

Threats to the American Homeland

By

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See www.highfrontier.org for more information.

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Get involved today—inform yourself and act! For more information on the threat and how to get involved to protect your family and friends, see www.highfrontier.org and its links to others who are already engaged in this important fight.

Threats to the American Homeland: Presentation Outline

- *Deteriorating Strategic Situation Creates Existential Threats*
 - *Linked Peer Adversaries, Rogue States & Terrorists with WMDs*
 - *U.S. Atrophying Strategic Forces & Hollowed-out Conventional Forces*
 - *Generally Unrecognized Serious Vulnerabilities—e.g., the Electric Grid*
 - *Blindness from Political Correctness & Assumed Superiority*
- *What Can Be Done About These Threats*
 - *Recognize the Threats and Deal With Them—At All Levels*
 - *Recognize that “Washington is Broken”*
 - *Where Appropriate, Prepare Locally*
 - *Give the National Guard a Key Role*
 - *Demand the USG Get Its Act Together*
- *Two Examples: Loose Nukes & Electromagnetic Pulse (EMP)*
 - *Would no doubt Combine with Cyber and Physical Attack Strategies*

We are living through the most dangerous period of my lifetime.

Overall Strategic Situation

- *Russia building-up to limits permitted by New START*
 - *While Deploying Intermediate Range Missiles that Violate the 1987 INF Treaty*
 - *US not honoring modernization agreement to obtain Senate advice and consent*
 - *Putin elbowing his way around the international scene—Middle East, Ukraine, etc.*
- *CRS: China building a modern and regionally powerful Navy with a modest but growing capability to conduct operations beyond China's near-seas region.*
 - *Threatening US Naval Operations with Modern Ballistic and Cruise Missiles*
 - *New strategic capabilities—ICBMs/SLBMs, submarines, space and cyber capability*
 - *US so-called “Pivot to Asia” strategy so-far seems to be mostly words*
- *Russia and China contribute to a Cacophony of Proliferation—e.g., via North Korea, Pakistan, Iran, etc.—and to growing jihadi threats, my greatest concern*
 - *Pakistan has nukes; North Korea and Iran have ICBM and FOBS capabilities that threaten the US—even with short range missiles from vessels near US shores*
 - *North Korea has nukes—and Iran is at least near having that capability*
 - *Both have cyber capabilities—as recently illustrated by Sony attack*
- *US strategic forces atrophying—and we are increasingly vulnerable to existential threats, some of which may be un-deterable*

Friends no longer trust us; our enemies no longer fear us.

Consider Two Severe Threat Scenarios

- **Loose Nukes:**
 - *E.G., smuggled from Black Sea region to attack US Coastal Cities; or*
- **Electromagnetic Pulse (EMP):**
 - *Well understood threat, and it is well known that we are vulnerable*
 - *A Natural EMP version will surely occur—just a question of when*
- **Comments:**
 - *Depending on the details, both could present existential threats*
 - *At least the first is considered by the Department of Homeland Security; the second is not, but Congress may soon demand that it be via the Critical Infrastructure Protection Act (CIPA) to protect the electric grid*
 - *“Washington is Broken” in dealing with both, and also cyber and physical attack threats—all of which would likely be included in a combined attack strategy*
 - *Where appropriate, Prepare Locally, Give the National Guard Key Roles & Demand the USG Get Its Act Together*

Inform yourself and get involved!

Architectural Challenges in Countering Existential Terrorist Threats: Lessons from a decade of studying “Loose Nukes”

- Drawn from decade of studying how to counter terrorist threat of smuggling a nuclear weapon to attack the US:
 - Camp Lejeune Unconventional Nuclear Weapon Defense (UNWD) Test Bed Demonstration
 - Successful legacy being extended to protect other Marine Bases
 - DHS/HSARPA—DHS/DNDO Architecture Study
 - Bottom Line: Give priority to overseas countermeasures
 - DTRA Bosphorus Study
 - Early (“Left of go”) Indications and Warning (I&W) is the key to success
- Key Bottom Lines:
 - Technology is important but there is no silver bullet
 - Bureaucratic Impedance is a big problem
 - Empowering Local Authorities (here and abroad) is key to success

Bosphorus Study Objectives

- Understand better the complex, “end-to-end” technical and political-military issues that an effective CONOPS must address to counter nuclear smuggling through the Black Sea Region
- Recommend appropriate PolMil, Intelligence and Technical solutions

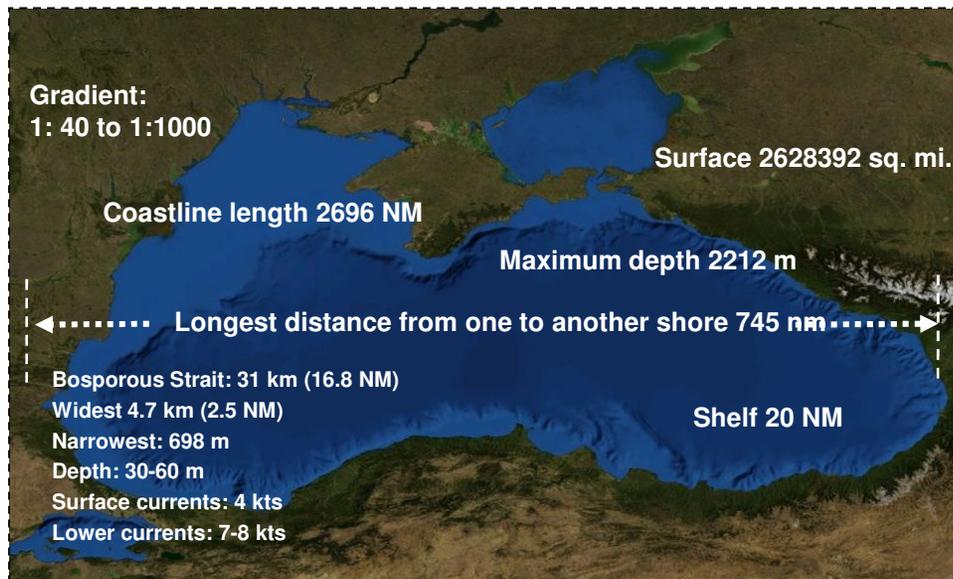


How best to exploit geographic and other choke points?

How best to engage Intelligence/Ops to counter WMD?



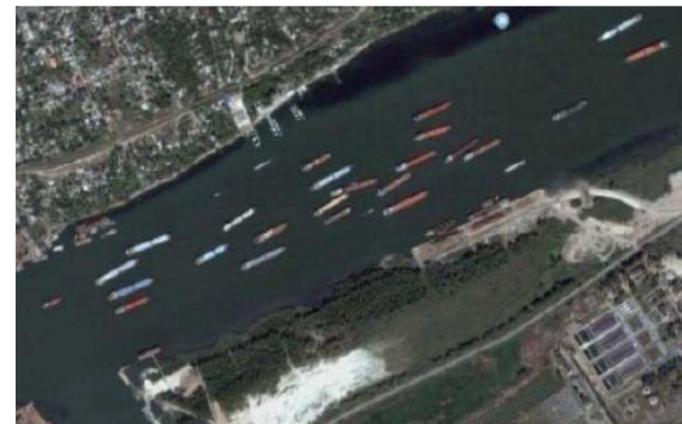
Black Sea Wide-Area Search Challenge



- **Once on a large vessel, relatively easy to shield**
 - Numerous possible pathways to a large vessel
 - Black Sea “perimeter” is potential last line of defense
- **Brute Force countermeasure solutions not feasible**
 - Sufficient RN sensors for wide-area search impractical
 - Mobile/Transportable sensors, decoys and deception could have deterrent effect
 - Need fusion of sensors and all source information
- **Role for multiple regional information fusion centers**
 - Local responder participation required to provide I&W



- Note: Large vessel on Don River near road and local marina
- ~40 miles upstream from Sea of Azov



- Note: Dense traffic pattern
- ~35 miles upstream from Sea of Azov, near Rostov

Most Stressful Red Team Threat Scenario

- Three men imbedded in a “regular” process:
 - Colonel Ivan Petrovich, commander of nuclear weapons facility near Krasnoarmeyskoye, Russia—works through a “broker” to sell weapon to Terrorists
 - Lt. Vasily Yugov supervises the diversion of the weapon inside the facility and hands it off to
 - Sergeant Vukov, a veteran NCO who served in Afghanistan with Petrovich, who in turn commands the escort troops for a “regular” Scrap metal convoy to Novorossiysk
- Only Petrovich knows the “broker,” who arranges the deal with terrorists for money exchange for weapon in Novorossiysk
 - Petrovich, Yugov, and Vukov take their money and vanish
 - Terrorists transfer weapon to large vessel in Black Sea, shield it in 15 tons of water and head to a US port via the Turkish Straits
 - Possibly in the Aegean Sea in 12 hours after “go”



A typical break-bulk carrier can be loaded in port, along the coast or at sea



Typical Nuclear Weapon disassembly facility – e.g., Krasnoarmeyskoye, Russia

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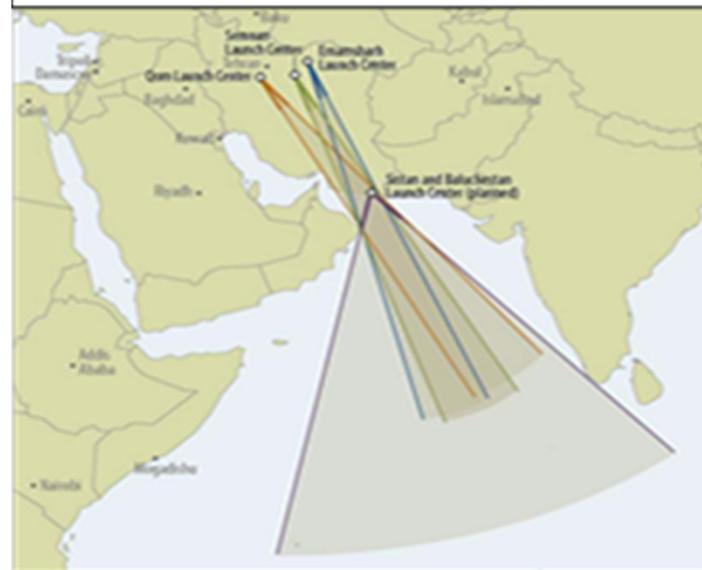
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Loose Nukes Extended Scenarios: Nukes on SCUDs Launched from Vessels off our Coasts to Attack the USA

- *Iranian authorities—the Mullahs—say they intend to destroy the US (the “Great Satan”) and Israel (the “Little Satan”) and kill as many of us as possible*
 - *This is a theological goal for all Jihadis, suggesting scenarios involving collaboration with terrorists*
- *Our missile defense efforts have focused on threats from North Korea and Iran over the North Pole*
 - *Ground-based sites in Alaska and California*
 - *Pentagon/Congress considering an East Coast Missile defense site to improve defense against Iranian ICBMs*
- *Need defense against two even more troublesome EMP attack scenarios—from Iran (or North Korea):*
 - *Short or medium range missiles from vessels off our coasts (especially from the Gulf of Mexico) to detonate warheads 200-300 miles over the U.S.—EMP would kill no one immediately, but within a year several hundred million Americans could die from starvation & chaos*
 - *A nuclear armed satellite over the South Pole to be detonated over the US at 200-300 miles altitude*
 - *Iran has practiced both scenarios*



Ballistic Missile on Container Ship Ready to Launch



Iran has launched satellites into orbit to the South. over the South Pole

Americans need to wake up to this well known (even to terrorists) threat & demand that their Representatives provide for the common defense!

Electromagnetic Pulse (EMP) Protection: General Comments

Presentation Outline

- *Nature of the Threat*
 - *Manmade*
 - *Natural*
- *What can be done about it*
 - *Harden the Electric Grid*
 - *Build Missile Defense sooner*
- *We understand the threat and how to counter it*
 - *Learned during Cold War but not applied to most critical infrastructure*
 - *What you can do to help*



If Protected from Ballistic Missile “EMP” attack, should also be Protected from Solar Storms, but not the converse

The EMP Threat well understood from Cold War tests: 1962 Starfish Prime High Altitude Test

- A “wake-up call”
- *1.5 megaton explosion, 240 miles above Johnston Island in the South Pacific*
- *Damaged test instrumentation*
- *Killed three satellites immediately, and 7 more died in the next few months*
- *Electrical damage 900 miles away in Hawaii*
- *Today’s electronics would have experienced much more catastrophic damage*
- *Weapon designs can be more lethal, too—and at much lower yields*



Led to a major effort to harden our strategic systems—but we did little or nothing to harden our civil critical infrastructure

Hardened our Strategic Systems and their Supporting Command, Control and Communications Systems to EMP

- *Major hardening of our strategic retaliatory systems*
 - *ICBMs and SLBMs, Strategic Bombers, and Supporting BMC3 systems*
 - *But not civil critical infrastructure*
- *Associated classification constraints kept info closeted—at least to most*
- *Key 2008 release by Congressionally appointed EMP Commission (Reports on High Frontier webpage)*
 - *Included Soviet testing info, which was in some ways more revealing than our own*
- *Key Bottom Line Conclusion:*
 - *EMP from a single burst 200-300 miles over the US could shut down most if not all US electrical systems, possibly indefinitely*
 - *Return US just-in-time economy to 19th century operations without agrarian support*

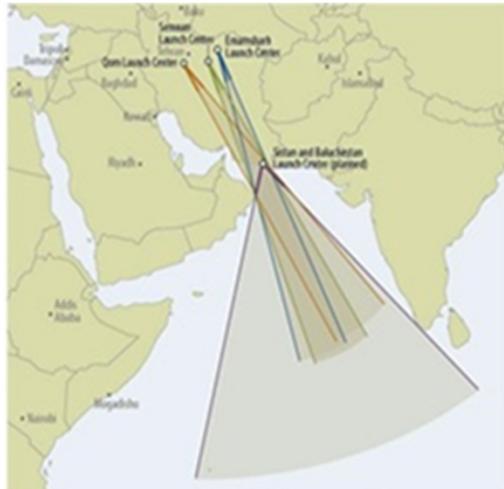


E-4B Airborne Command Post

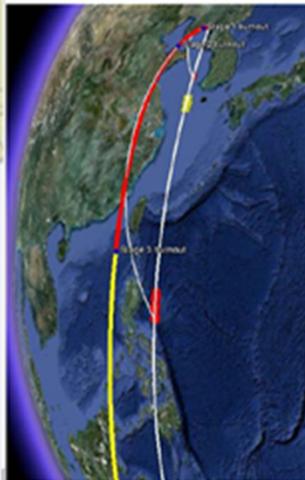
A key lesson for today: Success was insured by high level truly independent review—including key “red team” analyses and tests!

Today, we have major potential threats “from the South” . . . To which we seem oblivious and are not addressing

- *A Wake Up Call: June 2013 intercept of a North Korean ship carrying from Cuba to & through the Panama Canal nuclear capable SA-2s and other technology illustrates the “Cacophony of Proliferation”*
- *Of greater concern, Iranian (or terrorist) missiles could be launched from ships off our coasts, especially in the Gulf of Mexico and/or from Latin America, e.g., Venezuela*
- *North Korean or Iranian Satellites could carry nukes over the South Pole to attack the U.S.*



Iran has launched satellites into orbit to the South, over the South Pole



North Korea used 3-stage southward into polar orb

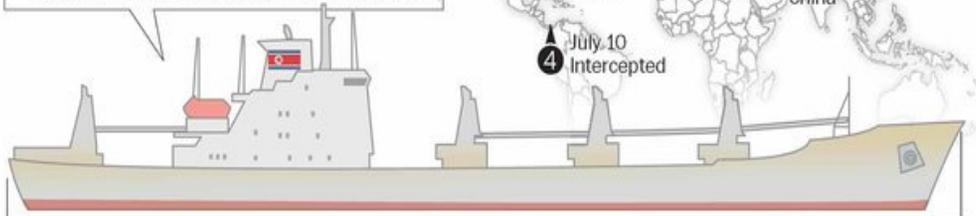
MILITARY CARGO HIDDEN UNDER SUGAR ON FREIGHTER

Tracked by U.S. satellites, a North Korean freighter was intercepted on July 15 by Panamanian forces as it approached the Panama Canal. After resistance by the crew, the ship was boarded and searched. In its holds, under bags of brown sugar, were decades-old aircraft, engines and missile components.

The Chong Chon Gang

- North Korean-flagged freighter
- Built in 1977
- Maximum speed 6 knots (7 mph, 11.3 kph)

Where the ship has been since January



Comparing sizes

Length of ship 508 ft. long

- Mig-21 in scale 51.7 ft. long
- Volga missile (variant of SA-2) in scale 35 ft. long

Mig-21 “Fishbed”

All-purpose fighter from Soviet era, first deployed in 1955, upgraded in many variants



- About 11,500 produced through 1985
- India built 657 of them

Volga anti-aircraft missile

Variant of the highly successful Soviet SA-2 system



- Also found on ship were Fan Song radar fire control units for the missiles

Ship diverted



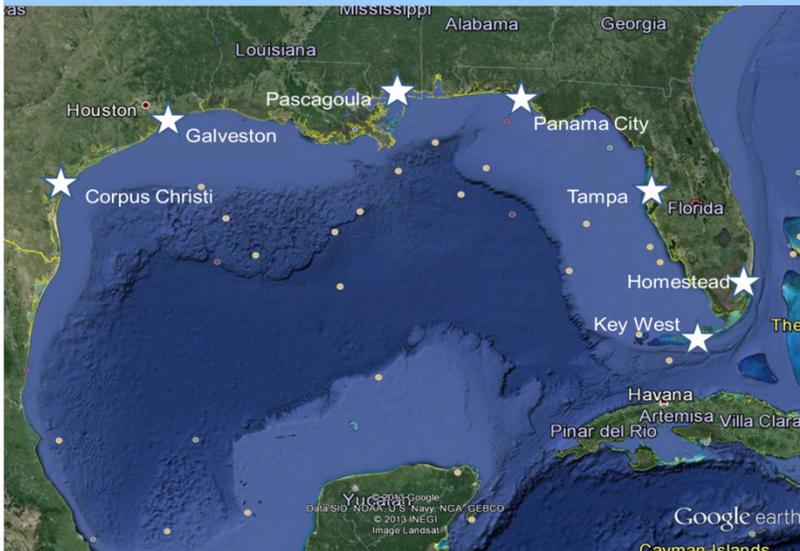
Source: McClatchy Washington Bureau, MarineTraffic.com, The New York Times, Wall Street Journal, Miami Herald

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Graphic: Judy Treible, Robert Dorrell

THE WASHINGTON TIMES

We are currently defenseless against these threats from the South!

Important Quick Fix to Threats from the South: Aegis Ashore Sites Around the Gulf of Mexico



- *Aegis Ashore site in Hawaii is operational for testing purposes*
- *Construction of Romanian Site is nearly completed*
 - *Operational this year with a second site in Poland by 2018*
- *Site spacing around Gulf coasts depends on interceptor speeds*
 - *Have met with folks in Mississippi and Florida*
 - *Pascagoula , Miss. where Aegis ships are built*
 - *Panama City/Tyndall AFB, FL home of 1st AFNORTH*
 - *Command Links to 263rd AAMDC in Anderson, SC*
- *Plan to go to Texas—Corpus Christi?*



Aegis Ashore employs Aegis BMD shipboard components as “football size” ground-based interceptor system—no additional R&D cost

TPY-2 radar at Aegis Ashore (or THAAD) site in the Philippines would help counter North Korean FOBS attack

- *TPY-2 X-Band Radar in the Philippines could cue Aegis BMD ships at sea and GBIs on Vandenberg AFB, CA*
- *First generation Aegis BMD shot down satellite in 2008; Aegis BMD ships at sea now and in the future will have improved capabilities*
- *Philippine cooperation is needed, as well as software modifications and crew training*



North Korea rocket

Unha -3 Launch Trajectory toward the South Pole, anticipated to be repeated in upcoming launch from North Korea's Sohae Satellite Launching Station.



Interception Strategy:

- Boost phase intercept opportunities during first and second stage burn—possible with the Navy's SM-2 Block IV interceptor if an Aegis BMD ship is appropriately located, and its crew and system is prepared to do so.
- Subsequent SM-3 intercept opportunities after burnout if the Aegis BMD crew is prepared and needed sensor cuing is provided—recall that the first generation of the SM-3 was used in 2008 to shoot down a dying satellite with the help of such cuing information.
- The Vandenberg AFB ground based interceptors can be used to shoot down the satellite before it overflies the U.S.—again with needed sensor cuing information.
- An appropriate ground based radar—e.g., a TPY-2 radar—in the Philippines could help provide this needed cuing.

Americans need to wake up to FOBS threat & demand that their Representatives provide for the common defense!

Bottom Lines and Recommended Action

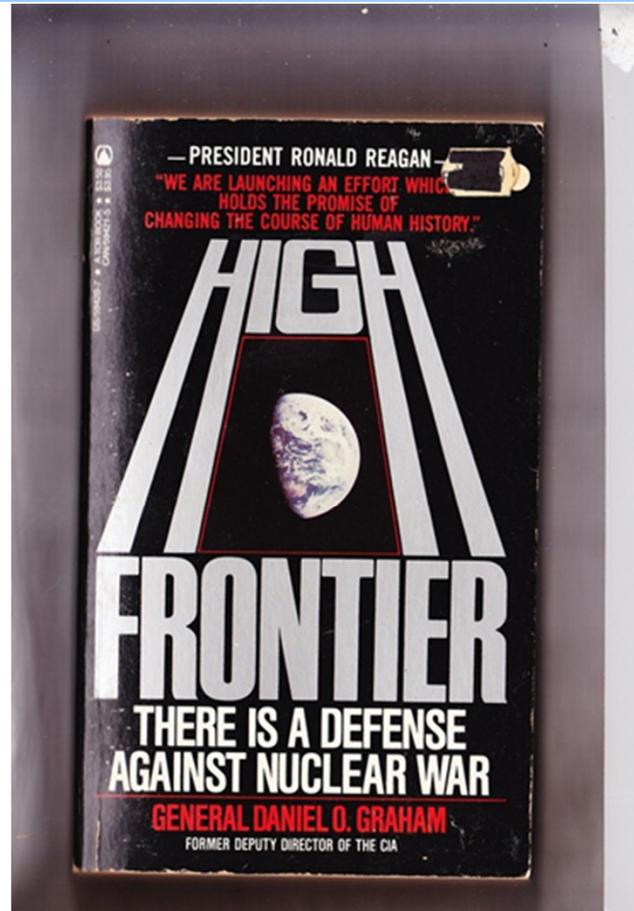
- *Russia and China are building up their strategic nuclear forces, while we permit ours to atrophy & they both support others who seek to threaten us with nuclear weapons*
- *North Korea and Iran are of particular concern—they have or shortly will have nuclear weapons to threaten us—especially with attacks from our undefended south*
- *To counter “Loose Nukes” we need effective I&W capabilities—NYPD can help*
- *In case of the threat from rogue states or terrorists,*
 - *The Navy’s Aegis BMD system can provide an effective defense if crews are trained and ready*
 - *On a random day in 2013 along the east coast, there were 2 Aegis ships & 4-6 in port—e.g., for maintenance, need a TPY-2 radar in the Northeast—e.g., in Maine*
 - *Aegis ships do not normally operate in the Gulf of Mexico—leaving the US with a soft underbelly vulnerable to this threat—as well as others from the South, e.g., such as from Venezuela.*
 - *The Aegis Ashore system we are buying for Romania and Poland can be deployed on military bases around the Gulf of Mexico—possibly by as soon as 2016*
- *In case of a the threat from over the South Pole, empower the Navy BMD to see what they can do—remember they shot down a dying satellite in 2008*
 - *Space-based defenses are needed to provide a comprehensive solution*
- *In case of the threat from Mother Nature (Geomagnetic Storms)*
 - *Appropriate hardening and reconstitution planning can protect our critical infrastructure—should begin with the electric power grid—and should assure hardening against nuclear EMP*
- *In all cases, a grass roots effort is needed to press the powers that be to provide for the common defense and protect our way of life—Outside critical review is essential!*

Take these threats seriously, assure timely I&W, provide truly effective defenses and harden the electric grid—especially the nuclear power plants. Washington—both the Executive and Legislative Branches—are badly broken; so, state and local authorities now must play a leading role to meet engineering and political challenges! Empower the National Guard!

Please Let Us Hear From You!

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Check out our webpage at
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Daniel O. Graham



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Thanks for your support—the vision lives on!!!

At High Frontier, we dedicate ourselves to passing to future generations the blessings passed to us by the Founders and Forefathers.

May God bless America!