SPACE SECURITY INDEX

**UN COPUOS**

7 June 2011

Cesar Jaramillo, SSI Project Manager
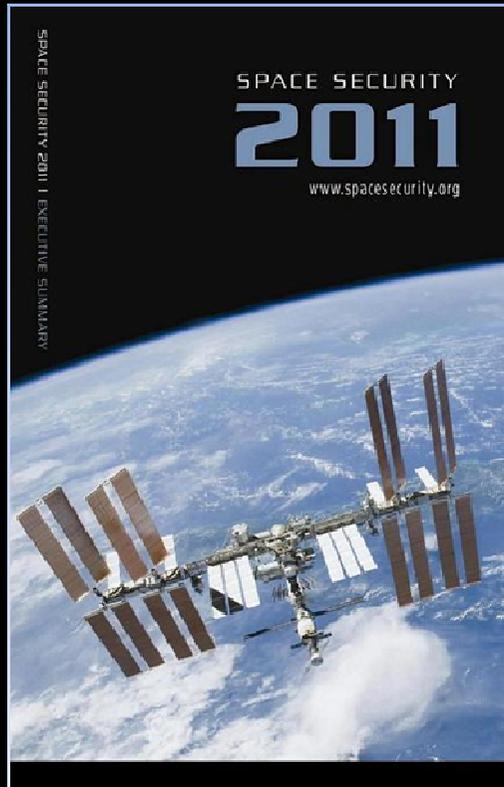
- ***Annual assessment*** of trends and developments that affect space security

- Provides objective and fact-based research to promote ***transparency and confidence*** in space activities

- Supports the development of ***policy*** to ensure secure access to space for all
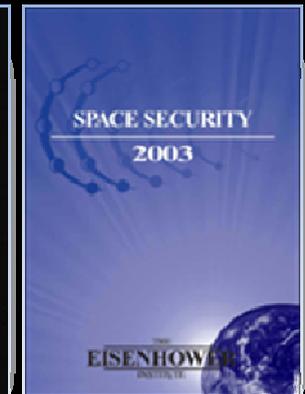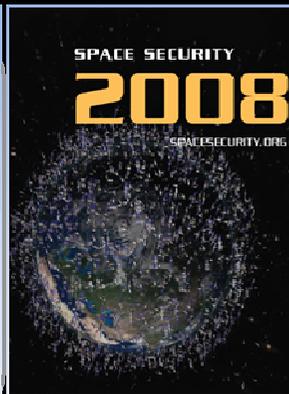
"The secure and sustainable access to and use of space, and freedom from space-based threats"

Corollary:

Space security goes beyond the national security considerations of a single state.

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Tension:

Space as a *global commons*
vs.

Space as a strategic environment for *individual states*

Paradox:

States may be more willing to address collective security challenges in space when their own national security might be jeopardized.

e.g. Space debris

1. The Space Environment

2. Space Situational Awareness

3. Laws, Policies, and Doctrines

4. Civil Space Programs and Global Utilities

5. Commercial Space

6. Space Support for Terrestrial Military Operations

7. Space Systems Resiliency

8. Space Systems Negation

Areas of concern:

- *Operating environment*

- *Growing number and diversity of actors*

- *Militarization/ Potential Weaponization of space*
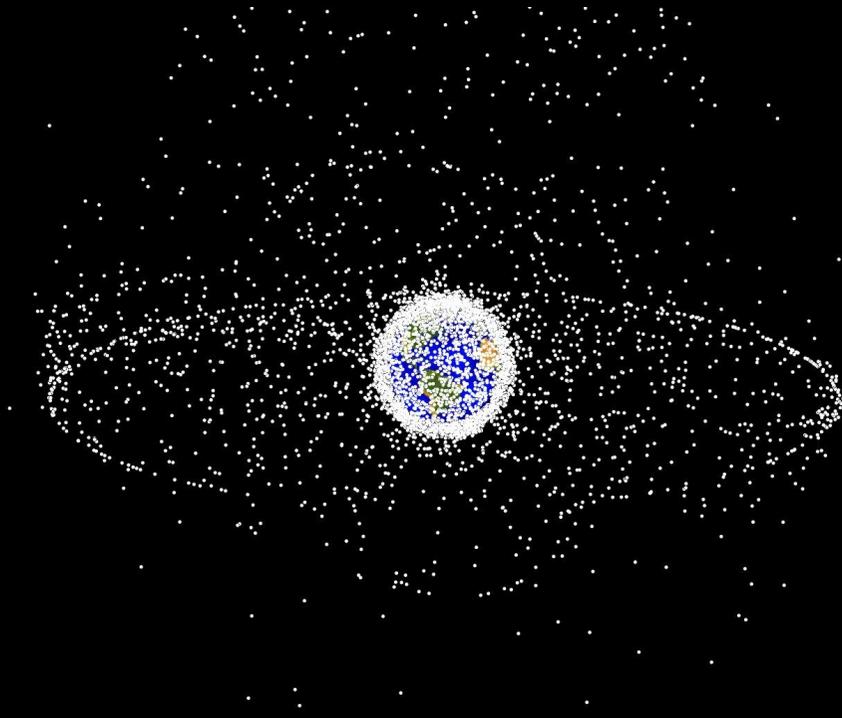
- **The Physical Space Environment**

- **Space Situational Awareness**

Image Source: Orbital Debris Quarterly Newsletter, NASA

Monthly Number of Objects in Earth Orbit by Object Type
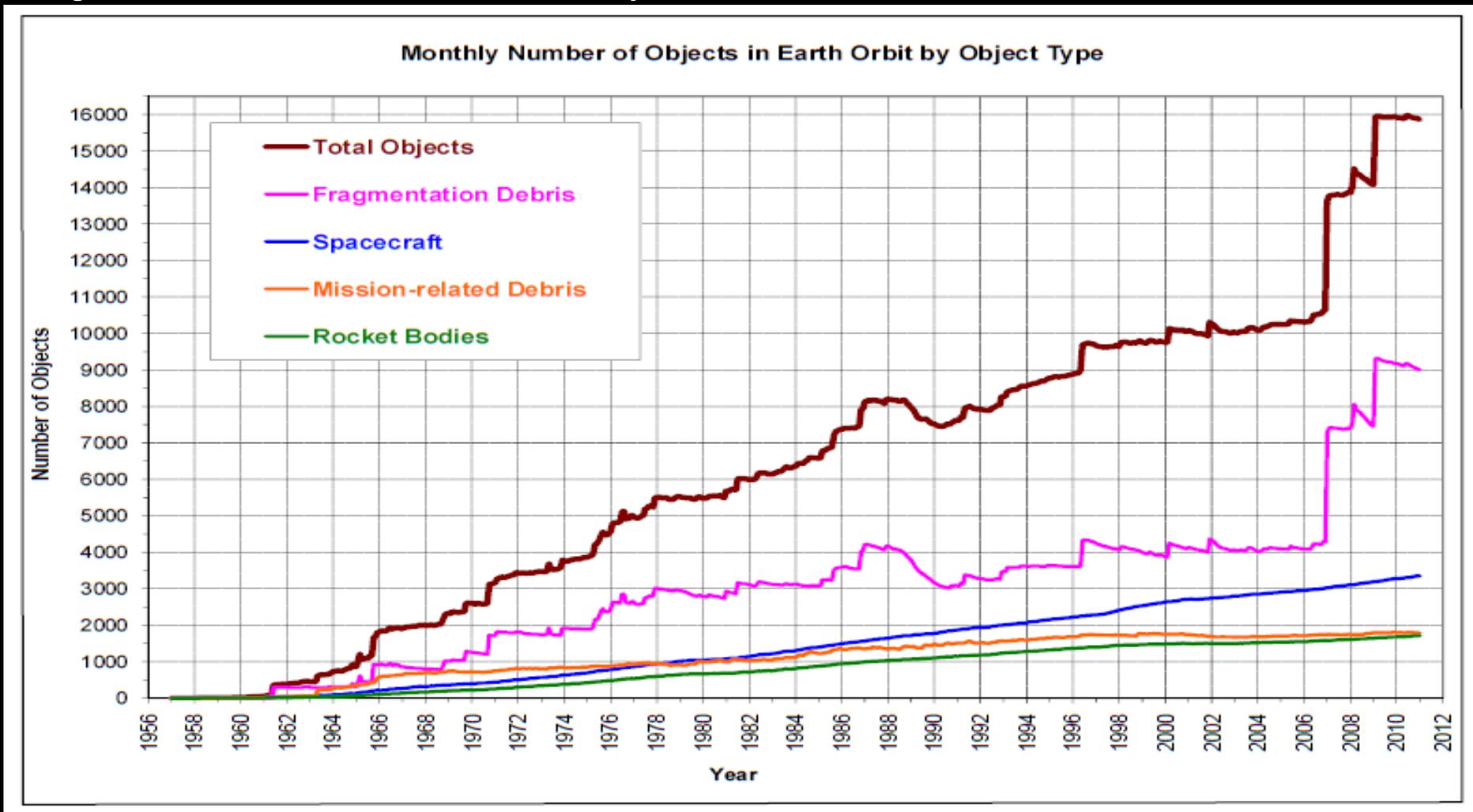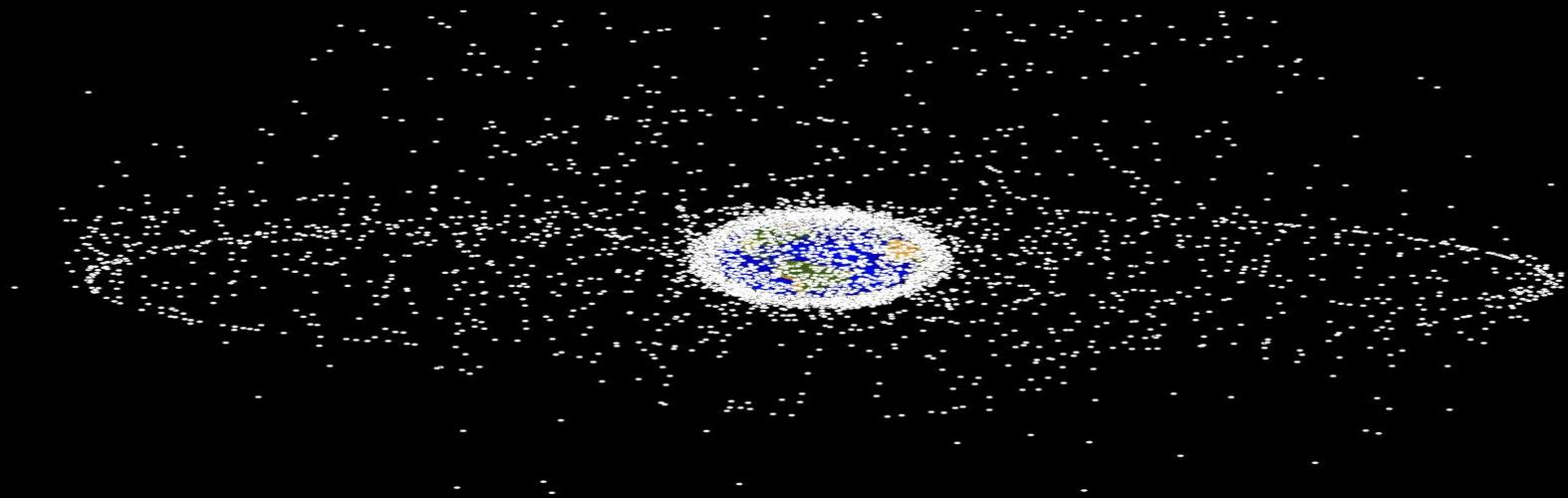
Key Developments in *Space Security 2011:*

- Trackable space object population increases by more than 5%.

- Compliance with debris mitigating guidelines still inconsistent

- US to expand SSA Sharing program

- Malfunction of Galaxy 15 satellite prompts complex physical and RFI mitigation plans.

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Laws, Policies, and Doctrines

Existing normative architecture for space activities is *outdated* and *insufficient*

Competing Approaches:

• National vs. Multilateral

• Legally binding vs. non-binding

False Dichotomy:

Status quo **OR** immediate prohibition

TCBMs as middle ground:
• Voluntary moratoriums
• Data sharing

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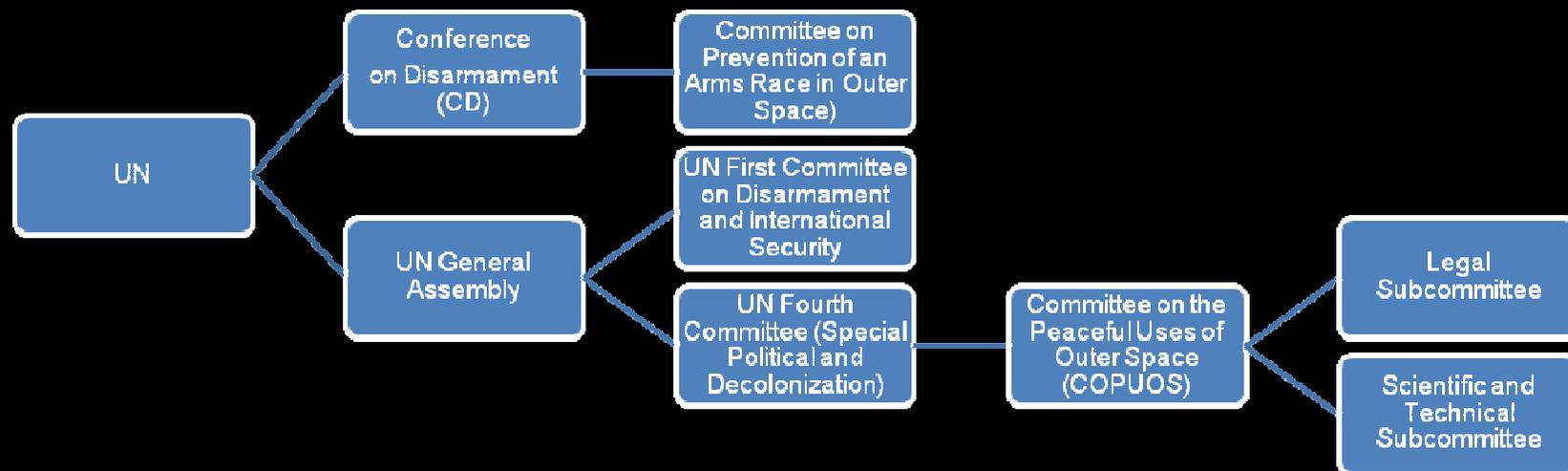
Key Developments in *Space Security 2011*:

• Despite initial delay, US Space Posture Review is completed

• Russia proposes GGE to study TCBMs

• Deadlock persists at the CD

• EU Code of Conduct revised and ready for further consultation
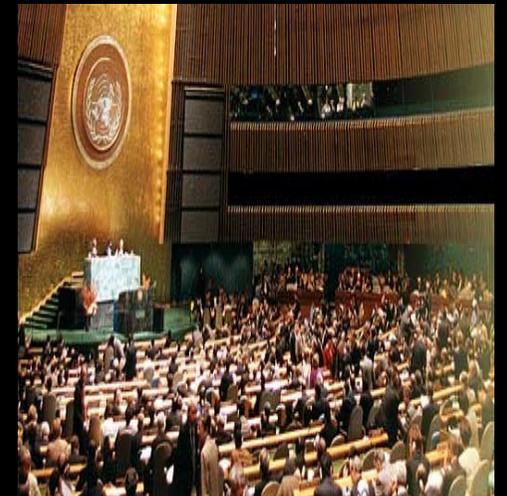
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- ***Access*** to outer space is growing

- ***New space actors*** emerging

- Barriers to entry are sharply **decreasing**

  But: Limited resources (e.g. orbital slots, RF spectrum)
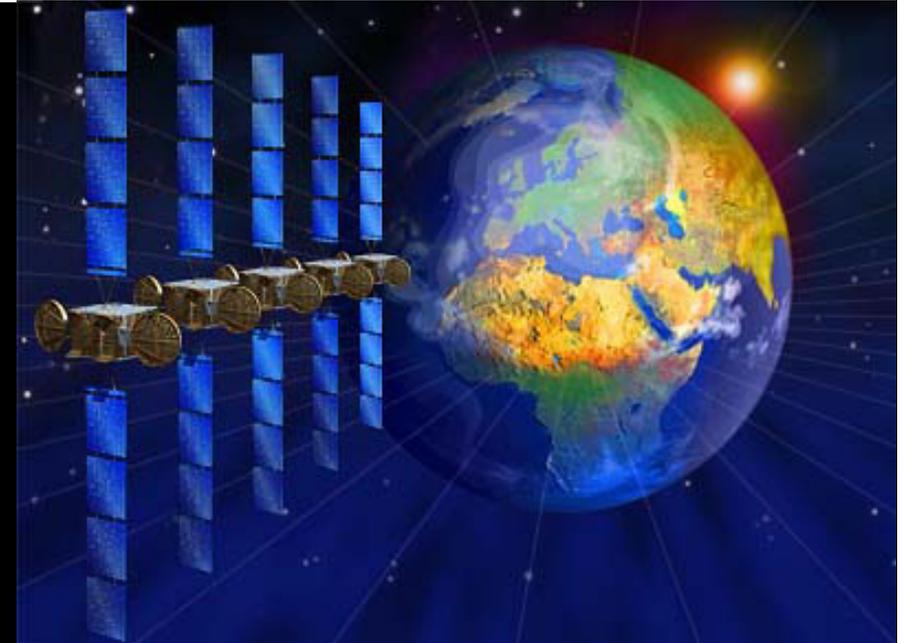
Key Developments in *Space Security 2011*:

- Space Shuttle nears retirement

- ISS marks 10 years of continued operations and uninterrupted inhabitancy

- Africa considers creation of African Space Agency
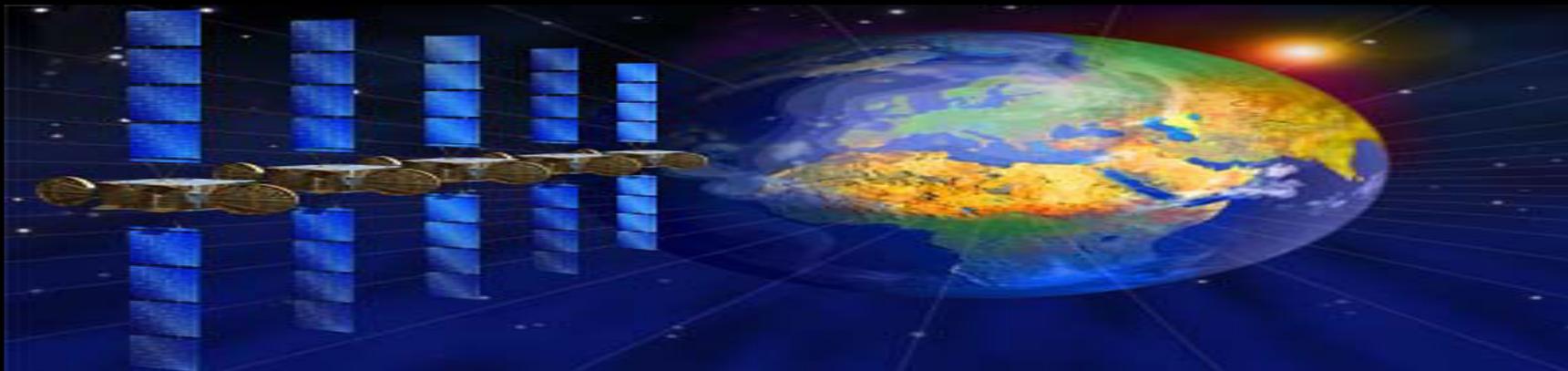
- Space Support for Terrestrial Military Operations

- Space Systems Resiliency

- Space Systems Negation

- Space-Based Strike Capabilities

Vulnerability of ground stations, communication links, and space assets

Abilities to detect, withstand, recover, and deter attacks

PAROS

Militarization vs. Weaponization

Military uses:

- Reconnaissance

- Surveillance

- Navigations

- Intelligence
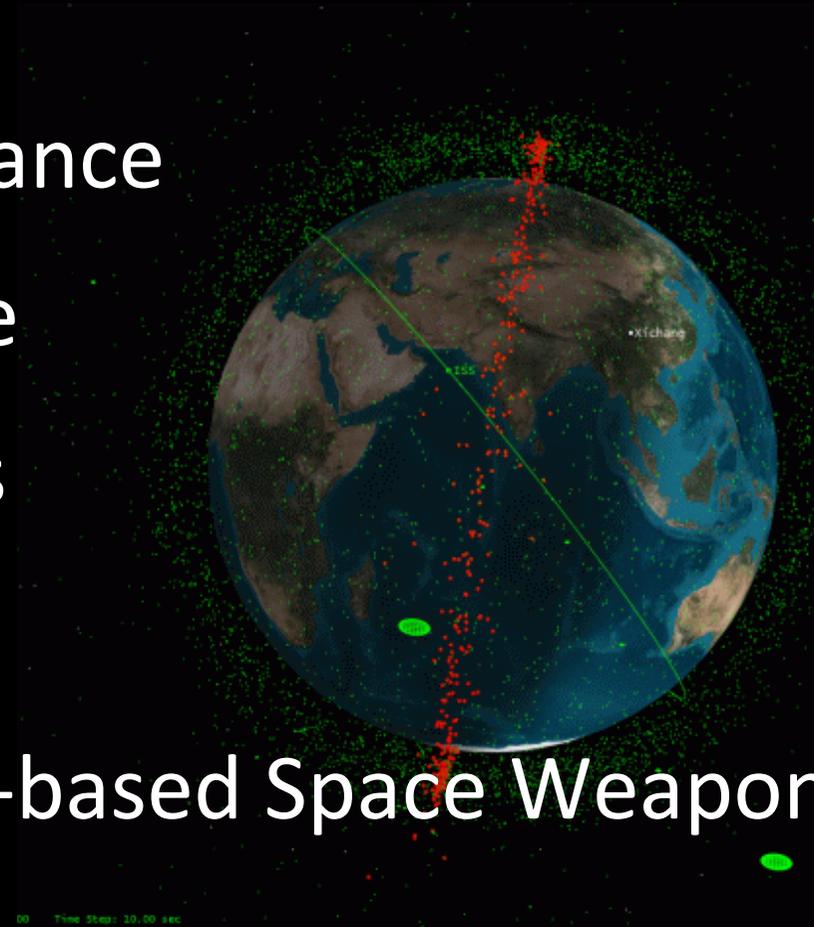
But: NO Space-based Space Weapons used to date

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Key Developments in *Space Security 2011:*

- Jamming incidents continue to proliferate

- USCYBERCOM reaches full operational capabilities

- Complex rendezvous capabilities continue to be advanced

- Development of ASAT capabilities considered by some countries

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Secure World Foundation
Promoting Cooperative Solutions for Space Security

The Simons Foundation

Ploughshares

www.spacesecurity.org

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