Evolving National Security Space Policies and Multilateral Discussions

Victoria Samson, Secure World Foundation
Presentation for the McGill 9th Annual Strategic Space Law Course
Oct. 27, 2023
Secure World Foundation (SWF) is a *private operating foundation* that promotes cooperative solutions for space sustainability

**Our vision:** The secure, sustainable, and peaceful uses of outer space that contribute to global stability on Earth

**Our mission:** Secure World Foundation works with governments, industry, international organizations, and civil society to develop and promote ideas and actions to achieve the secure, sustainable, and peaceful uses of outer space benefiting Earth and all its peoples
National Space Security Documents and Approaches

Space Security Portal (https://spacesecurityportal.org/): an interactive map of global space governance landscape

https://swfound.org/counterspace
United States

- Has had established policy and doctrine about counterspace capabilities for decades
- Presidential administrations since the 1960s have directed/authorized R&D, and in some cases, greenlit testing/operational deployment of counterspace systems
- US recently undertook major reorg of its military space capabilities as part of its renewed focus on space as a warfighting domain
  - Done at the same time as discussing resiliency of military space systems and reorg of national security space structures
  - Led to the reestablished of US Space Command (USSPACECOM) in August 2019 and the creation of the US Space Force (USSF) in December 2019
- December 2020: National Space Policy (released under Trump administration)
- December 2021: United States Space Priorities Framework (released under Biden administration)
Russia

• Russia recently undertook major reorg of its military space capabilities into a new organization that combines space, air defense, and missile defense capabilities
  • The combination of Air Force and Aerospace Defense Forces led to the creation of its Aerospace Forces in 2015

• Russian space activities are run by Roscosmos. Created in 1992 as the Federal Space Agency, it was dissolved in 2015 and its responsibilities transferred to the Roscosmos state corporation, which was also merged with the United Rocket and Space Corporation
  • In its current form, Roscosmos is responsible for Russian civil space activities as well as supervising companies manufacturing civil and military space, missile, and rocket hardware

• Russia’s space strategy is defined by the Ministry of Defense

• The pillar of Russian outer space governance is Law N 5663-1, Law of the Russian Federation on Space Activities, which undergoes modification via presidential amendments. The Executive Office of the President also issues decrees and provisions on space policy and activity.
China

- China has an integrated civilian and military outer space program
  - Civilian outer space authority is the China National Space Administration (CNSA), which is under the management of the Ministry of Industry and Information Technology. China's space activities and projects are guided by white papers functioning as Five Year Plan's, the latest being China's Space Program: A 2021 Perspective
  - Reporting to the State Council, the State Administration of Science, Technology and Industry for National Defense regulates policy for military aerospace and technological industry development

- In 2015, Chinese President Xi Jinping initiated a sweeping reorganization of the PLA
  - Led to the creation of the Strategic Support Force (SSF) as the fifth military service by merging existing space, cyber, and electronic warfare units under a new unified command that reports directly to the Central Military Commission. The intent is to shift the PLA's most strategic, informatized missions from a discipline-centric to domain-centric force structure and enable full-spectrum war-fighting
  - Space has been designated a military domain
India

- Limited national space policy documents
  - Up until this spring, its Constitution from 1950, Satellite Communications Policy from 2000, and revised Remote Sensing Data Policy from 2011 were the only national laws that specifically deal with space
  - ISRO released its National Space Policy in April 2023; no military aspects to it

- Long had focused on space for national development; shifted after China’s 2007 ASAT test
  - June 2010, India established an Integrated Space Cell, located in the Integrated Defense Headquarters, which is comprised of all three branches of India’s armed forces
  - In September 2018, Prime Minister Narendra Modi announced that India would be creating a Defence Space Agency that would coordinate the space assets of the three branches of the Indian armed forces and work on space protection policies for Indian space assets; it became operational late in 2019
  - Defence Space Research Organisation was created in June 2019
Dual-Use versus Dual-Purpose

- **Dual-use**: space objects that have both military and civilian functions
  - Military and security, as well as civilian and commercial functions. Example: GPS
  - Can be carried out either simultaneously or alternatively
  - The integration of both functions are in one single object

- **Dual-purpose**: space objects that can be repurposed for aggressive objectives
  - Designed to fulfill a benign objective (like on-orbit servicing or active debris removal) but could be potentially repurposed to harm other space objects
  - Not designed to fulfill military functions directly, although they may provide some support to military satellites

  - Intended to facilitate shared understandings of key topics and terms
  - Three types of terms:
    - Acronyms
    - Common definitions
    - Terminology frequently used in space security discussions that could benefit from further clarification
State of Multilateral Security Discussions (1)

- No forward movement on space security and stability discussions at the UN for decades
  - Disagreement on nature of the threat and how to respond
  - Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects (PPWT) / No First Placement (NFP) versus nothing
  - EU Draft Code of Conduct
  - 2013 Group of Governmental Experts (GGE) on TCBMs
  - 2019 GGE on prevention of an arms race in outer space (PAROS)

- UNGA 75/36: Dec. 2020
  - National submissions to the UNSG on nature of the threat to space, responsible/irresponsible behavior, and possible paths forward
  - See some commonalities emerge: act with due regard, avoid harmful interference, no non-consensual close approaches, no deliberate creation of long-lived debris

- UNGA 76/231: Dec. 2021
  - Created an Open-Ended Working Group to meet four times over 2022 and 2023
  - Goal: come up with recommendations on possible norms, rules, and principles of responsible behaviors relating to threats by States to space systems
State of Multilateral Security Discussions (2)

- Open-ended Working Group (OEWG) on Reducing Space Threats through Norms, Rules, and Principles of Responsible Behaviours
  - Met four times from May 2022 to August 2023
  - 70 countries participated plus civil society
  - Success? Yes and no
  - Interest converging on many issue areas, including avoiding deliberate creation of debris, need for rules on actions (notifications, consultations) prior to conducting rendezvous and proximity operations, value of TCBMs

- UNGA 77/250: Dec. 2022
  - Calls for a GGE to consider and make recommendations on substantial elements of an international legally binding instrument on PAROS (including the prevention of placement of weapons in outer space); 115-47-7
  - Will meet for two weeks November 2023 and July 2024

- The battle of the OEWGs?
  - British versus Russian visions
Case Study: ASAT Test Moratorium

• Dangerous nature of space debris to satellites, humans in orbit
  • ~8900 active satellites; ~48,000 pieces of debris we can track, ~900,000 pieces big enough to cause damage but too small to track
  • ASAT tests leave debris in orbit
  • At present, no way to deliberately get rid of debris (remediation)

• International support growing for an ASAT test moratorium
  • Increasingly see the deliberate creation of debris/holding destructive ASAT tests as irresponsible behavior
  • In April 2022, the United States announced it was making a commitment not to conduct destructive direct-ascent anti-satellite missile tests
    • 37 countries now have made this commitment (see SWF tracking sheet for statements: https://swfound.org/multilateral-space-security-initiatives/)
    • SWF has a tracking sheet that tracks the votes on and sponsors of UNGA Resolution 77/41 in December 2022 which called for same commitment with a vote of 155-9-9
  • Underlines focus on behavior, not necessarily technologies
  • Aided by dwindling military utility of DA-ASAT tests
<table>
<thead>
<tr>
<th>DATE</th>
<th>COUNTRY</th>
<th>ASAT SYSTEM</th>
<th>TARGET</th>
<th>INTERCEPT ALTITUDE</th>
<th>TRACKED DEBRIS</th>
<th>DEBRIS STILL ON ORBIT</th>
<th>TOTAL DEBRIS LIFESPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 20, 1968</td>
<td>Russia</td>
<td>IS</td>
<td>Cosmos 248</td>
<td>252</td>
<td>79</td>
<td>50+ years</td>
<td></td>
</tr>
<tr>
<td>Oct. 23, 1970</td>
<td>Russia</td>
<td>IS</td>
<td>Cosmos 373</td>
<td>147</td>
<td>35</td>
<td>50+ years</td>
<td></td>
</tr>
<tr>
<td>Feb. 25, 1971</td>
<td>Russia</td>
<td>IS</td>
<td>Cosmos 394</td>
<td>118</td>
<td>45</td>
<td>50+ years</td>
<td></td>
</tr>
<tr>
<td>Dec. 3, 1971</td>
<td>Russia</td>
<td>IS</td>
<td>Cosmos 459</td>
<td>29</td>
<td>0</td>
<td>3.3 years</td>
<td></td>
</tr>
<tr>
<td>Dec. 17, 1976</td>
<td>Russia</td>
<td>IS</td>
<td>Cosmos 880</td>
<td>127</td>
<td>57</td>
<td>45+ years</td>
<td></td>
</tr>
<tr>
<td>May 19, 1978</td>
<td>Russia</td>
<td>IS+M</td>
<td>Cosmos 970</td>
<td>73</td>
<td>64</td>
<td>40+ years</td>
<td></td>
</tr>
<tr>
<td>Apr. 18, 1980</td>
<td>Russia</td>
<td>IS+M</td>
<td>Cosmos 1171</td>
<td>48</td>
<td>6</td>
<td>40+ years</td>
<td></td>
</tr>
<tr>
<td>Jun. 18, 1982</td>
<td>Russia</td>
<td>IS+M</td>
<td>Cosmos 1375</td>
<td>64</td>
<td>60</td>
<td>35+ years</td>
<td></td>
</tr>
<tr>
<td>Sept. 13, 1985</td>
<td>U.S.</td>
<td>ASM-135</td>
<td>Solwind</td>
<td>530 km</td>
<td>287</td>
<td>0</td>
<td>18+ years</td>
</tr>
<tr>
<td>Sept. 5, 1986</td>
<td>U.S.</td>
<td>Delta 180 PAS</td>
<td>Delta 2 R/B</td>
<td>17</td>
<td>0</td>
<td>&lt;1 year</td>
<td></td>
</tr>
<tr>
<td>Dec. 26, 1994</td>
<td>Russia</td>
<td>Naryad-V?</td>
<td>Unknown</td>
<td>27</td>
<td>24</td>
<td>25+ years</td>
<td></td>
</tr>
<tr>
<td>Jan. 11, 2007</td>
<td>China</td>
<td>SC-19</td>
<td>FengYun 1C</td>
<td>880 km</td>
<td>3536</td>
<td>2786</td>
<td>15+ years</td>
</tr>
<tr>
<td>Feb. 20, 2008</td>
<td>U.S.</td>
<td>SM-3</td>
<td>USA 193</td>
<td>220 km</td>
<td>175</td>
<td>0</td>
<td>1+ years</td>
</tr>
<tr>
<td>Mar. 27, 2019</td>
<td>India</td>
<td>PDV-MKII</td>
<td>Microsat-R</td>
<td>300 km</td>
<td>130</td>
<td>1</td>
<td>3+ years</td>
</tr>
<tr>
<td>Aug.-Dec. 2019</td>
<td>Russia</td>
<td>Cosmos 2535</td>
<td>Cosmos 2536</td>
<td>30</td>
<td>16</td>
<td>3+ years</td>
<td></td>
</tr>
<tr>
<td>Nov. 15, 2021</td>
<td>Russia</td>
<td>Nudol</td>
<td>Cosmos 1408</td>
<td>470 km</td>
<td>1790</td>
<td>300</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

**Total** 6850 3472
Debris from ASAT tests can spread both vertically across orbits and horizontally within orbits.

15 years after the test, >80% of its tracked debris is still on orbit.

The Soviet IS' co-orbital ASAT weapons would deliberately fragment to increase the chances of hitting the target, also creating orbital debris.
Case Study: No First Placement of Weapons in Outer Space

- First proposed by Russia in 2004 and in subsequent annual UNGA resolutions
  - 31 countries have made this non-legally binding political commitment
    - China is not one of them, although it has voted for the related UNGA resolutions
  - SWF has a tracking sheet that tracks the votes on and sponsors of UNGA resolutions for this from 2014 on: https://swfound.org/multilateral-space-security-initiatives/
- December 2022 UNGA Res. 77/42: 123 – 50 – 3
  - “Encourages all States, especially spacefaring nations, to consider the possibility of upholding, as appropriate, a political commitment not to be the first to place weapons in outer space”
- Concern: how do you define a weapon? What about technology that is dual-purpose?
  - Also, the implication is that it is fine to be second to put weapons in space
Questions?

Thanks.

Victoria Samson, vsamson@swfound.org

@SWFoundation