

# Space Superiority

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*History does not long entrust the care of freedom to the weak or the timid.*

- President Dwight D. Eisenhower

We recently published the AFSPC priorities for 2005 and our #1 priority is “Ensuring Space Superiority and Providing Desired Combat Effects for Joint Warfighting.” While Space Superiority and providing combat effects to Joint Warfighting may seem like two distinct goals, they are inextricably linked. Just as we would not go to war without establishing Air Superiority, we cannot go to war and win without establishing Space Superiority.

Gaining and maintaining Space Superiority by itself will not ensure we win a war, but it is critical to providing effects to/from/in/through space. Just as we gain and maintain Air Superiority to then use the effects from airpower to achieve operational and strategic goals, we must gain and maintain Space Superiority to ensure we can deliver space effects to the battlefield when and where they are needed.

Space Superiority is comprised of three critical elements. We must have complete Space Situation Awareness to fully understand what is happening in space, we must be able to defend our space assets against hostile attack and the environment, and when required, we must have the ability and resources to deny our adversaries the use of space.

The foundation of Space Superiority is Space Situation Awareness, which means having a complete understanding of what is happening in space. To that end, we must have continuous situation awareness of both environmental effects and the actions of all nations that operate in space. The means for gaining that complete awareness is our Space Surveillance Network.

The Space Surveillance Network is comprised of 30 different sensors spread around the world, providing us a comprehensive picture of what is happening in space. While our surveillance network provides the most accurate and complete Space Situation Awareness in the world, it only provides a very small piece of the information we need.

It is no longer sufficient to simply know where a satellite is in space. We must also know what the satellite is capable of doing, what it is being used for and what it may be used for in the future. Once we know this vital information concerning each satellite, we must fully integrate this information to understand how everything is working together and what the “trickle

down” effect of our actions would be.

In addition to man-made objects in space, we must also understand what is happening in the space environment. We must be able to predict solar flares, electromagnetic storms and much more, and then use that information to protect our assets against the environment.

The information gained through Space Situation Awareness allows us to better plan our use and defense of space rather than simply reacting to events. If we find ourselves spending most of our time reacting to the actions of others, it probably means we are losing our advantage. It is imperative to remain ahead of the rest of the world in space, which means being proactive and forcing our potential adversaries into a reactive posture.

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Space has improved and enhanced our military capabilities, but with that increased capability comes an increased reliance and vulnerability. Our reliance on space presents a potential target to our adversaries; consequently it is our

fundamental duty to safeguard the advantages space provides to our warfighters and nation. The mantra within AFSPC is that Defensive Counterspace is not a program--it’s a mindset!

Throughout our history, each time the United States has sought the higher ground, our adversaries developed capabilities aimed at denying us that advantage. Space is no different and we cannot continue to think of it as a benign sanctuary. This naturally hostile environment will be made ever more so if we allow our adversaries to eclipse our capabilities to defend our assets and interests in space.

The war in space began during Operation IRAQI FREEDOM when Saddam Hussein’s military forces placed GPS jammers around Baghdad in an attempt to defeat the accuracy of our GPS aided munitions. While we were ultimately able to neutralize those jammers, it took time and required sending more Americans into harm’s way. We must expect future adversaries to attack our space capabilities with sophisticated attacks, which will be increasingly difficult to counter.

In addition to attacking our use of space, potential adversaries have witnessed the military advantage we derive from space. They know space capabilities make us faster, more reactive, more precise and, in turn, more lethal. In future conflicts, we must expect our adversaries to seek those same benefits for their own operations and we must be prepared to conduct Offensive Counterspace operations to nullify their efforts.

We must move forward by vigorously pursuing temporary, non-destructive means to deny adversaries the use of space. As we develop these capabilities, we must remember that a capability is not just a single system that delivers an effect. A capability must include the intelligence and support infrastructure

that allows us to conduct every step of the Find, Fix, Track, Target, Engage and Assess cycle.

Through a combination of robust Space Situation Awareness, untiring Defensive Counterspace and selective Offensive Counterspace, we will establish Space Superiority to ensure our advantage from space and, when required, deny our enemy's use of space. Space Superiority is not a birthright, so we must work hard to make it our destiny.

Space power today is at a similar point as airpower was immediately following World War I. We have employed space in combat and there is no doubt as to its importance. Just as the fathers of airpower devoted great effort to developing doctrine and theory to take full advantage of the air medium, we must continue to develop doctrine for space power. We have learned many lessons from recent operations, but the work has just begun. We must develop the most effective means of providing command and control for our Space Control systems. The intelligence infrastructure to support the "how" and "why" pieces of Space Situation Awareness must be fully developed. We must continue to instill the Defensive Counterspace mindset in every operator as well as develop and refine tactics, techniques and procedures to more effectively employ our space capabilities.

Space Superiority is the future of warfare. We cannot win a war without controlling the high ground, and the high ground is space. In future wars, gaining and maintaining space superiority will be equally as important as air superiority, so we must begin work now to ensure we maintain the high ground. Our doctrine and strategy for achieving space superiority are critical to realizing the full benefit of our systems and technology.

This issue of "High Frontier" is dedicated to the many facets of space superiority with many outstanding articles which will educate our readers and provide a springboard for conversation and debate. Dr. Everett Carl Dolman highlights the importance of such critical thought and the requirement for critical thinking to develop a strategic way ahead for space superiority in his article, "Strategy Lost: Taking the Middle Road to Wherever." Dr. Rick Sturdevant gives us a look at one of the earliest perspectives on space superiority as he provides an introduction to General Bernard Schriever's 1957 keynote address. Lt Col Gray Rinehart and the Space Warfare Forum examine space superiority and provide thoughts on its future. An article from Maj Elizabeth Waldrop describes the United States' national policy on weaponizing space. Articles from Maj Richard Adams and Col Martin France, Maj Larry Adkins, Maj John Shaw, and Capt Michael Todd provide a thorough analysis of the various aspects of Defensive Counterspace and the importance of protecting America's access to space effects when and where we need them. General Robert "Doc" Foglesong, Commander of US Air Forces in Europe, provides us with a perspective on space from the flying side of the Air Force in "Space: A User's Perspective." Maj Tommy Roberts highlights the importance of Space Situation Awareness and its role in Space Superiority. Our doctrine, strategy and way ahead are critical to the growth of space superiority, but we also need the weapons systems to bring it to fruition, so Col James Haywood provides an elucidate point of view from the Systems

Program Office in "Delivering Counterspace Capabilities to the High Frontier."

The students of the Air Corps Tactical School brought about enormous advances in airpower doctrine by publishing comprehensive papers based on extensive study and personal experience. Our mandate is to advance space power in the same manner. The articles in this edition of "High Frontier" are a beginning to that effort. Advances in space power will not come from our Colonels and Generals; they will come from our Majors, Captains and NCOs. I encourage you to use these articles as a basis for discussion and evaluation of current Space Superiority doctrine and employment. A critical assessment of our current practices and our proposed way ahead will bear the fruits of improved space employment and Space Superiority well into the 21st century.



**General Lance W. Lord** (BS, Otterbein College; MS, University of North Dakota) is the Commander of Air Force Space Command, Peterson Air Force Base, Colorado. General Lord is responsible for the development, acquisition and operation of Air Force space and missile systems. The general oversees a global network of satellite command and control, communications, missile warning and launch facilities, and ensures the combat readiness of America's intercontinental ballistic missile (ICBM) force. The general has commanded two ICBM wings and a space launch wing as well as served as the Commandant of Squadron Officer School and Commander of Air University. Prior to his current position, General Lord was the Assistant Vice Chief of Staff for Headquarters US Air Force. The general is also a graduate of Squadron Officer School, Air War College and a distinguished graduate from Air Command and Staff College.