

# U.S. Space Security Policy



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# Overview

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- Historical record
  - Continuity and change in US space security policy
  - Dilemmas facing all space users
  
- Space dominance as a security strategy
  - Developments during the Bush administration
  - Prospects for the future
  
- Negotiated protection – a more viable approach?

# Original Assumptions of US Space Policy

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- **Space offers unique benefits for both military and political dimensions of Cold War security strategy.**
  - Highest Priority -- Reconnaissance satellites to see behind Iron Curtain for threat assessment, arms control, early warning, openness, political transformation.
  - Scientific and communication satellites to demonstrate U.S. leadership in sharing the benefits of peaceful space technology.
  
- **Space cannot be controlled through military means.**
  - Initially — Spy satellites too high to shoot down, but their use could be precluded through other means.
  - Eventually — space technology would spread and satellites would be vulnerable both to direct attack and to inadvertent interference.
  
- **Effective and efficient use of space requires international agreement on protective rules.**

# Protection through Strategic Restraint

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- ❑ Effort to develop norms → Sputnik
  
- ❑ **1967 Outer Space Treaty**
  - Space is free for all to use; no national appropriation.
  - Equity principles – should benefit everyone, avoid harmful interference, consultation, liability for damage.
  - Prohibition on weapons of mass destruction in orbit; military uses of celestial bodies.
  - Broad definition of “peaceful use” — deterrence and self-defense, but not offensive use of force w.o. Security Council authorization.
  
- ❑ **Other agreements to promote stabilizing uses of space and prevent destabilizing ones**

# Informal Reciprocal ASAT Restraint

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- ❑ **US strategic calculus through mid-1970s**
  - US gained both relative and absolute advantages from vulnerable satellites
    - ❑ US capabilities more advanced, more important than USSR
    - ❑ Primary uses stabilized deterrence and supported arms control
  - Vigorous US anti-satellite program more likely to stimulate Soviet anti-satellite efforts than to dissuade/deter them.
  - Rudimentary ASAT capability as deterrent, hedge, bargaining chip and/or domestic compromise
  
- ❑ **Informal restraint became increasingly unstable:**
  - Technical reason: more active military support for US and USSR
  - Political reason: fear that the other side wants space for war-fighting, not deterrence
  
- ❑ **Dual track decision** to develop more advanced ASAT weapons and negotiate a formal ban – technology outruns political efforts to control.

# The Security Dilemma in Space

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- ❑ **Reagan National Space Policy – build-up justified by Soviet threat**
  - Expanded use of space for strategic offense and defense
  - Retained narrow role for arms control.
  
- ❑ **US Belief that “Peace through Strength” won Cold War**
  
- ❑ **New info from Soviet archives tells a different story – Pavel Podvig:**
  - No “Window of Vulnerability;” instead, Soviet attempts to preserve own deterrent as US capabilities advanced.
  - SDI initially hindered offensive cuts and stimulated Soviet efforts to emulate US missile defense and ASAT development efforts.
  - After Soviets understood technical limitations on SDI and identified practical countermeasures that could be implemented if necessary, Gorbachev had more confidence to negotiate.
  - Reagan’s “Firm but flexible” strategy reciprocated Soviet cooperation
  - INF and improved US-USSR relations made it easier for Gorbachev to cut Soviet military spending, stop ASAT and missile defense projects.
  - Cost, technical challenges, and decreased threat perception caused US to rein in military space efforts.

# Key Trends Shaping Space in 1990s

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- End of Cold War
  - Reduced concern about large-scale attack
  - No peer competitor for US in space
  
- Growth of global information-age economy
  
- Spread of space capabilities to many countries
  
- Rise of commercial space industry

# An Impetus for Cooperation?

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- Commercial/civilian interests will increasingly determine:
  - Patterns of activity -- multinational rather than national
  - Technology development – driven by consumer needs and government efforts to address 21<sup>st</sup> century challenges like civil conflict/peacekeeping/humanitarian relief, sustainable economic growth/healthcare/education, and environmental protection
  - More advanced regulatory rules to deal w. coordination problems like space debris and orbital slot allocation.
  
- Military uses of space in the context of security cooperation rather than competition:
  - Joint Vision 2010 -- Space-based information and communication services will enable the US and its allies to address a broader array of post-Cold War security challenges with a smaller defense budget.
  - Adm. Owens: US military has “information edge” now, but other countries can and will contest US dominance if they feel threatened by US power.
  - Should shift from deterrence to reassurance and cooperative security as the guiding principle for US security policy.

# Or Inevitable Conflict?

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- U.S. Space Command's Vision for 2020
  - Global spread of space technology is a threat to US security and economic interests.
  - Space is a lawless frontier – only way for US to protect its interests there is through force.
  - US should seize the high ground – i.e. lock in its current military advantage by gaining physical control over who can use space for what purpose.
  - US can win a competition for military control of space at an acceptable cost.

# An Unresolved Question

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- ❑ Clinton 1996 National Space Policy is ambiguous
- ❑ Developments over the past decade – neither “harmony of interests” nor “lawless frontier”
- ❑ The competitive outlook currently dominates US space policy; the cooperative view characterizes European space policy; Russia and China sending mixed signals.
- ❑ No broad-based policy process in the U.S. or internationally to consider what mix of national power and international rules will best protect and promote high-value uses of space in the information age.

# Key Issues

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- ❑ Which view more accurately describes the space environment? A philosophical/ideological question.
- ❑ How serious are U.S. efforts to achieve space dominance? How much has it accomplished so far?
- ❑ If future U.S. administrations sustain the effort, is space dominance technically, economically, and politically feasible?
- ❑ If the result is an asymmetrical competition for national military advantage in space rather than decisive US space dominance, how would that affect space security and terrestrial security?

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**What has the Bush  
administration done toward the  
goal of US military space  
dominance?**

# Space in National Security Strategy

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- ❑ Shift from Deterrence to Coercive Prevention as strategic principle.
- ❑ New strategic triad that combines nuclear and conventional offense, missile defense, and responsive infrastructure.
- ❑ Integration of space and strategic power institutionalized by SPACECOM/STRATCOM merger.
- ❑ Series of military documents planning for acquisition and use of advanced space capabilities for war-fighting missions.

# Reduced constraints on US in space

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- **Anti-ballistic Missile Treaty** ended
  - Lifts prohibition on space-based missile defense
  - Changes strategic context -- cornerstone of deterrence stability gone, legal restrictions on US and Russian offensive strategic capabilities removed.
  
- **Outer Space Treaty** reinterpreted
  
- **UN Resolutions for PAROS** negotiations resisted
  
- **U.S. export controls** strengthened – attempt at unilateral constraints on other space users.

# 2006 National Space Policy

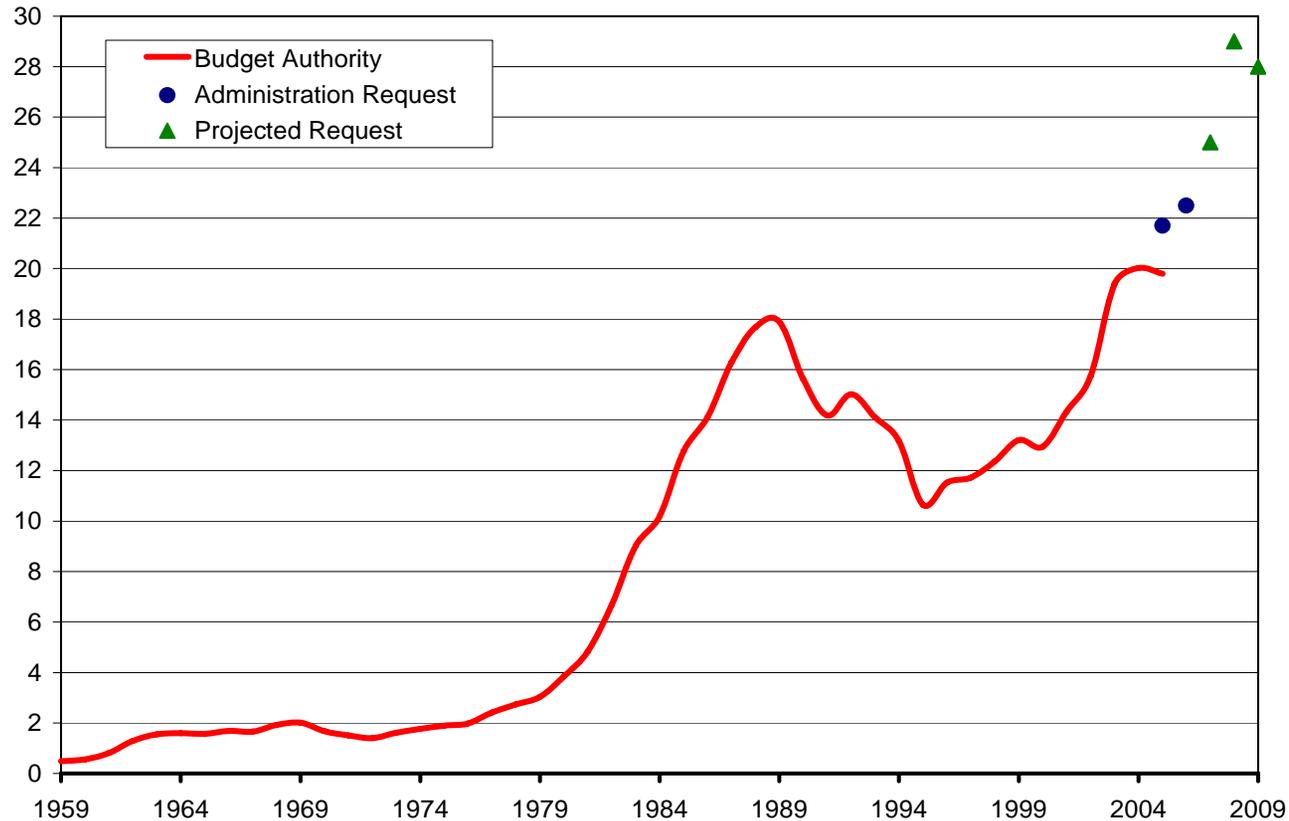
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- Retained vague language about four military missions – neither explicitly endorses nor constrains efforts to achieve ambitious goals spelled out in SPACECOM documents
  - Force Enhancement
  - Space Control
  - Force Application
  - Space Support
- Expanded the rights that the US asserts for itself in space without mentioning corresponding rights for other states.
- Anti-arms control principle most sweeping ever.

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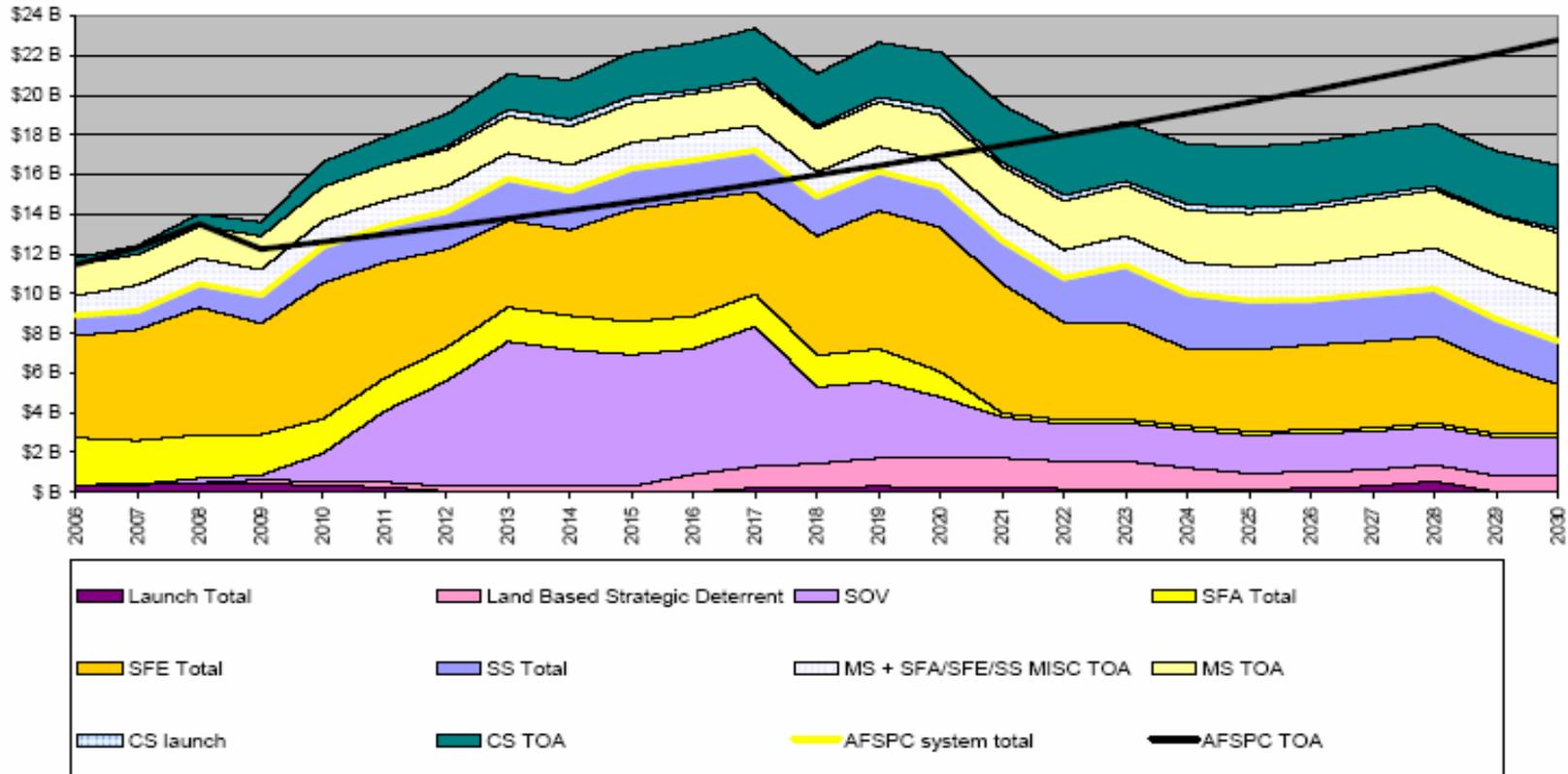
**Is the U.S. on track to achieve  
total military space dominance?**

# Growth in US Military Space Budget



Source: 2004 Aeronautics and Space Report of the President, Submitted to Congress by NASA, Appendix D-1A and Marcia Smith, U.S. Space Programs: Civilian, Military, and Commercial CRS Issue Brief #IB92011 (Updated October 21, 2004), pp. 8-9.

# An “Unexecutable” Plan

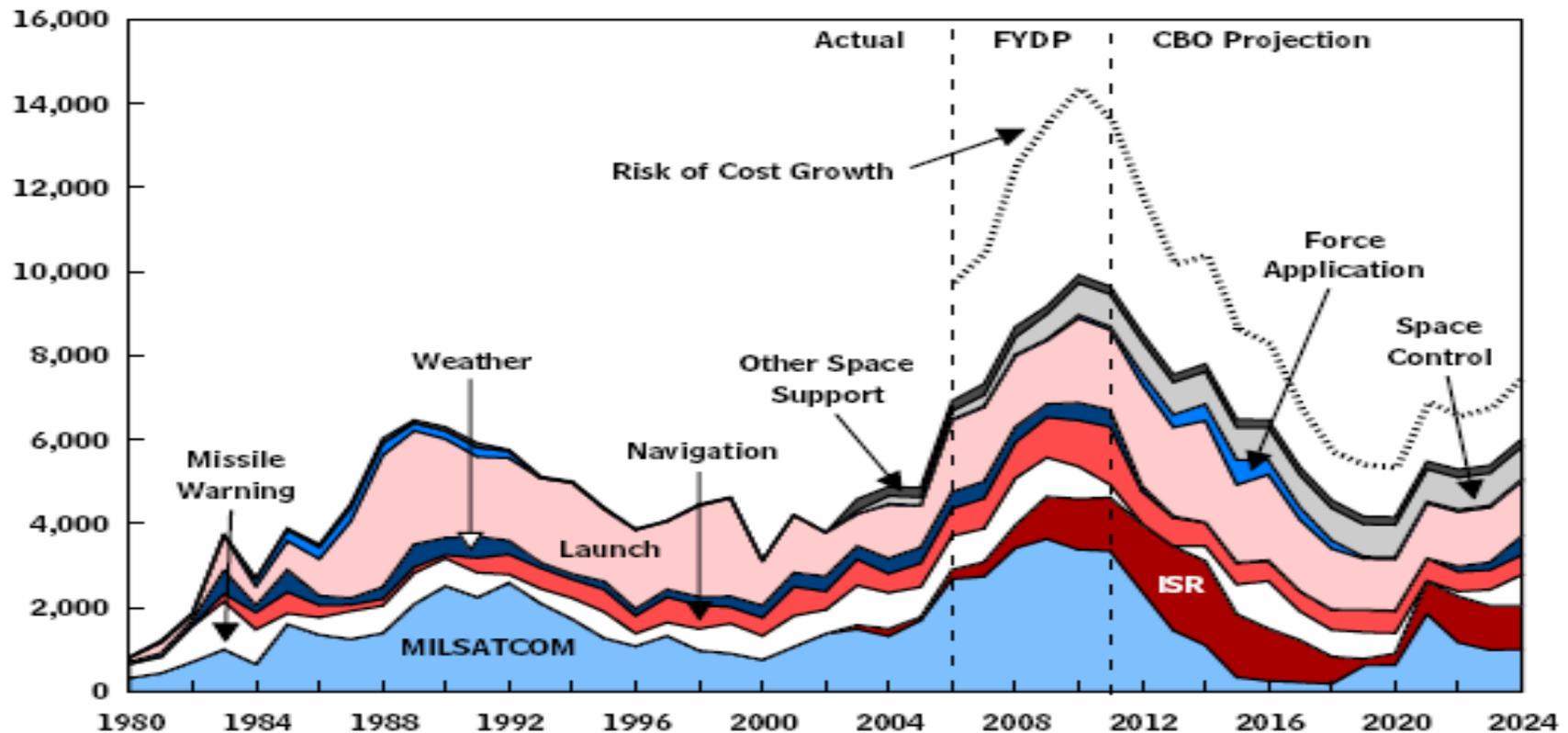


Source: Air Force Space Command, Strategic Master Plan FY06 and Beyond, (2003) p. 13.

# Where does the money go?

## Investment in Major Unclassified Military Space Programs

(Millions of 2006 dollars)



Source: Congressional Budget Office based on data from the Department of Defense.

Notes: FYDP = 2006 Future Years Defense Program; MILSATCOM = military satellite communications; ISR = intelligence, surveillance, and reconnaissance.

# Space Acquisition Problems

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- ❑ Space acquisition programs are significantly behind schedule and over budget.
- ❑ Senator Wayne Allard: “Continued mismanagement of our space acquisition programs is a far greater threat to our space dominance than any external threat.” (9-23-05)
- ❑ Young Panel (DSB/AFSAB 2003) – serious systemic problems
  - Uncontrolled requirement growth
  - Unrealistically low cost estimates
  - Erosion of managerial and engineering competence in govt. overseers
  - Industry failure to follow best practices
- ❑ Current reform strategy: scale back expectations, shift spending among programs, use commercial fill-ins, but no comprehensive review.

# Technical Challenges

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- ❑ Number of LEO satellites needed for transformational objectives would be prohibitively expensive
  - 1,600 interceptors for space-based missile defense (APS)
  - 540 satellites w. 1 meter optical sensors for 1 hr revisit (Mosher)
  - Budget constraints → scaled-back goals
- ❑ Launch costs still extremely high (limits number, weight, maneuverability); export controls hinder international cooperation and commercial growth that might help bring cost down.
- ❑ Multiple-use satellites (countries/types of users)—hard to disrupt/deny service to hostile users without “collateral damage”

# International Reactions

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- ❑ Response options: emulate, offset, or constrain?
  
- ❑ The longer the U.S. talks about space dominance and resists international efforts to clarify, strengthen, and extend rules governing military uses of space, the more other countries will try to emulate or offset US.
  - Security concern for any country outside US alliance system
  - Political concern for everyone who sees space as important to aspirations for autonomy, influence, economic development, etc.
  
- ❑ Much easier to attack than defend in space – highly unstable situation.
  
- ❑ U.S. is best positioned to compete, but net result would be disastrous for all.

# Negotiated Protection

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- ❑ Build on principles and rules in Outer Space Treaty
- ❑ Dual-use technology → ban interference with or destruction of satellites engaged in legitimate activities
- ❑ Prohibition on testing or deployment of dedicated space-based weapons and other ASATs.
- ❑ Latent ASATs – “no first use” or restrictions on use even during war?
- ❑ Clarify the limits of “peaceful” military support – most likely if security policy de-emphasizes coercive prevention and focuses on reassurance.