Beyond the Space Force
Prospects for Military Competition and Conflict in Space

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Topics for tonight

• Why is outer space important for national security?

• What was our historical approach to military space?

• What changed?

• What are Space Command and Space Force?

• What are the big unanswered questions?
Hurricane Dorian as seen from a NOAA weather satellite
(Credit: NOAA NESDIS)
Intelligence

(Credit: @realDonaldTrump)
Precision munitions
Satellite orbits

(Credit: NASA)
Brief history of space security policy

- **1950s-1960s**
  - Hey, this space stuff would be useful for collecting intelligence on the Soviets
  - Also need to have a public face to show the world we’re “peaceful”
- **1970s-1990s**
  - Wow, this space stuff is really useful for making our military better and able to go anywhere in the world and do anything
- **2000s**
  - We should think about future threats and challenges
  - 9/11
- **2010s**
  - Those future threats are here, what do we do about them?
Proliferation of counterspace threats

2019 Defense Intelligence Agency Space Security Challenges Report

2019 Secure World Foundation Counterspace Report
Many Ways to Attack Satellites

Soviet IS killer satellite (1960-1987)

Commercially-available GPS jammer (2014)

Major trends in the space domain

Old Space Paradigm
➢ National
➢ Secret
➢ Military-led
➢ Independent
➢ Strategic

New Space Paradigm
➢ International
➢ Transparent
➢ Commercial-led
➢ Interdependent
➢ All levels of war

Space is becoming “normalized”
Policy questions

• How should the **US military be organized** to meet the changing space domain and threat environment?

• What can be done to **protect current space capabilities and deter attacks**?

• How can the U.S. **accelerate the development of new capabilities and architectures** to meet future threats?

• How does the **globalizing/commercializing space domain** impact U.S. response to space threats?
Focus on space mission assurance

**Defensive Operations:** Activities or operations undertaken in a kill chain, or provide warning or insight to the targeted nation's defensive actions.\(^5\)

**Reconstitution:** Plans or operations to bring new assets back online (replacement satellites or activating new ground stations) in order to replenish lost or diminished functions to an acceptable level for a particular mission, operation, or contingency after an attack or catastrophic event.\(^5\)

**Resilience:** The ability of an architecture to support the functions necessary for mission success with higher probability, shorter periods of reduced capability, and across a wider range of scenarios, conditions, and threats, in spite of hostile action or adverse conditions [...].\(^6\)

Current Org Changes

• Re-establish U.S. Space Command (USSPACECOM)
  – Previously existed from 1985-2002
  – Reassume space warfighter role from U.S. Strategic Command
  – Two main missions
    • Provide space forces to other combatant commands (INDOPACOM, EUCOM, CENTCOM, etc)
    • Detect threats to U.S. space assets and decide on a response

• Create U.S. Space Force
  – Trump: “separate but equal” Department of the Space Force
  – Pentagon: Space Corps within the Department of the Air Force (like Marines)
  – Congress: Space Corps within the Air Force but maybe call it a Space Force
## Size of the Space Force

<table>
<thead>
<tr>
<th></th>
<th>Army</th>
<th>Navy</th>
<th>Marine Corps</th>
<th>Air Force&lt;sup&gt;16&lt;/sup&gt;</th>
<th>Coast Guard</th>
<th>Space Corps</th>
<th>Space Force-Lite</th>
<th>Space Force-Heavy</th>
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</thead>
<tbody>
<tr>
<td>Discretionary Budget Authority (FY 2019)</td>
<td>$182.1B</td>
<td>$164.9B</td>
<td>$29.2B</td>
<td>$156.3B</td>
<td>$11.7B</td>
<td>$11.3B</td>
<td>$13.4B</td>
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<td>Active Military</td>
<td>487,500</td>
<td>335,400</td>
<td>186,100</td>
<td>329,100</td>
<td>41,382</td>
<td>12,100</td>
<td>16,700</td>
<td>18,300</td>
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<tr>
<td>Guard / Reserve</td>
<td>543,000</td>
<td>59,100</td>
<td>38,500</td>
<td>177,100</td>
<td>-</td>
<td>1,600</td>
<td>1,900</td>
<td>2,800</td>
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<tr>
<td>Civilian&lt;sup&gt;17&lt;/sup&gt;</td>
<td>194,803</td>
<td>190,642</td>
<td>21,553</td>
<td>175,771</td>
<td>8,759</td>
<td>13,600*</td>
<td>17,200*</td>
<td>27,400*</td>
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<tr>
<td>Total Workforce (FY 2019)</td>
<td>1,225,303</td>
<td>585,142</td>
<td>246,153</td>
<td>681,971</td>
<td>50,141</td>
<td>27,300</td>
<td>35,800</td>
<td>48,500</td>
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</tbody>
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* Includes headquarters/secretariat staff and civilian personnel

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Todd Harrison “How much will the Space Force cost”? CSIS Press Briefing

Unanswered questions about Space Force

• What will the primary mission of the Space Force / Space Corps be?
  – Space control (delivering space capabilities that support U.S. terrestrial warfighting) OR
  – High ground (dominance of space and conducting in-space activities)

• Will the Space Force/Corps be able to overcome bureaucratic inertia on space resilience?

• Will the U.S. develop a new slate of offensive counterspace capabilities?

• How does the globalizing/commercializing space domain impact U.S. response to space threats?
Thank you!

Questions?

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