Welcome to USAF Center for Strategic Deterrence Studies News and Analysis! As part of the CSDS mission to develop U.S. Air Force, Department of Defense, and other government leaders to advance the state of knowledge, policy, and practices within strategic defense issues involving nuclear, biological, and chemical weapons, we offer the government and civilian community a source of contemporary discussions.

**Feature Report**


"CBO examined the threat that adversaries equipped with land-attack cruise missiles might pose to the U.S. homeland and estimated the costs of several defensive systems that could be fielded to protect the United States from such attacks." [Read Report.](#)

**Nukes and Deterrence, Counter-WMD, and Arms Control in News and Research**

**NUCLEAR WEAPONS AND DETERRENCE**

- **The Rule of Law and the Role of Strategy in U.S. Nuclear Doctrine** (Belfer Center)
  When properly applied, the key principles of the law of armed conflict—distinction, proportionality, and precaution—have a profound impact on U.S. nuclear doctrine.

- **Garamendi: Pause GBSD As Other Nuclear Modernization Efforts Proceed** (Air Force Magazine)
  He said top USAF officials have "confirmed" to him that the ICBMs can be life extended and still remain useful until the late 2030s, at which time a new ICBM "might be necessary."

- **Air Force to Focus 2022 Construction Funds on Europe, Pacific and Nukes** (Military Times)
  In preparation for new fleets of ground- and air-launched nuclear missiles and the new B-21 bomber, USAF is laying the groundwork for an overhaul of [ICBM] facilities and aircraft hangars.

- **Q&A: Lawrence Livermore Director Kimberly Budil on the Evolving Nuclear Weapons Enterprise** (Physics Today)
  "[Nukes] and deterrence have been the bedrock of our national security strategy since the dawn of the atomic era. Many countries did not pursue atomic weapons because of the US nuclear umbrella."

- **Q&A: Interview with Air Force Global Strike Command boss Gen. Timothy M. Ray** (Air Force Magazine)
  "The B-21 program is incredibly healthy. There’s something I want to highlight that’s unique."

**COUNTER-WMD**

- **New SBIRS Sat Creates Bridge To Next-Gen Missile Warning** (Breaking Defense)
  The new SBIRS satellite, called SBIRS GEO 5, will be "the most advanced missile warning satellite" on orbit, said Lt. Col. Ryan Laughton, SMC’s program manager.
US Army Tackles Enduring System to Counter Both Drone and Cruise Missile Threats (Defense News)
IFPC is planned to bridge the gap between short-range air defense systems, the Patriot air and missile defense system, and the Terminal High Altitude Area Defense system.

DoD Testing Shows Bio-Agents Degrade Rapidly in Open Air (DTRA via Global Biodefense)
Data gathered through these experiments may transform the way DTRA CB examines the aging and decay of biological threat agents in the future.

US ARMS CONTROL
• Russian Lawmakers Vote to Follow US out of Overflight Treaty (AP via Military Times)
More than 1,500 flights have been conducted under the treaty since it took effect in 2002, aimed at fostering transparency and allowing for the monitoring of arms control and other agreements.

• Nuclear Negotiations with North Korea (Congressional Research Service)
This report summarizes past nuclear and missile negotiations between the United States and North Korea ... and highlights some of the lessons and implications from these efforts.

• Unknown Amad Sites, Prior to the Nuclear Archive Seizure (Institute for Science and International Security)
Two sites, ..., both tunnel complexes, were visible in commercial satellite imagery, but it was not known until the archive that they were part of the Amad Plan and had a nuclear weapons purpose.

COMMENTARY
• The Debate on the ICBM Fleet Just Got a Whole Lot Easier (Defense News)
“For deterrence to be effective, adversaries must believe U.S. capabilities will work as intended and make it to their targets.”

• Biden’s Policy Review Leaves North Korea Challenge In Limbo (Council on Foreign Relations)
“To be fair, no U.S. administration has found a satisfactory answer to this question since U.S. satellites began surveilling North Korean nuclear efforts in the 1980s.”

• What’s Next for Iran Nuclear Talks? (CSIS)
“How these upcoming events are handled matters because they could have negative implications for access to Iran’s nuclear program and make a future return to the deal more cumbersome.”

• Strategy Strikes Back: How Star Wars Explains Modern Military Conflict (Journal of Indo-Pacific Affairs)
“[The book] addresses this problem, democratizing strategic thinking by using Star Wars, rather than the Peloponnesian War, as a lens to dissect strategic thinking.”

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