF SPACE FOR MILITARY PURPOSES

“Cover stories about projects must be believable and cannot reveal any information regarding the true nature of the project.”

(National Industrial Security Programme Manual (draft) March 1992, provided by US Department of Defense for industrial contractors).

The ‘true nature’ of the project is clearly US military space dominance and warfare.

Nearly all of the atmospheric research undertaken by the US since World War II has been conducted by or for the benefit of the military under the legitimate cover of ‘academic research’ and shielded from scrutiny by secrecy. The best and the brightest minds have been lured into this research, engaged in compartmentalised investigations with little knowledge of the larger application.

The militarisation of US Space Command: 2020 Vision is sanctioned by Congress. The military considers space the “high ground” and clearly it is the next battlefield... or is this just another cover?

“We’ll expand into these two missions (space control and space force application) because they will become

increasingly important. We will engage terrestrial targets someday—ships, airplanes, land targets—from space. We will engage targets in space, from space. And this command will engage quickly; [the missions] are already assigned, and we’ve written the concepts of operations. We will engage re-entry vehicles in the medium of space with a ballistic missile defence system of North America. It’s politically sensitive, but it’s going to happen. Some people don’t want to hear this, and it sure isn’t in vogue... but—absolutely—we’re going to fight in space.”

(General Ashy, commander US Air Force Space Command and commander-in-chief of the combined US-Canada North American Air Defence Command (NORAD), August 5, 1996).

Orbiting our world at hypervelocity (10 km/sec), mostly in low-Earth orbits, are a large number of satellites (the real number is classified) and a debris field of space trash which travels at speeds of up to 17,000 miles an hour. As of 1987, orbital pollution was composed of more than 7000 objects 10 cm, 50,000 objects from 1–10 cm, and 10–100 billion paint chips which are now in orbit. By 2002, the US Air Force Space Command was tracking 10,000 objects 10 cm: “operating and dead satellites, explosion fragments from rocket engines, garbage bags and frozen sewage dumped by astronauts, shrapnel from antisatellite weapons tests, 34 nuclear reactors and their fuel cores, an escaped wrench, an astronaut’s glove and a toothbrush”. Returning space shuttles often have dings and window cracks. Astronaut Edgar Mitchell described how a paint chip nearly took out the Space Shuttle and that it is “nearly too dangerous now” to travel in space. The 1987 risk of a damaging collision during several years in orbit was 1 in 500. The volume of debris doubles about every 5 years and weighed 3000 tons in 1997. Pieces of space trash 10 cm must each be identified and tracked by complex military computers in order to differentiate them from a missile attack. Each piece of space trash is reported and registered annually with the UN.

In January 1978, when Cosmos 954, a nuclear-powered Soviet satellite, fell from orbit over Canada, it released radioactive debris and dust contaminating a path 2,000 km long. That was not the first one. NASA’s New Horizons space probe heading for Pluto is powered by a Radioactive Thermoelectric Generator or “RTG” containing 24 pounds (about 132,465 Curies) of extremely deadly plutonium—mostly Pu 238, and about 12 per cent Pu 239 (aka ‘weapons grade plutonium’). The military connection to this launch is that covertly RTGs could be used for orbiting spy satellites, but the military will not admit using them. Military plans to use nuclear weapons and nuclear powered propulsion in space should be of great concern. Lower orbital space is already contaminated with uranium and its decay products from atmospheric testing. It remains suspended in the atmosphere until it is rained or snowed out of the air, depositing it in the environment.

The expanding ring of man-made garbage circling the earth at hypervelocity, is an increasing threat to spacecraft and satellites. Objects “greater than 1 mm will likely penetrate the skin of a satellite or a solar panel, those greater than 1 cm will cause the break-up of satellites, and those greater than 10 cm can cause the total fragmentation of a satellite”. The UN’s Committee on the Peaceful Uses of Outer Space reported in 1999 that 16,000 space objects had reentered the atmosphere in the previous 40 years. That is about one object a week with a cross section of one square metre.

Military and NASA officials dismiss claims by scientists and astronauts that weapons in space could leave so much debris that lower orbital space would be unusable. The danger of radioactive pollution from nuclear weapons in space is never mentioned.

In a speech in April 2002, Astronaut Sally Ride said anti-satellite weapons would be “disastrous”, particularly between 150 and 400 miles high. This zone includes the space shuttle, international space station, and reconnaissance satellites.

Yet in the face of the new upgraded Russian Topol and Bulova missiles, and of the complete failure of the US land-based anti-missile missiles, space-based weapons are the only defence possible. A high-tech space battle could be catastrophic as biophysicist John Primack argues, because if an enemy chose a low-tech delivery of “giant loads of

rock or metal pellets into space”:

No actual space war even has to be fought. Any country that felt threatened by America’s starting to place lasers or other weapons in space would only have to launch the equivalent of gravel to destroy the sophisticated weaponry.

(“Scientist: Space weapons pose debris threat” Richard Stenger, CNN, May 3, 2002).

A marble travelling at 17,000 mph, 10 times faster than a bullet, could hit an object “with the force of a one-ton safe dropped three stories”. This could set off a series of collisions that would cascade into more and more collisions eventually leaving the orbital zone unusable. Another example of ancient Mesopotamian warfare turning high-tech weapons into dust.

So what are the real weapons and what is the real purpose for the militarisation of space?

SOLAR POWER SATELLITE PROJECT (1968)

The solar power satellite programme (SPS) in the late 1960s, won public support from civilians and universities as an alternative to nuclear power, but served for the military as a cover for continued research and experimentation on the ionosphere. The projected cost of the electricity produced by this project was \$3000 per kilowatt compared to \$1100 per kilowatt for nuclear power. This was a very expensive programme from the start, requiring nearly \$800 billion for the 60 satellites required alone, and it must have been obvious to some that it would never be implemented. The whole budget cost was 2-3 times greater than the entire DOE budget! In 1978, Dr. Rosalie Bertell was on a government review panel, and discovered the shadow of the military through another panel member who pointed out that there was a possibility of developing a satellite-borne beam weapon for anti-ballistic missile use. Another possibility was that it could be used for a satellite surveillance system.

“My former neighbour worked for TRW for many years putting the little black boxes together in the sats [satellites] they were launching. Interestingly, these so-called ‘weather’ sats suddenly went missing. My neighbour said he had heard enough talk at TRW to cause him to believe these sats went ‘stealth’ into 20,000-mile high orbits from the original 300-mile high orbit. He was not certain of the function of the little black boxes but his fringe knowledge of laser systems and related components led him to believe these ‘weather’ sats were in fact laser guns for preemptive action when needed ... until then, it is anyone’s guess as to what function they actually are performing.

Speculation about a ground-based high-energy laser beam that could thermally destroy incoming enemy missiles was also discussed. In Livermore, California, in the middle of the night in the summer of 1993, I observed from my backyard a very large amber coloured laser beam about 10 feet in diameter, pointed straight up into the atmosphere from the Lawrence Livermore Lab. All air traffic was diverted for 5 miles around the beam. When I asked a physics student, working at the lab and renting a room in my house that summer, what it was for, he said, “Oh, they’re making a star up there...”

In the entrance of the large Laser Facility at Livermore Lab is a 10 feet tall bronze statue of Shiva, representing the dance of the Universe. The first big laser project was called Shiva. A tradition at the Livermore lab is that each one is destroyed when a new one is built.

STRATEGIC DEFENCE INITIATIVE (SDI) OR ‘STAR WARS’

The United Nations Committee on Disarmament told Dr. Bertell, who had been concerned about weapons applications, that as long as SPS was called ‘solar energy’, it could not be considered a weapons project (Planet Earth: The Latest Weapon of War by Rosalie Bertell, Black Rose Books, 2001). Eventually Congress killed it because of the cost. But it came back as the Strategic Defence Initiative (SDI) or Star Wars under Reagan. The cost of building the Star Wars defense system was estimated at \$100 to \$1000 billion. The US spent nearly \$30 billion

on it, despite objections from scientists, NATO allies, and anti-nuclear movements who stressed that it broke the terms of the 1972 Anti-Ballistic Missile Treaty.

Disillusioned researchers in the US have claimed that Star Wars was science fraud and that data was falsified, Caspar Weinberg, Secretary of Defence under Reagan, stated that it was actually conceived to deceive the USSR and force them to escalate military defence spending. In 1991, I was approached at the Lawrence Livermore Lab by a gray-haired scientist I had never met but who seemed to know me. He said:

“The Cold War is over, we’ve looked at the books in the USSR and they are bankrupt. When the Soviet Union collapses in a year or two you are out of here. We only need you [geoscientists] to monitor global nuclear weapons testing. We are dismantling the military and expanding the intelligence community by at least ten times.”

In 1993 the funds from the Star Wars project, which had officially ended, were transferred to the Ballistic Missile Defence Organisation, the third reincarnation of the same project since Reagan. Now that it was a compartmentalized project—laser defence, radar systems, National Missile Defence (NMD), and the Space Shuttle—none of the parts seemed particularly alarming until, as Dr. Rosalie Bertell puts it, space shields or plasma shields were taken into consideration as the real purpose behind the persistent reincarnations of these very expensive programmes.

THE JAPANESE AUM SHINRIKYO AND ELECTROMAGNETIC WEAPONS RESEARCH

On April 23, 1993, Aum Shinrikyo, the Japanese ‘Supreme Truth’ Buddhist Sect, purchased a 500,000 acre sheep ranch in Western Australia near Banjarn. They sold the ranch and suddenly left Australia in October 1994. Indications were that they had prospected for uranium, used chemicals and a laboratory for an unknown purpose, and after they left Australia traces of Sarin gas were found on sheep and wool (“Global Proliferation of Weapons of Mass Destruction: A Case Study on the Aum Shinrikyo”, Senate Government Affairs Permanent Subcommittee on Investigations October 31, 1995 Staff Statement). Later members of this sect were implicated in the 1995 attack on the Tokyo subway with Sarin gas. The leader was tried and convicted in Tokyo while I was in Japan for the summer of 2003. I met Japanese journalists who had followed the story and personally knew members of the sect, many of whom are scientists. Manhattan Project member, Dr. Fred Wood, and Alden Bryant, Secretary-Treasurer of the New Energy Movement warned me about how dangerous Russian exotic weapons technology is and said that it had been leased by the Aum from Russia. The Aum recruited followers in Japan, Russia, Australia, Sri Lanka, the United States, and visited Yugoslavia. Links to the Yakuza (Japanese Mafia) through drug dealing were alleged in the Japanese media.

A Congressional investigation of the Aum Shinrikyo in 1995 reported that their interest in WMDs was related to Armagedon-like events they planned to stage against New World Order interests:

“It [Aum] claims that the Jews are planning similar massacres in other areas of the world in order to carry out a sinister plot to reduce the world’s population by three billion people by the year 2,000. The Aum also has linked the Jews to its other enemies within Japanese society—the ‘black aristocracy’ of Japanese ‘internationalists’ including a number of current and former Japanese politicians and statesmen.”

The sect claimed 65,000 members, with over half in Russia. The Japanese government estimated their assets at \$1 billion. Many of the Aum followers were highly educated in the science and technological fields and graduated from Japan’s best universities. The sect spent over \$400 million on computer equipment, nearly all purchased from a Taiwan company. Their cult acquired conventional weapons but were more interested in WMDs and apparently saw Russia as a source for more exotic, and far deadlier weapons.

When the Russian Duma did an investigation of the sect, Russian parliamentarian Vitaliy Savitsky, chairman of the Duma’s Religious Affairs Committee told fellow parliamentarians that, “his committee seriously suspected

that Aum Shinrikyo had been assisted in its penetration into Russia by Russian intelligence services.”

From February to April 1995, the Aum sent a party of six members to the Tesla Museum in Belgrade, the former Yugoslavia, to review Tesla’s original thesis and other research papers pertaining to “Tesla weapon systems” which focus on wave amplification. Nikola Tesla was a scientist who experimented in the fields of atmospherics, electromagnetics, fluid dynamics, and geodynamics in the early 1900s, and discovered alternating current. Although Marconi won the Nobel Prize for inventing radio, Tesla later won a lawsuit claiming that he had been the rightful inventor. When he died in the US in 1943, all of his papers were seized by the US government and classified. The Aum members studied research on the Tesla Coil, used for alternating current, as well as other inventions and experiments. His early experiments with resonating frequencies were experiments in creating earthquakes. He was quoted as saying that with his technology he could ‘split the world’ in two. Tesla had developed a ‘ray’ gun in the 1930s which was actually a particle beam accelerator. This gun was reported to be able to shoot down an airplane at 200 miles, and he claimed to have invented the Tesla shield which nothing could penetrate.

In April 1993, Australians were told by the Aum sect that the property in Australia was to be used to ‘conduct experiments there for the benefit of mankind’. On May 28, just 35 days after the purchase, a strange meteor like fireball, an explosion, and an earthquake of magnitude 4 were reported in the area. In September 1993, a front company for Aum was used to import electrical equipment including transformers, static converters, generators, coaxial cabling, batteries, meters and tools, and protective equipment into Australia.

Later a geologist named Harry Mason, visited the area and investigated the semi-desert region looking for meteor craters. He discovered from interviews with residents that:

“... people heard the fireball well before they saw it; it was a large orange-red spherical fireball with a very small bluish conical tail; the speed was like that of a 747 jet liner; the fireball flew apparently parallel to Earth’s curvature in a long ‘nap of earth’ arcing trajectory at low altitude (about 2000 metres) over a distance of at least 250 kilometres; the fireball arced down toward the ground and disappeared behind trees or low hills; then a blinding massive high energy burst of blue-white light lit up the night as if it was daylight. Observers could see more than 100 kilometres in every direction at ground level; a red colour flare then shot vertically skywards and a massive seismic ground wave hit the observers; a very loud major explosive blast followed, that was heard over a 250 km by 150 km corridor; minor quake damage was reported as far as 150 km southeast.”

(Harry Mason, ‘Bright Skies Part I’, Nexus, March–April 1997).

There were many irregularities which indicated this phenomenon was very different from anything known before. Since the 1993 fireball event, thousands of similar sightings and light-energy emissions have occurred in Australia. Dr. Bertell reports that the fireball trajectories pass near four military complexes: Showa and Mizuho in Japan, Molodezhnaya and Novolazarevskaya in Russia. The Kamchatka peninsula, in Siberia, is also suspected of being one of a series of former Soviet electromagnetic weapons transmitters around the world.

UNDECLARED ELECTROMAGNETIC WAR

Design work began on antiballistic missiles (ABM) in 1946, at the University of Michigan, for interception of long-range missiles. The Soviet Union also began development of ABM defence after World War II, mainly theoretical research between 1948 and 1951. By 1967 the USSR began working on projects for early warning systems, space defence, and a system for outer space control. These became the main components of the ABM and space defence of the Soviet Union.

Upgraded from above-the-horizon radar, the Soviet Duga-2 “Iron Yard” over-the-horizon radar was designed in 1970 to detect enemy missiles within two or three minutes, and was successfully tested at Novaya Zemlya. At

Nikolaev the radar built included 26 huge transmitters (each one was of the size of a two-story building).

“The transmitting antenna was 210 meters wide and 85 metres high. The receiving antenna was 300 metres wide and 135 metres high. The antenna field housed 330 transmitters of about 15 meters each. These radars had to reliably detect group and mass launches of intercontinental ballistic missiles from the territory of the US.”

On July 4, 1976, the 200 th anniversary of the United States, the first such facility began operations at Kiev and has been on the air ever since. The powerful electromagnetic transmissions were a signal transmitted at frequencies between 3.26 and 17.54 megahertz, and was pulse-modulated at a rate of several times a second. The 2 MW transmitter at first interfered with communications, and ham radio operators picked it up all over the world, but corrections were made so that it skipped critical frequencies for aircraft and transoceanic flights as it moved across its operational spectrum.

Two more similar facilities were built later near Chernigov and Komsomolsk-na-Amur. The facilities at Kiev and at Komsomolsk-na-Amur provide coverage of the United States. A smaller lower-power facility at Nikolaev near Odessa provides coverage of China.

On July 18, 1977, the US government became covert partners with the Soviets and the secret code name given to it in the US was Project Woodpecker. The US sent a team of scientists to Russia with a 40 ton magnet and other scientific material and equipment for further research and development.

The main research center for the Project has been the Lawrence Livermore National Lab. Covert funding funneled through the CIA and National Security Agency provided support along with collaboration by the Department of Defence and NASA from the beginning of the project. In January 1995, the Livermore State of the Laboratory award publication announced that a 21-member Woodpecker team had received the Intelligence Community Seal Medallion in 1994 for “its work on a classified project to improve information-gathering techniques.” The Deputy Director of the CIA and the Director of the NSA presented the award at CIA headquarters at Langley, Virginia. The award cited the team’s success:

“...on a series of technical problems of enormous complexity, resulting in an extremely powerful operational capability that can be used to gather intelligence from unique sources not exploitable by any other means.”

The lab publication stated that in 1985 the project team started work on feasibility studies. The final product was delivered to the project sponsor in 1992, just as the Cold War ended.

On June 22, 1995, Dr. Armen Victorian received an answer from the Oakland office of the DOE on his appeal for a Freedom of Information (FOIA) request on Project Woodpecker:

In its May 5, 1995 determination, Oakland stated that a search had been conducted for documents responsive to Victorian’s request, but that no records were found as a result of the search. Oakland specifically stated that information relating to Project Woodpecker had been destroyed.

Back in 1952 a secret meeting was held in New Mexico between Russian and US scientists at the Sandia Lab, which is part of the nuclear weapons programme. An exchange of information on the biological hazards of microwave and electromagnetic frequencies, and safety levels, was not entirely successful. The Russians publicly acknowledged the risks but the Americans did not take them seriously. Shortly after that the Russians began a 30-year programme beaming the US embassy in Moscow with microwaves, causing the deaths of three US Ambassadors and illnesses in employees. The “Moscow Signal” discovered by the CIA in 1962, was used by the Russians on US embassy employees to test low-level EMR (electromagnetic resonance) effects.

In April 1976, Secretary of State Henry Kissinger sent the following telegram to the US Embassy in Moscow, which summarized the conclusions of the study of the Moscow signal:

“Subject: Radiation and UHF and Electromagnetic Dangers”

“Beginning in 1960 the Soviet Union directed the high frequency beams

of radiation at the US Embassy in Moscow which were calculated not to pick up intelligence but cause physiological effects on personnel. The effects the Soviets calculated to achieve in the personnel serving (at least as early as 1960) included (A) Malaise (B) Irritability, (C) Extreme fatigue. At this time the Soviets believed that the induced effects were temporary. Subsequently, it has been verified that the effects are not temporary. Definitely tied to such radiation and the UHF/VHF electromagnetic waves are: (A) Cataracts, (B) Blood changes that induce heart attacks, (C) Malignancies, (D) Circulatory problems, and (E) Permanent deterioration of the nervous system. In most cases the after-effects do not become evident until long after exposure—a decade or more.”

(William MacIntosh, Project Pandora, <http://www.geocities.com/adrian999999999/pandora.htm>).

The Soviets apparently were the first to use electropollution or directed energy with malicious intent. By 1955 the US Navy was conducting EMR experiments with UHF (ultra-high frequencies) for the purpose of targeting individuals, crowds, or armies. The effects could be scaled up or down, and today are called Non Lethal Weapons (NLW). A 2004, “Military contract for Pulsed Energy Projectile (PEP) Pain Study, a heavily redacted US Navy contract for development of NLW with the University of Florida, reveals interesting details of pulsed microwave directed energy weapons.

“...decades of research and investment of untold millions of rubles in the process of psycho-corrections has produced the ability to alter behaviour on willing and unwilling subjects, experts add. The Russian experts, including George Kotov, a former KGB General, also report a list of software and hardware associated with their psycho-correction programme that could be procured for as little as \$80,000. As far as it has become possible to probe and correct psychic contents of human beings despite their will and consciousness by instrumental means; results having been achieved can get out of control and be used for inhumane purposes of manipulating psyche.” (Barbara Opall, Defence News, January 11–17, 1993).

ULTIMATE WEAPON—THE ENERGY OF NATURE AND LIFE

As described in World As Laboratory: Experiments With Mice, Mazes, and Men by Rebecca Lemov, Hill and Wang (2005). American POWs returned from World War II brainwashed and nonresponsive, waiting like cattle on ships when they arrived, confused and unenthusiastic about being back. Military heads of staff, puzzled by the mental state of the soldiers, wondered if they had been subjected to new techniques unknown to the West. In 1953 Allen Dulles, newly appointed Director of the CIA, described how ‘Communist apparatchiks’ had turned the soldiers into robots whereby the victim’s brain:

“... becomes a phonograph playing a disc put on its spindle by an outside genius over which it has no control ...”

Under Dulles, the Agency soon developed its own programme to explore control of human behaviour from a CIA list of research areas:

In Britain, mind control research began at the Tavistock Institute in the 1950s. At Britain’s leading psychiatric research facility, the ‘submissive monkey response to the dominant monkey’ was of particular interest to British scientists. After identifying the specific brain rhythm for docile submissive behaviour, it has been superimposed on the ELF signal beamed on British microwave transmitters. Britain had developed radar transmitted with microwave in the 1940s, and was already advanced in the technology.

It is no surprise that the goal was accomplished, weaponising mind control, considering the resources invested in it, but the manner in which it was conducted is a warning. The ultimate weapon, of all weapons that have been developed, is manipulation of our electro-magnetic environment. And through this research the most important

scientific discovery has been made ... the nature of life. The most shocking discovery, for all of humanity, is that this time we are the enemy.

The discovery of a complex set of electromagnetic signals in the US Embassy in Moscow by the CIA in 1962 led to Project Pandora. The project was set up to investigate 'the effects of low level electromagnetic radiation on man'. Monkeys brought into the Embassy and exposed had damage to blood and chromosomes. White blood cell counts were 40 per cent higher (common to incipient leukemia) in some Embassy personnel, and a physician who did the studies was quoted in the Associated Press as saying they had found lots of chromosome breaks. Although the State Department claimed the Moscow signal was never more than 18 microwatts (relevant Project Pandora records have allegedly been destroyed), research protocols for the project were as high as 4,000 microwatts. At the 1967 Glassboro talks, President Johnson asked Premier Kosygin to stop the microwaving of the Embassy but it continued.

By 1955 the Naval Medical Research Institute began research on high-power transmitters using short UHF wavelengths which burned exposed skin. They also "cooked" dogs to death, and developed a crude electromagnetic flamethrower. This was early experimentation on what are called today, Non Lethal Weapons (NLW), which can obviously be lethal. Researcher Sol Michaelson discovered in 1958 that dogs exposed to UHF wavelengths struggled to get out of their restraints, but for an unknown reason, continued to face the transmitted beam. In 1960 the Soviets discovered that UHF wavelengths caused muscle weakness and lethargy in experiments on rats. By the mid-1960s the Soviets reported that a microwave beam could produce 'eyestrain and blurred vision, headaches, and loss of concentration. (In Robert O Becker, op.cit)

In 1971 a historic conference was held in Warsaw where scientists from the USSR Institute of Labour Hygiene and Occupational Diseases presented a list of symptoms which they called 'microwave sickness'. Low blood pressure and slow pulse were the first symptoms. Later other common symptoms were:

"... chronic excitation of the sympathetic nervous system (stress syndrome) and high blood pressure. This phase also often includes headache, dizziness, eye pain, sleeplessness, irritability, anxiety, stomach pain, nervous tension, inability to concentrate, hair loss, plus an increased incidence of appendicitis, cataracts, reproductive problems, and cancer. The chronic symptoms are eventually succeeded by crises of adrenal exhaustion and ischemic heart disease (blockage of coronary arteries and heart attack)." (Robert O. Becker M.D., The Body Electric).

The Soviets had already set high standards for EMF protection. Dr. Karel Marha, from the Institute of Industrial Hygiene in Prague, recommended that a higher standard be adopted in the West:

THE MIND HAS NO FIREWALL

Three American researchers, Ross Adey (communication of cells), Allan Frey (microwave auditory effect), and José Delgado (electromagnetic behaviour control), conducted research on communication in the body, the brain, and behaviour modification in the 1960s and 1970s which propelled the development of mind control technology.

After participating in the Pandora Project, Ross Adey worked at UCLA and later established the Brain Research Institute, where he was best known for his studies on the biologic effects of weak electromagnetic forces, a paradigm shift that was not always appreciated by mainstream scientists unwilling to accept new ideas. Despite the resistance he made major contributions.

In his research he intensely studied the "window effect" where a certain result would occur at certain frequencies and power levels but not at others interspersed between the windows. He believed "windows" would be discovered at fractions of a microwatt, far below what he had studied. A later study confirmed his belief and suggested changes in brain waves down to a billionth of a microwatt. He discovered that "calcium-outflow windows could

interfere with functioning of the entire brain” because amplification of signals in communications between cells was calcium dependent. This proved to be one of his most important discoveries. He and his colleagues also demonstrated that behaviour modification could be achieved by entraining the brain waves of a cat with microwaves modulated in different ways and then imposing specific electrical patterns on parts of the brain.

In 1983 he demonstrated a Russian LIDA machine which had a small transmitter that emitted 10 Hertz waves for tranquilisation and enhanced suggestibility. The tube was an ancient vacuum-tube design which a former POW in Korea recognised as similar to ones he had seen during interrogation. The Koreans and other communist block countries have used ELF waves for at least 50 years.

Allan Frey, a freelance biophysicist and engineering psychologist, studied the bioeffects of microwaves for decades, and discovered in 1962 that the perception of sound could be induced with low level microwave, even in deaf humans.

He also discovered that the permeability of the blood-brain barrier could be increased with certain pulsed microwave beams, an additional weapon which enhanced the effects of drugs, bacteria, or poisons.

“Using relatively low-level RFR, it may be possible to sensitise large military groups to extremely dispersed amounts of biological or chemical agents to which the unirradiated population would be immune.” (Tyler, Capt Paul E, MC, US Navy).

“The Electromagnetic Spectrum in Low-Intensity Conflict” 1986 .

By synchronising the pulse rate of a microwave beam with the beat of a heart isolated from a frog, he could speed up, slow down, or stop the heart. This was reproduced in live frogs which indicated it was possible to cause heart attacks with a microwave penetrating the human chest.

Confirmation came from a 1982 Air Force review of biotechnology:

“... impressed electromagnetic fields can be disruptive to purposeful behavior and may be capable of directing and/or interrogating such behavior. Further, the passage of approximately 100 milliamperes through the myocardium can lead to cardiac standstill and death, again pointing to a speed-of-light weapons effect.”

“A rapidly scanning RFR system could provide an effective stun or kill capability over a large area.” (“Final Report on Biotechnology Research Requirements for Aeronautical Systems Through the Year 2000” USAF).

There were indications that other pulse frequencies could interfere with metabolic processes. This was demonstrated in simulated muscle tissue at the Naval Aerospace Medical Research Laboratory in Pensacola.

José Delgado, the psychotic advocate of a “psycho-civilised” society, began his career in fascist Spain in World War II conducting research on the use of pain and pleasure for mind control. He was an MKULTRA experimenter who once demonstrated a radio-controlled bull on CNN in 1985, and stopped it as it charged him by transmitting a radio signal to an electrode implanted in the bull’s brain.

“We need a programme of psychosurgery and political control of our society. The purpose is physical control of the mind. Everyone who deviates from the given norm can be surgically mutilated.

Man does not have the right to develop his own mind. This kind of liberal orientation has great appeal. We must electrically control the brain. Some day armies and generals will be controlled by electrical stimulation of the brain.” (Dr. Jose Delgado, Congressional Record, No. 26, Vol. 118, February 24, 1974)

As Director of Neuropsychiatry at Yale University Medical School, he refined the design of his “transdermal stimulator”... a computer controlled, remote neurologic transceiver and aversion stimulator. The potential of using electrical stimulation of the brain (ESB) for mind control was mostly explored through his work, but he later

shifted to the biological effects of electromagnetic fields.

In one of his experiments he used a signal on a cat which caused it to lick its fur and continue compulsively licking the floor and bars of its cage. In another experiment on a monkey, he triggered the monkey by stimulating a portion of its brain which caused it to walk back and forth across its cage, climb to the ceiling and come back down. The monkey repeated this triggered by the signal as many as 60 times an hour. He could also trigger monkeys to smile or turn their heads 'up to twenty thousand times in two weeks' no matter what they were doing. He said, "They looked like electronic toys."

Implants provide even better transmitters, cochlear implants will send electrical signals into the fluid of the inner ear. Implants in teeth or dental fillings pick up radio signals and transmit sound vibrations through bone conduction. Time Magazine listed a "Phone Tooth" as one of the best inventions for 2002. When embedded in a molar it can receive cell phone calls, signals convert to vibrations which travel through the skull to the inner ear.

TYRANNY WITHOUT TERROR

The danger to all societies is that technologies such as microwave and radio transmissions, which can impose certain thoughts or moods on targets or populations, compliance and complacency, and monitoring of EEG (electro-encephalogram) potentials—all together pose the terrifying threat of total remote control of society.

An article in the Washington Times on August 22, 2002, "NASA Plans to Read Terrorist's Minds at Airports" revealed that Northwest Airlines, NASA and an unidentified commercial entity had been developing brain-monitoring (mind reading) devices for airports (since at least 1995). Three other airlines were also involved.

When the documents for a joint project meeting between NASA and Northwest were requested under a FOIA, the results were shocking. The project meetings had been ongoing since 1995. Passengers were monitored at a more intense level at each step, from the time they made a reservation, to arrival at the airport, when they checked in. The monitoring included biometrics, personal information from DARPA/government created databases, both ECG (electrocardiograms) and EEG (electroencephalograms), and even further redacted information in the report which was not provided. Physicist Robert Park was interviewed for the Washington Times, August 17, 2002.

"We're getting closer to reading minds than you might suppose. It does make me uncomfortable. That's the limit of privacy invasion. You can't go further than that."

(Robert Park, spokesman for the American Physical Society).

Park is a Professor of Physics at the University of Maryland, where a "Thought Machine" was developed for mind control, as reported in the 1970s in the South China Morning Post. Robert Park would understandably be reluctant to admit that physicists and his society, APS, have been instrumental as collaborators (theoretical) with electrical engineers (applied) and the Institute of Electrical and Electronics Engineers, Inc. (IEEE) in developing mind control technology.

Defence Electronics reported a spring, 1993, meeting with psychotronics expert Dr. Igor Smirnov and Clinton Administration officials. The CIA, FBI, DIA, and ARPA with Clinton officials wanted to know if psycho-correction programmes could be implemented by the US government. Not just for domestic riots, this technology could be used to change the opinion or judgement of decision-makers, key personnel, or populations. It is a given that psychotronic technology will be used to suppress political dissidents and other potential threats to the New World Order.

"...Using electroencephalographs, Smirnov measures brain waves, then uses computers to create a map of the subconscious and various human impulses, such as anger or the sex drive. Then through taped subliminal messages, he claims to physically alter the landscape with the power of suggestion." (Newsweek magazine, August

22, 1994).

MIND READING DEVICES

“Alan Yu, a former lieutenant colonel in the Taiwan National Defence Department, says that the United States has not only developed an operational mind control machine, but has also distributed models for use by allied countries. Yu states that such machines pose a great threat to human rights and the American way of life. He calls the device the “Mind Reading Machine” (Mind Machine).

“In the spring of 1984, Yu was a lieutenant colonel serving in the National Defence Department of Taiwan. At that time, Yu read a classified document from the department that he serviced under. The document said the Military Police Department of Taiwan had purchased several of the Mind Reading Machines from the United States (In Taiwan, it was called Psychological Language Machine).

Yu reports that before he left, this machine had become the most effective weapon for the security departments of Taiwan ...

“Demonstrations of this equipment have shown encouraging results after exposure of less than one minute and have produced the ability to alter behavior on unwilling subjects.”

(Richard A. Miller, ‘Consciousness Technologies Conference’, July 2001)

GWEN TOWERS

About the time the Cold War was winding down, Ground Wave Emergency Network (GWEN) towers were constructed in the 1980s across the United States. Nearly 300 feet tall with long copper wires coming out of them in a radial pattern on the ground, they transmit bursts of very low frequency (VLF) waves at 150–175 KHz, in a 300 mile circle from the towers. Messages are transmitted at 20 minute intervals, or hour intervals if from another source. They have a strange distribution across the US. They also emit UHF waves of 225–400 MHz. Their purpose is not altogether clear. Officially they are for the Continuity of Government (COG) programme under the Federal Emergency Management Agency (FEMA) (illegally started by Col. Oliver North as the Federal Emergency Military Agency) but this may be a cover.

Colonel Paul Hanson, GWEN Programme Director for the Air Force, said:

“The towers will not help wage a nuclear war because they would be destroyed in any protracted confrontation.”

Because the GWEN system is transistor-based they are particularly vulnerable to EMP from nuclear strikes. The location of the towers is well known, leaving them open to attack. Dr. Robert Becker M D believes they have another purpose:

GWEN is a superb system, in combination with cyclotron resonance, for producing behavioural alterations in the civilian population. The average strength of the steady geomagnetic field varies from place to place across the United States. Therefore, if one wished to resonate a specific ion in living things in a specific locality, one would require a specific frequency for that location. The spacing of GWEN transmitters 200 miles apart across the United States would allow such specific frequencies to be ‘tailored’ to the geomagnetic-field strength in each GWEN area.

(Robert O. Becker, M.D., in Crosscurrents: The Perils of Electropollution).

In 1975 the Soviet journal International Life in a discussion of electronic mind control, said that large groups of people could experience suppressed mental activity from atmospheric electricity. The journal went on to say a sonic generator, tuned to an infrasound frequency which is below hearing level could create “feelings of depression, fear, panic, terror, and despair”.

Since the creation of Homeland Security with nearly unlimited funding after the September 11, 2001, WTC disasters, there are indications that the GWEN network will be expanded. Because Homeland Security, the Northern Command (an illegal domestic military administration created after 911), FEMA, the Justice Department, and Law Enforcement are an interlocking operation now, the expansion of the GWEN network clearly has an ominous purpose.

Two of the strongest proponents for NLW/psychotronics are US Army Colonel John Alexander (retired), in charge of the NLW program at Los Alamos National Laboratory (LANL) since he retired from the Army in 1988, and Janet Morris. Alexander is a member of the AVIARY, a group of Department of Defense officers and scientists with a mandate to discredit any serious UFO research. Each member has a bird's name and Alexander is known as PENGUIN, and they are "deep CIA".

Morris is the Research Director of the US Global Strategy Council (USGSC) with ties to the CIA and the Federal Government, chaired by Dr Ray Cline, former Deputy Director of the CIA. Morris "is a key US liaison between Russian and US Officials". She has arranged demonstrations by Russian psychotronic experts for US officials, and reported that Russians are interested in converting military hardware to NLW for US use. To hide the covert use of the KGB psychotronic equipment from the American public, a series of disinformation articles have appeared in the press about 'non-lethals' such as "net, foams, sticky material to snag an attacker, mace-like compounds, and high-tech sticky goo shot at fleeing criminals".

Because the US military is prohibited from developing certain kinds of weapons, the research and development must be done 'outside', usually by the DOE (Department of Energy). Colonel Alexander and Janet Morris are focused on the development and use of psychotronic weapons, representing the interests of the military, CIA, and ruling elite. The Los Alamos and Livermore nuclear weapons labs have brought over Russian scientists and KGB officers to collaborate at the labs and other US agencies. Russian collaboration has involved not only weapons development, in this case the psychotronics primarily, but also methods of political control post-911. KGB Generals have been advisors to Homeland Security on developing internal checkpoints and internal passports in the US. It is clear what lies ahead for the American people... and it's not 'democracy'.

By letting the USSR target America with Woodpecker for an unknown purpose, the US government was able to conduct a project through another state thus bypassing US Law. The US has been doing the same for Russia. Echelon, the NSA satellite surveillance system, has served the same end. Member countries have been able to spy on their own citizens by receiving information second-hand from other member countries.

In the mid-1980s, over two dozen scientists working at the Marconi Corporation in Britain, died mysteriously from 'suicides and accidents'. They were under contract to do classified work for the British and US Navy. Researchers have reported that some of the project computer engineers wrote software related to targeting spots on the body similar to acupuncture spots, with directed energy weapons. Whatever they were doing, the projects were clearly collaborative between the US and British military and governments and were highly classified. In fact, since 911, over 50 world class microbiologists have been murdered or have died mysteriously, and nearly all were in the US or Britain. Many were working on ethnic-specific bioweapons.

By the mid to late eighties the psychotronic systems were set up in the US and Britain. With installation of the GWEN towers and HAARP in the US, the 'show was on the road'. When the Cold War ended in 1992, all they had to do was 'unveil it'.

A classified conference sponsored by the Los Alamos nuclear weapons lab was held in the Applied Physics Laboratory at Johns Hopkins University in November 1993. Colonel Alexander served as the conference Chairman. The meeting was attended by Attorney-General Janet Reno, numerous scientists, military weapons experts, and intelligence officials from state and local police departments. The main purpose of the meeting was to

prepare leading law enforcement officials for the use of psychotronic mind-control weapons. Some of the lectures given were:

Dr. George Baker from Defence Nuclear Agency: “RF Weapons: A Very Attractive Non-Lethal Option”

Dr. Clay Easterly from Oak Ridge National Laboratory: “Application of Extremely Low Frequency Electromagnetic Fields to Non-Lethal Weapons”

“Radio-frequency Weapons, High Powered Microwave Technology, Acoustic Technology”

Zbigniew Brzezinski, a Rockefeller recruit and founder of the Trilateral Commission, had much revealing information to give back in the seventies about technologies that are being disclosed now. He wrote in *Between two Ages*:

“Accurately timed, artificially excited electronic strokes could lead to a pattern of oscillations that produce relatively high power levels over certain regions of the Earth ... one could develop a system that would seriously impair the brain performance of a very large population in selected regions over an extended period.” (Zbigniew Brzezinski, *Between Two Ages*, 1971).

When an American electropollution activist asked Motorola the purpose of the 10 hertz frequency on the carrier wave of the new Motorola police radio system, she did not get an answer (Personal Communications with Libby Kelley, Chair Marin County Health Council, 2003). From my own investigations and many interviews, I learned that this system was beamed across America when the Cold War ended, through Motorola radio systems, the Police and emergency response radio towers, cell phone towers, satellites, and another Motorola product — TETRA—in Britain:

Costing £2.9 billion, the UK’s new police communication system TETRA has been described by one independent scientist as likely to cause ‘more civilian deaths than all the world’s terrorist organisations put together’. (Jay Griffiths, “A Popular Revolt”, *The Ecologist*, September 17, 2004)

Death may be the hidden purpose, for “culling” society. Welcome to the New World Order.

WEATHER MODIFICATION

The earth and atmosphere rotate more or less at the same speed. The sun’s radiation provides energy to heat the earth, and differences in relative motion between the atmosphere and the earth depend on perturbations of energy and distribution. Ocean currents and the enormous heat capacity of the oceans are coupled with and control global climate. The amounts of energy in weather systems—hurricanes, tornadoes, thunderstorms—are far greater than what is under our direct control so it would be very difficult to directly modify them. (Successful weather modification is more likely to occur by manipulating instabilities in the atmosphere.)

An excellent example of the government/military application of weather on a regional scale is the impact of atmospheric nuclear weapons tests conducted by nuclear states during the period of atmospheric and underground testing which began in the 1940s and continued through the early 1990s. No country wanted to admit nuclear testing was dangerous, but at the same time nuclear states did not want to damage the health and genetic future of their own citizens, with the exception of the US. The location of nuclear weapons test sites and timing of tests were carefully and strategically planned, again with the exception of the United States.

Seasonal monsoon systems brought fallout and rainout of nuclear materials to India and Pakistan from nuclear tests in China, Kazakhstan and Australia. This resulted in contamination of the Himalayas with rainout and snowout of fission products into the headwaters of the major rivers of Southeast Asia. Chinese testing in the Gobi Desert and in Kazakhstan by the Soviets overtly protected their own populations from the dangerous consequences of nuclear exposure, and covertly passed the risk on to nations downstream from the Himalayas.

The truth is now emerging that populations in Egypt, the Arabian peninsula, India, Pakistan, and Australia have suffered the long-term environmental and health consequences of exposure to radioactive iodine and fission products from those tests. These are the countries affected by the monsoon, with the highest rates of diabetes in the Indian Ocean region, reported in 3.1–5.0 per cent of their populations. The United States stands out as the country that nuclear bombed North America, including Hawaii, Alaska, and Canada with serious health consequences, with 7.1–16.7 per cent of their populations suffering from diabetes. The Center for Disease Control recently predicted that one in three children born in the United States in 2000 will become diabetic, an acknowledgement of the possible long-term effects of the ‘nuclear weapons’ and nuclear power programmes. Damage from exposures even if DNA is not damaged, can be passed on to the progeny of those exposed, including reduced mental abilities.

The southeast Asian region will be exposed to high levels of radiation if a war against Iran is staged by the US and Israel. NSA former analyst Wayne Madsen reported on January 2, 2006, that the Chinese authorities have already warned southeast Asian nations that the radiation from the use of tactical nuclear weapons and depleted uranium weaponry (dirty bombs, dirty missiles, and dirty bullets) will cause radioactive contamination during the monsoon season.

“Southeast Asian intelligence sources report that Burma’s (Myanmar’s) recent abrupt decision to move its capital from Rangoon (Yangon) to remote Pyinmana, 200 miles to the north, is a result of Chinese intelligence warnings to its Burmese allies about the effects of radiation resulting from a US conventional or tactical nuclear attack on Iranian nuclear facilities. There is concern that a series of attacks on Iranian nuclear installations will create a Chernobyl-like radioactive cloud that would be caught up in monsoon weather in the Indian Ocean.”

“Low-lying Rangoon lies in the path of monsoon rains that would continue to carry radioactive fallout from Iran over South and Southeast Asia between May and October. Coastal Indian Ocean cities like Rangoon, Dhaka, Calcutta, Mumbai, Chennai, and Colombo would be affected by the radioactive fallout more than higher elevation cities since humidity intensifies the effects of the fallout. Thousands of government workers were given only two days’ notice to pack up and leave Rangoon for the higher (and drier) mountainous Pyinmana.”(<http://www.waynemadsenreport.com/dec30-jan606.htm>)

HURRICANE KATRINA

Storm modification can have major strategic and economic implications. Hurricane Katrina appears to have been a manipulated economic hit on New Orleans... it would not be the first time.

“We finally cleaned up public housing in New Orleans. We couldn’t do it, but God did.”

(Rep. Richard Baker (R-LA) to lobbyists, as quoted in the Wall Street Journal).

Engineering the forced relocation of the poor and black from their property, allows a vertical transfer of wealth upwards.

Manipulation of hurricanes may be possible by modifying the transfer of energy from the ocean into the atmosphere, increasing or dissipating hurricane strength, and other technologies which allow hurricanes to be “dragged”. The irregularities of nature are a convenient cover for manipulated events with hidden economic, military, or political benefits.

The hurricane Katrina disaster was not only shocking to people around the world, it forced Americans to painfully confront the ugly truth, overwhelming racism and genocide, the hidden-white only—“democracy” of America. It was a devastating psychic trauma for all Americans. Abandoned by their state, communities across America and survivors of New Orleans understood they had to “deal with it” on their own... on their own meager savings and retirements while disaster profiteers “pigged out” at the public trough.

Was Hurricane Katrina manipulated by weather modification technology? NASA photo53 from Hurricane Katrina eyewall images taken on Sunday, August 28, 2005, during a NOAA P-3 hurricane hunter flight, at the time the storm was a Category Five storm seems to suggest it. What is the beam pointed directly into the eye of the hurricane?

US Military experiments on environmental engineering have been chemical or wave-related, and are well documented. In 1958 Chief White House adviser on weather modification, Captain Howard T. Orville, said the US Department of Defence (DoD) was studying “ways to manipulate the charges of the earth and sky and so affect the weather” by using an electronic beam to ionize or de-ionize the atmosphere over a given area. Canada was a partner in this research, from the start, and launched satellites into the ionosphere in 1962. Two other early experiments were Project Skyfire and Project Stormfury when the DoD was experimenting with lightning and hurricanes during the Vietnam War.

UCLA Professor Gordon J.F. MacDonald, a member of the President’s Science Advisory Committee in 1966, and later a member of the President’s Council on Environmental Quality, published papers on environmental-control technologies for military purposes and suggested many, but warned later about the impact on the environment. In 1968 in his chapter “How to Wreck the Environment” in the book Unless Peace Comes, he described “the use of weather manipulation, climate modification, polar ice cap melting or destabilisation, ozone depletion techniques, earthquake engineering, ocean wave control and brain wave manipulation using the planet’s energy fields”.

CLIMATE MODIFICATION

By 1965 research on climate change was pioneered by three research groups: the Geophysical Fluid Dynamics Laboratory, UCLA’s Department of Meteorology, and the National Center for Atmospheric Research. Between 1965 and 1975, interest increased and proliferated new studies, the main ones being the RAND Corporation (Santa Monica, CA) funded by the US Air Force, Goddard Institute for Space Studies (New York, NY) funded by NASA, and the Australian Numerical Meteorological Research Centre (Melbourne, Australia). It is interesting that studies in climate modification funded by the military surfaced in this period. In order to determine whether or not it was possible, research had to be done on climate variations under natural conditions. During this same period large projects to study climate change from the ice record began in Antarctica (1973) and Greenland (1977). Projects that seem innocuous on their own, when put together and integrated, had a very different purpose.

Early modeling studies focused on coupled atmosphere-ocean models, and spectral transform techniques. Research on the influence of carbon dioxide on climate under natural conditions used information from the ice record. Later, research began on the influence of man on climate change, or ‘inadvertent climate modification’ from pollution-induced ‘changes in climate, ocean ecology, or in large terrestrial ecosystems’. By the 1970s environmentalists introduced stratospheric ozone depletion, acid rain, and upper-atmosphere pollution from supersonic planes as climatic concerns.

Two areas of instabilities can be used to modify the climate—energy coming from the Sun, or energy escaping from the atmosphere of the earth. Huge manmade energetic explosions high up in the atmosphere used to trigger instabilities, might be possible at some time in the future; in fact the Navy exploded 3 nuclear bombs in the Van Allen belt in 1958 under Project Argus and violently disrupted it. Modification of long-wave outgoing radiation, changes in the transparency of the earth’s atmosphere to radiated energy, or of terrestrial regions (desert, vegetation, water, ice) provide the most likely possibilities for human “technogenic” intervention. The military has long wanted to eliminate civilian participation in space programmes in order to gain full control.

The ‘New World Order’ is being rolled out with exotic weapons that were developed collaboratively and secretly throughout the Cold War. The National Missile Defence fraud is being forced by the USA on unwilling countries around the world, at a cost of \$1 trillion for the biggest corporate welfare project in world history.

Original: <http://www.mindfully.org/Reform/2006/Earth-Weapon-Moret24feb06.htm>

source: <http://www.worldaffairsjournal.com/article1.htm> 26feb2006

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NUCLEAR FREE ZONE

A new Goal - No Nuclear Weapons; No Nuclear Power; No Depleted Uranium; No Uranium Exploration & Mining

Leuren Moret Biography: Independent Scientist; Expert Witness at the Tokyo International Tribunal for War Crimes in Afghanistan; Speaker at the Kuala Lumpur War Crimes Conference



Leuren Moret was an Expert Witness at the International Criminal Tribunal For Afghanistan At Tokyo. She is an independent scientist and international expert on radiation and public health issues. She is on the organizing committee of the World Committee on Radiation Risk, an organization of independent radiation specialists, including members of the Radiation Committee in the EU parliament, the European Committee on Radiation Risk. She is an environmental commissioner for the City of Berkeley. Ms. Moret earned her BS in geology at U.C. Davis in 1968 and her MA in Near Eastern studies from U.C. Berkeley in 1978. She has completed all but her dissertation for a PhD in the geosciences at U.C. Davis. She has traveled and conducted scientific research in 42 countries. She contributed to a scientific report on depleted uranium for the United Nations sub commission investigating the illegality of depleted uranium munitions. Marion Fulk, a former Manhattan Project scientist and retired insider at the Livermore Lab, who is an expert on radioactive fallout and rainout, has trained her on radiation issues.

Leuren Moret has conducted research concerning the impact on the health of the environment and global public health from atmospheric testing, nuclear power plants, and depleted uranium. She has helped collect and measure radiation in 6000 baby teeth from children living around nuclear power plants, and helped The State of Louisiana (USA) pass the first state depleted uranium bill for mandatory testing of soldiers.

Articles she wrote on DU were translated into Indian languages to increase awareness. Her article "Depleted Uranium: The Trojan Horse of Nuclear War" in the June 2004 WORLD AFFAIRS JOURNAL was translated at the request of the Kremlin for distribution throughout the Russian government. The LONE STAR ICONOCLAST, hometown newspaper of President Bush, interviewed her for a series of interviews, "What is depleted uranium?", which are now attached to US Congressman McDermott's 2005 depleted uranium bill HR 2410 in the US Congress. The newspaper did a second issue, March 1, 2006, titled "Have DU Will Travel". Her City of Berkeley 2003 resolution banning weapons in space was followed by a Space Preservation Treaty Resolution adopted by seven sister cities in British Columbia, Canada, contributing to Prime Minister Paul Martin's decision in February 2005 to abandon his secret agreement with President Bush to allow NMD in Canada.

Her research on divestment of pension funds from US weapons manufacturers was discussed on a Vancouver radio station in April 2005. The interview helped to make divestment, of \$4.6 billion (in 251 US weapons manufacturers) in British Columbia (BC) pension funds, an issue for the May 2005 election platform in BC.

Leuren Moret is a Livermore nuclear weapons lab whistleblower, an Environmental Commissioner in the City of Berkeley, and testifies as a depleted uranium expert in the new documentary film BEYOND TREASON.

Leuren Moret Testimony: <http://www.mindfully.org/Nucs/2003/Leuren-Moret-ICT13deco3.htm>

DEPLETED URANIUM – Research Resources Recommended by Leuren Moret

Best Photos:

LIFE photoessay:

The Tiny Victims of Desert Storm

<http://www.life.com/Life/essay/gulfwar/gulfo1.html>

Iraq: babies, children, adults exposed to depleted uranium, and Sandstorm April 26, 2005:

http://www.zlocinac.org/du_effects [link not working]

Best book:

Discounted Casualties: The Human Cost of Depleted Uranium

http://www.chugoku-np.co.jp/abom/uran/index_e.html

Best films:

BEYOND TREASON

<http://www.beyondtreason.com>

BAGDAD RAP

<http://www.bagdadrap.com/eng/bagdad.html>

BLOWIN' IN THE WIND

<http://www.bsharp.net.au/htm/the-film.htm>

INVISIBLE WAR: DEPLETED URANIUM AND THE POLITICS OF RADIATION

[contact me for the films <leurenmoret@yahoo.com>]

Ten Minute Clips from Best Video Interviews (one hour):

"Global Nuclear Coverup" Series, Berkeley Community Access TV

#1 Interview with Leuren Moret on global fallout

<http://video.google.com/videoplay?docid=1407594719544307232>

#2 Interview with Leuren Moret on global diabetes epidemic caused by depleted uranium

<http://video.google.com/videoplay?docid=-1144673265921073656>

"LOOSE CHANGE" first internet blockbuster video

<http://video.google.com/videoplay?docid=-1840058038507754977>

[see 13:39 to 19:20 for interview with Leuren Moret]

Best DU Conference:

World Depleted Uranium Weapons Conference Hamburg,
October 2003

<http://www.uraniumweaponsconference.de>

Best articles:

LONE STAR ICONOCLAST Crawford Texas

"What is depleted uranium?"

http://www.iconoclast-texas.com/xArchives/2005/19_Issue/Default.htm

SAN FRANCISCO BAY VIEW

"Depleted uranium: Dirty bombs, dirty missiles, dirty
bullets: A death sentence here and abroad"

<http://www.sfbayview.com/o81804/Depleteduraniumo81804.shtml>

AL-JAZEERA NEWS

"Washington's secret nuclear war"

<http://english.aljazeera.net/NR/exeres/B2E2DF9B-1E0C-43F4-BBF6-74C1367E27C.htm>

WORLD AFFAIRS - The Journal of International Issues

"Depleted Uranium: The Trojan Horse of Nuclear War"

<http://www.mindfully.org/Nucs/2004/DU-Trojan-Horse1julo4.htm>

VANITY FAIR - December 2004

“Weapons of Self-Destruction”

By David Rose

<http://www.vanityfair.com/commentary/content/printables/041115roco04?print=true>

Best Letters:

Letter to Congressman McDermott from Leuren Moret

<http://www.mindfully.org/Nucs/2003/Leuren-Moret-Gen-Groves21feb03.htm>

BATTLE CREEK ENQUIRER – Letter to Editor/Opinion August 9, 2005

Depleted uranium is WMD by Leuren Moret

<http://www.battlecreekenquirer.com/apps/pbcs.dll/article?>

[AID=/20050809/OPINION02/508090332/1014/OPINION](http://www.battlecreekenquirer.com/apps/pbcs.dll/article?AID=/20050809/OPINION02/508090332/1014/OPINION)

Newest Article about Global DU Pollution:

“The Queen's Death Star

Depleted Uranium Measured in British Atmosphere

from Battlefields in the Middle East” by Leuren Moret

<http://www.mindfully.org/Nucs/2006/DU-Europe-Moret26feb06.htm>

<http://www.rense.com/general69/deathstar.htm>

Dr. Chris Busby Report on DU in British Atmosphere

<http://www.llrc.org/aldermastrept.pdf>

"Have DU Will Travel" Lone Star Iconoclast 3/3/06: <http://lonestaricon.com/2006/Archives/09/news03.htm>

Video presentation by Leuren Moret to Therapists for Social Responsibility 9/11/05

“CONNECTING THE DOTS 9-11 Four Years Later: From the A-Bomb to Depleted Uranium and Beyond”

Download at <http://www.art101.com/radiation/index.html>

“WEAPONS TO DIE FOR: FROM THAT PENTAGON DEATH STAR,

AND THE UNIVERSITY THAT POISONED THE WORLD

By LEUREN MORET. April 24, 2006

<http://lonestaricon.com/2006/CurrentIssue/17/14guest.htm>

<http://www.pulsetc.com/article.php?sid=2445>

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Campaign for Cooperation in Space <http://peaceinspace.blogs.com/peaceinspaceorg/>
Space Preservation Treaty (Official Text as of August 14, 2008) - English version

Read the Space Preservation Treaty http://www.peaceinspace.com/sp_treaty.shtml

COOPRADIO.ORG Vancouver COOP RADIO CFRO 102.7 FM

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Leuren Moret Biography: Independent Scientist; Expert Witness at the Tokyo International Tribunal for War Crimes in Afghanistan; Speaker at the Kuala Lumpur War Crimes Conference http://peaceinspace.blogs.com/nuclear_free_zone/2007/05/leuren_moret_bi.html

Planet Earth As Weapon and Target LEUREN MORET

World Affairs, The Journal of International Issues v.9, n.4, Winter 2005

<http://www.mindfully.org/Reform/2006/Earth-Weapon-Moret24feb06.htm>

PART I: HAARP Intro: Space-based environmental WMD with Leuren Moret

LISTEN TO AUDIO ARCHIVE NOW (MP3):

http://exopolitics.blogs.com/exopolitics_radio/files/COOPRADIO-HAARP-MORET-I.mp3

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http://peaceinspace.blogs.com/peaceinspaceorg/files/haarp_part_v_moret.mp3

PART VI: HAARP & Mind Control in the 2008 Canada & USA Elections with Leuren

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http://exopolitics.blogs.com/exopolitics_radio/files/COOP-MORET-MINDCONTROL-11-3-08.mp3

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Background on the HAARP Project

([Environment](#))**User Rating (0):** ★★★★★ Poor ☐ ☐ ☐ ☐ ☒ Best

By Rosalie Bertell

[Earthpulse Press](#)**November 5, 1996**

Military interest in space became intense during and after World War II because of the intrinsic science, the companion to nuclear technology. The early versions include the buzz bomb and gun were thought of as potential carriers of both nuclear and conventional bombs. Rocket technology and weapon technology developed simultaneously between 1945 and 1963. During this time of intense nuclear testing, explosions at various levels above and below the surface of the earth were tried. Familiar descriptions of the earth's protective atmosphere, such as the existence of the Van Allen belts, on information gained through stratospheric and ionospheric experimentation.

The earth's atmosphere consists of the troposphere, from sea level to about 16 km above the surface, the stratosphere (which contains the ozone level) which extends from about the 16 to 48 km above the surface, the ionosphere which extends from 48 km to over 50,000 km above the surface of the earth. The atmosphere or "skin" extends beyond 3,200 km above sea level to the large magnetic fields, the Van Allen Belts, which can capture the charged particles sprayed through the cosmos by the solar and galactic cosmic rays. The belts were discovered in 1958 during the first weeks of the operation of America's first satellite. They appear to contain charged particles trapped in the earth's gravity and magnetic fields. Primary cosmic rays enter the solar system from interstellar space, and are made up of protons with energies extending up to astronomically high energies. They make up about 10% of the high energy radiation. The rest is generally of lower energy, below 20 MeV (which is still high energy in earth terms). These high energy particles are affected by the earth's magnetic field and by geomagnetic latitude (distance above or below the equator). The flux density of low energy protons at the top of the atmosphere is normally greater at the poles than at the equator. The density also varies with solar activity, a minimum when solar flares are active.

The Van Allen belts capture charged particles (protons, electrons and alpha particles) and the magnetic force lines toward the polar regions where the force lines converge. They are reflected between the magnetic force lines near the poles. The lower Van Allen Belt is about 7700 km above the surface, and the outer Van Allen Belt is about 51,500 km above the surface. According to Britannica, the Van Allen belts are most intense along the equator, and effectively absent over the poles. At 100 to 400 km over the South Atlantic Ocean, and are about 1,000 km high over the Central Pacific. In the lower Van Allen Belt, the proton intensity is about 20,000 particles with energy above 30 MeV per square centimetre. Electrons reach a maximum energy of 1 MeV, and their intensity has a maximum of 100 per second per square centimetre. In the outer Belt, proton energy averages only 1 MeV. For charged particles discharged in a nuclear explosion are range between 0.3 and 3 MeV, while the Van Allen ray has peak voltage around 0.5 MeV.

Project Argus (1958)

Between August and September 1958, the US Navy exploded three fission type nuclear bombs over the South Atlantic Ocean, in the part of the lower Van Allen Belt closest to the earth's surface. The hydrogen bombs were detonated 160 km over Johnston Island in the Pacific. This was called, the "biggest scientific experiment ever undertaken". It was designed by the US Department of Defense Atomic Energy Commission, under the code name Project Argus. The purpose appears to be to test the effects of high altitude nuclear explosions on radio transmission and radar operations because of the

pulse (EMP), and to increase understanding of the geomagnetic field and the behaviour of the ionosphere.

This gigantic experiment created new (inner) magnetic radiation belts encompassing almost the entire ionosphere by injecting sufficient electrons and other energetic particles into the ionosphere to cause world-wide auroras. Electrons travelled back and forth along magnetic force lines, causing an artificial "aurora" in the ionosphere near the North Pole. US Military planned to create a "telecommunications shield" reported in 13-20 August 1961, Keesings Historisch Archief (K.H.A.). This shield would be in the ionosphere at 3,000 km height, by bringing into orbit 350,000 million copper needles, each weighing 16 kg, forming a belt 10 km thick and 40 km wide, the needles spaced about 100 m apart. It was designed to replace the ionosphere "because telecommunications are impaired by magnetic flares". The US planned to add to the number of copper needles if the experiment proved to be successful. The plan was strongly opposed by the International Union of Astronomers.

Project Starfish (1962)

On 9 July 1962, the US began a further series of experiments with the ionosphere. From their kiloton device, at a height of 60 km and one megaton and one multi-megaton, at several heights, they conducted tests. (K.H.A., 29 June 1962). These tests seriously disturbed the lower Van Allen Belt, changing its shape and intensity. "In this experiment the inner Van Allen Belt will be practically destroyed for several days. Particles from the Belt will be transported to the atmosphere. It is anticipated that the earth's magnetic field will be disturbed over long distances for several hours, preventing radio communication. The experiment will create an artificial dome of polar light that will be visible from Los Angeles (K.H.A., 11 May 1962). A Fijian Sailor, present at this nuclear explosion told me that the whole sky was on fire and that it would be the end of the world. This was the experiment which called forth the strong protest of the Astronomer, Sir Martin Ryle in the UK.

"The ionosphere (according to the understanding at that time) that part of the atmosphere between 100 and 280-320 km height, will be disrupted by mechanical forces caused by the pressure wave from the explosion. At the same time, large quantities of ionizing radiation will be released, further ionizing the components of the atmosphere at this height. This ionization effect is strengthened by the fission products..... The lower Van Allen Belt, consisting of charged particles that move along magnetic field lines ... will similarly be disrupted. As a result of the explosion, this field will be locally destroyed. Countless new electrons will be introduced into the lower belt." (K.H.A. 11 May 1962)

"On 19 July.... NASA announced that as a consequence of the high altitude nuclear test of July 1962, a new belt had been formed, stretching from a height of about 400 km to 1600 km; it can be seen as an extension of the lower Van Allen Belt." (K.H.A. 5 August 1962)

As explained in the Encyclopaedia Britannica: "... Starfish made a much wider belt (than the natural one) which extends from low altitude out past $L=3$ (i.e. three earth radii or about 13,000 km above the earth)" Later in 1962, the USSR undertook similar planetary experiments, creating three new belts between 7,000 and 13,000 km above the earth. According to the Encyclopaedia, the electron belts of the Van Allen Belt have changed markedly since the 1962 high-altitude nuclear explosions by the USSR. According to American scientists, it could take many hundreds of years for the Van Allen Belts to restabilise at their normal levels. (Research done by: Nigel Harle, Box 10, Cortenbachstraat 32, 6136 CH Sittard, Netherlands.)

SPS: Solar Power Satellite Project (1968)

In 1968 the US military proposed Solar Powered Satellites in geostationary orbit some 40,000 km above the earth which would intercept solar radiation using solar cells on satellites and transmit it via a microwave beam to receiving antennas, called rectennas, on earth. The US Congress mandated the Department of Defense to prepare an Environmental Impact Assessment on this project, to be completed by June 1970. This project was designed to construct 60 Solar Powered Satellites over a thirty year period at a cost of \$500 and \$800 thousand million (in 1968 dollars), providing 10% of the US energy needs by the year 2025 at a cost of \$3000 per kW. At that time, the project cost was two to three times larger than the cost of the Apollo program.

Department of Energy budget, and the projected cost of the electricity was well above conventional energy sources. The rectenna sites on earth were expected to take up to 145 sq miles of land, and would preclude habitation by any humans, animals or even vegetation. Each Satellite of Manhattan Island.

Saturn V Rocket (1975)

Due to a malfunction, the Saturn V Rocket burned unusually high in the atmosphere, above produced "a large ionospheric hole" (Mendillo, M. Et al., Science 187,343, 1975). The disturbance in total electron content more than 60% over an area 1,000 km in radius, and lasted for several hours, disrupting all telecommunications over a large area of the Atlantic Ocean. The phenomenon was apparently a reaction between the exhaust gases and ionospheric oxygen ions. The reaction emitted a 6300 Å emission line. In 1975 and 1981 NASA and the US Military began to design ways to test this new phenomena with experimentation with the ionosphere.

SPS Military Implications (1978)

Early review of the Solar Powered Satellite Project began in around 1978, and I was on the review. When this was proposed as an energy program, it had significant military implications. One of the points pointed out by Michael J. Ozeroff, was the possibility of developing a satellite borne beam weapon (ABM) use. The satellites were to be in geosynchronous orbits, each providing an excess of power from which an entire hemisphere can be surveyed continuously. It was speculated that a high power beam could function as a thermal weapon to disable or destroy enemy missiles. There was some discussion of using weapon beams, through the use of a laser beam to preheat a path for the following electron beam.

The SPS was also described as a psychological and anti-personnel weapon, which could be used against an enemy. If the main microwave beam was redirected away from its rectenna, toward enemy personnel, it would be an infrared radiation wavelength (invisible) as an anti-personnel weapon. It might also be possible to use enough energy to ignite combustible materials. Laser beam power relays could be made from other satellites or platforms, for example aircraft, for military purposes. One application might be a turbofan engine which would receive the laser beam directly in its combustion chamber, producing high temperature gas for its cruising operation. This would allow unlimited on-station operation. As a psychological weapon, the SPS was capable of causing general panic.

The SPS would be able to transmit power to remote military operations anywhere needed on earth. A platform of the SPS would provide surveillance and early warning capability, and ELF linkage would also provide the capability of jamming enemy communications. The potential for jamming enemy communications is significant. The SPS was also capable of causing physical changes in the ionosphere.

President Carter approved the SPS Project and gave it a go-ahead, in spite of the reservations of the reviewers, myself included, expressed. Fortunately, it was so expensive, exceeding the entire Energy budget, that funding was denied by the Congress. I approached the United Nations Conference on Disarmament on this project, but was told that as long as the program was called Solar Energy, it could not be considered a weapons project. The same project resurfaced in the late 1970s. When Reagan moved to the much larger budget of the Department of Defence, and called Star Wars, in our recent history, I will not discuss the debate which raged over this phase of the plan.

By 1978, it was apparent to the US Military that communications in a nuclear hostile environment were not possible using traditional methods of radio and television technology (Jane's Military Communications 1982, GTE Sylvania (Needham Heights, Massachusetts), had developed a command control element for the US Air Force's Ground Launch Cruise Missiles (GLCM) that would enable military command and control the missile prior to launch both in hostile and non-hostile environments. The system consisted of subsystems, created with visible light using a dark beam (not visible), resistant to the disruption of radio and television. Dark beams contribute to the formation of energetic plasma in the atmosphere, which can become visible as smog or fog. Some has a different charge than the sun's energy, and occurs where the sun's energy is absent, like the polar regions in the winter. When the polar spring arrives, it appears and repels this plasma, contributing to holes in the ozone layer. This military system

Wave Emergency Network (GWEN). (See The SECOM II Communication System, by Wayne Ols Sandia Laboratories, Albuquerque, New Mexico, April 1978). This innovative emergency apparently never implemented in Europe, and exists only in North America.

Orbit Maneuvering System (1981)

Part of the plan to build the SPS space platforms was the demand for reusable space shuttles, so as to avoid the need to discard rockets. The NASA Spacelab 3 Mission of the Space Shuttle made, in passes over a network of five ground based observatories" in order to study what happened when the Shuttle injected gases into it from the Orbit Maneuvering System (OMS). They did could "induce ionospheric holes", and began to experiment with holes made in the day time Millstone, Connecticut, and Arecibo, Puerto Rico. They experimented with the effects of ' ionospheric depletions on very low frequency wave lengths, on equatorial plasma instability frequency radio astronomical observations over Roberval, Quebec, Kwajalein, in the Marshall I Tasmania. (Advanced Space Research, Vol.8, No. 1, 1988)

Innovative Shuttle Experiments (1985)

An innovative use of the Space Shuttle to perform space physics experiments in earth orbit was the OMS injections of gases to "cause a sudden depletion in the local plasma concentration, the so-called ionospheric hole". This artificially induced plasma depletion can then be used to investigate phenomena, such as the growth of the plasma instabilities or the modification of radio propagation. The second OMS burn of July 29, 1985, produced the largest and most long-lived ionospheric hole some 830 km of exhaust into the ionosphere at sunset. A 6 second, 68 km OMS release on August 1985, produced an airglow which covered over 400,000 square km.

During the 1980's rocket launches globally numbered about 500 to 600 a year, peaking at 1500 were many more during the Gulf War. The Shuttle is the largest of the solid fuel rockets, with boosters. All solid fuel rockets release large amounts of hydrochloric acid in their exhaust, injecting about 75 tonnes of ozone destroying chlorine into the stratosphere. Those launches even more ozone destroying chlorine, about 187 tonnes, into the stratosphere (which contains the

Mighty Oaks (1986)

In April 1986, just before the Chernobyl disaster, the US had a failed hydrogen test at the Nevada Mighty Oaks. This test, conducted far underground, consisted of a hydrogen bomb explosion in a leaded steel door to the chamber, two metres thick, closing within milliseconds of the blast to allow only the first radioactive beam to escape into the "control room" in which expensive instruments were located. The radiation was to be captured as a weapon beam. The door failed to close as it was causing the radioactive gases and debris to fill the control room, destroying millions of dollars worth of equipment. The experiment was part of a program to develop X-ray and particle beam weapons. The radioactivity from the Mighty Oaks was vented, under a "licensed venting", and were likely responsible for many of the nuclear fallout reports in May 1986, which were attributed to the Chernobyl disaster.

Desert Storm (1991)

According to Defence News, April 13 - 19, 1992, the US deployed an electromagnetic pulse weapon during Desert Storm, designed to mimic the flash of electricity from a nuclear bomb. The Sandia National Laboratories built a 23,000 square metre laboratory on the Kirtland Air Force Base, 1989, to house the Pegasus beam generator capable of producing 20 Trillion Watt pulses lasting 20 billionths to 25 billionths of a second. The X-ray simulator is called a Particle Beam Fusion Accelerator. A stream of electrons hitting a target produce a pulsed X-ray or gamma ray. Hermes II had produced electron beams since 1974. It was apparently tested during the Gulf War, although detailed information on them is sparse.

High Frequency Active Auroral Research Program HAARP (1993)

The HAARP Program is jointly managed by the US Air Force and the US Navy, and is based in Gakona, Alaska. It is designed to "understand, simulate and control ionospheric processes that might alter the

communication and surveillance systems". The HAARP system intends to beam 3.6 Gigawatts of power of high frequency radio energy into the ionosphere in order to:

- generate extremely low frequency (ELF) waves for communicating with submerged submarine;
- conduct geophysical probes to identify and characterize natural ionospheric processes so that developed to mitigate or control them,
- generate ionospheric lenses to focus large amounts of high frequency (HF) energy, thus pre triggering ionospheric processes that potentially could be exploited for Department of Defence purposes
- electron acceleration for infrared (IR) and other optical emissions which could be used to propagate properties,
- generate geomagnetic field aligned ionization to control the reflection\scattering properties of radio waves
- use oblique heating to produce effects on radio wave propagation, thus broadening the applications of ionospheric enhancement technology.

Poker Flat Rocket Launch (1968 to Present)

The Poker Flat Research Range is located about 50 km North of Fairbanks, Alaska, and it was established in 1968. It is operated by the Geophysical Institute with the University of Alaska Fairbanks, under NA 250 major rocket launches have taken place from this site, and in 1994, a 16 metre long rocket helped NASA "understand chemical reactions in the atmosphere associated with global climate change". Experiments, but using Chemical Release Modules (CRM) have been launched from Churchill, Manitoba. In 1983, Brian Whelan's "Project Waterhole", disrupted an aurora borealis, bringing it to a temporary halt. In 1983, the chemical released into the ionosphere caused an aurora borealis over Churchill. In 1983, Black Brant X's and two Nike Orions rockets were launched over Canada, releasing barium and creating artificial clouds. These Churchill artificial clouds were observed from as far away as Mexico.

The US Navy has also been carrying on High Power Auroral Stimulation (HIPAS) research in a series of wires and a 15 metre antenna, they have beamed high intensity signals into the ionosphere, generating a controlled disturbance in the ionosphere. As early as 1992, the Navy talked of creating long antennas in the sky to generate extremely low frequency (ELF) waves needed for communicating with submarines.

Another purpose of these experiments is to study the Aurora Borealis, called by some an outburst of studying the principles of fusion. Shuttle flights are now able to generate auroras with an outburst. On November 10, 1991, an aurora borealis appeared in the Texas sky for the first time ever recorded. It was seen by people as far away as Ohio and Utah, Nebraska and Missouri. The sky was "Christmas red". Various scientists were quick to blame it on solar activity. However, when pressed most would agree that the ionosphere must have been weakened at the time, so that the electrically charged particles in the atmosphere created the highly visible light called airglow. These charged particles are normally held in place by the earth's magnetic forces, to the magnetic north pole. The Northern Lights, as the aurora is known, normally occurs in the vortex at the pole where the energetic particles, directed by the magnetic field, are directed.

Conclusions

It would be rash to assume that HAARP is an isolated experiment which would not be expanded. After fifty years of intensive and increasingly destructive programs to understand and control the upper atmosphere, it would be rash not to associate HAARP with the space laboratory construction which is separating the United States. HAARP is an integral part of a long history of space research and development of military nature.

The military implications of combining these projects is alarming. Basic to this project are the communications, both disruption and reliability in hostile environments. The power wielded

obvious. The ability of the HAARP / Spacelab/ rocket combination to deliver very large & comparable to a nuclear bomb, anywhere on earth via laser and particle beams, are frighteningly likely to be "sold" to the public as a space shield against incoming weapons, or , for the more g repairing the ozone layer.

Further References:

C.L. Herzenberg, *Physics and Society*, April 1994.

R. Williams, *Physics and Society*, April 1988.

B. Eastlund, *Microwave News*, May/June 1994.

W. Kofman and C. Lathuillere, *Geophysical Research Letters*, Vol 14, No. 11, pp 1158-1161, Nov (Includes French experiments at EISCAT).

G. Metz and F.W. Perkins. "Ionospheric Modification Theory: Past Present and Future", *Radio Sc* 11, pp 885-888, November 1974.

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United Nations Environment Programme, Global 500 Laureate - 1993 | Alternative Nobel Prize: Right Livelihood Award - 1986 | World Federalist Peace Award - 1988 | Ontario Premier's Council on Health: Health Innovator Award - 1991 | Marguerite D'Youville Humanitarian Award, Lexington MA - 1992 : [bio at ccnr.org](http://bio.at.ccnr.org)

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DEPLETED URANIUM IN THE HUMAN BODY: Sr Rosalie Bertell, PhD Part 1 - Epidemiologist Sr. Rosalie Bertell (PhD, biometrics) explains the effects of the the weaponized use of DU on the population of the planet, and especially on the people of Iraq, Afghanistan and the Middle East. In subsequent parts of this series, Dr. Bertell offers readily-accessible ways to detox some heavy metals and poisons from the body. [youtube link](#)



ROSALIE BERTELL: MAKE VISIBLE WHAT'S HAPPENING (seven part series)

Part 1: BAREFOOT EPIDEMIOLOGIST: ROSALIE BERTELL "I took my clues from people and started doing what's called barefoot epidemiology to try to document in a scientific way what was happening to the people who were downwind or downstream from some polluting industry, and provide them with a scientific document which they could use politically." In her concluding observations, Dr. Bertell also discusses the UN as championing diversity in opposition to globalist monocultural-privatization program and inevitable resources wars: "Right now we are having them over oil and water but there are more things down the line that are going to become scarce, and people are going to fight over them. So we are setting up our children and our children's children for incessant warfare over scarce resources." [transcript](#)
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Part 2: CHEMTRAILS Most people have noticed chemtrails, because it's not natural to have something criss-crossing in your sky. Dr. Bertell (Ph.D., biometrics) offers several explanations, including her own: I think they're also a carrier for all kinds of biological and chemical warfare. I don't think they're dropping them on us right now, but they seem to be preparing. I think they're getting people used to seeing these things, and they're getting the military used to doing it. So they're practicing. Sr. Bertell also touches on what some government workers (e.g., Oak Ridge nuclear plant) are told about chemtrails: a) they're combating global warming via spraying populated areas with aerosolized metals; b) aerial pharmacopeia (pollution modification). The official story, though, is denial. Part 1 of a series (6:34) See text for complete interview. [transcript](#)
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Part 3: THE OFFICIAL 9-11 STORY IS NOT CREDIBLE It's very important that we take a look at the starting point of this war on terror. Something else happened to bring those buildings down and Building 7 came down without being hit [in 6.5 seconds]. The Pentagon is even more problematic there's no plane; they've never found parts of the plane. The official story is not credible. It's not credible. [transcript](#)
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WE CAN DO ENOUGH DAMAGE TO OUR WORLD THAT IT DOESN'T SURVIVE Dr. Bertell holds advanced degrees in math, physics, chemistry, biology and biochemistry. She also has five honorary Doctorate degrees. She led the International Medical Commission (IMC) investigations into Chernobyl and Union Carbide's Bhopal disaster. An environmental epidemiologist for nearly 40 years, she's also a member of the Grey Nuns of the Sacred Heart. She is what's known as a credible source, someone who should be listened to carefully. Dr. Bertell explores possible explanations for recent earthquake anomalies: a gamma ray/gravity wave from space? Or HAARP-induced deep earth tomography or direct wave weapon, accident or purposeful? Sr. Rosalie concludes: "We can do enough damage to our world that it doesn't survive. But it doesn't seem to enter their heads that the Earth is alive. It's alive. You know, we affect its basic operation, its survival." [transcript](#)(14:35)
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Part 4: MAKE VISIBLE WHAT'S HAPPENING

"I think the ordinary person if they actually know that their air and their land and water is disappearing would be concerned... Our major job is to make visible what's happening document it as best we can and let people see." [transcript](#)

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**Part 6: IT'S ILLEGAL, IT'S IRRATIONAL, IT'S MAKING OUR PLANET UNLIVABLE: DEPLETED URANIUM**

One of the world's leading epidemiologists, Rosalie Bertell is the author of Planet Earth: The Latest Weapon of War: A Critical Study into the Military and the Environment. She spoke twice at the United Nations' May 2005 nuclear non proliferation treaty review -- on the subject of depleted uranium. Dr. Bertell summarizes her UN comments. [transcript](#)

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Part 7: WHAT ARE YOU DOING? "The killing done by the United States since George Bush has been in charge is incredible," observes Rosalie Bertell, Ph.D. (biometrics). And yet, for the most part, there is only silence and acquiescence from Americans: denial in response to a death event of epic proportions. Notes Sr. Bertell, "If you really deal with it at a deep level, it's painful. It's very painful. But that's where you're also most effective. If you're willing to accept the reality as it is and say, 'Yeah, this is my world. This is what we have done. This is what we have to live with. And this is what we have to try and make better.' Then I think you're healthier. I think you're dealing with it." [transcript](#)

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PLANET EARTH: LATEST WEAPON OF WAR: Rosalie Bertell, environmental epidemiologist for over 3 decades, uses her book (Planet Earth: The Latest Weapon of War (A critical study into the military and the environment), 2000, as the basis for a seminar hosted by the Sisters of St. Joseph, Buffalo NY 11/15/03. Bertell, PhD biometrics ([bio](#), [www.space4peace.org](#)), is the founder of the International Institute of Concern for Public Health (Toronto: [www.iicph.org](#)) part 1 of a series. - 36 min.

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WE DON'T HAVE TO COMMIT SUICIDE: Dr. Rosalie Bertell - interview (Nov. 15, 2003) part 2 - 39 min. ([transcript](#))

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OUR ECOLOGICAL FOOTPRINT: Environmental Epidemiologist Rosalie Bertell (PhD biometrics) gives a quick overview of nations ecological footprint, factoring in consumption, waste, non-recyclable waste. The lion's share of the earth's resources go to the military, not life, she notes. part 3 of the series, 16 min. Thanks to [ThunderBay IMC](#)

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Q & A PLANET EARTH: LATEST WEAPON OF WAR

Questions and answer session with Sister Rosalie Bertell (Nov. 15, 2003)

Following her two-part talk, Sister Rosalie Bertell answered questions from conference participants. Hosted by the Sisters of St. Joseph and Associates (Buffalo), the event was held at D'Youville College, Nov. 15, 2003, Buffalo New York. An world-renown environmental epidemiologist for over three decades. Dr Bertell (PhD biometrics, plus many honorary doctorates), is the founder of the International Institute of Concern for Public Health (Toronto: [www.iicph.org](#)).

Seminar participant: You said earlier that you recommended concentrating on the local and international level. We in our group [discussion, during a break in Dr. Bertell's two lectures] didn't understand what you meant. For instance, a lot of people feel it is very important to get George Bush out of the White House.

Sister Rosalie Bertell: I think the most frustrating thing is to put all of your energy local and national and not know what's going on in the world because you'll find if you tie in with what's going on globally, you'll get not only ideas but support and encouragement and many ideas which cannot be carried out in the United States -- because there's such strong opposition -- somebody in another country will pick up and carry it on and have a marvelous project that everybody can point to and say, "What a good idea that wss." That way, it doesn't have to be carried out and be made visible in [only] your own local area. I think that's part of survival.

I'm certainly not saying 'don't care about the election, don't vote' or anything like that. I mean, you still belong to a nation. You do what you can politically. But don't put all your energy there and forget the big world that's out there and all the wonderful things that are happening.

I think the United States is the country most cut off from international events, from the United Nations, from all the committees and all the good and wonderful, creative things going on in the whole world. It's a shame, because it puts a pall on you and you think nothing can be done and you think nothing's happening, but there are some really good,

wonderful things out there. So, it's to open up your mind, but also to have an outlet. It's terrible to be constantly frustrated. And if you stay in your own little house, you're constantly frustrated when you can't do everything you think ought to be done.

So, it's the bigger world where you'll find ability to move, ability to think creatively, people who hear you. I always thought God gives you something to say, but then God also gives somebody else the power to listen and pick it up and run with it. It's just a wonderful thing to see. Because you can't do everything yourself. That's stupid. You're doomed to frustrate yourself all the time. So put it out there in the big world. That's what I mean.

THE USE OF DEPLETED URANIUM: IMMORAL AND OBSCENE AND UNBELIEVABLE

THAT WE WOULD DO SUCH A THING. WE SHOULD REALLY BE ASHAMED OF THAT

Seminar participant: How extensively has DU been used, and what are its effects?

Dr. Bertell: [Depleted uranium] is kind of a misleading term. "Depleted" sounds like it's not very dangerous. All they did is took out the U-235. That was what they wanted for the bombs. [Depleted uranium is] just as radioactive. In fact, they compared natural uranium and they tell you only 60 percent is radioactive. You've probably heard that. But natural uranium is only about three or four parts per million in the ground, in our soil. So, when you take it out and concentrate it, the depleted uranium is several orders of magnitude – hundreds of millions times more radioactive than natural uranium in the ground. Do you get what I'm saying? You can't take it out and concentrate it. So they take it out and concentrate it. It's very radioactive. The DU is waste from the enrichments plants where they enrich uranium. It's the highest category of radioactive waste in the United States. It's the one we have the most of. You have to be trained and licensed to handle radioactive materials to have anything to do with it legally in the US. It has to be kept out of the biosphere forever.

So, what they did was, when they started the missile tests, Cruise missiles and the MX missiles, they didn't put nuclear bombs in them, but they wanted to simulate the weight and so what they did, they took uranium waste, which has a similar weight to a nuclear bomb, and put it inside dummy missiles for weight. So that it would be a good test of their steering and targeting and so on... [see transcript of the Part 2, the interview (We Don't Have to Commit Suicide), for Dr. Bertell's observations on the origins of DU use].

...

So what you have done [in using DU in Kosovo, Afghanistan and Iraq] is left in the environment an incredibly dangerous material which will hurt people and others many years after the war. This is immoral and obscene and unbelievable that we would do such a thing. We should really be ashamed of that.

IT'S ONLY INSIDE THE BOX THAT EVERYTHING'S IMPOSSIBLE

Seminar Participant: ...I'd like to consume less energy, but just by being here, I'm consuming. Do you see a practical way of sustaining a demand that's out of control?

Sister Bertell: I recommend Transforming The Global Biosphere. It's the most creative book I've seen.* [It explores several viable energy systems different from the ones we're using. The thing is, we're not offered the other ones. We're only offered oil because our leaders are all oil men. They're making their money in oil. You know, what are they going to sell you? They're going to sell you oil. That's what their business is.

But there are many other systems. I think the most promising is pulling energy out of a vacuum which Tom Bearden ** has demonstrated is very viable. I mean, what's more harmless than a vacuum?

Hydrogen is "okay" if you take it from water, but we don't want nuclear plants that are going to take hydrogen out of there air for the simple reason that the bi-product for hydrogen automobiles is water. If you take your oxygen out of the air and convert it to water, you've taken away what you need to breathe; you deplete the oxygen you need to breathe. It's different with carbon dioxide because when you put that out into the air, if you have a lot of green plants, it converts it back into oxygen. There's no way to convert water back into oxygen, to breathe. Okay? So you don't do these kinds of things. But that's being proposed. That's part of Bush's energy plan. Build more nuclear power plants in order to take oxygen out of the air and run cars with it [hydrogen]. You know, it's very frustrating to know some of these things and see these plans that are just not going to work. We've already lost some of the oxygen in our air. We need it. You know, you have to breathe. These things have to be thought through. It's not helpful to say nuclear power doesn't produce carbon dioxide, therefore it's okay. This is stupid. You don't take one end-point and find one thing good about a technology and then run with it. You look at the whole picture, cradle-to-grave: everything it produces, everything it takes, every resource it uses. So we don't need these big transmission systems either. We could get enough energy to run our houses, individual units – our cars are generators, our automobiles are individual generators. We can do these things. There are many viable solutions.

I don't want to get into all the nitty gritty of it, but I would recommend, if you want ideas, you find them in Transforming the Global Biosphere, and many other sources and internet sites. But we've been made to think everything's impossible. But certainly solar, wind... There are many sources of energy and they're right out there and they're free. Okay. You can't meter the sun. They don't want you to use the sun because it's free. We really need to break out of these boxes. It's only inside the box that everything's impossible. In our world, things are possible. Our world is made for people and for living. And it's really an amazing world. The more you find out about it, the more wonderful it is, and the more opportunities there are.

NONE OF THE MEN WOULD SAY ANYTHING

Seminar participant: Would you comment on the Love Canal and your years in Buffalo?

Rosalie Bertell: I don't want to get into that, but what I will say is I worked at Roswell for nine years and got myself in the middle of the Love Canal and West Valley mess. That was just the beginning of the waking up of America, basically.

Beverly Pagan took on the Love Canal and I backed her at Roswell. And I took on West Valley and she backed me – because none of the men would say anything. It was because, what? You lose your reputation, you lose your job, you have your grants cut. It's a bad world out there. You know, you keep your mouth shut and put your head down and just write little papers and put them in the journals, and keep quiet, is the way the world works. And that's not right. That's not right. People were living with terrible toxic wastes in both places. They're still suffering. What bothered me the most was, we have a lot of medical tests and ways to deal with the individual person. So, if you're sick, you can get a battery of tests which try to locate what the trouble is and give you some kind of medical intervention or change in lifestyle – something to do to help yourself. But when it's a community that's sick, what happens usually is a bunch of engineers come in and they – first of all, they look and see if there's any substance which is controlled legally, where there's a law about how much it can have. If they find one, then they look and see whether the level in your soil is above or below some magic level that's permissible. And these are set in many funny ways. And then, if they're all legal, if all the pollution on your property is legal, then they walk out and say, "There's no problem." And you can still be sick.

WE'RE PART OF THE EARTH. YOU HURT THE EARTH, YOU HURT THE PEOPLE.

So, it's a crazy world. It's whether it's legal or illegal is the cut off. And there was no way for a medical community to deal with the real medical problems coming in a place like the Love Canal, or West Valley. So that's one of the reasons I went to Toronto. I spent about 10 years trying to answer first the question, "Is the community sick, or is it normal?" Because it's normal for a community to have some sick people in it. So how do you know when it's so bad that there's an external problem that's affecting the community. First, I thought this would be impossible, but actually, just as we have a certain temperature, we, you know – if your temperature is above 101, you're sick. That's normal for everybody. There also is a norm for how many people in a community will have respiratory problems, how many will have kidney problems, how many will have central nervous system disorders. It's not hard [science], but there is a mean and a little leeway above and below that we would consider a normal spread in a community.

Now instead of 25 percent of the people having respiratory problems, you suddenly have 75 percent, you're in trouble. And you look at the environment and say, what's wrong? What's causing this? If it's a respiratory problem, you look at the air. If it's a kidney problem, you look at the water. There's a lot of little guidelines you can follow. A lot of them are common sense. You can begin to improve health by improving the healthfulness of the environment. Because whatever is out there is also inside our bodies. Just try to breathe the air in this room but don't breathe any air that was in anybody else's lungs. Okay? We share the air, we share the water, we share the land. We're part of the earth. You hurt the earth, you hurt the people.

So, we have to look at these things. And there's some terrible toxic wastes in Buffalo. Certainly Niagara Falls, Tonawanda, Hickory Hills – Foll+ Brothers Landfill. You know, you can tick them off. There are a lot of them. And there are a lot of health consequences in this area because of the pollution. And much of the pollution had to do with the cheap electricity because of Niagara Falls. So, you know: follow the money, see what happens.

We can deal with some of these problems. We certainly can make them visible. I think one of the saddest things was in Russia. They have some pollution even worse than we have. They were much more careless with their nuclear establishment. People wanted to move [from Chernobyl, e.g.]. They wanted the government to let them move because then they thought they would be healthy. But the problem was inside their bodies. So, you move and you take it with you. So you have to stay where you are and clean it up -- unless it's totally unlivable. We can't get away from it. We carry it in our tissues and it's sad. It's very sad. It's gone on mostly since 1950 but it started in World War I. It started with the chlorine gas. But that's a whole other talk and I really don't want to get into it late in the afternoon – but it's a part of our life. It's a part of our life. It's part of our home. It's part of our planet now. But we don't need to go on with it. If you had a young person who was on drugs, you wouldn't say, "Oh, you're hopeless," and, you know, that's it. You would try to help them to maximize the health they had left. And that's what we do with our earth; and that's what we do with our communities. We don't give up on it. We don't give up on the earth. The earth is our source of life and hope.

THEY SET OFF A HUGE EARTHQUAKE

Seminar participant: Would you comment on electronic waves used as weapons?

Rosalie Bertell: ...extra low frequency, low frequency waves. An earthquake is a vibration. You have to have some possibility of a vibration, but if you set off the vibration, you can set off the earthquake.

Where we see earthquakes, remember when they had the Afghan war and they started using the bunker bombs because of the caves in northern Afghanistan? They set off a huge earthquake. And when they did the same thing in Iraq, they set off the earthquake right across the border in Turkey. And now they want to make bigger bunker bombs to do it. They've even started earthquakes by pumping oil into a fault line. So they can do this. There's a lot of

different ways to do it. As I said *** this geophysical force – you take an instability in the earth and you put more energy in, and it goes. It's got to have that instability first – but then you can make it bad, make it worse. You're not really putting it in, but you're adding energy in such a way that you get the bad consequence.

YOU'RE GOING TO BE SURPRISED

Seminar participant: Am I right in saying that the information in your book, Planet Earth: The Latest Weapon of War, is all from public domain sources?

Rosalie Bertell: It's all public domain, but you have to dig it out. It's not easily accessible but I was very careful because I published in the UK and they have an Official Secrets Act. And it's even tighter than it is here. And if you say anything that violates the Official Secrets Act, you can be put in jail and your book can disappear forever. We really had to hire lawyers in New York and London to clear the book before it went out. So there's nothing in there that is official secrets, but I'm sure you're going to be surprised once you read it, because it's not common knowledge.

Seminar participant (follow-up): Are there worse things, hidden, that we don't see?

Rosalie Bertell: I think [the real problem] is that we're kept busy with the local and the immediate. We're taken up with getting food on the table, getting to work, doing the things we do to live and then war, body bags coming home, what are we going to do to get out of Iraq, all of these kinds of things are what's on your television. There's not too much more time left in the day. Unless you really put time aside and think about the bigger picture. I think that's what comes out of contemplative prayer, where you stop and you say, "What is going on in the world?" I think that's where you get in touch with it. But you also have to get information from sources you trust...

"AMERICA: THE RELUCTANT LEADER OF THE WORLD"

Seminar participant (2nd follow-up question): Big wigs in Washington decided some 20 years ago that it was their purpose to take over the earth – for business – and will do it anyway [they think] appropriate and if anybody stands in their way, it's too bad for them. So that plan is out there. It's been voted on, as it were. Yet you never see that as the backdrop to all the noise that's going on. What baffles me is how America seems to be oblivious to the "official plan."

Rosalie Bertell: Maybe 25 years ago I went down to Washington to the State Department, and in the lobby of the State Department were a series of panels giving the history of the United States and the last one really shocked me. It was post-World War II: 'America, The Reluctant Leader of the World.' That's the name of the panel. It was really shocking to see, but that's pretty blatant when it's in the front hall of the State Department, you know? That set me off to watching things.

I think the US has always had a bit of 'we have to show England' because we broke off, and didn't need them, and we're not in the Commonwealth. There's a little bit of competition there. England had its day, France had its day, the Netherlands had its day. Even Spain and Portugal had their day with owning half the world. And so it's our day now. This is some of the thinking. You know, it sounds crazy, but it's real.

THE BILDERBERGERS

But I think this came gradually. I don't think it came suddenly. And I think there were a small number of thinkers who influenced the way the country would go. What also happened in the early 60s – and I did write this in my other book, No Immediate Danger, but it was the Europeans became very concerned about the Americans running around the world doing diplomacy and they figured Americans didn't know how to do it, so they started an organization called The Bilderbergers. They met in the Bilderberger Hotel in the Netherlands and kept the name for their organization.

They have no membership list. It's whoever's invited to a Bilderberger meeting is a Bilderberger. They have heads of state, kings and queens, owners of the media, the heads of international unions – whoever is considered influential gets invited to it. They have different topics each year. It's only Europe, Canada and the US, that's it. They're the Bilderbergers.

THE TRIALATERAL COMMISSION: A FRONT GROUP

Now, David Rockefeller got a bit upset with this [Bilderberger] system. He wanted to have press releases and publications. Also, the Japanese wanted in and they weren't welcome. They were left out. So they formed the Trilateral Commission, which is the one you hear about. That's like a front organization. In the Trilateral commission, they included the Japanese, so it was North America, Europe, and Japan. They have publications, press conferences, they put their ideas out as, like, trial balloons to see how people will react. And they consider themselves as the ones managing the world – because everything was pretty unruly there for a while.* And so they are the ones that... They want the world peaceful enough to transact trade, but also disrupted enough to be able to sell weapons. And so they meet every year. They're a very secret organization. We blew their cover up in Toronto, in King City. Some of us told the media ahead of time and they were out there parked on the road; they took pictures over everybody arriving and had full page coverage in the Toronto Star. They were quite upset about it. It was the first time anybody ever did that to them... They can be brought out from the curtains.

They [Bilderbergers/Trilateral] are the ones that, I think, have encouraged this imperialistic idea in the States. They tried to teach the US how to do this. I don't think they ever succeeded. But this ruling the world stuff, they consider that they rule the world, basically. They're unelected, they're not beholden to anybody; they don't have to report;

they're not even connected in people's minds with what's happening out there.

IT'S ABOUT TIME WE STOPPED THIS NONSENSE

Most ordinary people – I mean, I've worked in more than 60 countries – they're all nice, ordinary people, want a place to live, to have kids and bring 'em up. They want enough money to put food on the table, go to school. They're just ordinary people. It's only a few people who have these ambitions and they really have distorted life on the planet, I think. They have blown up ambitions and it's happened in every age – you had the Roman Empire, Napoleon who met his end at Waterloo – this has been going on for centuries. This is not new. But the latest kids on the block have bad weapons that could totally destroy the planet. They didn't have those before. But it's about time we stopped this nonsense. This is not a way to live on the earth.

If you stop militarism in every country, just stop it, you would have enough resources for life. And you would be able to buy time. You would end up under the consumption level for destroying the planet. You would be able to buy time to have better technology. But it really is going to take a global movement. And don't think it is impossible. I find a lot of hope by going back to the beginning of the labor movement.

IT'S NOT GOING TO HAPPEN IF WE DON'T PAY ATTENTION

If you remember when the industrialization started, the workers' health was traded off for everything they [industrialists/bankers] wanted to do. The workers were being killed and they rebelled. There were all kinds of strikes and many different philosophies. It was a very disorderly time.

I was out in British Columbia one time and I started to speak about labor unions and this old man in the back of the room – I can still see him – he said, "We started it." I said, "What did you start?" He was in a group, partly British Columbia, partly Alberta, and they started the move for the eight-hour day. Now that is a wonderful thing. Eight hours everybody understood. It didn't matter if you were a teacher or a hospital worker or worked in a sawmill, everybody related to an 8-hour day. It cut across men, women and all kinds of barriers and divisions we put up. They started it up there. And they said it went around the world like wildfire.

I looked up the history and found out for the most part the unions went in on the 8-hour day, got legitimacy and afterwards they sat at the table for the rest of the decisions. The ones that didn't go on the 8-hour day were lost to history. Now it might not be perfect but if you look at the structural things that happened when the labor unions organized, they got ministries of labor, departments of labor, they got binding arbitration, negotiations, worker compensation – a whole legal structure to deal with the problems that were occurring. What's happened now is that we have all these decisions and the people aren't part of it. We're lacking a level of structure for the global village. I think it's starting to form in the World Social Forum. But that's what we need. And it's only going to take one idea which is very clear and very simple which will go around the world very fast. People are ready for it. There will be a new level of complexity in society, and then we can grow again. Then we can differentiate and can have a period of blooming. I really think that can happen, but it's not going to happen if we don't pay attention and we're not ready when that idea comes across, we're not ready to grasp it and run with it.

* Transforming the Global Biosphere: Twelve Futuristic Strategies (Elliot Maynard, PhD, www.arcoscielos@yahoo.com)

** Thomas E. Bearden, PhD (US Army Ret.)

*** Rosalie Bertell's lecture (part 3 of this series)

+ unsure spelling

Filmmakers' notebook #69 (transcript of part four of a five-part series featuring Dr. Rosalie Bertell).

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updated Feb 2004

Biographical Sketch: Rosalie Bertell

**United Nations Environment Programme,
Global 500 Laureate - 1993**

**Alternative Nobel Prize:
Right Livelihood Award - 1986**

World Federalist Peace Award - 1988

**Ontario Premier's Council on Health:
Health Innovator Award - 1991**

**Marguerite D'Youville Humanitarian Award,
Lexington MA - 1992**

Rosalie Bertell, PhD, GNSH, is President of the **International Institute of Concern for Public Health** (IICPH), and Editor in Chief of **International Perspectives in Public Health**.

Dr. Bertell served four years as Co-chair for Canada on the **Ecosystem Health Workgroup** of the Science Advisory Board to the US - Canada **International Joint Commission** (IJC) on the Great Lakes, and currently serves on the IJC **Nuclear Task Force**. She also serves as advisor to the **Great Lakes Health Effects Program** of Health Canada, and to the **Environmental Assessment Board of Ontario**.

Dr. Bertell Directed the **International Medical Commission - Bhopal** which investigated the aftermath of the Union Carbide disaster in Bhopal, and of the **International Medical Commission - Chernobyl**, which convened the Tribunal on violations of the human rights of victims in Vienna, April 1996.

She has received numerous awards and five honorary Doctorate degrees since launching the IICPH in 1984.

Dr. Bertell is a member of the **Grey Nuns of the Sacred Heart**.

Dr. Bertell earned a Doctorate in Biometry at the Catholic University of America, Washington, DC, in 1966, and has been working ever since time in environmental

epidemiology. She has collaborated in analyses undertaken in the US, Canada, Japan, the Marshall Islands, Malaysia, India, Germany, Ukraine and other countries.

Author of **Handbook for Estimating the Health Effects of Ionizing Radiation** (1984, 1986) and the popular non-fiction book: **No Immediate Danger: Prognosis for a radioactive Earth**, together with more than a hundred articles, book chapters and poems, Dr. Bertell has reached medical, scientific, and popular audiences around the globe.

No Immediate Danger, has been translated into Swedish, French, German and Finnish. A Russian translation is in process.

By choice, Dr. Bertell works with indigenous people and economically developing countries as they struggle to preserve their human rights to health and life in the face of industrial, technological and military pollution.

She was a founding member of IICPH, an attempt to institutionalize her growing concern for human survival on an intact planet.

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