

SPECIAL EDITION

The Secure World is a biweekly online publication focused on space governance. To receive this newsletter, please sign up [here](#).

Anti-Satellite Test, One Year Later: Orbital Debris Underscores Need for Policy Action



The kinetic ASAT was probably launched by a radar-guided, mobile, solid-fuel KT-1 or KT-2 missile. For more information, see, 'China's Direct Ascent ASAT,' by Richard Fisher, 20 January 2007; 'Chinese Anti-Satellite [ASAT] Capabilities' GlobalSecurity.org; and Desmond Ball, 'Assessing China's ASAT program', Nautilus Institute, 14 June 2007.

On January 11, 2007, China purposely destroyed its own aging meteorological spacecraft making use of a direct-ascent interceptor launched from Earth. That demolition of the nearly one-metric ton Fengyun-1C satellite proliferated low Earth orbit with hazardous orbital debris. The anti-satellite (ASAT) target practice by the People's Republic of China created a debris cloud of space junk, placing in harm's way billions of dollars of operational satellites in the service of numerous nations, as well as the International Space Station and its crew. Indeed, the event one-year ago has placed China in a unique, albeit dubious, position in the sweep of space activity over the last 50 years: China is responsible for 42 percent of known satellite breakup debris in orbit as of 1 January 2008. The primary source of this debris was the deliberate destruction by ASAT of the Fengyun-1C spacecraft.

That lingering cloud of dangerous space junk from the Chinese ASAT is a wake-up call, one that all nations engaged in utilizing space should heed, observed Ray Williamson, Executive Director of the Secure World Foundation.

The consequence of China's ASAT test, Williamson added, signals a requirement for action on several fronts.

"We need an international cooperative approach to space situational awareness, space traffic management and an international agreement banning further ASAT tests," Williamson noted. "Despite the problems the Chinese test has created for satellites in orbit, perhaps something good can come out of the test in the form of an increased awareness of the threat to space systems from orbital debris and the need to reduce that threat," Williamson said.

"In fact, in my view, the Chinese test generally increases the incentive to craft and adopt internationally acceptable 'rules of the road' for space, with the goals of not only reducing the threat of damage from orbital debris, but also assisting all countries in establishing and maintaining relatively safe access to space," Williamson said. *Continued next page...*

UPCOMING EVENT

THE STATE OF SPACE SECURITY



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January 24, 2008

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Explained Cynda Collins-Arsenault, President and co-founder of the Secure World Foundation: "Although China has been rather silent in commenting on the test, and there are multiple speculations as to the purpose, China in conjunction with Russia continues to push for a treaty preventing the weaponization of space in the United Nations Conference on Disarmament."

Since the ASAT test a year ago, only a small percentage of the spacecraft wreckage has reentered the Earth's atmosphere, where it usually burns up before reaching the surface. The majority of the debris was thrown into long-duration orbits, with lifetimes measured in decades - even centuries.

In one reported instance, NASA had to execute a collision-avoidance maneuver with its Terra Earth-monitoring spacecraft to evade a piece of debris from the Chinese ASAT test. NASA's Orbital Debris Program Office at the space agency's Johnson Space Center in Houston, Texas has stated that the cloud of clutter from the ASAT test "represents the single worst contamination of low Earth orbit during the past 50 years."

A recent NASA analysis of ASAT-produced space junk - pieces that are one centimeter and greater - has estimated that 150,000 bits or more of orbiting flotsam were created immediately after the test.

"This was the worst debris-generating event on record," explained T.S. Kelso, technical program manager at the Center for Space Standards and Innovation in Colorado Springs, Colorado. The orbital clutter has meant that there are large numbers of "close approaches" between ASAT test-caused debris and orbiting payloads, he advised the Secure World Foundation.

"The bottom line is that the problem is worse than most people realize," Kelso added. He also feels that collisions in space might be more in number than catalogued. To date, there have been only three recorded collisions - but detecting and verifying those hits between orbiting objects is an arduous process that can take months, if not years.

Because we don't notice collisions... it does not mean that such incidents are not a regular occurrence, Kelso advised. "Just because we aren't watching what's happening doesn't mean that nothing bad will happen. We need to open our eyes," he concluded.

To read world reaction to the January 2007 China ASAT test, visit the following link:
<http://secureworldfoundation.org/mainc.php?ax=05&ay=03#reactions>.



An artist's depiction of the meteorological satellite FY-1C, which was destroyed by the ASAT.

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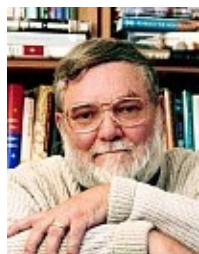
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BOOKS

Twilight War: Folly of U.S. Space Dominance



Washington, D.C., January 1, 2008

Twilight War: Folly of U.S. Space Dominance is the topic of a new book by Mike Moore, Research Fellow at the Independent Institute in Washington, D.C. Moore offers clear insight into how best to ensure that outer space remains a resource for all and a security threat to none. He takes aim at the lack of action in Washington, D.C., including missing leadership on this issue by the last four U.S. presidents and he argues that the United States only provokes conflict when it presumes to be the exception to the rule; rejecting treaty negotiations while further militarizing space renders the U.S. unable to lead by example. For more information see our [Book Reviews](#) or our [Events Calendar](#) for tour schedule.



Promoting Cooperative Solutions for Space Security

Next Issue: News and Highlights