

## THE MYTH OF AIRCRAFT CARRIER VULNERABILITY

By Loren B. Thompson, Jr.

On the eve of America's entry into World War One, Senator Hiram Johnson warned that "the first casualty when war comes is truth." It turns out that the truth about some military programs is obscure even in peacetime. Consider the question of aircraft-carrier vulnerability. In 1994 the Pentagon's Office of Net Assessment sponsored a wargame in which China used space-based sensors and long-range missiles to wipe out the Seventh Fleet. Since then it has been an article of faith among proponents of military transformation that America's carriers are becoming sitting ducks.

The recent crisis in the South China Sea is an opportunity to illustrate how wrong that belief is. In order to successfully counter a U.S. carrier, the Chinese military would need to find it, track it, target it, and disable it. How hard is that? Today and for many years to come, it's nearly impossible.

**There are a million square miles of open ocean in the South China Sea. To accomplish continuous tracking of an aircraft carrier there, China would need 138 low-earth-orbit satellites arrayed in three polar orbits of 46 spacecraft each. It would require more satellites to cover the other maritime approaches to China, such as the Yellow Sea. That's a surveillance capability even the U.S. lacks today, and Chinese space technology is generations behind America's.**

Other sensors might detect the presence of a vessel, but none could provide targeting data in a timely manner. After all, the carrier would be moving constantly. If the Chinese could generate target tracks though, the likelihood that missiles dispatched to attack the carrier could penetrate multiple layers of defenses is low. And even if the defenses were breached, carriers are huge, heavily armored ships. A very big warhead would be needed to cause significant damage.

Much has been made of the four *Kilo*-class submarines China recently bought from Russia, but the capacity of these boats to find and target carriers at sea is minimal. The U.S. Navy expects little difficulty in tracking and destroying the Kilos in wartime. The bottom line is that while it is easy to imagine circumstances in which carriers might eventually become vulnerable, that time looks a long way off today. U.S. naval technology is likely to stay far ahead of potential adversaries' capabilities -- which is important, because America no longer has land bases in many places like Southeast Asia.

### Satellite Surveillance Tradeoffs

