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# Seapower and Space: From the Dawn of the Missile Age to Net-centric Warfare,

William C. Martel

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Beginning in the 1970s with territorial claims that the Gulf of Sidra was actually within Libyan internal waters, Qaddafi had plotted a collision course with the United States. For over two decades he attempted to use Libya's oil wealth to undermine moderate governments in the Middle East and Africa, sought weapons of mass destruction, and developed a national foreign policy that incorporated the use of terrorism to achieve his objectives.

This is a story painted on a global canvas, from the 1986 La Belle Disco bombing in West Berlin, which killed U.S. servicemen, to the ghastly destruction of a global war on terrorism.

*El Dorado Canyon* is a fine case study in combating terrorism and deserves a place on the shelf of anyone interested in America's current conflict, as well as the history of U.S. Navy involvement in combat.

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Friedman, Norman. *Seapower and Space: From the Dawn of the Missile Age to Net-centric Warfare*. Annapolis, Md.: Naval Institute Press, 2000. 384pp. \$36.95

This work examines the development of space systems and its implications for naval warfare in the twenty-first century by focusing on the argument that "access to space systems makes possible a new style of warfare." It addresses the "linked revolution of long-range missiles and their space-based supporting systems." Furthermore, Friedman seeks to understand how the development of space-based systems (notably rockets and satellites) has radically influenced how

naval forces conduct navigation, communication, reconnaissance, and targeting. The reality is that modern military forces depend almost entirely on platforms in space to know where they are and to communicate with friendly forces, as well as to know the location of enemy forces and use that information to destroy them. This "revolution in military affairs" is now having an effect on a global scale.

None of these observations, however, is particularly new, and in fact all have been widely discussed within the defense establishment since the Persian Gulf War, when it became evident that U.S. military forces depend to a unique and unparalleled degree on constellations of satellites. Such technologies as the Global Positioning System (GPS) became familiar in the public debate about national security in the early 1990s with reports that U.S. soldiers used commercially purchased GPS receivers to navigate across Iraq's featureless desert. In addition, the images broadcast globally of Scud missiles landing in Saudi Arabia and Israel reinforced the reliance on space-based systems to warn of impending attacks. Nor have we forgotten the failure of coalition forces during the Persian Gulf War to find Iraqi Scud missiles in what were called "Scud hunts."

What is interesting and noteworthy about Friedman's work is its focus on the fact that the development of these space systems has profound implications for the nature and conduct of maritime operations. In 2004, naval forces can know exactly where they are in the middle of vast oceans; communicate with their counterparts anywhere on the globe; scan entire oceans or land masses for targets in relatively short order;

and use precision-guided munitions, such as Tomahawk cruise missiles, to destroy them. Not surprisingly, the combination of space-based systems has significantly improved U.S. maritime as well as military capabilities.

Perhaps the most significant aspect of Friedman's work is the sheer volume of data that it contains. The reader is led through discussions of the development of space launchers, including detailed reviews of the U.S. and Soviet programs. Friedman is quite comfortable discussing the development of these technologies and thus easily examines how the United States has integrated space technologies into everyday military operations. This descriptive material is quite useful for those not familiar with many of the technologies and capabilities that exist under the rubric of space systems. The central value of *Seapower and Space* is to help the reader understand the technological and operational forces that have changed how the U.S. defense establishment, most notably its naval component, goes about its business.

All told, Friedman's work is useful because of its breadth and depth. Yet in many chapters the analytic foundations of the work are obscured by the exceptionally detailed discussions of the evolution of, for example, rocket programs, communications systems, satellite programs, and cruise missile programs, to name a few. For readers who are more interested in how space systems support maritime operations, these details prove somewhat distracting.

How, then, should we judge the value of Friedman's work? The overall quality of the research and writing speaks for itself. The chapters are tightly organized and lucid, which reaffirms that the

author is knowledgeable about naval matters. This is a useful work that by contributing to the literature on the relationship between space and naval operations exposes the reader to a wide range of systems and technologies that are fundamental to the capabilities possessed by modern navies and military forces. As a history of space and maritime systems, it contributes new and useful particulars, background, and insights into how space systems help the naval commanders. My only wish is that he could have focused less on programmatic details. That being said, Friedman's work represents an important step toward analyzing how space represents the next set of technologies that will revolutionize naval operations in the future.

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Lim, Robyn. *The Geopolitics of East Asia: The Search for Equilibrium*. New York: Routledge Curzon, 2003. 208pp. \$90

Kane, Thomas M. *Chinese Grand Strategy and Maritime Power*. Portland, Ore.: Frank Cass, 2002. 158pp. \$55

One of the most intriguing questions about the People's Republic of China (PRC) today is whether its communist government does or does not have the "ambition" to acquire a *blue-water* navy. If building an oceangoing fleet is among Beijing's long-term goals, then China may one day become a dangerous peer competitor of the United States. If so, a future Sino-U.S. maritime conflict is possible; if not, Washington's primarily maritime power and Beijing's primarily continental power need never meet in battle.