

## The Proposal in Brief

The United States has a vital interest in ensuring the sustainability of the space environment, keeping satellites safe and secure, and enhancing stability not only in space but also on the ground. Achieving these goals is becoming more challenging, however. The number of countries and companies with satellites or other important interests in space continues to grow, as does the range of purposes for which satellites are being used. The United States cannot address these space-related issues on its own, therefore, but its international leadership is essential.

The need for constructive action has also become more urgent, as satellites provide information and other services that are increasingly critical for national security, economic vitality, and human well-being. Yet satellites are by nature vulnerable to threats, whether intentional or unintentional, and concerns are mounting. Moreover, deliberate or careless behavior could cause long-term damage to the space environment that may hinder its use for years to come. Recent trends and events—including demonstrations of anti-satellite capability, a collision between satellites, and a dramatic increase in dangerous space debris—make clear that the space environment needs more protection, that satellites face growing risks, and that space activities may be a potential source of mistrust and tension.

Policy makers in the United States and around the world are recognizing that existing international legal agreements and norms are not adequate to ensure the security and sustainability of space. They also realize the pressing need for international discussions to address issues such as the potential military uses of space and the ways in which they could exacerbate geopolitical tensions and cause conflicts.

For its part, the Obama administration has been developing its space priorities and policies. The guiding principles laid out in the president's National Space Policy, which was released in June 2010, show that the administration is aware of these issues and is open to addressing them by means of international engagement and cooperation. Making significant progress, however, will require the administration to formulate detailed follow-on policies and take specific actions. Progress will also require sustained attention and leadership at the highest levels

of government. Otherwise, business-as-usual attitudes and narrowly defined interests are likely to impede progress.

Forward-looking policies will need to be tailored not just to ensure national security but also to support civil and commercial space activities, which today comprise the predominant uses of space. These policies' central goals should be to minimize threats to all satellites, foster coordination of space activities to optimize the utility of space and protect the space environment, and prevent space activities from increasing tensions between countries that could lead to arms buildups or conflicts.

While the issues are complex and the long-term path for addressing them may not be clear, we recommend 10 practical near-term steps that the United States should take in order to move things in the right direction—toward establishing useful processes and relationships and creating a favorable environment for progress.

The steps build on several concepts, which we discuss in greater depth throughout the full report:

- Because of the special nature of space, its security and sustainability cannot be achieved unilaterally. Substantial international engagement, involving coordination and cooperation among its users, is essential.
- Given its preeminence in space, the United States must provide leadership if progress is to be made.
- While national security issues are important, U.S. space policy must better balance military, commercial, and civil interests in space.
- Protecting satellite capabilities requires a range of strategies, including diplomatic approaches to limit threats and “smart planning” aimed at reducing the vulnerability of satellite systems to attack and disruption.

### Ten First Steps

Developing an international consensus and an institutional framework for enhancing the security and sustainability of space may take many years. Perceived difficulties with the ability to verify agreements, for example, and the lack of political trust between countries will likely limit the scope and pace of progress, at least initially. However, establishing a vision and initial

goals for international discussions on space, and getting countries to agree to address these issues, are essential for moving ahead in the meantime. The United States can make a critical contribution by taking steps to establish the underlying conditions that are needed.

Specifically, the Obama administration should take 10 steps to help move the world toward a more secure and sustainable future in space:

1. Elaborate on the administration's National Space Policy and publicly articulate its approach and goals, both to provide clear high-level guidance for U.S. policy makers—military and nonmilitary alike—and to clarify U.S. intentions for the international community.

The approach and goals should:

- Emphasize international cooperation rather than unilateral actions.
  - Reaffirm that all countries have the same rights to the peaceful use of space.
  - Take a more balanced view of commercial, civil, and military uses of space.
  - Support and reinforce long-held norms against stationing weapons in space and against disabling or destroying satellites.
2. Declare that the United States will not intentionally damage or disable any satellites operating in accordance with the Outer Space Treaty, and pledge that the United States will not be the first to station dedicated weapons in space. Strongly urge the other space powers to make parallel pronouncements.
  3. Declare that the United States will not develop or deploy space-based missile defense interceptors. Pledge not to use any element of the U.S. land-, sea-, or air-based missile defense systems to attack or destroy a satellite. And review plans to sell systems with this capability to other countries in order to ensure that any missile interceptors sold by the United States will not be used as anti-satellite weapons.

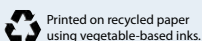
4. Vigorously pursue a capability-preserving strategy and make satellites less attractive targets by reducing their vulnerabilities; building in redundancies; improving the capacity to rapidly reconstitute key functions; and developing air-, space-, or ground-based backup systems.
5. Modify U.S. export-control and related regulations to reduce unnecessary barriers to commercial and civil space cooperation.
6. Begin discussions with the international community to identify the most productive venue and agenda for negotiations on space security and sustainability. Play a leading role in setting up these discussions.
7. Assemble a negotiating team and begin building the diplomatic, technical, legal, and other kinds of expertise needed to support negotiations. Encourage other countries to do so as well.
8. Appoint a high-level expert panel to review and prioritize space situational awareness missions and to recommend corresponding improvements to U.S. space surveillance capabilities.
9. Create a standing program to assess and improve options for verifying compliance with potential space security agreements.
10. Develop and implement transparency measures aimed at improving safety and predictability in space.

In the report, increasing “space security” means reducing threats to satellites—including military attacks, collisions with other satellites or space debris, or electromagnetic interference—and lowering the risk of arms races or conflicts, whether in space or on the ground. Increasing “space sustainability” means protecting the future space environment by controlling the growth of space debris and more generally by managing activities in space so as to ensure countries’ ability to use it in beneficial ways.



**Union of  
Concerned  
Scientists**

Citizens and Scientists for Environmental Solutions



© November 2010 Union of Concerned Scientists

The full text of this report is available on the UCS website at [www.ucsusa.org/securingtheskies](http://www.ucsusa.org/securingtheskies). For more information, please contact Dr. Laura Grego (617-301-8062; [lgrego@ucsusa.org](mailto:lgrego@ucsusa.org)) or Dr. David Wright (617-301-8060; [dwright@ucsusa.org](mailto:dwright@ucsusa.org)).

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and safer world.

**National Headquarters**  
Two Brattle Square  
Cambridge, MA 02138-3780  
Phone: (617) 547-5552  
Fax: (617) 864-9405

**Washington, DC, Office**  
1825 K St. NW, Suite 800  
Washington, DC 20006-1232  
Phone: (202) 223-6133  
Fax: (202) 223-6162

**West Coast Office**  
2397 Shattuck Ave., Suite 203  
Berkeley, CA 94704-1567  
Phone: (510) 843-1872  
Fax: (510) 843-3785

**Midwest Office**  
One N. LaSalle St., Suite 1904  
Chicago, IL 60602-4064  
Phone: (312) 578-1750  
Fax: (312) 578-1751